

Aztec Tombs Discovered

Excavations on the Aztec pyramid of Tenayuca in the Valley of Mexico by the Department of Archaeology of the Mexican Ministry of Education this year have disclosed a curious sepulcher and have brought to light altogether 95 serpents hewn of stone set like soldiers around the pyramid walls to guard the sacred edifice.

The structure believed to be the top of a sepulcher is a hollow casket-like stone box set on a stone platform near the southeast corner of the pyramid at its base. The stone casket is about four feet long and a foot and a half wide, and is decorated on the inside with polychrome paintings—symbolic of death. The illustrations are six craniums and other figures in blue, yellow, red, white and black.

The exterior of the stone box carries out the same symbolism by means of eight craniums carved of stone and set into the masonry at regular intervals around three sides. There are also square stone insets showing conventionalized figures of what are thought to represent crossed ulna bones, resembling fancy Christian crosses placed askew.

The casket was empty when the excavators found it, but it may once have contained votive offerings to the dead. It is thought that under the solid platform on which the superficial casket rests, there is probably a true sepulcher with some human remains of some ancient Aztec lord or high priest, sufficiently important enough to have been buried by the pyramid.

Stone craniums have also been found set in the sloping pyramid walls at varying intervals, giving the impression that the structure may have been dedicated to Mictlanteucatl, Aztec god of death, as well as to Quetzalcoatl, god of the Evening Star, from the apparent orientation of the coiled figure of a huge snake of masonry in front of the pyramid, with the star Venus.

Two sides of the pyramid have now almost been completely excavated. On the south side there is a low rampart running around the base of the structure, surmounted by 43 coiled serpents of stone, highly conventionalized. In the center and at regular intervals the serpents are larger and extend their grotesque heads with their monstrous fangs out beyond the battle line of the

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CHARLES WARDELL STILES
Arbiter Nominations

"And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field."

Thus is it recorded that even before he became a gardener and a husbandman—indeed, even before he became a husband—man was a systematic zoologist. Since there was nobody else on earth, he had no troubles over questions of priority: "whatsoever Adam called every living creature, that was the name thereof." If our great grandsire had only taken the trouble to publish a *Species Animalium*, 4004 B. C. would most certainly supersede the Linnean, Cuvierian, and all other dates of reference.

Whether nomenclatural disagreements began with Babel or at some other time, they have by now certainly reached a high degree of confusion, which zoologists generally, being men of peace, much deplore. Hence their International Congresses, which are a species of oecumenical councils, designed to reconcile the differences among the brethren and—when it becomes lamentably necessary—to pronounce excommunication and anathema. Hence also the International Committee on Zoological Nomenclature, which is a sort of pontifical college, carrying on in the interims between meetings of the full body.

The secretaryship of this committee is one of the most difficult, most thankless and most coveted positions in the whole scientific world. The holder of this post must be as nearly infallible in nomenclatural matters as it is possible for a single human

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Nova and Two Comets

Discovery by the same two astronomers of a nova, or "new" star, and a new comet, within three days, is a new astronomical record which was made last week at the Hamburg Observatory at Bergedorff, Germany. According to cables received at the Harvard College Observatory, which acts as the American clearing house for announcements of astronomical discoveries, Dr. A. Schwassman and his associate, Dr. Wachmann, set this record.

The astronomers found a new comet in the constellation of Pisces, the Fishes, on November 15. This star group is in the southern sky now in the late evening, east of the so-called "Great Square of Pegasus." But as the comet was only of the 14th magnitude when found, it can only be seen with a large telescope. It was moving towards the southwest, its exact position in the astronomical coordinates, being 1 hour 32 minutes and 12 seconds right ascension, and 20 degrees and 53 minutes north declination.

The nova was found on November 18. Then it was of the tenth magnitude, also too faint to be seen except with powerful telescopic aid. Its position is 5 hours, 15 minutes and 12 seconds right ascension and 16 degrees and 38 minutes north declination. This is in the constellation of Orion, the familiar star group which is now seen low in the southeastern evening sky.

Upon receiving the report of the nova, Prof. Harlow Shapley, in charge of the Harvard College Observatory, made an inspection of the photographs of the sky that are taken regularly at Harvard and found that since September the new star had been unknowingly photographed twenty times. Spectrum photographs made immediately upon receipt of the news from Germany show the object to be a true nova. From the photographic record of the star's career, it was determined that on October 1 it reached its maximum brightness of near seventh magnitude, not quite visible to the naked eye. This is evidence that the new star is now on the wane.

A nova is not a "new" star, but a previously faint one that suddenly becomes bright. This continues only temporarily, however, for it soon begins to return to its former obscurity. Just what causes the outburst, which is really an explosion, is not known. One theory that has been held is that it is due to two stars col-

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liding, but now it is supposed that such collisions are much too rare to account for the frequency of such outbursts. The principal belief now is that the explosion is due to some sudden atomic change. During the summer another German astronomer, Dr. Max Wolf, of the Heidelberg University Observatory, found a nova, which was then found to have been photographed at the Harvard Observatory several months previously, in June.

