



# ARCHAEO MAYA

The Newsletter of Maya Exploration Center

[www.mayaexploration.org](http://www.mayaexploration.org)

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## Coronado Receives the MEC Longhorn Award

MEC is proud to announce the establishment of the MEC Longhorn Award for Excellence in Mesoamerican Studies. Starting in 2007, MEC will annually award \$3000 to a University of Texas at Austin graduate student who is making important contributions to our understanding of ancient Mesoamerican civilization.

The MEC Longhorn Award's first recipient is Anabel Coronado, who last year joined the Latin American Studies graduate program at University of Texas at Austin. Born in Mexico, Ms. Coronado has been making significant contributions to Mesoamerican archaeology since 1999 when she participated in the restoration of Ures, Mexico City's historical center. After obtaining a B.A. in Architecture from the Technological Institute of Monterrey in 2000, she went to work for INAH, supervising architectural restoration of Spanish missions in Sonora. Since then, she has been a member of restoration teams at the Maya ruins of Palenque, Cancuen, Tikal, and most recently, San Bartolo. For the last four years, she has been the apprentice of Rudy Larios, the world's leading authority on the restoration of ancient Maya architecture. Conscientious restoration is imperative if Maya archaeologists are to fulfill our obligation to preserve history for future generations. Yet few students are currently being trained in this vital field. For this reason, MEC believes that supporting Ms. Coronado's work and



*Anabel Coronado atop Temple IV in Tikal*

training will prove a boon for the entire world.

Candidates for the 2008 MEC Longhorn Award can be nominated via letter mailed to our Board of Directors at our offices in Austin. Nomination letters will be accepted between now and October 31, when the Board will review all candidates. Finalists will be contacted for additional information in November. The decision on the 2008 recipient will be made before the end of December. To learn more about the MEC Longhorn Award and how to nominate a University of Texas at Austin graduate student, contact us at [info@mayaexploration.org](mailto:info@mayaexploration.org).



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## Letter from the Director

Well, I got what I wished for. MEC has received so many requests for education programs that I can barely keep up. As I plan



upcoming courses, the timetable looks like a musical score. Our spring schedule is so full that we may have to add another page to the newsletter! The inside article on Christopher Powell's trip with the Mathematical Association of America reflects the kind of in-depth learning experiences MEC enthusiastically provides university students and professors. I'm truly gratified by the growing popularity of our programs and am looking forward to a lot of travel in 2007.

And MEC is doing so much more. This edition of ArchaeoMaya begins with congratulations to our first MEC Longhorn Award recipient, Anabel Coronado. We're proud to begin actively supporting brilliant young students. As for our burgeoning research efforts, this issue recounts my first experiments with Mesoamerican rubber as well as our ongoing involvement with NASA. Weighing in on a cur-

rently hot topic, we've also included a piece on Mel Gibson's controversial movie, "Apocalypto."

As MEC moves forward into our busiest year ever, we have many challenges to face. The work load of our research associates is close to capacity, and we need to start expanding our numbers. Our office and library require a larger facility. While our travel courses, lecture series, and public tours support our operating budget, we need increased funding in order to conduct our research and to expand the scope of our educational activities. Aside from foundation grants, we are seeking an endowment that will stabilize our financial resources and allow us to maintain a permanent staff working on long-term goals. Could 2007 be that year? Are you, or someone you know, one of the benefactors we've been looking for? We need your help to achieve our aims. Keep reading ArchaeoMaya to find out all we're doing, in US classrooms and in Maya ruins, telling the story, surveying the stars.

Sincerely,



## CHAUTAUQUA SHORT COURSES FOR COLLEGE PROFESSORS

### 2007 Faculty Development Program

Courses offered by Dr. Ed Barnhart:

**Ancient Inca Mathematics and Culture in Peru - course full**  
**Plants and Animals of the Ancient Maya World, Quintana Roo**  
**Archaeoastronomy in the Maya Ruins of Yucatan, Mexico**

To learn more about these courses, log on to [www.edb.utexas.edu/csme/](http://www.edb.utexas.edu/csme/)

## MAA Maya Mathematics Tour in the Yucatan



Over the holiday season, Maya Exploration Center again teamed up with the Mathematical Association of America to offer an intensive educational tour of the Yucatan Peninsula. The day after Christmas, mathematics professors from all over the United States met Christopher Powell in Merida for a week-long journey into the past. Merida's palatial 18<sup>th</sup> century residences were graceful reminders of the city's colonial dominance over the sisal trade. There were deeper layers to discover as Powell tied together ancient history, art, science, and mathematics for a rich portrait of Maya culture.

