

PALEONTOLOGY

First Sea-Going Dinosaur Found in Chalk Beds

THE FIRST sea-going dinosaur ever discovered was described by Prof. M. G. Mehl, of the University of Missouri, at the meeting of the American Association for the Advancement of Science in Cleveland. It was a sort of a whale of a dinosaur, although it must have looked more like a giant turtle with a flat body about five feet long and as broad as it was long. Adding neck and tail, it reached a total length of about fifteen feet. Its bones were found preserved in the chalk beds of Western Kansas and it must have lived some hundred and twenty million years ago.

It was a member of the same family as the stegosaurus, familiar armored dinosaur whose arched back with up-standing plates of armor make him a favorite of those who visit natural history museums. The dinosaur who went to sea rearranged his bones so that he became a navigating animal instead of one efficient for dry land travel.

Science News Letter, January 10, 1931

ASTRONOMY

Another Huge Telescope Ordered for Canada

CANADA will soon have two of the world's three largest telescopes. This became known with the announcement to Science Service by Prof. C. A. Chant, head of the Department of Astronomy of the University of Toronto, that a 74-inch reflecting telescope has been ordered for the University from Sir Howard Grubb, Parson and Co., in England. Among existing telescopes, only the 100-inch reflector at the Mt. Wilson Observatory, in California, is larger. The figure refers to the diameter of the great mirror which concentrates the light of the star at which it is pointed.

According to Dr. Chant's announcement, the telescope will form the main feature of the David Dunlap Observatory.

At present Canada has the world's second largest telescope. This is a 72-inch reflector at the Dominion Astrophysical Observatory, Victoria, and it will become the third largest when the Dunlap instrument is completed. Third largest at present is the 69-inch reflector at the Perkins Observatory of Ohio Wesleyan University, Delaware, Ohio. The great mirror for this telescope,

made of glass manufactured at the Bureau of Standards, Washington, is now being completed at Pittsburgh. The telescope is expected to be in operation by next summer.

Two telescopes at present share the honors for the fourth largest. The 60-inch at Mt. Wilson is tied by a 60-inch at the South African station of the Harvard College Observatory.

All of these instruments will be far surpassed in size by the 200-inch reflector now being made in southern California for the California Institute of Technology. Such an undertaking is this, however, that it will probably be several years before it is completed. Another project for a huge reflector, perhaps even bigger than 200 inches, has the backing of a group of men in Miami, Florida, but as yet no actual work has been done on it.

Science News Letter, January 10, 1931

PHOTOGRAPHY-GEOGRAPHY

Long Distance Picture Shows Earth's Curve

PHOTOGRAPHIC proof of the curvature of the earth was offered by Dr. C. E. K. Mees, of the Eastman Kodak Company, Rochester, N. Y., in an address before the Society of the Sigma Xi, held in Cleveland, when he projected upon the screen an airplane picture taken in South America by Capt. A. W. Stevens, famous for his pioneering in long distance photography from the air.

The scientists of the audience were able to see for themselves that the horizon line of the photograph, taken from a distance of 250 miles, was slightly curved. So far as Dr. Mees could ascertain this is the first time that direct photography has confirmed the fact that the earth is round.

Capt. Stevens in taking the photograph, according to Dr. Mees, could not see the distant scene of snow-capped mountain he recorded on his photographic plate. He had to point his aerial camera at the horizon and make his exposure through filters in order to admit only the light that pierced the hazes of the atmosphere and carried the image through that great distance to his camera.

Another photograph of the landscape three hundred miles away was obtained, but it was not as good a picture as the other. Both photographs were shown by Dr. Mees through courtesy of the National Geographic Society.

Science News Letter, January 10, 1931

IN SCIENCE

ORNITHOLOGY

The Colder The Air The Warmer The Bird

THE old rhyme, that answered the query as to what would poor robin do then, poor thing, with:

"He'll hide in a barn
To keep himself warm,
And put his head under his wing,
Poor thing!"

now seems to stand in need of revision. All that poor robin does is get warmer automatically.

So much is indicated, at any rate, by studies of S. Charles Kendeigh, of the Baldwin Bird Research Laboratory, who reported in Cleveland before the Ecological Society of America what he has discovered about bird temperatures.

Birds have much higher body temperatures than human beings. They range between 102 and 113 degrees, which in man would be from dangerous to deadly fever. When the air gets warmer the bird gets cooler, and vice versa. During the breeding season the birds' temperature steadily goes down, corresponding with the seasonal rise in air temperature from May to August.

Science News Letter, January 10, 1931

GENETICS

Seldom-Seen Potato Seed Produces Better Potatoes

NEW and better potatoes from the seldom-seen potato seed produced from potato flowers were described at the meeting of the American Association for the Advancement of Science in Cleveland by Prof. F. A. Krantz, of the University of Minnesota. Potatoes are usually propagated from tuber cuttings because it is very hard to raise potato seed, he said. Pollen will not be fertile, flowers drop off before they set seed, and field diseases interfere with breeding experiments.

In spite of these difficulties the Minnesota scientist has persisted, and now has new varieties of better shape, earlier maturing-date and heavier yield than many old standbys.