For the second time in as many visits Dr. George Van Biesbroeck, of the Yerkes Observatory, has discovered Encke's Comet which is once again approaching near the earth. Encke's Comet returns to this part of space once in about three and a quarter years. On its last visit, in 1924, Dr. Van Biesbroeck was the first to locate it, as he picked it up on July 31. On Saturday evening, November 12, he located it again. Astronomers throughout the world have been watching for it, as its present return has been fully anticipated. This is also the third time that it has been first located at the Yerkes Observatory for on its 1914 visit the late Prof. E. E. Barnard discovered it on September 17.

Of four periodic comets that have returned this year, Prof. Van Biesbroeck has found three.

When found on the twelfth, Encke's Comet was at right ascension 22 hours 57 minutes 8.2 seconds, and declination 8 degrees 54 minutes 13 second north. This is the constellation of Pegasus, the principal feature of which is the "Great Square" seen high in the south about 8.00 o'clock on November evenings. The comet was then near the star known as zeta Pegasi, the bright one to the southwest of the square, and about half the length of one of the sides from the southwest corner.

However, as the comet was of the 16th magnitude, it was much too faint to be seen except with a very large telescope. Probably, it will not become visible to the unaided eye.

Science News-Letter, November 26, 1927

The United States uses about three times as much rubber as all the rest of the world together.

Apple juice is often combined with other fruit in jelly because it contains pectin, the necessary jellying substance.

Arbiter Nominations

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being to be, he must conduct correspondence by the basketful, he must have an endless fund of tact and geniality for the reconciliation of colleagues who get to spitting at each other, he must teach his brethren patience and forbearance with irconcilables who insist upon their pet heresies as the real true faith. That Dr. Stiles has successfully held down this job since 1898, when many of the young men who are now setting up in business as systematic zoologists were not even born, is a high tribute to both his scientific ability and his personality, and an appreciated honor to American zoology by the rest of the world.

Though his success as secretary of this committee is perhaps the most shining feather in Dr. Stiles' cap, it is by no means the only one. He has turned his special talents chiefly on the exceedingly difficult zoological problems presented by internal parasites, and has been in the service of the U. S. Public Health Service since 1902. Other institutions and organizations that have claimed part-time attention from him during and before that time have included the Smithsonian Institution, the U. S. Department of Agriculture, the Johns Hopkins University, Georgetown University. His work with the Rockefeller commission for the eradication of the hookworm disease was largely instrumental in wiping out this plague in America.

Dr. Stiles was born in New York State in 1867. He received his education at Connecticut Wesleyan University, the College de France, the Universities of Berlin and Leipsig, the Pasteur Institute and the Trieste Zoological Station. Besides the degrees won in fair fight, he has a whole boxful of honorary ones, and holds memberships and fellowships in so many scientific societies that it is doubtful whether he can keep track of them all.

Science News-Letter, November 26, 1927

The walking fish can walk on dry land on its fins.

Basalt, one of the common rocks of earth, is lacking on the moon.

The natural lifetime of an elephant is said to be 150 to 200 years.

More than 85,000 hogs die each year in shipping the hog crop to market.

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others. There are 13 of these larger serpents on the east side.

The south side has a similar rampart with 52 such carved serpents, of which 19 are prominent by their extra size. The protective covering of earth which has recently been removed has preserved remnants of the bright colors with which the figures were once painted. On the other two sides the building has been badly damaged at the bottom, but it is thought that the guarding wall of snakes once ran all around the base of the structure.

The pyramid is otherwise in good condition and is believed to have been covered with earth by the Indians to save it from the fate of most of the Aztec temples after the arrival of Cortes. The superstructure which must once have stood on the flat top of the pyramid is gone, and many stones from the north and west side of the pyramid have been carried away long ago for building material.

Small idols of baked clay have been found during the excavations, bearing curious Aztec countenances, some of which appear to be portraits and others merely conventionalized figures. There are also broken knives of obsidian, perhaps once used in the sacrificial rites which took place on the pyramid centuries ago, as well as lance or spear heads.

Small ornamented and perforated clay disks used to rest the point of the spindle were also found as well as many painted pottery fragments. Two large stone shields, like those in Aztec codices, a large human figure carved of stone and a great stone eagle are among the other notable relics recovered.

A much smaller but similar pyramid at Santa Cecilia about a mile away is also known but no regular work of excavation has been done there. The pyramid of Santa Cecilia is curious for the large number of stone craniums which once decorated its sides but which have long since fallen. More than fifty of these craniums have been collected in an orderly pile and resemble rows of real skulls in some ancient catacomb.

A third pyramid of the same type is near the town of Cuernavaca in the neighboring state of Morelos, and a study of the three is being made by the Mexican Department of Archaeology.

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