To learn about ancient astronomy, the group traveled to the early Classic site of Dzibilchaltun. There, Felipe Chan Chi, a Yucatec Maya guard at the ruins, has been witnessing sunrises and sunsets for over 20 years. Now the archaeoastronomer is eager to share his brilliant observations. At the Temple of the Seven Dolls, he described how the building functions as a complex astronomical observatory marking the passage of the Sun, Moon, and planets.

Astronomy was also the focus of the trip to the great post-Classic city of Chichen Itza. At the base of the monumental pyramid, El Castillo, Powell explained that the

number of steps and terraces were related to the Maya calendar and to the levels of the cosmos. More remarkable is the pyramid's precise orientation to the sun. During equinox, a bold serpentine shadow appears on the staircase—a sight witnessed by thousands of visitors each year. Itza architects also built a true observatory, El Caracol. Sight windows set within its circular walls gave astronomers a 360° view of the heliacal risings and settings of the Sun and planets.

A similar observatory exists at Mayapan, the city that rose to power when Chichen Itza was abandoned in A.D. 1200. Mayapan is a pale replica of Chichen Itza, and its observatory, an obvious copy of El Caracol, functioned differ-

ently. As tour members explored the empty ruins, they were reminded that, in time, Mayapan was also abandoned. Putting aside the vicissitudes of history, the group returned to Merida, where Powell's presentation on Maya geometry became the topic of intense conversation for the rest of the evening.

After a morning visit to the Regional Anthropology Museum, the professors spent the afternoon exploring the city. That night, New Year's Eve, they joined the crowds for festivities in the main *zocalo*. On New Year's Day, the group traveled to the ruins of Uxmal. There they experienced what many consider the highpoint of Maya urban planning, evidenced by the fact that every structure affords a picturesque view of sublime architecture and spacious plazas. While visiting the Nunnery and the Governor's Palace, Powell explained the city's geometric layout and its special relationship with the planet Venus.

The final dinner was filled with spirited conversation about Maya achievements in mathematics and science. With the completion of another successful MEC-MAA educational tour, more are in the planning stages for 2007.

### Upcoming Public Tours

**Cacao and the Ancient Maya of Southern Mexico, February 19- March 2, 2007**  
**Pillars of the Classic Maya, Palenque to Tikal, April 11-20, 2007**

Learn the details and sign up at [www.mayaexploration.org/tours.php](http://www.mayaexploration.org/tours.php)

## Mesoamerican Rubber Experiments

Of the many mysteries surrounding the Mesoamerican ballgame, the most fundamental is how the ancients made the rubber balls used in the game. One viable method was brought to light by Yale graduate student Michael Tarkanian (*Science*, June 1999, Vol. 284). After chemically analyzing 3500-year-old Olmec rubber balls and conducting fieldwork among the modern Maya of southern Chiapas, Tarkanian discovered the essential ingredient added to raw latex: the sulfur-laden juice of the morning glory vine. Since rubber trees (*Castilla Elastica*)



*Latex being collected from a tree in El Safari Campground*

and morning glory (*Ipomoea Alba*) grow profusely in Palenque, Dr. Ed Barnhart initiated MEC's first experiments in recreating the Mesoamerican version of vulcanized rubber.

Barnhart and field assistant Cathy Kahn obtained the liquid latex from a nearby rubber tree plantation. After scouting the roadside fences where purple morning glories bloom in abundance, they collected 10 meters of tangled vines. Back in Barnhart's kitchen lab, the arduous process of extracting the juice began. Three hours of chopping, blending, and pressing produced only 40 ml. of juice, just enough for a few experiments.

