

## ANTHROPOLOGY

**Natchez Man's Antiquity Confirmed in New Tests**

► ANTIQUITY OF Natchez Man, one of America's most ancient men, who lived in what is now Natchez, Miss., some 11,000 years ago, has been confirmed by a second analysis of the fluorine in his bones.

The new analysis of the bones of Natchez Man and the extinct ground sloth, *Myiodon harlani*, buried with him was made by the British Government Chemical Department. Results were reported by Dr. M. F. Ashley Montagu of Princeton, N. J., to the American Association of Physical Anthropologists meeting in Philadelphia.

Natchez Man was first dated by the fluorine method by Thomas Wilson, then curator of the National Museum in Washington, in 1895. At the time, this ancient American created quite a stir in scientific circles.

Finally, Natchez Man and his antiquity were virtually forgotten. His bones rested undisturbed in the primate collections of the Academy of Natural Sciences in Philadelphia for over half a century.

Then, in 1951, Dr. T. Dale Stewart, U. S. National Museum anthropologist, reviewed the evidence for the antiquity of man and republished the old 1895 report by Thomas Wilson.

Now come the results of new tests of the fluorine content of the bones of Natchez Man and the giant sloth buried with him.

The 1954 study reported at the meeting found fluorine concentrations "in good agreement" with those found 60 years ago. Conclusion: "The probabilities are in favor of the human and myiodon bones being of the same or similar age."

Science News Letter, April 23, 1955

## VETERINARY MEDICINE

**Vaccine Found for Worst Poultry Disease**

► THE NATION'S worst poultry disease, cancer-like visceral lymphomatosis, appears to have been conquered.

A chicken liver vaccine has provided baby chicks with a high resistance or immunity against the infectious, contagious and malignant virus which costs American poultrymen \$50,000,000 a year. The most destructive of all poultry diseases, visceral lymphomatosis or "big liver disease," affects chickens in much the same way cancer affects man.

The vaccine, made from diseased chicken livers, was developed and tested by Dr. B. R. Burmester and associates of the U. S. Regional Poultry Research Laboratory in East Lansing, Mich.

Immunity in the baby chicks was produced by vaccinating the mother hens with a dilute preparation of the virus.

Fourteen highly susceptible White Leghorns were used in the studies. It was found that two-thirds of the chicks hatched

before their mothers were vaccinated died from the disease.

Baby chicks of the same parentage, hatched after their mothers had been vaccinated, fared much better. Only three to 13% died of the virus infection, depending upon the dosage.

Immunity, the scientists believe, is passed from the mother hen to the chicks. Vaccinating the hens causes a build-up of antibodies which are transmitted through the eggs.

The Department of Agriculture scientists caution, however, the vaccine must be further verified and the vaccinating technique greatly simplified. It is not yet available to farmers, nor recommended for use by poultrymen.

Science News Letter, April 23, 1955

## MEDICINE

**Cancer Patients Have More Blood Chemical**

► A CHEMICAL difference between the white blood cells of normal persons and of patients with cancer and leukemia was announced at the meeting of the Federation of American Societies for Experimental Biology in San Francisco.

The discovery was made by Dr. Harry W. Waisman, Carl Monder and J. N. Williams of the University of Wisconsin, Madison, Wis.

The difference is in the amount of an enzyme called glutamic acid dehydrogenase. This enzyme chemical is concerned with the breakdown of the essential amino acid, glutamic acid, a protein building block.

The enzyme is found in the white blood cells of both cancerous and healthy persons. But it is present in greatly increased amounts in patients with cancer and leukemia, the cancer-like blood disease with too many white cells.

The enzyme is not found in red blood cells or blood plasma.

Science News Letter, April 23, 1955

## CHEMISTRY

**Sugar and Fat Make Super-Soap**

► SUGAR AND fat make super-soap for use as heavy-duty detergents. Pure compounds of sugar with each of the fatty acids usually used for soap making were formed in research reported in Cincinnati in order to learn the detergent action of each.

Possibility of using this country's excess fat, formerly consumed in soap-making, in the new sugar compound is foreshadowed in the researches reported by Dr. Foster Dee Snell, Foster D. Snell, Inc., New York, to the American Chemical Society meeting.

For practical use, mixtures of fats, as they come from the slaughter houses, were found to excel the pure fatty acid compounds.

