

MEDICINE

Choline, B Vitamin, Prevents Liver Cirrhosis

PREVENTION of cirrhosis of the liver in rats by choline, a chemical generally considered part of the vitamin B complex, is announced by Prof. E. V. McCollum and Dr. Harold Blumberg, of the Johns Hopkins School of Hygiene. (*Science*, June 20.)

Liver cirrhosis occurred in the rats when they were fed a diet containing large amounts of fat and only a small amount of protein food. Cirrhosis caused in this way was prevented by adding choline to the rat diet. The choline presumably owes its anti-cirrhosis action to its affinity for fats, "whereby it prevents the process of long-continued fatty infiltration" which is believed to lead to cirrhosis of the liver in diabetes and in chronic alcoholism in man.

The experiments reported by the Johns Hopkins scientists are the latest in a number of similar studies by many other scientists which all seem to point to lack of some diet constituent, presumably the vitamin, choline, as playing an important part in causing cirrhosis of the liver. Since the experiments have been made on laboratory animals and vary in some details of method and results, it is still too early to say how or whether they can be applied to prevention of liver cirrhosis in man.

Science News Letter, July 5, 1941

ARCHAEOLOGY

CCC Boys to Bring to Light Log Stockade Indian Town

EXCAVATING a recently found log stockade built by Indians in Georgia, Government archaeologists expect to show modern America what an old Creek Indian town looked like.

A Presidential Proclamation authorizing addition of five acres of land to the Ocmulgee National Monument near Macon, Georgia, makes possible the excavations. CCC enrollees supervised by National Park Service archaeologists will do the work.

Post holes of the stockade are so well preserved that every log can be placed where the Indians had them, if the stockade is reconstructed. House sites of the Indian village are marked by little green plots of ground, different in texture from land that had no construction on it. Mounds that were landmarks of the ancient settlement are in evidence, and

also the archaeologists can make out the gaming grounds, where the Creeks played their favorite games.

Swamp-dwelling Indians lived at this site by the Ocmulgee River. National Park Service archaeologists believe that this was melting-pot Indian town, from such clues as hybrid art techniques used in making clay household goods. It appears that Indian migrants from the lower Mississippi invaded the Georgia area, and as a result of wars and tribal adoptions, mingled with the Creeks, as traditions of Creek Indians have maintained.

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PHOTOGRAPHY

Photography Brings Out Writing on Charred Papers

IMPORTANT hand written documents blackened in fires started by the Nazi "Blitz" in London and other British cities are being deciphered by means of a photographic method (*Nature*, May 31), which takes advantage of differences in reflecting power between the blank spaces and the lines of writing. It was worked out by G. A. Jones of the research laboratories of Kodak, Ltd., at Wealdstone in Middlesex.

As seen by the human eye, the sheets are uniformly black. However, under intense lighting with a narrow beam from a small arc lamp, the once-white surfaces become mirrors, photographing white, while the traces of the ink lines have little reflecting power and photograph black. It is necessary, Mr. Jones emphasized, to press the blackened documents absolutely flat. Plates used in the camera had a special blue-sensitive emulsion, because of the high proportion of blue rays in the light from the arc.

Mr. Jones' method is of particular value in England, where many documents of legal importance, such as title deeds, wills, ledger sheets, etc., are still hand written.

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CHEMISTRY

Outdoor Murals Made By Airbrushing Lacquer

MURAL paintings, especially for outdoor use, are now made with lacquer applied with an airbrush. The surface, like the finish of an automobile, resists rain or sun rays as the automobile does, and it may be washed like the body of a car. (*Arthur Kudner Inc.*)

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IN SCIEN

PUBLIC HEALTH

Kansas Rats Harbor Fleas, Carriers of Plague

ORIENTAL rat fleas, carriers of the plague that has devastated whole countries in the Far East through many centuries, have now become established in the heart of the United States, Prof. J. E. Ackert, H. P. Bolea and A. W. Grundmann of Kansas State College report. (*Science*, June 13). They have found the bloodsucking insects on Norway rats living in a city dump in Manhattan, Kansas, under circumstances that indicate ability to survive the severe winters of the West. They have been reported from other Midwestern states.

While the oriental rat flea gained its sinister reputation first as carrier of bubonic plague, it will be most dangerous in this country as carrier of sylvatic plague, a disease deadly to human beings, the three Kansas zoologists believe. Sylvatic plague is already known in several states of the West and Northwest, where it is harbored by wild rodents, and it is spreading eastward. The real danger will come when wild rodents carrying sylvatic plague make contact with Norway rats harboring Oriental fleas.

The impending hazard, the three researchers state, "makes it evident that steps should be taken to control this important pest."

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CHEMISTRY

Now Plastic Reeds For Jitterbug Bands

PEOPLE who don't like swing music may have expected a lucky break with unsettled world conditions which threatened to cut off the supply of bamboo reeds for saxophones and clarinets. However, to their dismay, and the delight of the jitterbugs, fear of a shortage is eliminated, because the plastic reed has arrived. They are molded in five degrees of stiffness, and they can be washed without fear of warping them. (Plastic Reed Corp.)

