



ARCHAEO MAYA

The Newsletter of Maya Exploration Center

www.mayaexploration.org

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ASL at Yaxalum: Cinema Verité



ASL Students in the Temple of the Sun for Equinox Sunrise

When high school students and teachers from the American School in London returned to Chiapas this March, they brought along their video cameras. That's not so unusual on a normal spring break, but these students chose to spend Easter vacation doing service work at Yaxalum, a non-profit Maya organization based in the mountain town of Yajalon. In addition to sponsoring ecological projects, Yaxalum provides room and board for Maya teenagers attending the regional high school. Last year, ASL students built Larena stoves in remote settlements. This year they focused on brightening up the girls' dorm—and making a video with the Maya students.

Before they headed for the mountains, Alonso Mendez led the Londoners on

tours of La Venta Park, Palenque, and Tonina. His lectures on Maya history and culture prepared students for their stay in a town that once commanded the ancient trade route between the jungle and the highlands. The landscape is dominated by the sacred mountain of Akbal Na ("House of Darkness"), where the Grolier Codex was

discovered in a dry cave during the 1950s. The mountain and cave play a central role in local Maya beliefs.

Accompanied by Carol Karasik, the group began their cultural initiation on Holy Thursday. After settling into the dorm and engaging in a hilarious exchange of Tzeltal, Chol, and English phrases, the students attended mass in a nearby hamlet. As darkness settled, the local boys hung a ragged, life-sized effigy of Judas from the bell tower. On Good Friday, students accompanied villagers in a solemn procession up the hill towards the small church. During the evening's candlelit procession, hundreds of worshippers followed Christ's casket through the silent streets.

On Saturday everyone got down to work,

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Letter from the Director



Spring ushered in a host of community outreach activities for MEC, in the Maya world and in the States. This March, I served as a volunteer during the Texas Maya Meetings, which brought together leading experts from around the world. Then, in keeping with MEC's educational goals, I shared the latest information with budding scholars at Austin elementary schools. In Chiapas, MEC forged deeper connections between high school students from the American School in London and Maya students living at Yaxalum, a non-profit organization in the town of Yajalon. For spring equinox, MEC team member Alonso Mendez organized a student celebration with Rosi Bacelis of the Palenque Council of Arts and Culture. As part of an ongoing program initiated by UC Berkeley, NASA, and INAH, the celebration was aimed at teaching local youth about Maya astronomy. Providing alternative educational programs for local and inter-

national students is a rewarding experience, and something we are dedicated to continuing.

Looking ahead to this summer, we have an exciting schedule of study abroad programs. Two Maya mathematics courses in Yucatan, a Maya science program in Chiapas, and an Inca astronomy course in Peru will definitely keep us hopping. Joining our regular instructors this summer are two brilliant scholars and long-time friends of MEC, ethnographer Dr. Michael Grofe and archaeologist Kirk Straight. Both bring unique talents to our team, and we couldn't be more pleased to welcome them on board. In June, I'll be exploring new territory, traveling from Peru to Bolivia to conduct an ancient astronomy course around beautiful Lake Titicaca. At 12,500 ft. above sea level, the adventure is sure to take my breath away! From all of us at MEC, thanks for your continued support and have a wonderful summer.

Sincerely,

ASL in Chiapas – continued from page 1

hauling cinder blocks, cement bags, and gravel to build a new, water-saving, dry latrine for the dorm. Then all the students pitched in to paint the walls. Rollers, brushes, buckets, pans, twigs, and spills, all to the dance beat of the Duranguense. Everyone was splattered from head to toe. But by the end of the day, the front rooms, entrance hall, and altar were the same color as the Virgin's robes—pistachio green with deep blue trim—and sunflowers over the doorways.

Students spent Easter Sunday visiting rural families. There was time to stroll along the river, drink *posol*, and observe daily life. While the mother of a former scholarship student cooked over a Larena stove, her son discussed Tzeltal myths. Thanks to his career in micro-financing, the family enjoyed modern plumbing and store-bought furniture.