Science News Letter, April 23, 1955

**IN SCIEN**

## PHYSIOLOGY

**Foresee New Danger In Blood Transfusions**

► A POTENTIAL new danger in blood transfusions is foreseen by Dr. Merwin Moskowitz of Purdue University, Lafayette, Ind.

The danger concerns stored blood. Such blood, if stored for a long time, may sensitize a person getting it so that he would get a reaction if given another transfusion of stored blood. The danger would come, Dr. Moskowitz points out, if a way is found to preserve blood for two or three months, longer than is now possible.

Red blood cells that have been stored, he reported in *Nature* (April 2), are changed so that they will sensitize a person to his own stored red cells.

Science News Letter, April 23, 1955

## MEDICINE

**Do-It-Yourself Vogue Goes to Face Lifting**

► THE "DO-IT-YOURSELF" vogue is now being extended to face lifting. Once the province of plastic surgeons, the lifting to remove unwanted wrinkles and lines can be done without operation and at home.

The method, devised by a plastic surgeon of Beverly Hills, Calif., is reported in the *Eye, Ear, Nose and Throat Monthly* (March).

"A Prosthetic Device for Facial Rhithodosis" is the title given the home face-lift apparatus by its inventor, Dr. Adolph M. Brown.

It consists of small oval cloth tabs cemented to the skin by polyvinyl butyral adhesive. One goes at each side of the head just in front of the ear at the hairline, but on a hairless bit of skin. To these are hooked metal hairpin-like pieces. Between each of these "metal members" stretches a four-strand rubber elastic.

The elastic is tightened to pull up the skin, smoothing away wrinkles, just as the surgeon would in a plastic operation. Wearers are cautioned not to pull so tight that the fold of skin between cheek and nose would be obliterated. The hair is then combed back over tabs, metal pieces and elastic.

The elastic pulls the cheeks "smooth and youthful in contour," Dr. Brown reports.

The apparatus can be worn comfortably for a day or two and removed and reapplied. The adhesive comes off with isopropyl alcohol or acetone, often used to remove fingernail polish. Polyvinyl butyral, Dr. Brown says, is relatively unlikely to cause allergic reactions.

Science News Letter, April 23, 1955

# CE FIELDS

## DENTISTRY

### Cut Tooth Decay by Fluoride in Salt

► THE HEALTHY teeth of people living in Delhi, India, may give us another way to fight tooth decay. The method would be to put fluoride in table salt instead of in drinking water.

Studies suggesting this were reported by Dr. James H. Shaw of the Harvard School of Dental Medicine, Boston, at the meeting of the Federation of American Societies for Experimental Biology in San Francisco.

Working with two graduate students, Om P. Gupta and Margaret Meyer, Dr. Shaw analyzed the enamel and dentin (tooth tissue) of teeth extracted in a Delhi, India, dental clinic. They found the average fluoride content in the enamel was three-hundredths of one percent and in the dentin, seven-hundredths of one percent. Both levels are sufficient to retard decay.

Use of a mixture of salts prepared by evaporation of sea water, Dr. Shaw believes, may be the reason. He estimated that the incidence of tooth decay among the people of India was about one-third to one-fourth that of the people in the United States.

"The Indian Sea salt, which is prepared from sea water and is not further processed," Dr. Shaw said, "evidently supplies as much fluoride as would be supplied by drinking water containing between 2.5 and 3.5 parts of fluoride per million parts of water.

"This is one of the first major evidences we have had that fluoride-containing substances other than water can aid in the prevention of dental caries."

Science News Letter, April 23, 1955

## NUTRITION

### Vitamins Are Destroyed By Ethylene Oxide

► USING ETHYLENE oxide gas for heatless sterilization of foods to preserve them may reduce their nourishing value, studies at the National Institutes of Health, Bethesda, Md., show.

Rats on diets of food that had been treated by this gas lost weight and some died, the scientists found. The "severe damage" to the food was destruction of its thiamine, or vitamin B-1 content. Two other B vitamins, riboflavin and niacin, are probably also destroyed.

Whether the gas would have this effect on foods intended for humans has not yet been tested. The scientists warn that such tests should be made before treating the foods, particularly foods that are a major source of essential nutrients. Flour, cereal

and bakery products are foods for which ethylene oxide treatment has been suggested. These foods, particularly if enriched, may be major sources of vitamin B-1 for people on limited incomes.

