

A monthly newsletter published by the **Institute of Maya Studies**

Maya enthusiasts providing public education for 45+ years

A Community Partner of Miami Dade College – Kendall Campus, Miami, FL, USA

Volume 46
Issue 11
November 2017
ISSN: 1524-9387



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November 15, 2017 • Maya Ceremonial Era Long Count: 0.0.4.17.10 • 13 Ok 8 Keh • G8

Day of the Dead, called *Día de los Muertos* in Spanish, is an annual Mexican holiday that is celebrated throughout the entire country of Mexico and in various cultures throughout the world, including all over the U.S. The days are centered around the living gathering to pray and honor their friends and family who have passed away. Day of the Dead is always celebrated around the beginning of November, which aligns with the Catholic holidays of All Saints' Day and All Soul's Day. This year, October 31 to November 2nd.

Day of the Dead by Dr. Rosita Arvigo, DN

In the tree-lined plaza, a tall couple, dressed as the dead in 19th Century black satin and lace, cavorted playfully around a group of delighted on-lookers. The two skeletons looked as if they were on their way to a fancy dinner. Her face, painted ghostly white under an enormous veil-draped flowery hat, had blackened circles for eyes and a cadaverous mouth. He wore a black tuxedo, white skeleton face under a tall, black top hat. Arm in arm, through the

Souls cross the river. Mural in Juarez Park, San Miguel de Allende.



crowded plaza, posing for photos, they paraded their rendition of Eternal Love and Death.

During the three days of Day of the Dead celebration in San Miguel de Allende, Mexico, there would be hundreds more adults and children dressed as personal interpretations of the dead.

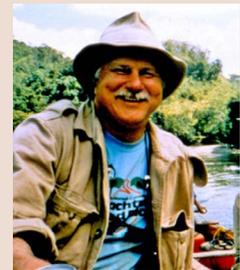
Every culture has unique beliefs about the meaning of death, divinity and rebirth shaped by thousands of years of literature and custom. In Mexico, the philosophy and customs around death have shaped a national identity. Many ancient traditions inherited from ancestors have fallen away, but not their reverence for and ability to laugh, party and dance with death.

Our American Halloween on October 31st, is a shrunken, anemic version of the Mexican Day of the Dead or *Día de Los Muertos*. As a child, my favorite Halloween costume was Wonder Woman. Year after year, I made gold belts, silver bracelets and got very adept at her crown and magic rope. It was all about an alter-ego costume, ghosts and goblins, scary images, spider webs, carved pumpkins, candy and parties. As North Americans, we knew nothing about the deeper, more philosophical and spiritual meaning of this pan-American holiday.



Eternal couple of spirits passed on. Photos by Rosita Arvigo.

November 15, 6 pm



Corn, Cotton and Chocolate: How the Maya Changed the World
with **James O'Kon, PE**

Since ancient times of the Aztec, Maya, Zapotec and Chichimeca, Mexicans hold that once each year souls of the dead can and should be invited back to earth with treats, candles, flowers and

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Jim Reed, Editor

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Maya Ballplayer Monuments Unearthed in Tipan Chen Uitz, Belize



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The long-lost Maya ruins of Tipan Chen Uitz in Belize are only beginning to give up their secrets, with the latest discovery being something of a home run: Archaeologists found two table-size stone panels, depicting elite ballplayers, that likely would have greeted subjects walking by the palace.

The discovery of these two panels reinforces the idea that the Maya people would have placed a lot of importance on the ballgame, and suggests that it helped the Maya connect with different communities in their vast network.

“[These monuments] speak to the extent to which Tipan was embedded in these very complex political relationships between ruling elites across the Maya area,” said study senior researcher Christopher Andres, an adjunct research associate at Michigan State University who specializes in Maya archaeology.

Andres and his colleagues learned about the Tipan site while working on another archaeological project in Belize, in 2009. Some locals said they knew about an undocumented Maya site in the jungle and agreed to take them there.

Once they arrived, they were “blown away,” Andres noted. “We were all pinching ourselves,” he said, “because we were not expecting to be taken to a site that was so large.”

