

GEOLOGY

**Fossils Tell of Ancient
Palestinian Climates**

PALESTINE, Bible land "flowing with milk and honey," has been an entirely different sort of country in ages of the past, anthropologists report from studying bones of animals that inhabited the land.

Four or five thousand years before the Children of Israel came seeking their Promised Land, Palestine had a dry climate and was mainly desert. Earlier, in the Aurignacian period of the Old Stone Age, the Palestine landscape was wooded, though gradually developing open spaces. Still earlier, in the latter part of the Mousterian period—the age of the uncouth, clumsy Neandertal men—the land of Palestine was heavily wooded, due to heavy rainfall. In the first part of the Mousterian, Palestine was a warm and pleasant land with large rivers and hills clad with forest.

These suggestions are made by Miss Dorothy Garrod, British anthropologist, and Theodore McCown of Berkeley, Calif., as a result of their examinations of deposits which they excavated as members of the joint expedition to the neighborhood of Mt. Carmel from the American School of Prehistoric Studies and the British School of Archaeology in Jerusalem.

In the deposits of the Mousterian period they found fossils of rhinoceros, hippopotamus, crocodile and wart-hog, indicating that the climate was subtropical or tropical. Fossils of other species such as deer suggested the topography.

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ARCHAEOLOGY

**Children's Bones
May Reveal Sacrifice**

THE RITE of child sacrifice may have been one of the darker scenes of life in the prehistoric Mexican city of Monte Alban. At least, so it appears from the arrangements of Tomb Forty-three which Mexican archaeologists have just explored. Dr. Alfonso Caso pronounces the tomb one of the most important finds he has made on the mountain-top.

The adult owner of the tomb was found stretched the full length of the floor. At his feet were the sets of bones of two children, not buried as whole corpses. There were bones of birds, too, and small animals.

By the head of the adult Indian lay a

pair of jade-plated earrings, which are as unusual objects as any ever found in any archaeological excavation. They are spool-shaped stone objects, with a jade plating so thin and perfectly fitting that it looks to be poured on. Its manufacture is a mystery. It is as if those ancients had racked their brains to find out what thing might be the most difficult of all to fabricate.

The Indian of this tomb may have had some relation to a rain or water cult. Nearly a hundred pottery vessels were brought into his tomb, and they represent seashells, ducks, frogs, half-gourds such as Mexican Indians still use for drinking, and double peanut-shaped ones such as make modern Indian canteens.

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PHYSIOLOGY

**Heavy Water in Body
May Cause Old Age**

TOO MUCH heavy water in the body. That is the latest theory of the cause of old age and senility.

Drs. Ingo W. D. Hackh and E. H. Westling of the College of Physicians and Surgeons School of Dentistry in San Francisco, have communicated to *Science* the suggestion that the tragedy of growing old is linked to a peculiar property of heavy water, the hydrogen of which consisted of the double-weight hydrogen isotope known as deuterium. Chemical laboratories throughout the world are vigorously experimenting with heavy water.

Heavy water has a higher boiling point than ordinary water, 101.42 degrees on the Centigrade scale instead of an even 100 degrees. Experiments have also shown that heavy water inhibits the growth of seedlings, and Drs. Hackh and Westling believe this indicates that it has an inhibitory effect upon the normal functioning of protoplasm of which the human body and other animal bodies is largely composed.

Because the human body evaporates a large portion of the water that it consumes, it will in the course of years become enriched with heavy water. The light water, evaporating at a lower temperature, leaves the body more readily than the heavy water.

The San Francisco scientists conclude that "this increase in the proportion of heavy water in the body fluids may account for the increasing inhibitory action of the protoplasm during senility."

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IN SCIEN

CHEMISTRY

**Twin of Ordinary Hydrogen
Now Found to Be Twins**

HEAVY hydrogen, the double weight twin of ordinary hydrogen, now is itself proved to be twins.

From the Colloid Science Laboratory, Cambridge University, England, Drs. Adalbert Farkas, Ladislaus Farkas and Paul Harteck have cabled *Science* that they have succeeded in showing the para-ortho conversion of deuterium using the thermo-conductivity method.

Parahydrogen and orthohydrogen of the ordinary, lightweight variety of mass one were experimentally demonstrated just a short time before the discovery of the heavy isotope of hydrogen. The para and ortho forms are concerned with the arrangement of atoms in the molecule and do not indicate difference in weights. Deuterium has two atoms in its molecule just as does protium, the lightweight mass one hydrogen.

Science News Letter, March 17, 1934

ENTOMOLOGY

**New Variety of Wheat
Not Liked By Grasshoppers**

GRASSHOPPERS, which have been making unusual pests of themselves in the Wheat Belt during the past few summers, are expected to be "highly insult" when they hit fields of the new wheat variety known as "Ceres." Dr. L. R. Waldron, plant breeder of the North Dakota agricultural experiment station, has received letters from many farmers, agreeing that for some reason as yet unknown Ceres wheat is not liked by the 'hoppers. Due to this 'hopper-resistant quality, Ceres is said to have outyielded other Dakota bread wheats by as much as thirty per cent. during the recent grasshopper years.

Ceres was originally bred with the special objective of getting a drought-resistant, rust-resistant, high-yield wheat. Its unpalatability to 'hoppers appears to have been uncalculated—but welcome, nevertheless.