The first experiment followed Tarkanian's description to the letter, which meant adding 10ml. of morning glory juice to 100 ml. of latex sap and stirring the milky solution for 15 expectant minutes. A white, tortellini-sized lump appeared in the bowl. Barnhart squeezed it into a ball. Immediately, the ball became dry, firm, and highly resilient when bounced on the concrete floor.

The next samples were baked, a process that Tarkanian referenced but did not elaborate on. Dr. Barnhart poured mixtures of varying morning glory to latex ratios into a non-greased muffin tin and slipped the composites into a 200° oven for one hour. A pure latex sample also went into the oven. While the mixtures cooked down and browned on top, the pure latex bubbled up and over the tin. All the samples popped out like hockey pucks, solid but pliant enough to roll into balls— if done immediately. In no time, the samples hardened into permanent little globes. All of them, including the pure latex, had plenty of bounce.

Weeks later, the samples made with morning glory turned charcoal gray but retained their original elasticity. The pure latex sample dripped for days, eventually growing hard and translucent. Clearly, the morning glory extract helped create a long-lasting rubber. Perhaps most telling were the non-baked samples. With constant stirring, the morning glory transformed latex into pliable rubber. As for the last of the latex sap, it remained in a liquid state for 24 hours, when a dog knocked the container off the porch!



*Rubber samples created during the experiment*

The spheres produced during these experiments are smaller than golf balls. Efforts to reproduce the larger balls depicted in Mesoamerican sculpture, along with molded balls, sheets of rubber, and even art pieces will continue in 2007. Ultimately, we hope to encourage the manufacture of rubber in Palenque by introducing local people to a process they lost over 1000 years ago.

## Gibson's Apocalypto Crucifies Maya History

The votes are in, and Mel Gibson's "Apocalypto" has generated strong responses from all sides. Academics and indigenous groups hate it. Movie critics, cinematographers, and action-adventure fans love it. Ebert and Roeper gave it "two thumbs up." If box-office earnings are any indication—a reported \$78 million worldwide as of Jan 20<sup>th</sup>—the movie definitely has mass appeal.

Responses from the academic community were generally negative. Dr. Julia Guernsey of the University of Texas at Austin told the *Austin American Statesman*: "I hate it. I despise it. It's offensive to Maya people. It's offensive to those of us who try to teach cultural sensitivity...." While Guernsey's reaction was atypically visceral, almost every academic interviewed expressed disappointment, citing historical inaccuracies, gratuitous violence, and a blindness to Maya scientific achievements. Dr. Traci Arden of the University of Miami told *Archaeology* magazine, "Gibson communicates that there was absolutely nothing redeemable about Maya culture, especially elite culture, which was depicted as a disgusting feast of blood and excess."

The indigenous communities of Mexico and Central America were unanimously disturbed by the movie. Ignacio Ochoa, Director of Mexico's Nahual Foundation said, "Gibson replays, in glorious Technicolor, an offensive and racist notion that Maya people were brutal to one another long before the arrival of the Europeans and thus they deserved, in fact needed, rescue." In the Guatemalan highlands, the response was one of disgust and anger. Guatemala's Presidential Commission Against Discrimination and Racism directed thea-

tres across the country to ban "Apocalypto" before its scheduled January 11<sup>th</sup> release. Nobel Peace Prize winner Rigoberta Menchu stated, "I don't watch violent movies, because we've already suffered enough violence in Guatemala."

Gibson maintains that the film is a positive thing for the Maya and that it will help make speaking Maya "cool again." His archaeological consultant, Dr. Richard Hansen, asserts that the movie is historically accurate, save for a few moments of "artistic license." Both seem taken aback by the movie's critics, though Gibson must be used to being branded a racist by now.



Jaguar Paw (Actor Rudy Youngblood) races to save his family

Were there historical inaccuracies in the film? Plenty. Was it a racist and defamatory portrayal of ancient Maya society? Certainly, though no worse than "Zulu" and dozens of cowboy-and-Indian flicks. It should be said that the indigenous actors in the film gave powerful performances.

