



#### MYSTERY SOLVED

*New Mayan findings indicate this little statuette is oldest known dated Mayan object. It bears the date May 16, 98 B. C.*

#### TECHNOLOGY

### Gold-Plated Reflectors Aid in Drying Auto Bodies

**G**OLD, which has found its way into objects ranging from money to false teeth, has been pressed into service to dry the enamel on your new automobile in one-tenth the time required by older methods.

Special heating lamps, equipped with gold-plated reflectors costing between five and seven dollars apiece, have been developed by the General Electric Company's Nela Park laboratories to line the walls of drying ovens in auto manufacturing plants.

So efficient are the new reflectors—about 98 per cent. for the warm infrared rays—that even after operation for several minutes, the outside of the reflectors is still cold to the touch.

The new lamps, each of which consumes electricity at the rate of 250 watts, have been in service for several months in the River Rouge plant of the Ford Motor Company, for which they were developed. Steam baths hitherto used take about ten times as long to dry the car body. Special electric controls turn the new heating lamps on and off in a traveling wave as the painted body passes through the drying tunnel.

Possible medical uses of the lamps are now being considered.

*Science News Letter, February 25, 1939*

#### ARCHAEOLOGY

# Mayan Diggings Shed Light On America's First Calendar

## Monument Unearthed in Mexico is Dated in Short Style Previously Thought To Be Comparatively Recent Method

**A** MONUMENT unearthed in tropical Mexico is, from first reports, evidence that brilliant Mayan Indians actually invented a short-cut system of writing dates in the New World before the birth of Christ. The monument, dated in the concise manner, is apparently strong confirmation that the small Tuxtla statuette of jade, dated in the short-cut system and treasured in the U. S. National Museum, is what archaeologists have hoped it was—the oldest known object dated by the Mayas.

The Tuxtla statuette, a figure of a priest in penguin regalia, bears the date May 16, 98 B. C., according to reading by Dr. H. J. Spinden of the Brooklyn Museum, and authority on the Mayan calendar. But some archaeologists have doubted that Mayas living in the century before Christ wrote the date on the image. They believed the style of short-cut date writing was a later Mayan invention, and therefore probably some Maya of comparatively late centuries inscribed the statuette, much as we might set correct dates on a statue of Ben Franklin.

The dated monument, solving the Tuxtla statuette mystery, has come to light not far from Tuxtla, at Tres Zapotes, in the state of Vera Cruz, southern Mexico. A joint expedition of the Smithsonian Institution and the National Geographic Society is exploring this site, which proves to be the most far western settlement of Mayan Indians ever found. It lies fully 100 miles west of the known Mayan zone of civilization.

#### Not Translated

The monument dated in the fashion of the Tuxtla statuette has not yet been fully translated into terms of our calendar. But Matthew W. Stirling, Smithsonian archaeologist and director of the field work, has concluded that it was erected early, not late, in Mayan times, thereby removing reason to doubt the great antiquity of the Tuxtla statuette. Mr. Stirling has called a consultation of Mexican and American archaeologists at the site, in view of importance of the

monument. Many archaeologists have heretofore been inclined to consider Mayan inscriptions old if dates were written in long style, and not so old if written in short style.

One archaeologist explains the Mayan date systems this way: Early Mayas wrote out cycle, day, and month as we might write "March the first, Anno Domini nineteen hundred thirty nine." Later Mayas recognized a date by position of signs, as we easily read "3-1-1939." An early monument dated in short style upsets this idea of early and late ways of ancient American dating.

#### Settle Old Problems

With this stone's inscription deciphered, American scholars may settle old theories as to how, and when, Mayan Indians moved over tropical America in their destiny of building the New World's greatest native civilization. Imagine archaeologists of the future arguing over the United States, and unable to decide whether the country was occupied all at one time, or whether New York and San Francisco represented different eras, centuries apart! But that is the sort of puzzle regarding what went on in the New World in centuries before, and after, the time of Christ, which has delayed complete understanding of the amazing Mayan civilization which covered 175,000 square miles in the tropics.

The stone clew is apparently one of the date markers that Mayas set up. For some 1,500 years, these methodical Indians raised such stones every 20 years, and in their big cities even at five or ten year intervals. It is by deciphering these mileposts of time that archaeologists have trailed Mayan progress in Guatemala, Honduras, southern Mexico and Yucatan.

Discovery of the monument and ruins of a Mayan settlement so far west in Mexico is pronounced "exciting" by Dr. Spinden, who is awaiting final word as to whether the far west settlement proves early or late in Mayan history.

If it is early, as first reports indicate,

then it may point to the young and promising Mayan civilization as having gone east to seek its fortune before the Christian era, from a nondescript western origin among Indians of Mexico.

