Late Maya culture gets renovations

Evidence is fast accumulating to support the notion that the Maya civilization of Central America, long thought to have declined in the centuries before the arrival of the Spanish in the early 1500s, evolved and flourished even as Spanish conquest was iminent.

In August, archeologists Diane Z. Chase and Arlen F. Chase, a husband-wife team from the University of Central Florida in Orlando, uncovered the 500-year-old grave of what appears to have been a Maya ruler. Along with other evidence at the site, located on a sea bluff near Corozal, Belize, the burial place reveals "a vibrant civilization at about the time of Spanish conquest," says Diane Chase.

In 1983, investigators led by archeologist David Pendergast of the Royal Ontario Museum in Toronto found the burial place of another apparent Maya ruler about 50 miles inland from the Chase's site. This excavation also shows, says Pendergast, that the Mayas thrived and traded extensively throughout the Late Post Classic period, from A.D. 1350 to A.D. 1530.

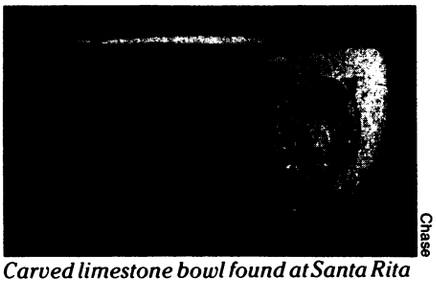
The burial site at Santa Rita, where the Chases worked, was found beneath a small stone shrine. The grave is much like others used for less powerful citizens at the time, says Diane Chase. In addition to the man's skeleton, however, the scientists discovered copper clasps that may have once held a shroud and a number of pieces of stone and metal jewelry, including a pair of gold "earflares" that were inserted in the ear lobe and covered the entire ear. "These were traded-for items," she explains. "The earflares probably came from the Aztecs."

Items such as these were most likely buried only with rulers, say the Chases. The province governed by the inhabitant of the grave, they note, may have been larger than modern Belize, which covers 8,800 square miles.

The Chases, whose 7 years of research at Santa Rita have been sponsored by the National Science Foundation, discovered the 1,500-year-old tomb of a Maya king five days before the grave was unearthed. The ornate tomb contains jewelry, painted pottery vessels, masks and other artifacts, say the scientists. This ruler held his station in the early part of the Classic period, which stretched from A.D. 250 to A.D. 900. During that period, the Mayas constructed large buildings and the great pyramids that still stand.

Many assumptions about the decline of the Mayas during the Post Classic period come from the writings of Spanish conquistadors and clergy, says Diane Chase, who may have had distorted views of what they saw as an inferior culture.

"During the Post Classic period at Santa Rita, we see evidence of a more international climate and more extensive trading than what occurred in the Early Classic period," she observes. "The Mayas of 500 years ago probably knew what was going on with the Aztecs [who lived in central Mexico] and may have traded as far south as Peru, with the Incas."



Chase

Carved limestone bowl found at Santa Rita near Early Classic Maya ruler shows a diety emerging from a shell

Pendergast says there are some differences between artifacts found at Santa Rita and at Lamanai, the inland Maya settlement he has studied since 1974. Distinctive pottery designs and ornamental styles characterize each site, he points out. "But both sites show that there was a vibrant Maya culture [throughout the Late Post Classic period]," says Pendergast. "The ruler's grave we uncovered may date to A.D. 1544, after the Spanish arrived."

—B. Bower

Mexican quake update

The earthquake that killed more than 4,600 people when it rattled southwestern Mexico two weeks ago (SN: 9/28/85, p. 196) was larger than seismologists originally reported. Last week, the National Earthquake Information Center in Golden, Colo. upgraded the main shock from a magnitude 7.8 to a magnitude 8.1 quake — meaning that three times the amount of energy was released than thought previously. A large aftershock which followed the main jolt the next day was also upgraded from magnitude 7.3 to magnitude 7.5 on the Richter scale.

The reason for the promotion is that data from more than 10 seismic stations, located in many directions from the quake epicenter, such as in Europe and Asia have become available; the original estimates were based on a few stations only and these were only situated to the north of Mexico. Such upgrades are not uncommon, says Russell Needham of the National Earthquake Information Center. The magnitudes of at least 50 percent of the 1,000 or so earthquakes the center reports every month are routinely changed as more information comes in, he says. The center is still waiting for Mexican stations to provide data on the main shock.

The center also reports that there have been at least 12 aftershocks — the three largest have measured 7.5, 5.3 and 5.0 on the Richter scale. □

Textbook selection: Survival of the fittest

The textbook *Living Things,* published by Holt, Rinehart and Winston, says in its "Preface to the Student": "In certain sections of this text, such as the material on Natural Selection and Human History, scientific data has been used to present the material as theory rather than fact. The information presented allows for the widest possible interpretation."

This is the sort of passage that Bill Honig, California's superintendent of public instruction, wants to have changed — by Oct. 15th — before the Board will reconsider adopting the book. "It's garbage," he told SCIENCE NEWS. "They don't mention evolution or explain what a scientific theory is."

His comments come on the heels of the California Board of Education's unanimous vote to reject 24 7th and 8th grade science text books, that six publishers had submitted for state adoption, because of their "watered down" treatment of evolution and human reproduction. The books were also faulted for "systematically omitting" discussion of genetics, cells, human reproduction, sexually transmitted disease and nuclear energy.

The issue, says Honig, is not whether evolution should be taught in California public schools, but how well it should be taught. All the publishers who submitted books, a procedure which happens once every six years, were issued a clear set of guidelines and standards, says Francie Alexander, director of the state office of curriculum framework.

The six publishers are Macmillan Publishing Co., Inc. of New York City; Charles E. Merrill Publishing Co. of Columbus, Ohio; Prentice Hall Inc. of Englewood Cliffs, N.J; Holt, Rinehart and Winston, Inc. of New York City; and D.C. Heath Co., Inc. of Lexington, Mass. A spokesperson for Holt would not comment on the changes but said that the company was "pleased" they were so "minimal." But Roger Rogalin, editor-in-chief of D.C. Heath Co. said, "We're seeing ambiguity in the guidelines. Although Honig has stated that he won't accept anything about evolution as theory, we didn't see anything in the guidelines to that effect."

The guidelines include the board's "anti-dogmatism policy," which admonishes teachers and publishers that "on the subject of discussing origins of life and earth in public schools, dogmatism be changed to conditional statements where speculation is offered as explanation for origins."

But the anti-dogmatism policy, Alexander and Honig insist, is not the cause of the problem. "It [the current position] has always been the board's position, because science is by it's nature undogmatic," says Alexander.

—J. Mathewson