

from the tropics, but decrease in size within the Arctic regions.

Excavations for a new block of buildings in the city of London revealed ruins of an ancient Roman temple containing interesting art and religious objects that included sculptures of the heathen god Mithras and the head of a Roman youth.

At Pompeii, a large cemetery of early Christian times was discovered and four villas were opened; finds included a statue of Venus wearing a two-piece costume similar to a Bikini bathing suit.

The largest terra cotta vase ever found—four feet, eight inches tall and decorated with scenes from Greek mythology—was excavated near Athens and assembled from 228 fragments.

Ten houses of a small settlement estimated to be at least 5,000 years old were excavated near Beersheba; below the floors were silos containing wheat, barley, grape seeds and lentils, and evidence of trade in copper was also found.

Eleven stone plates of an ancient lithophone were found in Viet-Nam and attributed to the Bacsonians, a tropical group who lived in Indo-China 5,000 to 8,000 years ago; assembled in Paris, the plates were found to resemble a modern xylophone.

The level of development of a culture was found to be directly dependent on the agricultural potentiality of the land occupied by the people.

Discovery was announced of a hundred-mile-long canal paralleling the Euphrates River in ancient Mesopotamia that was used for navigation and water supply six or seven thousand years ago.

Realistic "family portraits" modeled in plaster on bases of human skulls were found in the

ancient city of Jericho, where they were left by a people who lived there before men made pottery, probably 8,000 years ago.

Rare and spectacular gold ornaments of the Chimu period, 400 to 700 years ago, were found in a Peruvian grave of a man who was apparently a goldsmith in life, along with a gold slab suitable for use in the "cire perdue" process.

Evidence was found in a rock shelter in the Dordogne region of southern France for a change in ancient man's diet from 25,000 years ago, when horse meat was the principal feature of the menu, to 18,000 years ago, when reindeer had replaced the horse.

Restudy of the people in a South Pacific village who had been observed as children 25 years ago showed a dramatic social change from Stone Age to Atomic Age in a single generation.

Evidence was found on Japan's north coast of a vanished people who never suffered from tooth decay.

A new and romantic branch of archaeology, "sea digging," was advanced with the salvage of archaeological treasures from ancient sunken ships off the coast of France.

Man has lived in America for much longer than the 10,000 to 12,000 years thought previously, it was proved by radiocarbon dating of charcoal of human origin from Tule Springs, Nevada, at 23,000 years and from Sandia Cave, New Mexico, at 26,000 years.

ASTRONOMY

Radio Waves Show Milky Way Structure

For the first time, radio waves generated by interstellar hydrogen were used to reveal the structure of the Milky Way galaxy toward the center.

A systematic search was begun for small satellites that may be circling the earth and could serve as platforms for space ships and scientific observations.

Plans for a radio telescope observatory, to be operated jointly by several universities, were discussed.

An advisory panel for the proposed national astronomical observatory was appointed, part of the extensive and valuable program of support for astronomical research by the National Science Foundation.

Investigation was begun of methods for exploring at least twice as far into space as now possible by finding new methods combining photography and electronics.

Astronomers borrowed from aeronautical engineers the shock tube, used in design of guided missiles, to duplicate in the laboratory temperatures found in the sun and other stars.

Several new radio stars were discovered, including three very intense ones with nebulosities.

Using very sensitive radio telescopes, a search was made for deuterium in space between the stars.

Twin stars, born some 2,600,000 years ago, were spotted in the Orion Nebula, thus giving evidence to support the theory of current stellar creation.

The first phase of a sky-mapping project that will, about 1990, give the true rotation and mass of the Milky Way was completed.

The list of stars with appreciable motion was increased by 19,000.

A large number of slowly brightening, flare-like stars in the nebulosities of Orion were discovered and measured.

The study of radial velocities, or red shifts, of 580 galaxies was completed.

A color-magnitude array, reaching to stars of

less candle power than the sun, was completed for the globular cluster Messier 3.

Direct evidence was found that particles are ejected from the sun with speeds up to one-fifth that of light; these particles can provoke changes in the earth's weather, it was reported.

A new theory was advanced to account for both the "canals" and dark green markings on Mars as wind-blown streaks and patches of volcanic dust.

Evidence was found that the sun's visible surface, or photosphere, has a circulation which causes changes in the rate of its rotation at the solar equator.

A telescope was built from a new design having a reflector-corrector lens attachment that permits wide-angle photographs on flat plates.

It is now possible, it was announced, to make an artificial meteor trail in the heavens by spraying sodium from a man-made satellite, thus providing scientists on earth with a picture of winds, turbulence and temperatures in the upper atmosphere.

The patterns formed by whirling disks in liquid metals, placed in powerful magnetic fields, were used to study the forces at work in the solar system.

A new Pulkovo Observatory, built in Russia on the site of the war ruins of a world-famous institution, was dedicated with an important international scientific meeting that was attended by two American astronomers.

A total eclipse of the sun on June 30 was observed on a wide front; a ten-station program of the U. S. Air Force distributed observers all the way from Ontario through Labrador, Greenland and Scandinavia to Iran.

Temperature of the sun's corona may be even higher than 1,000,000 degrees Centigrade, it was indicated when the yellow emission line caused by calcium atoms stripped of 14 electrons was observed.

A unimagnetic pole on the sun's surface was found to be linked with geomagnetic activity on the earth.

A three-year tracking was completed of a solar "M" region, which returns in 27-day cycles, causing geomagnetic storms on earth.

First direct observational evidence showed that Jupiter's atmosphere consists mainly of hydrogen and helium, not methane and ammonia as was previously thought.

Mars approached on July 2 to within 39,740,000 miles.

Seven new comets were sighted in the sky, and five periodic comets were re-observed.

Five novae, or exploding stars, and three supernovae were observed during the year.

An asteroid, Athalia, was rediscovered after having been lost for 50 years.

BIOLOGICAL SCIENCES

Corn Found a Native Of Western Hemisphere

Corn is a native of this hemisphere and has been grown here for at least 60,000 years, study of fossil pollen from 200 feet below Mexico City showed.

An ancient puzzle to botanists was solved when it was found that fat is produced in the chloroplast, site of photosynthesis; details of the chloroplast also showed up in photographs made with the electron microscope.

A new theory was proposed which suggested that the process of photosynthesis is essentially a photoelectric current flowing from water through the chlorophyll to disulfide intimately associated with the chlorophyll molecule.

A chemical structure was proposed for desoxyribonucleic acid, or DNA, substance essential in the dividing cells involved in life;



17-DAY TWINS — *The youngest human twin embryos yet seen are shown in this photograph of the gestation sac. The embryos are the small round objects, one on the floor, the other on the roof of the chorionic cavity which is the dark spot near the top of the picture.*