For people at the crossroads of two cultures, London didn't seem so far away. After preparing a mountain of tamales for the farewell party, ASL students showed a video of their city to the assembled guests. The locals had already seen Big Ben on TV.

Of Monkeys and the Moon: Maya Ruins and Rainforest Ecology in the Peten

By Alonso Mendez

An attack by an *Ateles Geofreii* (spider monkey) is a terrifying experience. Imagine a set of teeth and five destructive appendages on an impossibly agile creature. Out of nowhere there's a dizzying flurry that leaves you bewildered and bleeding. They say that, for its size, a wild monkey is five times stronger than a man. After Midland College students heard Alejandro Morales's story, they believed it.

Alejandro Morales works at the ARCAS Rescue Center, on Lake Peten Itza. Two weeks before the student visit, three of the worst spider monkeys in the compound had mauled him. The damage required umpteen stitches on his scalp and the reattachment of a tendon in his left hand. The culprits were a group of unfortunate prisoners housed in what resembled a caged wrestling arena. Because they had endured cruel treatment and a host of other traumas during their capture and illegal sale, the 20 monkeys had become a jailhouse gang. Of the hundreds of rescues and successful releases that the center realizes on a yearly basis, these angry spider monkeys, unable to cope in the wild, can never be released. Victims of the cruelty of man and also testaments to his finer sensibilities, the monkeys have found a home with the veterinarians and conservationists at the sanctuary. Locked in their chain link cage, the monkeys exhibit behavioral quirks worthy of countless animal psychology studies. There are hazards, but the well-trained staff treats the monkeys with kindness, diligently tending to their health and dietary needs despite the primates' occasional lesson on who is really in charge.

Though the spider monkeys are the leading act, ARCAS is world famous for its parrot and macaw program,



Spider monkey in the ARCAS Rescue Center sanctuary

the other two species severely threatened by poaching. Most available funding goes to the rescue, reconditioning, and release of these endangered birds. But ARCAS has a hard time turning away any animal in need. The biological station is a veritable zoo with myriad examples of native species. The extensive grounds, covering 45 hectares of forest and mountains, offer an ideal setting for scientists to study and to teach environmental conservation. ARCAS sustains itself economically by hosting hundreds of volunteers, who pay a meager "tuition" for the chance to work with experienced veterinarians and biologists. The Midland College students were thrilled by the adventure, certainly one of the highlights of the course.

To learn more and support ARCAS, log on to: www.arcasguatemala.com



Upcoming Public Tours

Ancient Zapotec Culture and Cuisine in Oaxaca, Mexico

October 11-18, 2008

Learn the details and sign up at www.mayaexploration.org/tours.php

Ecology Pow Wow at Palenque



Indigenous leaders processing through Palenque (Photo: Associated Press)

On the same March day, 200 indigenous leaders from Mexico, the US, and Canada gathered at Palenque to offer solutions to the environmental crisis facing our planet. "The earth is dying," said a Tlinglit elder from Alaska. "A cleansing is needed." Indeed, the week-long conference, "Indigenous People to Heal Our Mother Earth," began with a ceremony held a dawn on the vast plaza in front of the Temple of the Inscriptions. Amid ritual fires, incense smoke, and conch shell blasts to the four directions, representatives of 71 Indian tribes prayed for forgiveness from Our Mother Earth.

Modern values and patterns of consumption received much of the blame. Although the rhetoric was familiar, the perspective was based on ancient wisdom. Mexico's environmental secretary, Juan Elvira Quesada, said the conference was intended to explore and explain traditional Indian teachings. "In this way, the indigenous communities can become the natural guides to restoring balance and harmony in the world."

One possible method for achieving balance is the revival of Native American agricultural practices. For the Lacandon Maya, this means returning to their intensive "forest gardening." Thirty years ago, a small Lacandon plot contained 60 different edible and medicinal plants. Rotating the field gave wild plants a chance to grow back and wild animals a place to forage. The ancient *chinampas*, or raised beds, used by the Aztecs, Maya, and West Mexicans, formed a sophisticated system that supported crops, wildlife, and the fish that swam in surrounding canals. Since the Spaniards drained the canals around the Aztec capital, Mexico City has suffered dire floods. Like Venice, the city is sinking. Southern Campeche, where *chinampas* once supported a dense Maya population, is now unproductive and dry.

