

# Florida



PARTNERS IN TIME

# Partners In Time Ucf Archaeologists Arlen And Diane Chase Are Uncovering The Secrets Of A Lost Mayan Civilization Deep In The Rain Forests Of Belize Life Among The Ruins Deep In The Lush, Primitive Jungles Of Belize, A Team Of

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Two parrots skim across a break in the canopy, then disappear back into the rain forest. Trunks of mahogany and cohune pine crowd the trail. Jaguar and tapir tracks show in the mud.

This is the Vaca Plateau, a hilly swath of tropical rain forest in Belize, Central America. It's hard to believe that our destination is a city - one that was once as large as Tallahassee and as dangerous as Beirut.

The city, 10 miles ahead, is the lost Mayan metropolis of Caracol, deserted a millennium ago and reclaimed over time by the jungle.

Elegant limestone pyramids once marked its skyline, and seven broad paved causeways radiated from its center, past houses and fields of cotton and corn. Tens of thousands of people lived here: farmers and kings, scientists and soldiers, bureaucrats and artisans.

Today Caracol has perhaps 100 residents, all of them living in the isolated, thatched-hut encampment of archaeologists Diane and Arlen Chase. The Chases, a husband and wife team who teach at the University of Central Florida, are studying Caracol's ruins, comparing the Maya's own historical accounts with clues gleaned from the overgrown rubble.

The only route to their encampment is a deeply rutted loggers' trail - the one that Bruce Miller is headed down this muggy afternoon.

Miller is an American ornithologist who's studying birds in the rain forest and staying as a guest at Caracol camp - assuming he and the mud-spattered International Scout can get there.

It must be sheer momentum that's keeping his jeep moving because there's no real traction to speak of for yards. Tree trunks whip by the windows; spiked vines rake the windshield. A leafy stench hangs in the air from the mud that's sizzling on the jeep's muffler. The jeep is sliding along like a crab, nearly sideways, one tire biting into the dry outer bank of the trail and finding just enough traction there to drag the other three wheels through the glop and onto firmer ground.

Miller brakes. For a moment the only sounds are the jeep's idle and the rasping of jungle insects. Finally he reaches out to give the dashboard a grateful pat.

"Good Scout," he says.

The jeep has stopped near Guacamile Bridge, a low band of concrete that spans the boulders and rushing water of the Macal River. High green hills surround the road, which disappears, ahead and to the left, into the deepest part of the rain forest.

"Say goodbye to civilization as you know it," he mutters. There's a grating thunk as he shifts Scout back into four-wheel drive.

TWO AND A HALF HOURS AND SEVERAL MUD pits later the jeep turns a corner and the first glimpse of Caracol comes into view: a limestone pyramid the color of wheat, wide as a football field, rising 140 feet above the rain forest floor.

The pyramid was here when bands of barbarians were looting Rome and marauding through Europe. Fifteen hundred years ago, it was one of the focal points of a lush garden city of perhaps 40,000.

Few of those people dared approach this pyramid. Fewer still ever looked into the carved stone face of the black earth monster at its peak. The monster's mouth formed the opening of the catacombs for the Maya elite.

Hieroglyphics and gaudy bands of red, blue, and white and black ringed the pyramid. Massive statues, some with faces like gargoyles, poised on its peak.

Near by, there were pyramids and plazas less forbidding - some of them private homes, some public gathering places.

Frequently, citizens of Caracol came to the center of town to attend religious ceremonies or sporting events, sometimes punctuated by human sacrifices.

A victim's last view of the world would have been, at least, a pleasant one.

Caracol's city center had broad plazas, glimmering reservoirs, well-cultured plots of vegetables and fruit. The city

was built on a natural plateau, overlooking a patchwork of terraced fields that stretched to the horizon.

The fields were meticulous and well-ordered. So was nearly everything in the Maya's universe, from the layout of their cities to their religion.

They were avid astrologers, believing that the stars and the planets were living creatures that could influence their lives. A pyramid in the center of Caracol was reserved for charting the course of planets and stars.

The Maya developed a complex pantheon of mythological characters, some human in form, some animal-like, who managed everything from the sun and the sea to the green of spring.

Even the passage of time was a complicated matter for the Maya. Their calendar was far more complex than the Romans'. They had one system of dates for the short term and one that was long range. And the time that passed in Caracol was not, in the minds of its residents, a linear progression of past, present and future. Time was circular; it kept doubling back to new versions of old events.

Roughly every 500 years, the Maya believed, everything in the world would be destroyed. These times of destruction were inevitable; there was nothing anyone could do.