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CE FIELDS

PSYCHOLOGY

Forget How to Paint Fruits in Wartime England

PAINTINGS of fruit shown at England's Royal Academy this season are "lacking in juice and texture" because artists in wartime Britain have forgotten what fine fruit looks like.

The report that "there is no well-painted fruit this year because of the shortage," has reached here in the British scientific journal, *Nature*.

Dr. A. T. Hopwood of the British Museum of Natural History, who enjoys visiting British art exhibitions to see how agriculture and other sciences are portrayed by artists, also calls attention to pencil studies of old agricultural implements by Russell Flint, R.A.

"Not only are the drawings pleasing," says Dr. Hopwood, "but they are also of historical interest, for they represent a dying phase of agriculture."

A botanic jest is portrayed in "The Champion" painted by J. W. Tucker, which shows a monstrous cauliflower and the grower receiving homage of the city officials and news-reel men and the press.

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PHYSICS

Portable Atom-Sorter For Industrial Uses

See Front Cover

PHYSICISTS have known the "mass spectrometer" as a device for identifying isotopes, the different forms in which a single chemical element can exist, but now it may be put to work as an accurate, high-speed gas analyzer for oil refining and prospecting.

This is one of the possible industrial and scientific uses seen for a portable mass spectrometer, developed by Dr. J. A. Hipple, research physicist of the Westinghouse Laboratories. He is shown, at the device, on the cover of this week's SCIENCE NEWS LETTER.

The portable mass spectrometer sorts atoms and molecules by shooting them around a bend in a glass vacuum tube up to a million miles an hour. Just be-

fore they start, they are given an electrical charge. Then they pass through a chamber where high voltage acts on the electric charges and shoots the particles to the other end of the tube.

The curved part of the tube is encased in a powerful electromagnet which bends the paths of the atoms. The lighter the atom or molecule, the more its path is bent. At the other end of the tube the percentages of particles of different kinds are measured with electric meters.

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MEDICINE

New Sulfa Drug Effective With Less Discomfort

ONE of the new sulfa drugs, sulfadiazine, is as effective in pneumonia and other similar infections as the best of the older chemical treatments, but with less discomfort due to the treatment, three Boston physicians, Dr. Maxwell Finland, Elias Strauss, and Osler L. Peterson, have reported. (*Journal, American Medical Association, June 14.*)

Toxic effects were relatively mild and infrequent, only 9.2% becoming nauseated.

Sulfadiazine was used in the treatment of 446 patients with various infections. It appeared to be highly effective in the treatment of the following diseases: pneumococcal, staphylococcal and streptococcal pneumonias; meningococcal infections; acute infections of the upper respiratory tract including sinusitis; erysipelas; acute infections of the urinary tract, particularly those associated with *Escherichia coli* bacilluria, and acute gonorrheal arthritis.

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INVENTION

Invention Stops Horn Of Parked Automobile

WELCOME to all those who desire a quieter world is a newly patented invention to curb the activities of that prize pest who honks his automobile horn instead of getting out and ringing the doorbell. It consists of a spring operated switch in the horn circuit, which is open until the vibration of the moving car closes it. Thus he has full use of the horn when the automobile is moving, but it is automatically disconnected with the car standing still. (*General Motors.*)

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NUTRITION

Irrigation May Affect Potato's Tastiness

IRRIGATION practices may affect the mealy tastiness of potatoes, two Cornell University nutritionists, Betty A. Collins and Dr. Marion Pfund, reported to the American Home Economics Association meeting in Chicago.

As a test, they introduced water into raw potatoes mechanically by vacuum treatment and found that the outer portion of the potato lost in mealiness.

This suggests, they explained, that irrigation practices may need to be controlled to avoid undesirable decreases in mealiness.

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ENGINEERING

Glass Tires Running On Glass Bridges Foreseen

WITH tires containing glass you may be driving over bridges made partly of glass a few years from now.

New super-highways, like the Pennsylvania Turnpike, which make possible sustained speeds of as much as 75 miles per hour, may result in a new kind of tire. Already experiments are being made with thin light tires, especially adapted for such use. Other tires, with their thick, heavy tread are torn apart by the centrifugal force. Glass, as well as steel and other materials are being tried for tire cords, to give the strength needed to offset the decreased thickness.

Also, word has been received from England, of the use of glass as reinforcement for concrete. Developed first as a replacement of steel in wartime construction, the inventors, John A. Lincoln and A. W. Soden have expressed the view that all ordinary loading can be safely carried on glass-reinforced spans, for bridges or other structures, up to 20 feet, and that further studies may increase this to 40 feet.

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INVENTION

Glass Tarpaulin Used To Cover Cruiser Tender

GLASS TARPAULINS are used to cover the tender in a recently built fishing cruiser. They are made of glass fiber, which is not affected by water, and is lighter in weight than canvas. (*Bureau of Industrial Service, Inc.*)

Science News Letter, July 5, 1941