The main crop of the New World was corn, yellow, white, red, blue, and black corn, grown in myriad varieties adapted to cold mountainsides, steaming jungle, swamps, and sand. With the advent of chemical fertilizers and hybridization, "heirloom" varieties have disappeared, except for the few preserved in seed banks.

More than food crops are at stake. Solutions to pollution and global warming may require more drastic measures. The Lacandons would like to see an end to logging and cattle ranching, which have destroyed their former rainforest home.

"Our grandfathers taught us to have an integrated vision," a Nahautl healer said. That involves a better understanding of our role as temporary guardians of the earth and a greater respect for the land.



Upcoming Public Tours

**Pillars of the Classic Maya, Palenque to Tikal,
November 22-30, 2008**

Spend Thanksgiving in the Mundo Maya

Learn the details and sign up at www.mayaexploration.org/tours.php

Secrets of Maya Blue Revealed

An unassuming ceramic vessel, dredged from the sacred cenote at Chichen Itza over 100 years ago, was recently identified as an ancient crucible used for making the beautiful pigment known as Maya Blue. Along with traces of the sky-blue pigment, the vessel contained a chunk of copal. The remains of the resinous incense, used by the Maya during religious ceremonies, provided the real clue. According to anthropologist Dean Arnold, who came across the vessel at Chicago's Field Museum, the Maya created the color by placing the ingredients in the vessel and then heating them with copal. But what were the ingredients?

For decades, the source of Maya Blue baffled scientists. Some researchers insisted that the vivid color derived from an organic base while others argued that its amazing resistance to deterioration meant it was mineral in composition. As it turns out, Maya Blue is both. Its organic element is made up of indigo leaves from the same scrubby anil bush that provides the blue for the world's supply of denim jeans. The mineral element is palygorskite, a rare white clay the Yucatec Maya call *sacalum*. The mixture of vegetable and mineral ingredients is a perfect match. As Tom



The Anil bush, from which indigo is made

Higgins, a chemistry professor at Harold Washington College explains, "The indigo molecule slips into the channels of the palygorskite clay, forming a strong

bond between the oxygen atom of the indigo and the magnesium atom of the clay. The result is a hybrid organic/inorganic material with interesting and useful properties we are just beginning to fully understand." Combining the two elements requires stirring and heating at a low temperature, the temperature level produced by burning copal.



Maya Blue on an incense burner

According to the archaeological record, Maya Blue first appeared on painted wall murals, ceramics, and figurines around 500 A.D. Colonial documents from the Yucatan mention that sacrificial victims were painted blue from head to toe and then offered to Chaak the Rain God. When archaeologist Edward Thompson dredged Chichen Itza's cenote a century ago, he reported a 14-foot thick layer of blue silt blanketing the bottom. To him, the silt was more of an impediment than a discovery, blocking him from finding what he was sure were fabulous treasures beneath. With our modern understanding of the ancient Maya, we can view that "silt" as evidence that thousands of blue-painted objects, as well as sacrificial victims, were tossed into the cenote during the city's life span. Dean Arnold interprets his recent discovery as evidence that artisans were producing Maya Blue next to the cenote, painting objects, and then immediately throwing them in the sink hole. If he is correct, then modern science has just recovered an ancient ritual.