Most of the Maya had abandoned their city-states long before the Spanish arrived in the New World. But there were some remaining metropolitan centers when the conquistadors arrived, in search of slaves and booty.

When the Spanish came to one city, the Maya calmly told them to go away.

Not now, the Maya said. Come back later. Our calendar predicts that in a few months comes a time of great destruction. Come back later and we will surrender to you. Which is precisely what they did.

PAST THE PYRAMID AT THE ENTRANCE to Caracol and beyond a broad clearing is the archaeologists' encampment, where Diane and Arlen Chase are in the midst of a Sunday afternoon chicken dinner, rain forest style. The Chases' dining room is a thatch-roofed hut. And the camp's Belizean cook has prepared tortillas, as usual, to go with the pollo fritos.

The hut serves as a dining hall for the Chases and the 10 UCF archaeology students who are assisting them. Across a clearing are the students' dorms - four more open-air, thatch-roofed huts. The biggest building in camp is the lab and the Chases' office, outfitted with such relative luxuries as screened-in windows, a sheet metal roof and electricity, provided by a bank of solar cells.

Nearby is a separate camp of 80 Belizean workmen, here to assist the archaeological team in excavating and rebuilding the Mayan ruins. The workmen are playing a spirited soccer match just a stone's throw from an ancient Maya ball court where a similar game was once played.

The UCF students are lounging in their hammocks or sitting in the dining hut. Not much else to do. A ride into town is out of the question, and the only English-speaking radio station hereabouts is a British Armed Forces network that features such lively programming as The Gurkha Music Hour.

After three months in the jungle, all of the students are in various stages of junk-food withdrawal, talking obsessively about lost pleasures like chocolate bars and ice cream and cookies.

When they aren't talking about food, they are preoccupied with insects. Wylie Nelson, a long-haired biology major with a stubbly beard and a penchant for heavy metal T-shirts, has become the camp's ad hoc consultant on jungle bugs. He has a tarantula in a coffee can near his hut; a female with an egg sack. Nelson wants to follow the course of the pregnancy.

But the majority of the students do not particularly want to know the proper name for the mosquito who likes to lay its larvae beneath your skin. Apparently they have developed their own nomenclature for these and other jungle pests.

"You know the one I mean," Andrea Pable is saying. "The long green thing that flies."

Another student nods knowingly.

The tarantulas and doctor flies and mosquitoes and the long green things are relatively harmless. It is the scorpions - fat, ugly and 6 inches long - that inspire real fear in camp. Not to mention the snakes. The presence of scorpions and snakes are the reason for one of the essential camp rules: day or night, always take a machete to the outhouse with you.

Victoria Parker, camp cynic, was stung by a scorpion that fell on her from the thatched ceiling of her hut. How much did it hurt? She answers with a question of her own: "Have you ever been to hell?"

Many of the creatures that the students fear and loathe live in the thatched roofing of the huts. The thatch, apparently an ecosphere all its own, emits periodic rustling sounds in the night.

It is a good thing, says Parker, that there is no electricity in the huts.

"You just don't want to turn on a light at night," she says. "Otherwise you might see what's up there."

There are definitely easier ways to earn 12 credit hours.

Once, says Nelson, a half-eaten scorpion fell on him from the thatched roof.

The good news about that is that there's one less scorpion in camp.

The bad news is: What was it that ate the scorpion?

THE CHASES INTERRUPT EACH other frequently. Neither seems to mind. Their back-and-forth lectures have a way of settling into a rhythm, like the play-by-play patter of two seasoned sports announcers.

Arlen: "When we got here in 1985, we found that many of the ruins had been damaged by looters. They dug trenches straight through the structures, looking for artifacts. When we first came here, we found six looters' camps."

Diane: "The fires were still warm."

Arlen: "We left some caretakers in charge of the camp."

Diane: "The looters threatened them. They left a note: It said 'WE are the local archaeologists here.'"

Arlen: "The British forces finally sent a patrol through here. We haven't had any problems since."

The ancient Maya have been part of their life together from the start. Arlen had been intrigued by the Maya since taking a high school field trip to some ruins. The first thing he did when he met Diane, in their first day of classes at the University of Pennsylvania, was to show her his collection of Maya books. Eventually, Diane decided to shift her studies to Mayan archaeology.

The Chases, married in 1975, have been finishing each other's sentences ever since.