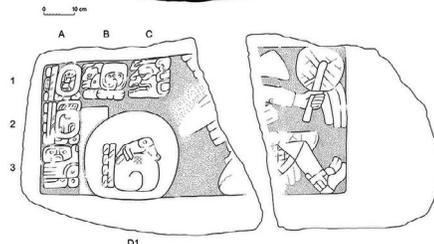
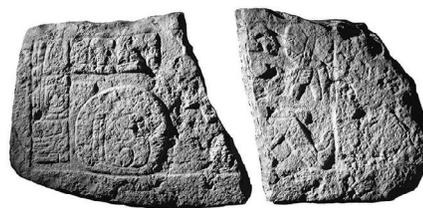
Thousands of Maya likely once lived in Tipan, Andres said. The site has the ruins of a ballcourt and “a very impressive palatial complex, which is part of what we were excavating when we discovered these [ballplayer] monuments.”

The monuments essentially seem to have been part of the façade to the entrance to the palatial complex, where presumably the ruling elites of Tipan would have lived.”

Ballplayer carvings

Discovered in 2015, the two ballplayer panels are the first of their kind to be found in Belize, the researchers said. Both have carvings depicting ballplayers and hieroglyphic captions, and they are thought to date to between about 600 CE and 800 CE.

One monument (dubbed Monument 3) was found cracked in two and lying facedown. It would have measured about 4.7 feet long, 2.1 feet tall and 0.6 feet wide (1.4 by 0.7 by 0.2



The ballplayer in Monument 3 is wearing an elaborate belt and holding an object with streamers (possibly a fan). Photo and illustration by Christophe Helmke (courtesy of Antiquity).

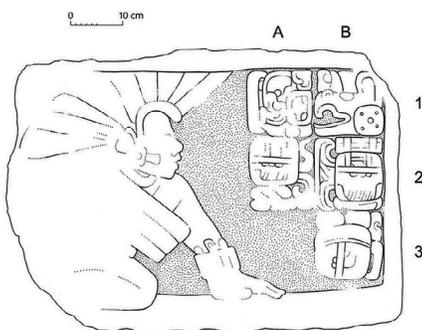
meters). It had only “minor damage and moderate weathering,” allowing the team a good view of its carving – a large ball next to a ballplayer. “The panel may depict a ballgame that was celebrated within the ballcourt at Tipan Chen Uitz, or commemorates such a game played at an allied site.”

The hieroglyphics say, “nine-hand-span ball,” but it’s unclear if this length refers to the length of the latex strip used to make the ball, or to the circumference of the ball itself, the researchers said. There is also a calendar date that may translate to May 18, 716 CE, and glyphs for the verb “grasp” and the ballplayer’s name; this ballplayer may have sported the nickname “Waterscroll Ocelot.”

The second panel (Monument 4) was discovered face-up, but about one-third of it is missing. It measures about 2.6 feet long, 1.8 feet tall and 0.6 feet wide (0.8 by 0.6 by 0.2 m), and shows a man wearing a distinctive ballplayer belt. This action-figure-like carving shows a moment when “this figure lunges forward and braces his left knee, leaning on his left hand as though attempting to strike a ball,” noted the researchers.

Curiously, part of the ballplayer’s name – translated from hieroglyphics as “bird of prey is the mouth of celestial fire” – is also seen at a ballcourt in Naranjo, a major Maya site in the Guatemalan Peten. It’s possible these carvings refer to the same person, which would provide a connection between the two sites, noted Andres. 🏹

Source: Condensed from an online article by Live Science Senior Writer Laura Geggel. Posted 9/29/2017. Read her full story at: <https://www.livescience.com/60552-maya-ballplayer-stone-panels-discovered.html> Posted to the IMS Facebook page by Janet Miess.



The carving on Monument 4, shows a ballplayer wearing a large belt who is lunging forward. The ballplayer leans on his left hand, “as though attempting to strike a ball,” the researchers wrote in the study. Photo and illustration by Christophe Helmke (courtesy of Antiquity).

