

SURGERY

Drive to Chain Smoke Possible Cancer Cause

► GLANDULAR ACTIVITY that drives men and women to chain smoke may be a factor in causing lung cancer, rather than the tobacco itself.

This new angle on the lung cancer-tobacco smoking question was suggested by Dr. Brian Blades, professor of surgery at George Washington University, Washington, at the meeting of the American College of Surgeons in New York.

"Frightening testimony against the cigarette" as a cause of lung cancer has been furnished by a number of doctors, Dr. Blades pointed out.

"There are, however," he said, "numerous authenticated cases of lung cancer in subjects who have never used tobacco in any form. One wonders if the endocrine drive which makes for chain smoking might be the explanation, rather than tobacco itself."

Lung cancer has increased steadily, he reported, in a decade during which millions of man hours and dollars have been expended for cancer research. It is the most common cancer of internal organs in men.

"The melancholy fact, however, is that the salvage rate in this huge group is shamefully low," he declared.

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PHYSICS

Solar Energy to Heat Texas Research Building

► WATER WARMED by the sun will be used to heat one of the new buildings of the Southwest Research Institute on Essor Ranch, San Antonio, Tex.

The solar energy apparatus is being installed both for research and for practical use. The equipment will include a heat-storage reservoir to overcome the deficiency of solar energy on occasional cloudy days.

The best known use of solar energy today is to produce moderately heated (150 degrees Fahrenheit) water. Although solar energy can be used to get higher temperatures, special equipment must be developed and maintained. Water heating requires only simple units with no moving parts.

By far the largest source of energy coming to the earth's surface is that from the sun. This energy, amounting to about one horsepower on each square yard of exposed surface, approximates the amount used by the average household.

Theoretically, appliances that operate from fractional-horsepower motors could be powered from a solar collector less than one yard square. Such a collector could provide energy to operate a miniature household power plant.

Because the southwestern states are regions of low cloudiness, they offer the nation's best location for installing and operating equipment for solar energy utilization. Clear skies at these latitudes result

in strong sunlight intensities that, in turn, minimize the size of required solar energy absorbers for a given application.

The relatively short cloudy periods permit the use of smaller storage facilities for reserve heat. These regional advantages tend to make the use of solar energy more competitive and worthy of serious consideration in the face of rising costs and the eventual depletion of coal, oil and gas.

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MEDICINE

Blood Albumin Safer Than Plasma or Serum

► ALBUMIN FROM human blood may be safer to give patients than transfusions of pooled blood plasma or serum, or even single donations of blood or plasma.

The greater safety lies in the much smaller, almost nonexistent, risk of the patient getting homologous serum jaundice from the albumin.

Studies showing this are reported by Drs. Richmond S. Paine and Charles A. Janeway of Harvard Medical School and the Children's Medical Center, Boston, in the *Journal of the American Medical Association* (Sept. 20).

Reason for the greater safety is apparently the heating for 10 hours at 140 degrees Fahrenheit that is normally carried out in preparing albumin. This seems to inactivate the virus that causes homologous serum jaundice and the underlying liver disease, serum hepatitis. The liver disease may occur without jaundice. This kind of jaundice and liver disease is not the same as the one doctors call infectious hepatitis. Infectious hepatitis usually comes in epidemics and is more like other so-called catching diseases.

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ENGINEERING

Roof-Bolting in Mines Saves Many Lives

► MANY LIVES in coal and metal mines have been saved during the past few years by the use of roof-bolts instead of supporting pillars to prevent roofs from falling, according to reports made to the American Mining Congress meeting in Denver. Ordinarily, in mining, roof-falls cause more deaths than all other types of mining accidents.

Roof-bolting is a relatively new method of preventing roof-falls. In the process metal rods several feet in length are driven into holes drilled into the roof where they fit in tightly. A head on the lower end of the rod helps hold the rock or earth of the roof in place.

Roof-bolting, both in coal and metal mines, ranks as the most important development in underground mining operations for the past five years, L. S. Chabot, Jr., Tennessee Coal and Iron Division of U. S. Steel Company, Fairfield, Ala., stated.

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IN SCIENCE

ASTRONOMY

Glass from Space Found in Sahara

► PIECES OF glass from outer space have been picked up in the Western Sahara. They were found near a meteor crater known as Aoeulloul.

When analyzed at the British Museum of Natural History, the main composition of these strange glass objects, called "tektites," was found to be substantially different from that of the sand of the region.

With this report concerning their composition, Dr. W. Campbell Smith, keeper of minerals at the Museum, added new evidence in support of the extra-terrestrial origin of these rounded buttons of dark-colored glass. They arrived as glass meteorites. Scientists opposed to this theory believe that tektites, which have recently been found in the sands of Texas among other places, are merely desert sand melted by contact with a hot iron or stone meteorite.

Final proof of the existence of large glass meteorites must await actual observation of the landing of one here on earth. This may never occur, as some scientists believe the time when such meteorites fell has long since passed.

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MEDICINE

Third of Heart Trouble Not Organic

► MORE THAN a third of the patients who go to a doctor because of heart trouble symptoms have "functional heart disturbances," but no organic heart disease, Dr. Arthur M. Master of New York City found in a study of 1,000 consecutive patients.

Dr. Master, reporting in the *Journal of the American Medical Association* (Sept. 20), stresses that the word, disturbance, rather than disease should be used to avoid aggravating the mental and nervous strain of the patients.

Even though the hearts of such patients are organically sound, the pain, palpitations, premature beats and other symptoms may partly or totally disable the patients and disrupt their family or social life. The condition should therefore not be considered unimportant by the doctor, Dr. Master suggests.

Among the patients he studied, the ratio of men to women was three to one. Most were under 50 years. Treatment is "very often unsuccessful," Dr. Master says, urging research into the causes of these disturbances and for discovery of curative or preventive treatment.

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