The cinematography was beautiful. And for what it's worth, the action kept audiences on the edges of their seats. Of course, for the first big-budget feature on the Maya, we would have preferred a nobler vision. Yet this sensationalist Hollywood entertainment has reached more people than any blockbuster museum exhibition or serious work of scholarship. Such is the state of *modern* culture. Because of "Apocalypto," millions of moviegoers who had no clue are at least aware that the ancient Maya existed. They may even be interested in going beyond the movie's message and learning more. It is up to us academics to seize this opportunity and somehow try to educate a wider public about the civilization that challenges our minds and souls.

## News from Palenque

### Super Che!

That giant new orange and blue sign blazing at the entrance to Palenque isn't celebrating the Cuban hero. It's merely announcing the name of the new supermarket in town. But in its own way, Super Che has caused a little revolution in local shopping. This mini-version of Mexico's national supermarket chain, Chedraui, promises discount prices and specials on just about everything stocked in its super clean deli, bakery, freezer, and bulk bins. Oh, the store offers shelves lined with crock pots and shampoos, but you can buy those anywhere. Here you can wheel your little shopping cart up and down the short aisles, and besides mini-savings, you can find cellophane-wrapped sirloin, turkey sausages, or premixed soy burgers. And there are a few gourmet delights like parmesan cheese, couscous, Japanese seaweed and bean thread. It's not Whole Foods, but it does say something about shifting tastes in a provincial town. Despite all the hoopla, the central market is still jammed with tamale vendors, fishmongers, and daily shoppers. None of the bustling little tiendas downtown have gone out of business yet. In short, the major impact of this sanitized brush with America is a trend toward greater variety, global choice in food.

## INAH Approves NASA Project



NASA, U.C. Berkeley, and INAH are joining together to teach Mexico's youth about ancient Mesoamerican astronomy. After three successful workshops in Yucatan and Chiapas, INAH has approved the three-year program, "El Sol Nos Une Todos" ("Everyone United Under the Sun"). The expanded series of workshops will be held during key solar events at major archaeological sites in the Yucatan, Chiapas, Oaxaca, and New Mexico. Local students, parents, and teachers will have a chance to use sophisticated telescopes, participate in interactive solar experiments, and attend lectures and tours by professional archaeoastronomers. In addition to the program's educational

goals, researchers will be conducting solar observations at ancient cities in southern Mexico.

INAH's approval of this three-year effort is a strong validation of the hard work of the program's directors: Dr. Isabelle Hawkins, astronomer at U.C. Berkeley; Nelly Robles Garcia, Director of Monte Alban; and Jose Huchim Herrera, Director of Uxmal. The program directors generously donated their time and expertise to develop and guarantee the success of the first three workshops. MEC Research Associate Alonso Mendez has been one of the program's chief organizers in Chiapas and has now enlisted the help of others in MEC to help teach the educational workshops and to conduct ongoing astronomical investigations. Dr. Alonso Maria y Campos, who gave an enthusiastic opening speech for El Sol's photo exhibition in San Francisco, has just been named the Director General of INAH in Mexico City. A good omen indeed for the project's beginning. We at MEC look forward to lending our time and effort to this worthy project and congratulate Dr. Hawkins and the other directors for this big step forward.

### 2007 Mayan Calendars

2007 Mayan Calendars are still available through MEC. This year's theme is images from Maya pottery and features the roll out photography of Justin Kerr. Each month has the long count date at the top and each day has the tzolkin-haab calendar round.

A donation of at least \$25 to MEC covers the calendar and shipping. Follow the link below to donate online or send a check to our offices in Austin. We have less than ten left, so order yours today!

[www.mayaexploration.org/support\\_donate.php](http://www.mayaexploration.org/support_donate.php)



## MEC Tech Report

Our website received over one million hits in 2006! After evaluating its most popular features, we are in the process of making a few changes in format and content. First, we have already moved the link to our online publications to a more prominent location on our homepage. Look for it on the right side and link to it directly to check for new articles and reports. Currently in the works is another long-overdue feature of the website - a place for pictures from past study abroad courses. Many students have requested this, and now we intend to deliver. Finally, those of you who are reading this newsletter are probably aware that we have switched to Constant Contact as our newsletter delivery system. With over 1100 people on the mailing list, this new system protects all of us from hackers and potential viruses. Is there something you'd like to see more of on our website? Please let us know.

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