Day of the Dead by Dr. Rosita Arvigo, DN

continued from page 1

incense. They hold this as a spiritual duty to the departed. Souls of dead children return on November 1st and adults on November 2nd.

Their pre-Christian ancestors celebrated the Day of the Dead in August at harvest time to assure there would be an abundance of sustenance to offer the returning souls. In the 15th Century, the conquering Spaniards brought a very similar holiday, *Todos Santos* or All Saint's Day. After the absorption of the pagan faith into Christianity, the two holidays were celebrated together.

There are two levels, two different realities to Day of the Dead in Mexico; one is fanciful and the other is more serious. In modern Mexico, on November 1 – Day of the Little Angels – it is tradition to dress children up as the dead in elaborate costumes that harken back to the 19th century.

On the afternoon of November 1, altars or “*offrendas*” are set out in homes and public places around town to honor those adults who have passed on; to remember their contribution to your life; to invite them back to earth to visit and request their counsel with loved ones. The heart and soul of this celebration, the *offrenda*, is replete



Offerings for the departed outside a public library. Photo by Rosita Arvigo.

Rosita posing by a Día de Los Muertos display, made from a converted fountain.



with symbolic meaning. Mexicans say that *offrendas* are made for people and altars are dedicated to saints. A combination of flowers, religious icons, water, candles, colored cut-out paper, incense and favorite foods of the deceased, they are bright and heartwarming tributes to the dead.

Most *offrendas* are constructed in several levels to signify the layers of the Underworld that the dead must traverse. Seven is the most typical number of levels as it represents the stages the soul must pass through before finally resting in peace. Each level of the *offrenda* is adorned with specific items. The highest, representing the spiritual world where the souls now dwell, is the place for religious icons of Jesus, Mother Mary and saints. The 2nd level is dedicated to the poor souls in purgatory. Lower levels are for salt, water, bread, flowers, favorite dishes, pictures of the deceased loved one and finally a representation of the earth that might be the brightly colored marigold and celosia flowers or different seeds, and corn. Some simpler altars, made of three levels, represent Heaven, Earth and the Underworld. Whatever the number, each level, usually made of boxes, is covered in brightly colored cut-out papers, cloths and a carpet of marigold petals.

Iconic flowers, stars of the show, are everywhere for Día de los Muertos: the yellow Marigold or *cempuazutchil*, in Aztec (means “twenty flowers”); the Red Cockscomb (amaranth, celosia, prince’s feather) and the white Baby’s Breath or *nube* (cloud). The yellow flowers, representing earth, white for heaven and purple to represent mourning attract and welcome the spirit and perfume the space.

Another iconic item of this national festival of death is colorful, life size or miniature skulls made of sugar that usually have the name of the deceased written over the forehead. According to tradition, if not eaten after the *offrenda* is taken down, the skulls must be smashed.

The rich aroma of copal incense is everywhere in streets and public squares; burned in front of the *offrenda*, it purifies the atmosphere and prevents evil spirits of the dead from disturbing the journey of the returning dead or the homes of the living.

Pan de Muerto or Bread for the Dead, made from a special recipe, is expertly decorated with bone-like images and sprinkled with sugar. Some roll out the dough and form it into the initials of the deceased which are then baked into the top of the bun. Households lucky enough to have grandparents, will be able to remember and bake bread for deceased relatives from three generations ago. An *offrenda* may have dozens of these little loaves of bread – each one dedicated and made for a single person to sustain them on their journey from the realm of the dead to the living.

Every time I am in Mexico for this celebration, it gives me a sense of the deeper meaning of death, the gift of life and love that never dies. For weeks afterward, I feel nostalgia and allow myself time to contemplate the meaning of those departed loved ones in my life. I remember my immigrant grandparents, siblings and aunts, uncles, cousins and friends who were once here as vitally alive as I, but now dwell among the dead. I contemplate what contributions they made to my life, what I learned from them and just enjoy the sweet sadness of their passing.