If, however, the monument and settlement turn out to be fairly late in Mayan history, after all—perhaps with early dates recorded there for some historic purpose that the Indians had in

mind—then it becomes clear that the Mayas had a base of their civilization down in the Vera Cruz region near the twelfth century. It would show that they played a direct hand in the affairs of Olmec and other Indian tribes of southern Mexico, then, even though their late center of power lay far to the northeast in Yucatan in great cities such as Chichen Itza, Uxmal, and Mayapan.

*Science News Letter, February 25, 1939*

there were hordes of pirates and freebooters who sacked towns and cathedrals. As Norsemen they terrorized Europe. In time they became Scandinavians—today models for Europe in peaceful liberalism and progress.

The Scandinavian has not changed biologically. What happened was due to changes in his environment.

Dr. Myerson advocates a fresher view of the old argument over relative importance of heredity versus environment. They cannot be separated. And rather than speak of heredity, he prefers the term constitution. Environment is continually shaping, directing or damaging, providing use or disuse of qualities in body and mind. No good to be equipped with fingers and mind ready for a great musical career, and no musical instrument ever available. Geniuses, says Dr. Myerson, are made as well as born. In terms of nations, one environment evokes hereditary traits and actions, which other environments would suppress.

Tiny fruitflies in biological experiments strikingly demonstrate the power of environment to bring out hereditary factors. Kept in damp climate, generations of flies develop a peculiar kind of abdomen. In cold laboratories, legs are affected. Returned to normal, progenies of these flies in time are developing normally. In social chaos, or great poverty, the psychiatrist points out, human beings tend to be blighted like the abnormal little flies.

*Science News Letter, February 25, 1939*

#### ASTRONOMY

## Planet Mars, Symbol of War, Has "Heart" of Iron

### In Contrast, Mercury Has Comparatively Low Density; Spectrum Lines Show Many of Earth's Elements in Sun

THE OLD Romans probably never knew it, but when they picked ruddy Mars as the symbol of their god of war they chose one of the planets which has a "heart" of iron.

Best knowledge of astronomy now is that Mars, Venus and the earth have heavy central cores, or hearts, made of dense iron, said Dr. Rupert Wildt of Princeton University Observatory before the symposium on astrophysics sponsored by the American Philosophical Society and Franklin Institute.

In contrast, Mercury, like the moon, is a "rocky" planet, for its density is comparatively low.

The four giant planets—Jupiter, Saturn, Uranus and Neptune—are now thought to contain outer envelopes of some very light material. This light material, Dr. Wildt indicated, probably consists of hydrogen, lightest of elements, in a highly compressed state.

### Sun and Earth Alike

USING the tell-tale "fingerprints" of the elements, the characteristic spectrum lines, scientists have detected in the sun 64 of the chemical elements which are found on the earth, Dr. Charlotte M. Sitterly of Princeton University Observatory said. There is insufficient evidence for ascertaining the presence of nine more and there are 19 so-called "absent" elements.

The missing 19 elements may be absent only because man has yet been unable to find them, Dr. Sitterly declared. Some of the elements may be

present in the sun in such small amounts that the instruments of science are not yet sensitive enough to detect them. Others give their spectrum lines in the violet colors and would be blocked out by the earth's layer of ozone.

*Science News Letter, February 25, 1939*

### Solar Temperatures

ALMOST inconceivably high temperatures and pressures exist in the interior of stars, Dr. S. Chandrasekhar of Yerkes Observatory of the University of Chicago told the symposium. Using the method known as "integral theorems," it can be calculated that the pressure inside the sun, which is a typical star, amounts to 1,350,000,000 atmospheres. Likewise the temperature at the center of the sun is 7,400,000 degrees.

*Science News Letter, February 25, 1939*

#### PSYCHOLOGY

### Society Called Powerful In Shaping Individuals

IF a society wishes, it can make its people acquisitive. It can incite them by the thousand or million to become warlike. It can evoke other traits, good or bad.

This tremendous power of environment, and particularly society, to shape human beings, is pointed out by Dr. Abraham Myerson, clinical professor of psychiatry, Harvard Medical School.

History has made experiments, he says, for our guidance. He reminds us that in the eighth, ninth, and tenth centuries

#### PUBLIC HEALTH

### Health Service Tells How To Control Syphilis

"THE cheapest thing any town can do with syphilis is to cure it."

This will probably become the slogan for the newest phase of the government's drive on venereal diseases. It is a statement made by Dr. R. A. Vonderlehr, U. S. Public Health Service, in announcing a new nine-point program for syphilis control in the local community. Details of the program appear in the federal health service publication, *Syphilis and Your Town*.

"People must learn to consult a doctor or clinic," Dr. Vonderlehr declared in telling how to control syphilis. "They must know that drugstore remedies and self-treatment are worthless. They must know that treatment begun early will cure syphilis in nearly every case, while, if left untreated, the patient is likely to develop brain, heart, or nervous system complications."

*Science News Letter, February 25, 1939*