Diane's archaeological specialty is the study of bones, while Arlen is a pottery expert. Diane has poise and a sense of humor that surfaces just when things are starting to fall apart. Arlen is the more mercurial of the two - a workaholic with a personality that alternates between boyish and brusque.

The Chases were encouraged to come to UCF in 1984 by Orlando filmmaker Robert Schyberg, a Maya buff. They went to Caracol the next year, expecting to spend just a few field seasons studying the site. At the time, they agreed with other archaeologists that Caracol was not a major site, certainly nothing to rival full-blown Mayan cities like Tikal or Chichen Itza.

Discovered by a Belezian lumberman in 1938 and explored later by two archaeologists, Linton Satterthwaite and A.H. Anderson, Caracol was thought to be nothing but a ceremonial center.

Anderson gave the place its name, which means "snail" in Spanish. He probably meant it as a reference to the shape of the twisting loggers trail. What the Maya actually called this place is not known because their hieroglyphics have never been completely deciphered.

After exploring some tombs and sending a few slabs of hieroglyphics off to museums, the first generation of archaeologists left Caracol in the 1950s.

In 1985, the Chases, who had spent seven seasons exploring another Mayan city in Belize, decided that two or three years at Caracol might be worthwhile. Generally speaking, the Chases are in the field during the dry months, March through June, and spend the remainder of the year in Orlando, teaching and analyzing their finds.

When they discovered the extent of Caracol - their first clue being the length of the causeways, covered over by the forest but still distinct - they began asking broader questions.

Were the Maya of Caracol peaceful or barbaric?

The Chases' evidence has added to the growing modern perception that the Maya, once thought of as peace-loving, were a warlike, violent people.

Was Mayan society split strictly into haves and have-nots - in other words, peasants and nobility - or was there a Maya bourgeoisie?

The Chases argue that Caracol had a large, well-to-do middle class.

And, finally, why did the Maya abandon Caracol?

Perhaps, suggest the Chases, changes in Mayan culture simply made city life too dangerous.

The Chases plan to spend at least two more seasons in the jungle. With 4,000 buildings identified in and around Caracol, there will be material for archaeologists to study at this site for generations. Eventually, perhaps next year, the road will be improved enough so that tourists will also be able to visit.

The Belize government, which is helping to finance the Chases' work at Caracol and has established the site as an archaeological park, is also considering turning 300,000 acres of the Vaca Plateau into an international wildlife preserve.

Belize, formerly British Honduras, is a country without a single stoplight. Half of its people speak English; the other half, Spanish; in remote parts of the country some people still speak Mayan.

There are many tourist attractions along the Caribbean coast, with its beautiful barrier reefs, but the rest of the country is sparsely populated and dirt poor. A tourist destination in the Vaca Plateau could go a long way toward boosting the economy.

For now, though, Caracol is still a place of solitude.

In the late afternoon, an extended twilight overtakes the jungle. At this elevation (1,600 feet) and with so many trees around, the earth cools quickly, and a dense mist often rises over the forest just before nightfall.

Fifteen hundred years ago, the view from the peak of Caracol's tallest pyramid - the Chases have given it the name "Caana," Mayan for "sky place" - would have been an urban vista of causeways and pyramids and terraced farms extending to the horizon in every direction.

But from the top of the pyramid now the eye sees nothing but jungle all around. Somewhere to the west the land drops off into a fertile jungle valley. To the east, about 50 miles, it meets the Caribbean shore. But all that the eye can see from Caana are the rolling emerald waves of the rain forest. Some of the hills are natural; others are the overgrown ruins of a temple or a home.

It is hard to understand how an entire city could be lost until you climb the steep steps of the sky place and see how well the rain forest can keep a secret.

IT'S MONDAY MORNING, AND MIKE Watson is dug in atop a mound of boulders and dirt, his head and shoulders just visible over the crest. There's a shovel in his hand and a double-wide boombox propped against the trunk of a strangler fig behind him. Watson looks like a G.I. awaiting an enemy assault.

But what looks like Hamburger Hill is actually an ancient Mayan edifice, transformed by time into a battle zone of rocky debris.

Massive trees have taken root atop the buildings, their inexorable growth pulverizing much of the plaster, stone and wood. Later generations of Maya also did considerable damage with their own version of urban renewal. They simply built atop the ancient pyramids, many of which date back to about 250 A.D. Sometimes they would fill up a room with boulders and build over it. Sometimes they would turn a room into a burial chamber, put in another floor above it and live, in essence, atop a cemetery.