Everyone will die and everyone has someone to mourn and everyone can be enriched by remembering their beloved who have passed on. 🌺

Source: From a much longer Blogpost by Rosita Arvigo. Read the full story at: <http://rositaarvigo.com/blog/652/>



Master Herbalist – A Magnificent Obsession with Dr. Rosita Arvigo, DN

“I left Chicago during the Vietnam War and went to Mexico for seven years. The boyfriend I had at the time was a draft resister. We were way back in the bush, about 14 hours’ walk from a village that was a 20-hour bus ride from the highway.

“It was a self-sufficient homestead we started. We could do everything except weave cloth and make paper. We had a fruit orchard, and we cared for that, and it was just the two of us and our two children.

“That relationship broke up, and it was time to move on. My parents were adamant that I should get a degree. I went to Chicago and entered a college of naprapathy, and that’s where I met my current husband.

“In the 1980s, there was kind of a campaign against natural healers and herbal practitioners. I wanted to live and work in peace and heal people and take care of them, and that was becoming against the law in America. So I went to Belize in 1982. It was for medical freedom, and a year-round growing season, and wanderlust. Those are always my reasons.

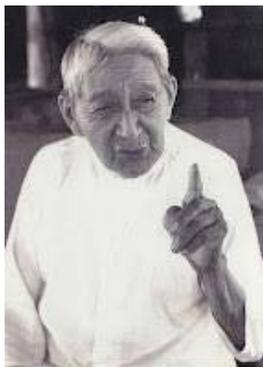
“I was trying to find someone who could teach me about the medicinal plants of my adopted country. ‘The



Don Elijo and Rosita back in the day.

most famous healer is this Maya shaman Don Elijo – but watch out for him,’ everybody said. ‘He’s a lecher.’ It wasn’t true. I’m glad I didn’t pay any attention to that.

So I made an appointment to visit him. I had to walk miles – across the river, through the



L) Don Elijo Panti at 103. R) Don Elijo and Rosita. “Most people think too much. Get them to laugh and half their troubles and sickness will go away and the blessed herbs will do the rest.” – Don Elijo Panti

jungle, down the road – to get to his village. I asked him if he would teach me, and he said no, and I kept asking him, and he said no and no and no.

“Exactly one year later, I got there very early in the morning, and he said, ‘I have no time for you today. I have to go harvest my corn.’ I said, ‘Well, let me help you.’ He said, ‘What do you know about harvesting corn? You’re from Chicago.’ I said, ‘I lived in Mexico for seven years. I can harvest corn. Let’s go.’

“In the middle of the morning, he looked at the pile of corn I had pulled, and he was impressed. He said, ‘Tell me, what do you want? What is it?’ I said, ‘Don Elijo, I just want to learn about the plants. If you take me as your student, I promise to work hard.’ So he did. I became his constant companion and his disciple for 15 years. He died in 1996 at age 103.

“We still live in Belize, and we grow bananas, chocolate, lots of fruits, and vegetables. I’m here in Chicago for five months, helping my daughter with her new baby and leading herb walks in the city. I’ll be back every summer. “Right now I’m finding plantain, which is excellent for wounds and cuts. And dandelions – those yellow flowers make a wonderful cough medicine. There’s burdock; that is a blood tonic for people just coming off long-term illnesses. And there’s yellow dock, which is the natural antidote to poison ivy. These plants have been here for thousands of years. Anywhere there’s a crack of dirt in the sidewalk, a medicinal plant will grow.” 🌱

Getting to Know Rosita Arvigo – Modern Medicine Woman

Dr. Rosita Arvigo, DN, (Docotr of Naprapathy) is a native of Chicago and a naprapathic physician, herbalist, international lecturer and author. She has lived in remote areas of Mexico and Belize for more than forty years. There, she studied with many traditional healers including Don Elijo Panti, the renowned Maya shaman of Belize, and midwife/herbalist Hortence Robinson. Both of her teachers were recipients of the coveted National Living Treasure Award.

