

Aztecs Had Their Bacchus

America, like Rome, had her Bacchus, and he chose as the scene of his operations one of the most curious and beautiful sites in all Mexico.

Built on the very tip of a finger of rock pointing to the sky, a thousand feet above the level of the plaza of the Aztec village of Tepoztlan, Morelos, below, stands El Tepozteco, the ancient temple of Ometochtli, Aztec lord of pulque and deity of drunkenness.

How the inebriated Aztec god—for the Indians of the valley below say that Ometochtli was "muy boracho," very drunk,—was ever able to scale the steep rock tower, cut off from its nearest neighbor by a shaft-like gorge, is a mystery. The perpendicular moss-covered walls are impossible to scale, but today the narrow shaft is partly filled with material that has fallen from the top. By means of steps hewn into this, and an iron ladder, the ascent is now possible.

El Tepozteco is a pyramid formed of four superimposed bodies, and on the flat surface on the top are the remains of the superstructure which served as the temple of the Aztec Bacchus. The sky may have been the limit for his worshippers, for the roof is gone and only stumps of the back and side walls remain. The entire front which faces the west is open to a stairway which leads up from the foot of the pyramid.

The temple is divided into two rooms by means of a wall with a door space in the middle. The front room has vestiges of what may have been altars, but the back room was built more with a view to comfort, for it has deep stone benches running around the walls on the three unbroken sides.

These stone resting places are built of blocks of volcanic rock sculptured with various symbolic motives. One of the most easily recognized of these hieroglyphic figures is the Aztec "precious liquor" sign which recurs a number of times around the bottom of the bench. It may have referred to the "likker" consumed by Ometochtli and his cronies, or merely to precious human blood spilled on sacrificial altars.

The inner walls of both rooms are richly carved, although many stones are now missing. The entire structure is built of porous volcanic rock which must have been carried from the valley below, for the mountain itself is of an entirely different geological formation.

(Just turn the page)



JAMES BERNARD MACELWANE

Head of Earthquake Students

A short time ago the Seismological Society of America elected Father Macelwane as their president, succeeding Prof. Bailey Willis, of Stanford University. In making this selection, they assured that one distinguished American seismologist would be followed in the office by another. Prof. Willis is one of the pioneers in the American study of earthquake. Father Macelwane's interest in the subject is more recent, but his work has already made possible more accurate location of earthquakes from seismograph records. In addition, as Director of the Central Station of the Jesuit Seismological Association, he has the important duty of coordinating the seismic investigations of the Society of which he is a member.

In the opinion of his fellow seismologists, Father Macelwane's most important researches have been in his continuation of the work of the European seismologists, Gutenberg and Mohorovicic. This was a study of how earthquake waves travel—how long it takes certain waves to go from the epicenter to a seismograph which records them—how certain waves are reflected and refracted as they pass through different layers of the earth's crust and core. In Father Macelwane's tables, many of these reflected and refracted waves that were hitherto neglected are used. All of this makes the record left by the swaying needle of the seismograph give up more of its secrets; and so helps us to gain a more intimate knowledge of these often disastrous tremors of the globe.

Father Macelwane is a native of Ohio, having been born near Port Clinton on September 28, 1883. He graduated from St. Louis University in 1910, then took his Master of Arts

(Just turn the page)

Air Changes Cause Static?

Changes in atmospheric pressure may be one cause of static, greatest bane of the radio listener. This suggestion was made to the American Physical Society by Dr. Richard Hamer, assistant professor of physics at the University of Pittsburgh. Not only static, but the related phenomena of earth currents, and the variations in the earth's magnetism, which make the compass needle change its direction, may possibly be explained similarly, he stated.

Dr. Hamer described a series of experiments he has made to study this possibility. He took a glass tube, in which was some moist earth, and connected the top and bottom to a sensitive galvanometer. On account of weak acids present in the soil, a slight current flowed through the circuit, which was indicated by the galvanometer. When the air pressure in the tube was changed suddenly, the current varied also. Precautions were taken to prevent any effect due to the pressure decreasing the resistance of the soil, in the same way pressure on a telephone diaphragm decreases the pressure of the carbon grains in the transmitter.

When the galvanometer was replaced by an electrometer connected only to the top electrode, variation in pressure within the tube was found to produce an electrical charge in the electrode.

Dr. Hamer explains this effect as apparently being due to a temporary disturbance in the distribution of the electrons—the atoms of electricity—in the earth when the pressure changes.

"The experiments," says Dr. Hamer, "seem to afford obvious explanations of the many various facts peculiar to propagation of radio waves, especially in the case of reception. Possibly barometric changes cause variations in earth currents directly, and also indirectly by varying surface soil resistance. If these are large enough to produce observable magnetic effects, they may explain why magnetic variations seem to parallel those of the earth currents."

Science News-Letter, December 3, 1927

Although children in New Zealand are exceptionally healthy, they suffer more from decayed teeth than children in England.

Sturdy wild beets are being used by government scientists in an effort to breed greater resistance to disease into the cultivated sugar beet.

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Head of Earthquake Students

(Continued from page 355)

and Master of Science degrees at the same institution in 1911 and 1912. After teaching physics there for several years, he went to the University of California to take his Ph. D. in 1923. Until 1925 he was in charge of the seismograph station there; he returned to St. Louis as professor of geophysics, and director of the department, which position he still holds.

Science News-Letter, December 3, 1927

The oldest known flowering plants were mostly green, yellow, or white.

The industrial center of the United States is about 50 miles southeast of Chicago.

There are 30,000 crippled children in New York State, the chief cause being infantile paralysis.

A new electric brake system for automobiles is said to stop cars effectively using very little current.

American Guernsey cows are as good milk producers as cows from the Island of Guernsey, an investigation shows.

Aztec Bacchus

(Continued from page 355)

When the Indians deserted El Tepozteco after the Conquest, they gave it a burial under earth, says Jesus Conde, guardian of the ruins. It was uncovered 30 years ago but it has never been thoroughly studied by archæologists.

The pinnacle on which El Tepozteco stands is merely one of a chain of similar rock formations, all of which Senor Conde has climbed. On the tops of some of the others are also remains of ancient structure, he told Senor Eduardo Noguera, of the Department of Archæology of the Mexican Ministry of Education, who has recently inspected the site.

El Tepozteco has perhaps the most marvellous view in Mexico. One side looks down a dizzy shaft studded with dwarfed palms, enormous fire-colored poinsettias, and other semi-tropical flowers and plants growing in the crevices. The shrill songs of birds echo and re-echo in the stillness.

Above, the wild bees hum around the ancient bacchanalian temple. On the opposite side, Tepozteco looks far and wide over the state of Morelos and down into the green valley below in whose lap nestles the Aztec village of Tepoztlan. Faint far away sounds of roosters crowing and dogs barking come up from below as well as the sleepy sound of a Christian church bell at midday.

The village has changed very little from its days before the Conquest. Although it has four churches and a Dominican convent dating from 1560, Aztec is still the common language spoken. Each stone hut still has its ancient lands, and the lava fences enclose rich gardens of tulipan, poinsettias, roses, guyabas, alligator pears and bananas. Except around the plaza, there are no two houses built together in the whole town of some 4,000 inhabitants, a thing unusual in Mexican native villages where the white man has had an influence.

Tepoztlan has no postoffice, no drugstore, no doctor, no lights at night, and it almost has no clocks. The Indians go to bed when it gets dark and get up long before the sun to work in their fields. There is no road to the outside world except a track over the hard lava. They want no other road because it might let in the motor trucks and throw their burros, their only invested capital, out of a job.

Science News-Letter, December 3, 1927

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