The Chases and their students try to discover what remains of the original structure of the pyramids. They recover any artifacts and explore any tombs within the ruins. Then they call in the Belizean work crew to stabilize the structures, as faithfully as possible, to their original form.

Each student at Caracol has been assigned to a building in the center of the city. Watson drew one of the smaller structures in the "A" group - four pyramids and several smaller stone structures, from a few feet to several stories tall, arranged around a broad plaza.

The Chases think that the group may have been a center for science and religion - subjects that intertwined for the Maya, who made sophisticated advances in mathematics and astronomy and developed a complex mythology.

Earlier in the day, the Chases had uncovered the skeleton of a Mayan teenager who was buried in front of an altar atop one of the pyramids. It was probably not a sacrifice - no signs of a violent death - but a kind of offering to the gods.

Now, atop A-8, Watson has uncovered places where stones jut upwards, 5 inches above what had been a level surface.

It could be tree roots, pushing the rocks set into the floor out of place. Or it could be a cache.

Cache is a golden word around Caracol camp. When the Maya dedicated a building, they buried symbolic offerings to the gods inside. These offerings, or caches, can tell archaeologists a great deal about the Maya and their religious beliefs.

Once, several years ago, one of the Chases' student assistants at Caracol uncovered a cache. Excited by the find, the student began shouting into his walkie-talkie set: "Treasure! Treasure!"

The Chases were mortified. For one thing, in a country where looted Mayan artifacts have been a profitable black market for years, they have learned to keep quiet about their finds. And although they have found their share of what could be considered treasure - jade, obsidian, malachite, pearls - they are more concerned with the information an artifact brings them. A shard of pottery that tells them something about the Maya is worth more to them than a mute chunk of gold. They are not collectors, hopping about in a frenzy, but scientists.

Watson, a liberal studies major, is wild enough in camp, with a tendency to stomp around to new wave music, playing an imaginary set of drums. But he is not running around atop A-8 screaming treasure. He is calmly directing a crew of Belizians in clearing the site for measurements, pictures and sketches that will record the placement of each stone on the floor, and the only thing that betrays his excitement is an occasional quick grin.

Watson's patience is rewarded when Arlen Chase finally lifts the stone from the floor atop A-8. In a small hole, lined with pottery shards, rests a clay pot, about the size of a small tea kettle.

Chase leans over and lifts it out. He rubs the earth off the side, revealing the rust-red hue of the pottery beneath. The pot, probably placed beneath the floor when the pyramid was built, is filled to the brim with dirt.

"In the old days of archaeology they would have just dumped this on the ground," says Chase.

In the old days, they underestimated the Maya. Chase doesn't want to make that mistake. He will not be doing any dumping today but has different things in mind for the cache from A-8 - and a strong suspicion that there is far more more than just dirt inside.

IT'S NIGHT TIME AND Caracol camp is pitch dark, except for the cooking fires in the Belizian camp and the dim fluorescent lights in the lab.

A rasp of insects comes from all directions, like sound under water. The rain forest has an unnerving repertoire of night sounds. The oddest is the howler monkey's territorial wail, a cross between the guttural cough of a big jungle cat and a wolf's keening bark. The Maya, impressed with the howler monkey's capacity for self expression, made the creature the patron saint of writers.

Low on the horizon, the Southern Cross has come up - five stars which form a perfect "t" shape. Like a kite that catches and then loses a distant breeze, the constellation will soon slowly bank to the west and dive behind the tree line.

In the darkness, two luminous pinpoints move across the rain forest floor. On closer look they are not disembodied but decorate the back of a beetle the size of a ladybug. Glowing yellow-green like a firefly's tail, the dots look for all the world like two tiny headlights, helping the beetle make its way across the jungle.

In the lab, the UCF students are washing and cataloging pottery shards. There are thousands of the shards, some as small as a penny. Washing them is drudgery but the shards are critical because the Chases can use them to date other artifacts and establish a time frame for changes in Caracol.

The Chases are working at a picnic table in their makeshift office, next door to the lab. Behind them, on some rough-hewn shelving, Mayan pottery hundreds of years old is stacked up like so many dirty dishes. Yax, the family pet, looks on from her cage. Yax is a margay, an endangered jungle feline the size of a house cat, but with the lush spotted coat of a leopard. Orphaned in the jungle, she lives in a room-sized cage adjacent to the Chases' office - particular to raw chicken, inquisitive to a fault, and for some reason or other, enamored of anyone who happens to be wearing insecticide.