Rosita and her husband, Dr. Greg Shropshire, founded Ix Chel Tropical Research Centre in Belize. The organization is dedicated to the preservation and study of medicinal plants of the rainforest. They founded



the Belize Association of Traditional Healers;

Bush Medicine Camp for children; *The Rainforest Medicine Trail*; and *Rainforest Remedies*, an herbal concentrate company. In 1987, they founded the *Belize Ethnobotany Project* with Dr. Michael Balick of the New York Botanical Garden.

Rosita is the founder of *The Arvigo Institute*, which trains practitioners in the Arvigo Techniques of Maya Abdominal Therapy and Maya Spiritual Healing. Now retired from clinical practice, Rosita focuses on teaching and writing. She divides her time between Belize, Mexico and Chicago. 🌱





Maya Goddess of Medicine, Weaving and Childbirth

with Dr. Rosita Arvigo, DN

“On one of our very first forays into the jungle searching for medicinal plants, Don Elijio said that ‘walking in the mountains with a woman was very good luck,’ we trudged further up the mountainside toward the rising sun. ‘Ix Chel shows her medicine more readily when a healer walks with a woman.’

“Out of breath trundling along behind him, I asked, ‘Who is Ix Chel?’ Patiently, as if speaking to a child, he answered, ‘She is the Goddess of healing. Women pray to her for fertility and she brings dream visions to healers and weavers. She is my very best friend.’

“I was fascinated by this Goddess of the Americas. I began a personal research project to learn more about her that continues to this day. Eventually, she became the patroness and spiritual guide of our Maya Abdominal Therapy profession and association. Cozumel Island, the site of her temple was known to the ancient Maya as Cuzamil or Place of the Swifts. Like Most Maya sties, it was abandoned sometime during the 10th century.



Ix Chel the Crone Elder, Maya Goddess of Medicine and the Moon. She is in charge of medicinal plants, healing, and the moon phases. In early Maya culture, elder women were revered and respected. Their knowledge and experience was a vital element of daily survival for the people. In

this glyph, Ix Chel wears on her forehead a snake, symbol of medicine, intuition, spiritual knowledge, and a show of her control over earthly forces. She holds a clay pot full of rainwater and herbs from which, when in a good mood, she pours blessings upon the world. When vexed, she sends too much rain with floods and hurricanes. She was consort to the Rain God Chac, one of the Nine Benevolent Spirits that guide the Maya people to this day.

Ix Chel the Maiden, the Ancient Maya Goddess of Weaving, Fertility, and Childbirth. The snake on her forehead signifies she is the goddess of medicine and intuitive knowledge with great control over earthly forces. She was



responsible for the formation of a baby in the mother's womb and decided if a child would be male or female.

Maya midwives placed her image carved in cedar wood under the birthing bed. The San Gervasio ruins on the island of Cozumel in Yucatan, Mexico, include a temple dedicated to her, which continues to be visited by Maya women before they marry.

Ix Chel the Mother, Maya Goddess of Fertility, Motherhood, and the Moon. Considered to be the mother of all Maya people she sits elegantly poised on a crescent moon, which represents the cycles and phases of a woman's reproductive life. In her hands she holds a rabbit, another symbol. Young women pilgrimage at least five times to the temple of Ix Chel. It is said that the Maya people learned about time from women who recorded their menstrual cycles with the moon phases, thus discovering that one moon cycle and one menstrual cycle are 28 to 30 days.



Maya fertility made a once in their lives pilgrimage at least five times to the temple of Ix Chel. It is said that the Maya people learned about time from women who recorded their menstrual cycles with the moon phases, thus discovering that one moon cycle and one menstrual cycle are 28 to 30 days.

“Maya women of all ages went to Cuzamil to be trained in women's mysteries, astrology, healing with

herbs, prayers and massage as well as divination. In many cases, Maya women were obliged to make two pilgrimages in a lifetime to visit the sacred island, one at menarche and the second at menopause.

“The early Spanish chronicles relate that women came from as far away as Tenochtitlan (present day Mexico City) and as far south as Nicaragua and Panama.

