

## RESOURCES

## Shortage of German Glass Overcome by Americans

AMERICAN chemists and glass makers have overcome the threatened war shortage of an important German-made medical glass by learning how to make this rare glass, W. L. Munro, president of the American Window Glass Company, announced.

The particular glass in question is the very thin and clear glass used as cover slips. Like the cloth slip covers used by careful housewives to protect furniture, these glass cover slips are used to protect blood or other material being examined under a microscope.

Medical examinations of the men drafted for Army training will increase the need for this glass more than 33%, it is stated. During the World War, medical scientists were hampered in some of their work because this type of glass could not be made anywhere but in Germany and of course that supply was cut off.

The glass, to be known commercially as Lustra Cover Glass, is extremely thin and practically colorless. Its thickness varies from 5/1000 of an inch to 10/1000 of an inch as compared with the normal home window glass that is 91/1000 of an inch in thickness.

A total of 36,000 separate 3/4-inch square cover slips will only equal the amount of glass in a glass block 12 inches long by 12 inches wide by 1 inch thick.

*Science News Letter, November 9, 1940*

## RADIO

## Football Televised and Broadcast In Spanish

FIRST major football games to be televised and the first to be broadcast by short wave in Spanish for the benefit of South and Central American listeners—these are two of the records being set this fall by games of the University of Pennsylvania at Franklin Field.

The television broadcasts are through station W3XE of the Philco Corporation. From the cameras on special scaffolds, the signals are transmitted over co-axial cables to nearby Convention Hall, on the roof of which is a special relay transmitter W3XP, used several months ago in televising the Republican Convention in the same building. This sends the signals to the W3XE transmitter in North Philadelphia.

The Spanish short wave broadcasts are through the Columbia short wave station

WCAB. These are given by Adrian Rubio and Alfonso Luis, Spanish sports commentators. The broadcasts start at 1:30 p.m., half an hour before the game, the preliminary time being devoted to an explanation of football fundamentals. In addition, two 15-minute talks on Tuesdays and Thursdays are to be devoted to descriptions of football, its rules and technique.

The Saturday broadcasts are on 15,270 kilocycles and the mid-weekly ones on 9,590 kilocycles.

Future games are with Harvard, Nov. 9; Army, Nov. 16, and Cornell, Nov. 23.

*Science News Letter, November 9, 1940*

## WILDLIFE

## Lack of Mineral Salts May Cause Dying Off of Game

LACK of certain minerals in the soil, especially common salt and its close chemical relative, potassium chloride, may be an indirect cause of the periodic, wholesale waves of death among game animals and birds, suggests Dr. F. W. Braestrup of the Zoological Museum, Copenhagen, Denmark. (*Science*, Oct. 18).

Once in ten years, the wild rabbit population builds itself up to maximum numbers. Then the animals die off very rapidly, of what wildlife managers have come to call "shock disease"—a malady marked by degeneration of the liver, but with no germ cause that has ever been detected. Similar outbreaks of "shock disease" sweep away other species, from mice to grouse, in cycles of varying length.

Dr. Braestrup has noticed similar, though milder, symptoms in an ailment of cattle known as "licking disease," which seems to be due to acute lack of certain necessary mineral elements.

At times of maximum rabbit population, just before the outbreaks of the devastating "shock disease," signs of salt starvation in the animals have been noticed by various observers. So acute is their hunger for anything salty that they lick or gnaw at any object that has been touched by sweaty human hands, and will chew up discarded boots.

In the parallel "licking disease" among domestic livestock, the same licking behavior has been observed. In this case, the salt-hunger has been traced to the need for mineral elements to balance acids formed during the digestion of grass. So Dr. Braestrup suggests the possibility of a like cause in the epidemics of "shock disease" among game species.

*Science News Letter, November 2, 1940*

# IN SCIENCE

## PHYSIOLOGY

## Anti-Baldness Vitamin A Sugar-Like Substance

A NEW vitamin that prevents baldness in mice turns out to be a sugar-like compound known to chemists as inositol, Dr. D. W. Woolley of the Rockefeller Institute for Medical Research reports. (*Science*, Oct. 25.) Discovery of the vitamin was reported recently, but its chemical structure had not been determined at the time.

Inositol is a compound containing carbon, hydrogen and oxygen in the same proportions in which they exist in glucose and other simple sugars, but with the atoms differently arranged in the molecule. It occurs naturally in liver and other animal tissues, as well as in plants.

*Science News Letter, November 9, 1940*

## ARCHAEOLOGY

## Bronze Age War Relics Found by Archaeologists

RARE relics of war in the Bronze Age, two molds for casting bronze arrowheads have been unearthed at an old unfortified settlement explored by Soviet archaeologists in the Ural Mountains.

Schoolboy discoveries consisting of bronze spearheads and other relics attracted archaeologists to the site, which lies not far from the city of Sverdlovsk on the eastern side of the mountains, says a report from the Soviet news agency, Tass.

The village now brought to light was inhabited in the Ananino period of civilization, which flourished from the eighth to the third centuries B. C. Soviet archaeologists pronounced the bronze arrowhead molds so rare that only four others are known throughout the world. Other objects showing technique of ancient metal workers, recovered from the village ruins, are clay mold cores used to form the sockets in spearheads and adzes, a clay nozzle for bellows, drops of copper and copper slag, and numerous defective bronze articles which apparently resulted from faulty production.

The discoveries have been brought to the Historical Museum in Moscow.