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CE FIELDS

MEDICINE

Cut Nerve Shows "Polio" Enters Body Through Nose

WHEN the olfactory nerve is cut, infantile paralysis fails to develop even after the causative virus of the disease has been placed inside the nostrils of a susceptible monkey.

This fresh evidence that the disease enters the body via the nerve of smell was obtained from investigation carried out by Drs. Maurice Brodie and Arthur R. Elvidge at New York University and Bellevue Medical School and McGill University, Montreal. The experiments are reported in *Science*.

Like other investigators, Drs. Brodie and Elvidge found that monkeys promptly developed the disease when the virus was placed inside the nose or swabbed on the membranes lining the nostrils. Examination of the olfactory nerves of such animals has shown the presence of the virus in the nerve, indicating that this is the route of the virus to the brain. But when the olfactory nerve was cut, the virus apparently could not find its way to the brain, since the monkeys in these cases remained healthy and free from paralysis.

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PHYSIOLOGY

Lack of Oxygen Not Always Cause of Unconsciousness

LACK of oxygen in the brain does not of itself account for fainting and other types of unconsciousness, Drs. Frederick A. Gibbs and William G. Lennox, of Harvard Medical School, reported to the American Association for the Advancement of Science.

Patients subject to fainting and epileptic seizures, and cases of sleep, both normal and pathological, were studied by these investigators, who measured with a special thermo-electric device the flow of blood through the brain under these conditions.

"In most cases of fainting, unconsciousness was preceded by a decrease in the flow of blood leaving the brain," they reported. "But in other conditions

this was not true; there was no decrease in flow just before the patient had a seizure or fell asleep.

"Even in cases in which unconsciousness occurred coincidentally with a slowing in blood flow, the decrease in flow did not seem sufficient in itself to cause any great decrease in the blood and oxygen supply to the higher brain centers.

"Insufficient oxygen supply to the brain, if sufficiently severe and prolonged, can undoubtedly produce unconsciousness," they concluded. "The fact, however, that unconsciousness can occur without significant decrease in the blood flow through the brain suggests the presence of some mechanism other than anoxemia (oxygen deficiency) by which the activity of the higher centers is abolished."

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ASTRONOMY

Jupiter Approaches Spica For Second Time This Year

THE SECOND of three close approaches that the planet Jupiter makes this year to the bright star Spica, in the constellation of Virgo, the virgin, occurred on Tuesday, March 13.

Jupiter is the bright planet that can now be seen low in the eastern sky late in the evening, and Spica is the star just south of it. The planet is the brighter, and it can readily be distinguished by its steady glow, different from the twinkling light of the star. On Tuesday, Jupiter was about four degrees, or about eight times the apparent diameter of the full moon, to the north.

A similar close approach of the two objects happened on January 5, while the planet was moving eastward.

On February 7, it stopped and then started a westward journey. This is called the retrograde motion, and is really due to the fact that the earth is now passing Jupiter on the same side of the sun, about which all the planets are revolving in the same direction. Because we are travelling at a speed of about 18.5 miles a second, some ten miles a second faster than Jupiter, the earth is leaving that planet behind, and it seems to be moving backwards.

By June 11, the earth will be far enough around in its orbit, that Jupiter will again seem stationary. After that it will move eastward again, and will pass Spica for the third time on August 31. Spica is a star, a body like our sun, only far more distant.

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OPTICS

Contact Eyeglasses May Partially Restore Sight

INDIVIDUALS afflicted with exceedingly poor eyesight may sometimes find the new contact eyeglasses now made by Carl Zeiss an inestimable boon. Prof. J. P. C. Southall of Columbia University, an authority on optics, expressed this opinion in reviewing a treatise on contact eye glasses by Dr. L. Heine, a pioneer in the field.

The improved form is a thin shell of glass ground and polished inside and out and inserted under the eyelid over the exposed part of the eyeball. The total weight is less than a fiftieth of an ounce. Tear fluid or salt solution holds it firmly in place and separates it from the sensitive cornea. It turns freely and easily with the eye and is practically invisible. Prof. Southall pronounces it "more apt to be comely and pleasing than otherwise."

The principle of contact eye glasses is that they substitute the almost perfect glass surface for the front of the cornea which is often so irregular that distinct vision is out of the question.

Dr. Heine said that a nearly blind clergyman thought a miracle had been performed when, after contact glasses were inserted without his knowing it, he opened his eyes and saw clearly.

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SEISMOLOGY

Earthquakes Shake San Salvador and Utah

THE EARTHQUAKE that agitated seismographs on Wednesday afternoon, March 7, was centered in the region of San Salvador and may have been felt near the northern border of Nicaragua, experts of the U. S. Coast and Geodetic Survey determined from seismograph reports gathered telegraphically by Science Service. The disturbance was not severe. The geographical coordinates of the epicenter were 13 degrees North and 88 degrees West. The time of origin was 5:41.6 p. m. E. S. T.

Salt Lake City's earthquake of Monday, March 12, apparently centered in the Wasatch mountains, to the east of the city. This provisional epicenter was worked out as approximately 41.5 degrees north latitude, 111.5 degrees west longitude. The time of origin was 10:05.4 a. m., E.S.T.

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