“At Pole, the sight of present-day Playa del Carmen, Cuzamil pilgrims were given free housing and meals until a canoe and paddlers were arranged to carry them across the seas – a twelve hour dangerous journey. Only very few men, members of a hereditary lineage, knew of the secret currents to the island. Those who tried to paddle to Cuzamil

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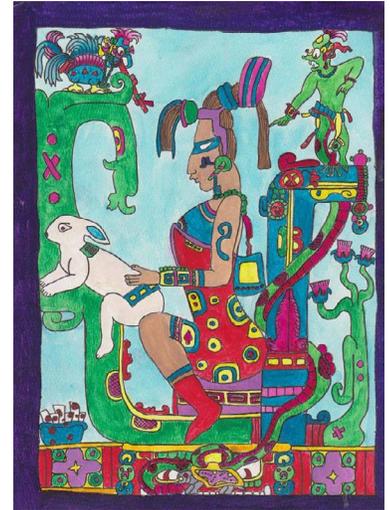
Are You a Queen?

Message Rosita on her Facebook page at: www.facebook.com/drrositaarvigo/

“We had a fascinating discussion this year during Wisdom Circle about the tri-phase Goddess Ix Chel as maiden, mother and matriarch. We all agreed that we have omitted an important phase of a woman's life – that special, powerful time after children are grown and before entering the elder years. It is from 50 to 75, we think.

“A full 25 years when a woman is in her greatest power phase. These were the phrases we came up with to describe that magical time of our lives: authentic self, journey within, harvest time, sharing what you have planted, standing on your own, jaguar power, compassion, a flower in full bloom, living your truth, leader, teacher, grandmother, oracle, mature voice, caregiver of the very young and the very old, a seed within that has sprouted, illuminated as the full moon, magnified, amplified and clarified wisdom, the autumn of our lives and all that entails – magnificent color, boldness, full promise.

“Please share your thoughts on my Facebook page. I would love to hear from you queens!”



Ix Chel, the Mother, by Rory Eade. Email the editor to acquire some of Rory's recent artwork.



Rain Forest Remedies – The Natural Solution

with **Dr. Rosita Arvigo, DN**, *continued from page 5*

without knowledge of the these powerful currents would invariably be swept back to the mainland again and again. Today in Yucatan, this crossings, *La Travesia*, is re-enacted each May from Tulum to Cozumel.

As the home of the Goddess of love, women brought offerings to *Cuzamil* to request a well-matched, prosperous married life. After marriage, they made pilgrimages to request fertility. I imagine that childless women, often ostracized, would have been welcomed at *Cuzamil* and given productive work to do in their own district, where they raised bees for honey and tended to orphaned children brought to the island by relatives who feared they would be sacrificed. Elder women came to give thanks for the children they bore and brought their

daughters of marriageable age to complete their first pilgrimage.



Traditional Uses of Ants

“Now hold still,” I caution Jaguar Shield. Transfixed, everyone - even the soldiers - watch as I carefully position the ant over the middle of the wound and let it dig its barbed front legs into either side of the swollen flesh. Those legs clamp down so deeply that they can stitch a wound closed. Jaguar Shield winces, but he holds steady. Quickly, I pinch off the ant’s back legs and body. Eight ants later, the wound is nicely closed.”

– Excerpt from *The Oracle of Ix Chel* by Rosita Arvigo

Traditional Uses of Tamarind

“The pulp of ripe tamarind fruit is soaked in water and used as a laxative and to relieve biliary colic. It contains calcium, phosphorous and iron, nutrients which help regulate and cleanse the system.

“For morning sickness, a piece of pulp is chewed with a dash of salt and pepper. An infusion of the leaves is gargled for sore throat and to wash wounds, boils and rashes, while a paste of the leaves is applied over scabies. Dried and powdered leaves are sprinkled over boils and ulcers of the skin. Crushed leaves are applied to the head to relieve headaches. The bark is astringent and therefore is useful as a gargle for sore throat. Bark powder



is dusted onto ulcers; mashed into a paste, it is used as a good dressing for scorpion sting.

“Sleeping under a tamarind tree is said to cause ill health. It is also said that few garden plants can grow under or near a tamarind tree as the roots are toxic to other plants.”