*Science News Letter, November 9, 1940*

# CE FIELDS

## BAACTERIOLOGY

### Wisconsin Bacterium Aids Industry in Puerto Rico

A SPECIES of soil bacteria discovered on the campus of the University of Wisconsin is proving useful in the development of industry in Puerto Rico. It is a germ that has high capacity to convert molasses into butyl alcohol, much in demand as a commercial solvent, especially in the paint industry.

The organism was discovered by Prof. Elizabeth McCoy, University of Wisconsin bacteriologist, and named *Clostridium Madisonii* for the place of its discovery.

One of the severe problems of butyl alcohol production in Puerto Rico has been a germ-killing virus or bacteriophage that seriously reduced production. The difficulty was solved by developing a strain of the new bacterium that is resistant to the virus.

*Science News Letter, November 9, 1940*

## PHYSIOLOGY

### "Doping" Of Athletes Is Advised Against

"DOPING" of football players and other athletes, to enable them to put forth strenuous efforts even when they are tired, is editorially disapproved by the *Journal of the American Medical Association*. (Oct. 12) Some of the substances used for this purpose are known to be ineffective, some are of doubtful value, and a number are definitely injurious.

Apparently few, if any, of the "dopes" favored by athletes and their coaches really add anything to the immediate strength of the users. As a rule, they operate by temporarily deadening the sense of fatigue, as in the case of phosphate salts and caffeine. Cocaine was once considerably used as a "dope" by athletes; however, the editorial states, the extent to which it is used at present is unknown.

"The group of drugs including valerian, bromides and barbituric acid derivatives can be included," the *Journal* continues, "but there seems to be no danger of abuse among athletes since every one of these substances has powerful fatigue-producing properties. Digi-

talis and glyceryl trinitrate likewise can be readily eliminated both because of insufficient evidence of their 'doping' properties and because of their toxic effects."

One honorable exception is made, in the case of sugar. Many coaches give their teams candy, which is made of either dextrose or cane sugar. This is simply a "quick food," and may actually do the straining muscles some immediate good.

In conclusion, the editorial states: "Medical advisers must naturally strictly forbid the use of any agent suspected in any manner of being deleterious or any substance which may cause the least direct danger of whipping up the organism to extreme exertion. Although there can be little objection to the use of nutrient agents, of vitamins and of oxygen, the medical adviser should also do everything he can to discourage the use of costly and ineffectual substances."

*Science News Letter, November 9, 1940*

## PUBLIC HEALTH

### U. S. Has 56,000 New Cases Of Alcoholism Annually

AN ESTIMATE of 56,000 new cases of chronic alcoholism in the United States each year, with the total number of chronic alcoholics perhaps running near 900,000, was given by Dr. Norman Jolliffe, of Bellevue Hospital and New York University, in a report to the Research Council on Problems of Alcohol.

An actual survey of chronic alcoholics in the United States has not been made, Dr. Jolliffe pointed out. His estimate of new cases was based on first admissions to mental hospitals of patients with alcoholic mental disease for the year 1937. The 5,639 such first admissions are estimated to be 10% of the total new cases of alcoholism each year.

The figure for total number of chronic alcoholics was reached by applying figures from Yugoslavia and Germany in which actual surveys showed 1.5% of the population between 20 and 70 years of age suffered from some form of chronic alcoholism. The figure of 900,000 for the United States would have to be adjusted, Dr. Jolliffe said, for many factors in this country are different from those obtained in most European countries.

"We know," he explained, "that the incidence of alcoholism varies greatly with the distribution of urban and rural population, with the sex ratio, with the age composition and with many other factors."

*Science News Letter, November 9, 1940*

## PSYCHIATRY

### May Prevent Shell Shock By Psychological Studies

PREVENTION of shell shock, which afflicted large numbers of men in the World War, can be accomplished by psychological studies on potential soldiers to weed out susceptible ones, Dr. Crawford N. Boganz and Lieut. Col. Charles M. Strotz, U. S. Army, declare.

The year of military service of the new conscripts will be valuable for observing these men who may some day have to defend our country, to determine which ones are likely to break down in times of stress and emergency and who should therefore be assigned to less demanding situations where they can be military assets rather than liabilities.

Shell shock is a popular word which actually does not accurately label any single mental disease. Many people use the word for any mental disorder affecting anyone who has seen military service.

The current report of the Administrator of Veterans' Affairs, however, indicates that there is no more shell shock or mental disease among veterans than among the rest of the population. The 55% of the hospital beds of the veterans' administration filled with patients suffering from nervous and mental sickness is identical with the 55% occupancy of all hospital beds in the country by patients with similar disorders.

*Science News Letter, November 9, 1940*

## GEOLOGY

### Oil Strike in Manchoukuo Spurs Japan in Oil Hunt

THE first oil well in Manchoukuo, which spouted in Jehol province last April to the delight and excitement of Japan's war lords, is reported yielding enough oil per day to spur Japanese to start digging another well.

Test borings for oil by Japanese in northwest Manchoukuo are also in progress, says a report to the American Council of the Institute of Pacific Relations. In Inner Mongolia, Japanese engineers are reported at work on large-scale drilling at Dalai Nor, where they think more oil treasure may be hidden.

Whether the continental oil hunt will yield sizable quantities needed by Japan for war planes, ships, and industry remains to be seen. Japan, dependent on outside sources for about 90% of the oil she uses, requires something like 42,000,000 barrels a year.

*Science News Letter, November 9, 1940*