

CHEMISTRY

Oil Being Formed Now

Radioactive carbon shows that marine sediments are accumulating in tidelands. Oldest frozen meat, Mayan calendar and Isaiah manuscript among other datings.

► OIL IS being formed now in off-shore tidelands waters. The idea that nature needs a million years or more to manufacture our vast petroleum resources is an exploded scientific theory as the result of new radiocarbon dating findings reported to the American Chemical Society meeting in Atlantic City.

Dr. J. L. Kulp of Columbia University's Lamont Geological Observatory, Palisades, N. Y., told of the success of Dr. Paul Smith of the Esso Laboratories in finding in marine sediments appreciable hydrocarbons accumulating at the present time. This accounts for the way oil has been formed in the past.

The formation of oil at the present time solved one of the prime geological mysteries. It was proved by measurement of the radioactivity of the deposit. Newly-formed carbon compounds give off more radiation due to incorporation in them of carbon 14.

The younger radiocarbon does not have time to decay so much after its formation by cosmic rays in the upper air.

The oldest frozen meat in the world is over 28,000 years old. It is the flesh of a superbison preserved in the permanently frozen ground of northern Alaska. This

naturally refrigerated meat is probably older, as its age was beyond the reach of the radiocarbon dating method. It is nearly three times as old as the earliest evidence of man yet obtained on the North American continent. Dogs and men feasted upon such ancient bison meat when it was uncovered from its frozen locker.

Another result of radiocarbon dating announced by Dr. Kulp seems to have settled the controversy over the Mayan calendar. The ancient peoples of Mexico and Central America had a very accurate system of dates, but the correlations with the modern calendar differ by 200 years. Now the Spinden correlation has been proved correct since a beam over a doorway with a Mayan date upon it has been dated at 1,470 years ago. This makes the Mayan civilization more ancient.

The recently discovered manuscript scroll of the Old Testament book of Isaiah is a genuine antique and not a medieval forgery, another radiocarbon dating proved, although the method does not have sufficient precision to tell whether it was written a century or two B.C. or in the second century A.D.

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CHEMISTRY

New Waterproofing Dye

► BECAUSE A dye-spotted rag was used to mop up water spilled on the laboratory floor, a chemist reported to the American Chemical Society in Atlantic City that dyes that both color fabrics and make them water-repellent have been developed.

The double-duty dyes increase the water repellency of wool 60 times and cotton 12 times. They color as well as protect against water. Dr. Clyde C. DeWitt, director of Michigan State College's engineering experiment station, who developed the dye-waterproofers, predicted they will be used in awnings, tents and umbrellas.

The new dyes should also make clothes and other wool and cotton articles more durable since they lubricate the fabric and keep moisture out.

While Dr. DeWitt and a graduate student were working in 1947 on flotation of a copper ore, they used a dye that had some of the properties of a mineral oil. Some spilled dye was cleaned up with a white cloth. When the spotted cloth was used to mop up water later, it was discovered that the dyed spots resisted wetting and that the

qualities of mineral oils were incorporated into the dye. A new dye-making process was developed as a consequence.

The water-repellent properties last in the material as long as the dye, whereas most waterproofing materials are taken out by dry cleaning. It may be necessary to change present dry cleaning materials to clean double-duty dyed fabrics.

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PHYSIOLOGY

Shiver-Stopping Center In Brain Is Discovered

► DISCOVERY of a shivering stopper in the brain was announced by Drs. Allan Hemingway and Paul Forgrave of the University of California at Los Angeles Medical School at the meeting of the American Physiological Society in New Orleans.

The shivering stopper, or shivering-suppressor center, is located in the hypothalamus, a part of the brain near the attachment of the spinal cord. It gives a means of

suddenly stopping shivering which has started. This shivering-suppressor center may be what stops shivering in muscles needed to make a voluntary movement of arms or legs or fingers or other parts of the body. Otherwise the muscles would be shivering while the movement was in progress, and this would result in jerky uncoordinated movement.

The purpose of shivering is to generate heat by muscular movement in an attempt to keep body temperature from falling.

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BIOCHEMISTRY

Medical Uses Seen For Sugar Beet Juice

► SUGAR BEET juice contains two substances which may find important roles in nutrition, Robert J. Brown and Robert F. Serro of the Great Western Sugar Company, Denver, Colo., told the American Chemical Society meeting in Atlantic City. They are inositol, a vitamin-like material, and galactinol, which is believed to be the first natural compound of inositol with a sugar. Inositol is a possible preventive of hardening of the arteries and it has been used in treatment of liver ailments.

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ASTRONOMY

Accidental Star Birth When Gases Meet

► A STAR begins to be created largely by accident, when interstellar gases in a cloud are brought together unevenly. Next the embryo star grows rapidly, adding to its mass by picking up other gases as it makes its way through the cloud.

Thus did Prof. Fred Hoyle of St. John's College, Cambridge, England, picture the birth of a star to members of the International Astronomical Union meeting in Rome.

Eventually the star moves out of its parent cloud and into a space which is irregularly dotted with clouds of gas.

"About one star in a hundred will experience a second period of rapid growth by accretion," Prof. Hoyle estimates. "One star in a million will experience both a second and a third such period."

Those stars that pass through a second cloud in addition to the one in which they happened to condense become moderately large. The three-period stars are the highly exceptional stars of a very large mass, the British astronomer pointed out.

Two embryo stars that team up when they are some six hundred billion miles apart, and both are only about one-tenth the size of the sun, can evolve either into twin stars about the size of the sun that you can spot as double with the naked eye, or into stars each five times the sun's mass that are so close together they are never seen as double, Prof. Hoyle stated.

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