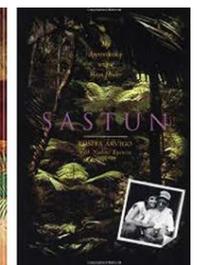
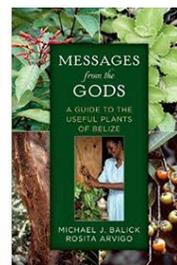
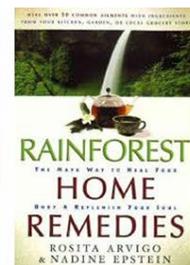
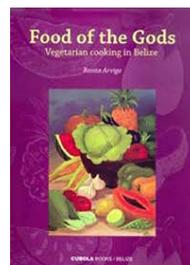
– Excerpt from *The Oracle of Ix Chel* by Rosita Arvigo



Traditional Uses of Guava

“An infusion made by steeping 1 cup of green guava leaves in 3 cups of boiling water for 20 minutes is used as a gargle 2 times daily for mouth sores and bleeding from the gums, or as a douche for leukorrhea and relaxed walls of the vagina after childbirth. Chewing on tender leaves is an old remedy for bleeding gums and bad breath, and is said to allay hangovers if chewed before drinking. Mashed or pounded (macerated) flowers are applied as a poultice to painful conditions of the eye due to sun strain, conjunctivitis, or accident. A tea made from the guava bark, which is rich in astringent tannins, is used as a remedy for diarrhea, vomiting, upset stomach, dysentery, sore throat and as a wash for wounds and ulcers of the skin.” – Excerpt from *Rainforest*

Remedies by Rosita Arvigo, DN and Michael Balick, PhD.



Despite its small size, Belize is one of the most ecologically and culturally diverse nations in Central America. Over 3,400 species of plants can be found here, within a diversity of ecological habitats. Many of the plants of Belize have a long history of being ‘useful,’ with properties that have served traditional herbal healers of the region as well as those who use plants as food, forage, fiber, ornament, in construction and ritual, along with many other purposes.” Search for any of Rosita’s amazing and insiteful books at: http://www.amazon.com/Rosita-Arvigo/e/B00N720LSE/ref=sr_ntt_srch_in_k_5?qid=1446123640&sr=1-5



November 15 • 6 pm • IMS Feature Presentation

Corn, Cotton and Chocolate: How the Maya Changed the World

with **James O’Kon, PE**

The Maya were the longest-lived civilization in history. Their civilization began in 2500 BCE on a time-line with the ancient Sumerians and terminated in 900 CE after the reign of Charlemagne.

The Maya were the phantoms of history. They were the greatest agronomists in world history. Their cultivars nourished the Maya culture and enabled their rapid growth into a society of profound thinkers.

After European contact, the inventive products of Maya agronomy were disseminated around the world. The integration of Maya cultivars into world cultures has changed the course of world history. Maya science has changed the world. Maya cultivars now feed and clothe the majority of

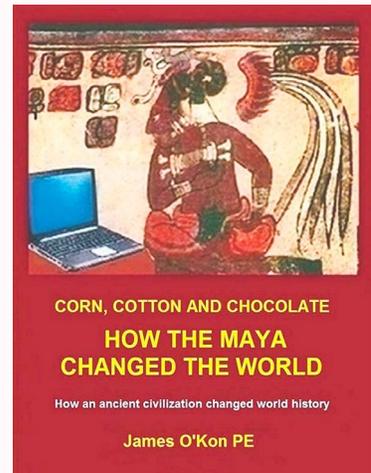


James O’Kon (right) gifts one of his books to Mark Van Stone at Maya at the Lago 2012.

the world’s population. They have increased the global population, started wars, overthrown monarchies, ignited the industrial revolution, initiated educational systems, started sports empires, changed the lifestyles of world cultures, and have killed more people than all the wars in history. It will come as a surprise that history can be changed by a civilization that collapsed over a thousand years ago. Maya cultivars are living inventions that have become a part of the world’s heritage and continue to make history.

