

star, at the end of the handle. Almost overhead in the north is the W-shaped group Cassiopeia, close to her daughter, Andromeda.

During the month the moon is at first quarter on the third, full on the tenth, at last quarter on the 17th and new on the 25th, so that the first ten days or so will have moonlit evenings. On the eighth it will be at "perigee," or nearest the earth, only 225,500 miles away. "Apogee," when it is most distant, will come on the 20th, with 251,550 miles separating us.

Science News Letter, November 2, 1935

CHEMISTRY

Butter Analysis Method Makes Dirt Detection Easy

DIRTY butter is less likely to find its way to American tables in future, thanks to a new analysis method devised by W. S. Greene, microanalyst of the Food and Drug Administration, U. S. Department of Agriculture.

Although most creameries are kept clean as hospitals, an occasional careless or slipshod handling plant will expose butter, or the cream from which it is made to contaminants. And once in, they are impossible to detect by ordinary means; only everlasting vigilance by handlers and inspectors can keep butter dependably clean.

In food inspection laboratories, the method is basically to get rid of all the butter, leaving only the tiny dabs of contaminating substance on a sheet of filter paper. The difficulty of preparing for such inspections in the past has been due to the presence in butter of a certain small percentage of casein, the principal food-substance in cheese, which coated over the dirt particles and made them almost impossible to get out and examine. Chemical treatments efficient in dissolving away this casein coating also dissolved contaminants.

Mr. Greene's contribution consists in the discovery that a simple solution of borax will do the trick. A sample of butter is heated to a boil with a quantity of the borax solution, and the mixture passed through a paper filter under suction. This filter paper is then rinsed with gasoline, to remove any residual grease. This leaves the filter paper entirely clean if the butter is entirely uncontaminated; if there is any dirt in it, it stands out on the white surface and can be picked off for microscopic examination and identification.

Mr. Greene's new method is described in detail in the trade journal *Food Industries*. (Sept. 25).

Science News Letter, November 2, 1935

ARCHAEOLOGY

Announces Altar Find Solving Great Monte Alban Mystery

THE MYSTERY of Monte Alban, buried city in southern Mexico where spectacular treasure was found in 1932, has cracked.

No longer an orphan among cities of ancient America, Monte Alban proves to have a close relative in both Toltec and Mayan Indian civilizations of prehistoric Mexico. Evidence thus clearing up the identity of the long-abandoned city was reported in Washington, D. C. by Dr. Alfonso Caso, Mexican archaeologist. Dr. Caso announced his discoveries before the Pan American Institute of Geography and History, which assembled in Washington a notable group of scientists from American countries.

Dr. Caso found his evidence when he dug under an old altar site in a secret sunken court in Monte Alban ruins. He was following a hunch that the people of this city might have followed Mayan Indian custom of putting things precious to them under altars. The hunch worked and with unexpectedly rich results. He unearthed exquisite male and female figurines of jade, and other sacred green stones carved in style he

recognized perfectly as like that of Toltec Indians. There were bone fragments of an eagle and a tiger buried there, also. As these animals symbolized the sun as a god in ancient Mexico, they perhaps tell in whose honor the altar was set up. Mayan custom of altar cornerstone-like deposits, and Toltec art ideas showed Dr. Caso where the ancients of Monte Alban had their cultural alliances.

Under this rich deposit, proved very old by its link with Toltec Indian civilization, he unearthed cruder pottery offerings from an even earlier time in prehistory.

A big, stone-lined underground passage, discovered under the altar site, is now identified as part of a great sewer system by which the Indians drained the massive earthwork of the city's North Platform. The tunnel, which was five feet high and peak-roofed, ran diagonally under the sunken patio where the altar was. When first detected, the tunnel mystified the archaeologists, who wondered what its purpose could have been.

Science News Letter, November 2, 1935

MEDICINE

High Fever Kills Cancer Cells But is Not a Cure

TWENTY minutes' exposure to a temperature of 111.4 degrees Fahrenheit will destroy all the malignant tissues in the body of a rat that has cancer, Dr. George Walker, of Baltimore, has found. Unfortunately, however, the discovery does not provide a method of curing the cancer, since the rat is unable to survive this high temperature, Dr. Walker reports. (*American Journal of Cancer*, October)

The results of the research might be expressed in the old phrase, "The treatment was successful but the patient died."

But the work has further significance. For one thing, Dr. Walker's research brings out the fact that some methods of inducing artificial fever may be safer

than others. In these days when fever is being induced deliberately to treat disease, notably to treat the mental disease resulting from syphilitic infection, this finding of Dr. Walker's appears to be of importance.

The artificial fever produced by high frequency apparatus, in which the temperature of the body is elevated by passing short radio waves through it, appears more dangerous than the artificial fever produced by the thermostat, Dr. Walker reported. In his work with the rats he used both methods.

Discovery of the effect of high temperatures on cancer cells was made in the course of test-tube experiments with a certain type of breast cancer from which Dr. Walker's colony of rats suf-