Upcoming Public Tours

Maya Ruins, Culture, and Craft Traditions of Chiapas August 1-10, 2008

A Educational Tour for Elementary School Teachers

Learn the details and sign up at www.mayaexploration.org/tours.php



News From the Field

[Ancient Altar Found at Tak'alik Ab'aj](#)

On March 10, archaeologists working at the Pre-Classic site of Tak'alik Ab'aj, on the Pacific coast of Guatemala, discovered an altar dating back to 300-200 B.C. On the surface of the stone is a bas-relief of a turtle carved in Olmec style, and inside the turtle is the figure of a man dressed in Maya garb seated cross-legged on a throne. In standard Maya iconography, this image usually represents the Maize God, who emerges from a crack in the turtle's shell at the beginning of Creation. But in this case, according to Christa Schieber de Lavarreda, director of the excavation, the figure portrays an actual ruler whose power is sustained by the god. The four glyphs carved on one side of the altar have not been deciphered yet, but they may record information about this early dynastic founder and the original name of the site.

Up to now, scholars considered the Peten region as the heartland of Maya culture. This unexpected discovery suggests that Maya civilization, under Olmec influence, may have originated on the Pacific coast. MEC researchers have certainly found enough astronomical evidence to support that supposition for the birth of the sacred calendar. Pending further spade work, it is safe to say that hieroglyphic writing and the institution of kingship were older and more widespread than previously believed.

All Eyes on Equinox



Equinox sunrise illuminating only Pakal's funerary temple

By *Alonso Mendez*

On March 19, students from Palenque hosted visiting students from the American School in London for an equinox celebration at the Cross Group. The cause for celebration was the 1405th birthday of K'inich Janahb Pakal, the great Palenque ruler who was born on March 23, 603 A.D. Two years ago, on April 19, 2006, Pakal's birthday coincided with the grand 13th Baktun anniversary of the birth of Muan Mat, the Progenitor Deity of Palenque (See *Arqueomaya Spring 2006*). Through an extraordinary feat of calendrical manipulation, Pakal's mathematicians had traced his birth date back to that of the Progenitor Deity, thereby establishing his relationship with the creator of the Palenque gods. The royal mathematicians also projected Pakal's birth date far into the future. This year, Pakal's birthday occurred at equinox. As we approach the end of the 13th Baktun and the end of the Great Calendar Round in 2012, Pakal is destined to fill the conceptual role of "father-mother" of the next creation.

The sun's position at the center of

the horizon was commemorated throughout the Maya world. During the eighth century, the people of Comalcalco celebrated annual equinox ceremonies for 12 consecutive years. Many sites displayed important architectural alignments to equinox, beginning with the early Group E complex at Uaxac-

tun and proceeding to the pyramid of El Castillo at Chichen Itza, where the setting sun at equinox still casts a serpentine light on the temple staircase. Uniting the sky and earth, these mountains of stone recorded the sun's passage and reflected the rulers' affinity with the sun.

For many world cultures, equinox is replete with symbols of rebirth, and the Maya were no exception. In 3114 B.C., the date of the Maya Creation, the Pleiades marked the equinox. The Pleiades were viewed as a handful of seeds, and perhaps the planting of the celestial seeds at the dawn of the Calendar Round was a metaphor for time itself growing toward maturity. Today, after 5125 years, the turtle constellation, Orion, rises due east on the celestial equator. From its shell, the Maya believed, the Maize God will be reborn, announcing the beginning of the new cycle.

Maya myth and history may also be experiencing a rebirth as thousands of people look deeper into the Maya cosmos and the Maya themselves revive and renew their past.

Michael Grofe Joins the MEC Team



A specialist in Maya hieroglyphic writing, archaeoastronomy, comparative mythology, and cacao, Dr. Grofe has led multiple field courses in Belize, Mexico and India. He is particularly interested in the confluence of mythological narrative and participatory science in Meso-

america, and the historical interaction between the traditions of the Maya and Central Mexico. In his doctoral research at the University of California at Davis, he explored a new astronomical interpretation of the Serpent Series within the Dresden Codex, and he is currently expanding this research to incorporate the theoretical astronomy found in the Palenque inscriptions.

An experienced teacher, Dr. Grofe has taught numerous courses on the *Popol Vuh* and Native American literature, and he is currently teaching cultural anthropology, archaeology and physical anthropology at American River College in Sacramento, California. MEC is proud to welcome him to our team.

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