James O’Kon PE is an award-winning professional engineer. His experience as an Archaeoengineer involved investigating Maya Technology at over 50 sites. He has delivered numerous scientific papers to symposia dealing with Maya Technology. He is a National Fellow in the Explorers Club and the author of the *Lost Secrets of Maya Technology*.

Check out his website at: www.theoldexplorer.com



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Mysterious Volcano-shaped Pyramid Discovered in Peru Hosted Celebrations in Honor of Solar Eclipses

A mysterious pyramid discovered in coastal Peru was built to resemble a volcano, archaeologists have suggested. It is possible that the structure was used to host ceremonies linked to major astronomical events, such as eclipses.

In the 1960s, archaeological work conducted in Peru's Nepeña Valley had revealed the existence of an artificial earth mound, more than 15 meters high.

Although it wasn't clear who had erected it and when, researchers quickly became fascinated with this pyramid – especially since from a distance it looked very much like a volcanic cinder cone. This resemblance led them to call the structure El Volcán.

Despite having been discovered more than five decades ago, El Volcán is only now starting to reveal its secrets. In-depth excavations have begun only recently, and the first findings are now published in the journal *Antiquity*.

Building a Volcano

The exact date of the pyramid's construction is still unknown, but it is estimated to have been built sometime between 900 BCE and 200 BCE. Among the most important questions that the archaeologists will attempt to answer over the course of their investigations is what activities took place at the site and whether the pyramid was deliberately made to look like a volcano or if other events shaped it in this way.

"Two main explanations have been put forward, one arguing that later looting or erosion has created the site's distinctive form, and the other that the site was originally constructed to resemble a volcanic cone and can be linked to astronomical events and ethnohistorical accounts," the authors of the paper write.

At this early stage in their investigations, they believe that

the latter is more likely. Indeed, the theory that looters went through the structure does not hold, for a number of reasons.

This structure is a cone-shaped pyramid with a central pit at the top. Even if looters had created the central pit to enter the structure, this does not explain its conical shape. They would also have had to get rid of the soil, but the hypothetical volume of material that would have filled the central pit is 2135 cube meters – "an amount that would surely be visible if discarded down the exterior of the pyramid", the researchers point out, noted archaeologist Robert A. Benfer.

And although the erosion theory is possible, it does not account for the internal cone structure found within El Volcán. "On present evidence, therefore, we conclude that the pyramid was originally and deliberately constructed in the form of a volcano – a cone-shaped pyramid with a central pit," said Benfer.

Celebrating the eclipses

While many uncertainties remain, archaeologists have been able to find out when the pyramid was last occupied and this sheds light on what purpose it served.

A radiocarbon date for the El Volcán hearth has revealed the last occupation of the pyramid took place around 1563 CE. In the years leading up to it, a series of four total solar eclipses – one in 1521 CE, in 1538 CE, in 1539 CE and in 1543 CE – is thought to have occurred.

These astronomical phenomena would have called for great celebrations by the local populations who lived there at the time. "The people of the northern



A cinder cone in the Andahua Valley, Peru compared with the pyramid of El Volcán in the Nepeña Valley. (Robert A. Benfer & Andrés Ocás / *Antiquity*.)



From a distance, the pyramid looks like a volcano. (Robert A. Benfer & Andrés Ocás / *Antiquity*.)

and central coasts, the Yungas, unlike the later Incas, greeted eclipse of the sun with joy, not fear.

The median radiocarbon date of 1563 CE falls after a cluster of eclipses making it possible that a closing ceremony might have been linked to one of these eclipses."

The archaeologists think that the volcano-shaped pyramid may thus have been an important site to host major ceremonies in honor of eclipses and other astronomical phenomena.

Source: From an article by Léa Surugue, released 5/31/2017 at: <http://www.ibtimes.co.uk/mysterious-volcano-shaped-pyramid-discovered-peru-hosted-celebrations-honour-solar-eclipses-1624111> Submitted by Mike Ruggeri. 🏠

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Think bargain books and other desirable items. Think Happy 46th Birthday to the IMS! Celebrate entering the Golden Years together. *More details to come.*

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