The rat studies are reported by Dr. Olaf Mickelsen of NIH and Dr. Edgar A. Hawk, now at the Upjohn Company's medical department in Kalamazoo, Mich., in *Science* (March 25).

Science News Letter, April 23, 1955

## OCEANOGRAPHY

### Caribbean Warmed Up Suddenly 10,000 B.C.

► SUDDENLY ABOUT 12,000 years ago the waters of the Caribbean Sea warmed up to about the temperatures of today. Previously for a long period they had been about nine degrees Fahrenheit colder.

This climatic variation is revealed by radiocarbon dating of deep-sea sediments reported by Drs. Meyer Rubin and Hans E. Suess of the U. S. Geological Survey, Washington, to *Science* (April 8).

The rate of deposition of the calcareous sediments formed from Foraminifera shells is faster with warmer water. How fast the calcium carbonate deposits are laid down is told by ages of the radiocarbon in them.

Radiocarbon datings in the U. S. Geological Survey laboratory are also being used to explore sea-level changes and to compare evidences of man in America with archaeological sequences in Europe, Asia and Africa. The times of glacial advances are being determined.

Science News Letter, April 23, 1955

## BOTANY

### Poisonous Mushrooms Told by Color Test

► A SIMPLE color test to detect mushroom poison has been developed by Drs. S. S. Block, R. L. Stephens, A. Barreto and W. A. Murrill of the University of Florida.

The test is for amanita poisons which are in the mushrooms that cause 90% of mushroom poisoning deaths. About 50 of these are reported to occur each year in the United States.

A violet color in the test means amanita chemicals. A bright blue color means a chemical called phalloidine. The two amanitines and phalloidine in mushrooms affect the liver, kidney and heart.

Any technician can perform the simple test in about one hour. The mushrooms are minced and after alcohol extraction and evaporation, a chromatogram on filter paper is prepared from the residue. The chemicals that bring out the color are cinnamaldehyde and concentrated hydrochloric acid.

The test will detect the poison in as little as a tenth of a gram of fresh mushrooms. (It takes almost 30 grams to make an ounce). Details of the method are given in a report in *Science* (April 8).

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## PUBLIC SAFETY

### In Atom Attack Doorman May Save Your Life

► IF AN enemy should ever make an atomic attack on your city, you may owe your safe escape not to an air raid warden, but to a building guard or elevator operator.

That such strategically placed people can emerge in time of emergency as unofficial leaders was observed during a simulated atomic attack in Philadelphia. Results were reported to a meeting of the Eastern Psychological Association in Philadelphia by Drs. Elliott R. Danzig and Arthur I. Siegel of the Institute for Research in Human Relations, Philadelphia.

The scientists posted trained observers at elevators, exit doors, revolving doors and other spots where crowds would be trying to get out and where excited people might cause a panicky jam-up of movement.

The gate keeper, building guard, and elevator operator or dispatcher did show up as potential leaders in time of emergency. And the crowds showed themselves as willing to cooperate with such natural leaders.

Altogether, 25,000 citizens of Philadelphia took part in the drill. Of these, 40 people were observed as potential leaders.

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## GENERAL SCIENCE

### Floating Ice Island Will Be Occupied Soon

► AN ICE island in the Arctic will be occupied by an Air Force expedition as a floating laboratory for scientific studies of the Far North.

The huge ice mass, about nine miles long, is known as T-3 or Fletcher's Island. Abandoned on May 14, 1954, Air Force scientists plan to reoccupy it until next September. Their goal is to find out whether it is entirely land-locked, or is resuming its drift down the Greenland coast.

Albert P. Crary, an Arctic expert of the Air Force Cambridge Research Center, Cambridge, Mass., will lead the expedition. Accompanying him will be Norman Goldstein from the same laboratory and Charles Horvath, a marine biologist from the University of Southern California.

T-3 is one of three such islands discovered by Air Force personnel on flights over the Arctic Ocean, the Pole from Alaska. The others, T-1 and T-2, have not been occupied. These ice islands are believed to have broken off from a huge ice shelf on the coast of Ellesmere Island off the northern coast of Greenland.

Later searches of the area have not revealed other similar islands.

The scientists will study the island through surface and sub-surface observations. They will take samples of the marine life, and make gravitational, magnetic and oceanographic studies.

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