

ASTRONOMY

Planetarium Shows How Easter Feast Originated

ASTRONOMY, optical science and music join in the showing of the origins of Easter at the Fels Planetarium of The Franklin Institute. The astronomy division of the Institute is using the planetarium to turn back time to 30 A. D., to the original Crucifixion and to the Resurrection which marked the first Easter. How the date of Easter moves in accordance with lunar time, and the discrepancies between lunar and solar time, are explained.

Classical religious music and readings from the poems of John Masefield, appropriate to the occasion, comprise the second part of the program which is entitled "Easter—The Awakening." The special program will be continued throughout April.

Science News Letter, April 9, 1938

ENTOMOLOGY—MEDICINE

American Mosquito Spray Effective Against Tsetse Fly

CHEMICAL combat means invented in America promise to give victory to white men in Africa on one of the most desperately contended fronts in all mankind's widespread war against insects—the tsetse fly campaign.

These insects, bearers of the deadly African sleeping sickness to human beings and scourges to livestock as well, flee, as they would from hellfire, from a spray originally developed for the control of New Jersey mosquitoes. The spray is the invention of Dr. J. M. Ginsburg, biochemist of the New Jersey Agricultural Station, Rutgers University. It consists of substances extracted from pyrethrum, dissolved in light petroleum oil.

Discovery of the high value of the New Jersey larvicide as a tsetse repellent was made by an American expedition in Africa, the Morse Museum African-Asiatic Expedition. British authorities in Tanganyika Territory, which is especially afflicted with tsetse flies, have shown a keen interest in the New Jersey compound, and a small quantity has been sent to them by Dr. Ginsburg, for testing purposes.

Mrs. Julie B. Morse, in charge of research for the Morse Museum expedition, writes enthusiastically of the success of Dr. Ginsburg's mixture, as contrasted with the poor results obtained with earlier repellents. She states:

"We have decided that the New Jersey

mosquito larvicide would be a boon to Africa in many ways: to spray cattle that have to be driven through the tsetse country; for those poor isolated district officers and game rangers who live where the tsetse is dreadful; and for those who travel in the fly-infested areas."

How the Jersey-made mosquito killer was used in distant Africa was described in part by Mrs. Morse as follows:

"We spray the interior of the tent with a small hand sprayer of the usual house type, and nothing enters. Or rather, the tsetse make a tentative fly-in and then, deciding it is no place for them, out they go. This one spraying will protect the interior of the tent for at least half a day.

"We spray the mess tent, which is open on all sides, and this has to be done about once an hour or twice during a meal to be satisfactory. We spray our faces, stockings, and exposed parts—and have perfect comfort."

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GENERAL SCIENCE

Science Service Writer Wins Harvard Scholarship

WESLEY FULLER, reporter on the Boston Herald and Boston correspondent for Science Service, was among the nine journalists who won the Nieman Fellowships of Harvard University.

The fellowships, initially established this year, are for working journalists who wish to take additional college training to fit themselves better for their careers.

While all other fellows elected to take courses in political science, social science and history, Mr. Fuller chose to study in the physical sciences. He intends to pursue his activities as a reporter specializing in popularizing science in the press.

The fellowships were established under the terms of the Lucius W. Nieman and Agnes Wahl Nieman Fund of approximately \$1,000,000. Mr. Nieman was the founder and publisher of the Milwaukee Journal. The fund was set up by his widow's will.

The Nieman fellows cannot engage in newspaper work during the year they have the fellowship and the courses they take cannot be counted toward graduate degrees. The purpose of the fellowships is to "promote and elevate the standards of journalism in the United States and educate persons deemed specially qualified for journalism."

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IN SCIENCE

PLANT PATHOLOGY

New Discoveries Delay Elm Disease Campaign

SCIENTISTS' warfare against the Dutch elm disease has been made more difficult, and the eradication of the plague probably delayed, by three new discoveries:

1. The fungus that causes elm disease may remain dormant in some trees, not causing immediate appearance of the wilting, drying branches by which the malady is now diagnosed.
2. Such infected but not dying trees may never become distribution foci of the epidemic, unless broken limbs should bring the infection to the surface.
3. The fungus can live and grow in trees after they have died.

Scouts who have had ready means for recognizing the disease now know that apparently healthy trees may still be harboring it. Hence checking of any suspected areas must be repeated again and again, probably for years.

Removal of elms that are sickly, deformed, or otherwise of low value is now sought, even though the trees may now have elm disease. Such low-value elms offer ready harborage and food for the elm bark beetles that carry the disease fungus.

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PHOTOGRAPHY

Tiny Photoflash Lamp Available to Photographers

A PHOTOFLASH lamp so small that 18 of them can be carried in a man's coat pocket is now available to America's host of photographers.

Designed for exceptionally economical use—a special filament burns out before the metal foil burns, thus saving current—the new vest pocket bulb is adapted for use with miniature cameras, the Westinghouse Electric and Manufacturing Company, its maker, declares. It burns with a longer flash than prevailing types, thus making synchronization with the camera's shutter easier.