Science News Letter, January 10, 1931

E FIELDS

PALEONTOLOGY

More Evidence That Man And Sloth Lived Together

A NOTHER remarkable discovery of the remains of the shaggy, tawny, lumbering old ground sloth who lived in the Ice Age of Prehistoric America, has been made in the now famous Gypsum Cave near Las Vegas, Nev., by the Joint Expedition of the Southwest Museum and the California Institute of Technology, M. R. Harrington, leader of the expedition, has just announced.

An oval flint knife of unusual make has also been found in a deep layer of earth in the floor of the cave, and in this same deep layer is ground sloth refuse. All of this adds weight to the evidence which the expedition first uncovered last spring, to the effect that man inhabited America before the disappearance of the strange creatures of the Pleistocene or Ice Age, Mr. Harrington said.

The dryness of the cavern has preserved the sloth remains through some thousands of years. Bones that were found have shreds of muscular tissues still attached. Huge claws with horny covering were also found intact, and masses of the curious, coarse hair of the animal, ranging in color from pale yellow to dark red with some black shadings. The extinct sloth is of the genus scientifically known as *Nothrotherium*.

Science News Letter, January 10, 1931

ARCHAEOLOGY

Tombs of Great Kings Of Ur To Be Opened

IS UR of the Chaldees about to yield its greatest archaeological treasure? Archaeologists are hoping against hope that it may be so.

The burial place of the great king Ur-Engur who built the magnificent ziggurat at Ur 4,300 years ago has been reached, but not opened, by the joint archaeological expedition from the British Museum and the University of Pennsylvania Museum.

A complex of brick buildings, long buried in the earth, represents the tombs

of three generations of kings in the golden age of Ur, Ur-Engur, his son Dungi, and his grandson Bur-Sin, according to a report received at the Museum here from C. Leonard Woolley, field director of the expedition. The structures include vaulted chambers and passages, stairways, and deep, brick-lined pits.

"It is too much to hope that the royal graves should have escaped the notice of the enemies to whom Ur so often fell a prey, although until the last tomb has been opened hope will persist," Mr. Woolley writes.

"Even if we do not find a single object, however," Mr. Woolley adds, "we are amply rewarded for our excavations. The actual tomb of Bur-Sin is one of the finest monuments of Ur, but even that tomb seems almost insignificant with what has been revealed in the early stages of the excavation of Dungi's building.

A bricked-up door and broad stairs running down to long vaulted passages lie ahead of the excavators.

"Always, however, the great pit remains the center of all conjectures," he states. "And we are anxious to learn what lies beyond the stairs which run down to the entrance of the vaults and now terminate abruptly against the wall of straight-cut earth.

Science News Letter, January 10, 1931

BOTANY

"Pearls" Formed in Desert By Cactus Plants

PEARLS from cactus plants were displayed before the botanists at the meeting of the American Association for the Advancement of Science in Cleveland by Prof. Ansel F. Hemenway, of the University of Arizona. They are not real pearls, of course, but they are ornamental oddities, and they are formed in a way that is oddly analogous to the formation of the pearls of the sea.

Oysters form pearls as a response to injury or irritation, and cacti form their pearls in the same way. If a beetle bores into one of the giant cacti, or a desert rat bites it, or a passing Mexican whacks it with his machete, the plant surrounds the injured place with a hard, impermeable tissue that prevents the leakage of precious water and the entry of germs of decay.

At last, when the cactus dies and falls to pieces, these hard bits remain on the desert, as "pearls."

Science News Letter, January 10, 1931

PHYSICS

New Phonograph Record Will Play Whole Opera

A NEW kind of phonograph that can play a whole grand opera of two and a quarter hours without change of its film record exists in the experimental laboratory at the present time, Dr. C. W. Hewlett of the General Electric Company said in the course of a technical paper presented before the American Association for the Advancement of Science in Cleveland. It uses the same method of reproducing speech and music that is used by one system of talking motion pictures. (SCIENCE NEWS LETTER, Jan. 25, 1930.)

Five hundred feet of motion picture film with twelve sound tracks on it constitute the record of the experimental phonograph. The quality of the reproduction of sound is high and compares favorably with good radio reception from a nearby station. Commercial production of the new film phonograph is not planned for the near future.

Science News Letter, January 10, 1931

ICHTHYOLOGY

Fishes Leave Water To Avoid Drowning

FISHES that have taken to living mostly on land because they can't breathe in the water that is available to them, were among the curiosities described by Prof. A. S. Pearse of Duke University, before a joint meeting of the American Society of Zoologists and the Ecological Society of America in Cleveland.

There are a number of fish species that live in the shallow waters of the Oriental tropics. They spend a great deal of their time as air-breathers, scrambling around on land and even climbing up on the low vegetation of the shores. They often get more or less mythical reputations as treeclimbers.

It has usually been assumed that these fishes have developed their ability to breathe air because their pools periodically dry up. But Prof. Pearse suggested that they may be forced to leave the water because it is so stagnant and warm, and so teeming with other, smaller animal life, that it simply does not have enough oxygen left in it to keep the fish alive by means of the gill respiration which all orthodox fishes are supposed to depend on.

Science News Letter, January 10, 1931