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E FIELDS

ASTRONOMY

Million-Mile Prominence Rises From Sun's Surface

RISING a million miles from the surface of the sun, the highest solar prominence ever recorded was observed by Mt. Wilson Observatory scientists on March 20, the Carnegie Institution of Washington has announced.

Reports of measurements made by Dr. Edison Pettit on photographs of the prominence indicate that a gigantic mass of erupting calcium and hydrogen gas rose nearly vertically from the sun that morning at speeds first of 40 miles per second, then 80 miles per second, and when last noted, 124 miles per second. Photographs of this eruption were taken by J. O. Hickox.

When last observed the solar prominence had risen to 970,000 miles above the surface of the sun and was still rising. Clouds interfered with further observations. The greatest height hitherto observed for a prominence is 621,000 miles, recorded at the McMath-Hulbert Observatory at Lake Angelus, Mich., on Sept. 17, 1937.

The prominence rose from a point near the sun's north pole and during the earlier stages of its development sent streamers of luminous gas back to a center of attraction about five degrees from the pole.

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PALEONTOLOGY

Ground Sloth May Have Been Living in 3400 B. C.

SOUTH America's extinct bear-sized ground sloth, contemporary with the American horse, may have died out only about 5400 years ago, according to evidence collected by Junius Bird, American Museum of Natural History anthropologist (*Geographical Review*, April).

Using small sailboats, outmoded motor-cars and even an ox-cart, Mr. Bird, accompanied by his wife, who is also an experienced field worker, has made a number of trips into the little-known and sparsely-inhabited country near the Straits of Magellan. His carefully-collected evidence, added to the work of

many other researchers, is being used to bring the problem of the antiquity of man in America nearer to a solution.

Five periods of habitation, uncovered in caves in southern South America, give evidence of five distinct cultures, the first a group of horse-hunting, sloth-eating primitives, the most recent a group of hunters who used arrow heads similar to those used by the not-distant Ona tribe.

Basing his age estimates on the rate of accumulation of dust in the caves Mr. Bird finds that the end of the sloth-eating culture, perhaps caused by the extinction of the sloth, and perhaps by other, possibly climatic, factors, which also caused the extinction of the sloth, occurred between 5400 and 3000 years ago.

Exact dating, says Mr. Bird, is not possible, but evidence of a rise of more than 40 feet in land levels since man first came to southern South America, and evidence that this rise did not occur all at one time, but with some regularity, attests to a considerable time lapse between the first settlement of the continent and the present.

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PUBLIC HEALTH

College Students Need Smallpox Vaccinations

THE STORY of man's conquest of disease never fails to thrill the reader. He closes the book with gratitude to the scientists who helped make life safer and more comfortable for him and with pride in their achievements. Then he forgets all about it.

The average young man or woman who has entered college can hardly have failed to learn about Jenner's discovery of smallpox vaccination. At least he knows that the Father of His Country, George Washington himself, was badly disfigured by the disease. Yet, more than 80,000—75 out of every 1,000—college students in the United States today need vaccination for smallpox.

This estimate was made by Drs. R. C. Bull and S. L. Rankin of Lehigh University. A threat of smallpox at the university gave them the opportunity recently to investigate the immunity or resistance to smallpox in college students. Their estimate for the entire country is based on the proportion of Lehigh students found in need of vaccination and probably gives a fair picture of the situation, since students come there from nearly all parts of the country.

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GEOGRAPHY

Colonies Don't Pay, Says Noted English Geographer

COLONIES don't pay, declares Dr. C. B. Fawcett, professor of economic and regional geography in the University of London (*Geographical Review*, April). Colonies are valued principally for their prestige value, in upholding the national self-esteem of the power that owns them, the English geographer indicates. Such imperialistic "front" is of course an expensive luxury.

Even Great Britain, with the world's most far-flung colonial empire, has to import wheat for the homeland's daily bread. British colonies supply British needs in only three foodstuffs, tea, cocoa, and cane sugar—semi-luxuries, all of them. A few great British fortunes have been made in the colonies, and a fairish number of young men find satisfactory careers as colonial administrators—but more money has been sunk in unrecorded losses than has been won in conspicuous gains; and the British home taxpayer has to foot the bills for administrative costs.

Neither will colonies give any real relief, through emigration, to over-population at home, Prof. Fawcett contends. Most colonial lands are in the tropics, and white men from the temperate zones simply will not go there.

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AVIATION

New Plane for USSR Lands On Earth, Snow, Water or Ice

WITH FLIGHT tests completed, the world's first military airplane capable of landing or taking off from land, snow, ice or water is ready for delivery to its purchaser, the Soviet government.

Sale of the new type Seversky Amphibian Fighter, developed to meet special conditions imposed by Russia's tremendous expanse and huge undeveloped areas, to the Russian government has been announced by the Seversky Aircraft Corporation. It is the world's fastest amphibian fighter.

Capable of flying at 300 miles an hour with its easily removable pontoons taken off, the new amphibian has retractable wheels built into its pontoons and skids on the bottom to enable it to make use of any type of landing facilities available. Fuel tanks in its wings give the plane a maximum range of 6,000 miles with full military load.

Science News Letter, April 9, 1938