The Chases' 7-month-old son, Adrian, is asleep in a makeshift crib. Adrian - whose nickname among the students is "The Gerbster" - seems to enjoy life in the jungle. The insects usually leave him alone. The teeth-jarring road only lulls him to sleep.

With Yax fed and the Gerbster asleep, the Chases can finally turn their attention to the earth-filled pot from A-8.

Arlen, with a flashlight in one hand and a teaspoon in the other, is peering into the pot and carefully scooping out the dirt. Inside he finds what amounts to a tiny, symbolic universe.

The pot is filled with tiny shells and carved figures. They had been layered in careful tiers in the dirt, like the contents of a fancy pastry.

Unearthing them is a laborious process because Diane has to photograph and meticulously sketch each new layer. Also, at one point, the entire enterprise is interrupted by an unwanted visitor: A tarantula the size of a softball wanders across the floor. Arlen grabs a broom and sweeps it out into the night.

Finally, the pot is emptied and the position of its contents recorded: 19 carved forms on the table, four of them made out of jadeite - and dozens of tiny shells.

What it all means, as far as the Chases can determine at first glance, is this: The jar was placed in the building as a powerful talisman, perhaps during a ceremony to dedicate the structure. These days, we put time capsules in new buildings. You could say that the Maya installed good luck charms - although that wouldn't do justice to the reverence with which they viewed the creation and placement of a cache.

"That was their way of bringing life to a building," says Linda Shele, an expert in Mayan spirituality. "The Maya had a word, ch'ulel. I suppose the closest modern equivalent is 'the force' in Star Wars. A cache made the building a living thing in their mind and endowed it with ch'ulel. It gave it a kind of soul."

The figures in the Chases' cache were probably meant to symbolize Mayan underworld gods. The shells represent the sea - and to the Maya, the sea represented both the world of the dead and the world from which all life arose. The symbol for ch'ulel - the life force, the spirit that generated the living universe - was a shell with a drop of blood on it.

The Maya also associated particular gods with certain directions. The Chases were careful to record the precise placement of the jar and its contents with a compass. They discovered that the four jadeite figures appear to have been aligned with north, south, east and west.

The Maya had a complex pantheon of gods. As immortal beings go, they were an earthy lot. One god always wore a headband. Another was always depicted smoking a cigar. Two very important gods, known to archaeologists as the hero twins, were thought to be extremely good ball players.

Like the mythological figures of Romans and Greeks, the Mayan gods were thought to influence the fate of mortals. It was wise to maintain their favor. Whoever prepared that talisman jar a thousand years ago was a shaman who knew precisely what each one of those carved figures represented and where it belonged in the scheme of things.

In later years, religion became less complex to the Maya.

"The average guy, Joe Maya, would not have understood all of the things in this cache," says Arlen. "Later, the symbols became much simpler. It's a little like the Catholic mass being changed over from Latin to the vernacular."

THE JAR AND ITS METICULOUSLY laid out contents are yet another contribution to the profile of Caracol that the Chases have been developing for five years now. Each year the picture becomes a little clearer.

The Chases draw on two main sources of information. One is the archaeological evidence they have unearthed - caches; burials; the style and the material used in pottery and jewelry and tools; even the shape of farmer's terraced fields and the layout of the city itself.

But the Chases also make use of a second source of information: The Maya's own history books.

At Caracol, as well as other Mayan sites, archaeologists often find stone monuments, or stellae. The stellae, usually oblong stones about 10 feet tall, were public monuments carved by the Maya with figures and hieroglyphics. Although archaeologists do not completely understand the hieroglyphics and pictures, they know enough to decipher much of the stellae texts, which usually tell stories of significant Maya events and personalities.

The Chases' technique is to compare what is recorded in the stellae and altar stones of Caracol with the evidence they have gleaned from their excavation.

At several other Mayan sites, archaeologists are doing the same thing, and their discoveries are sharpening the view of the Mayans.

For example, a round, elaborately carved altar stone discovered by the Chases in 1986 described a victory by Caracol in a battle with the neighboring city of Tikal. The victory occurred around 562 A.D., during the reign of Lord Water, one of the most powerful rulers in Caracol's history.

By itself, the stone explained a mystery that had long puzzled Mayan scholars - A mysterious "dark age" that afflicted Tikal, considered the most powerful Mayan metropolis of all. No monuments were erected at Tikal during that time, and little building took place.

Caracol's altar stone solved the mystery: Tikal went into a tailspin after a defeat by its upstart rival, Caracol.

After they deciphered the stone, the Chases began studying archaeological evidence in Caracol dated to around the time of the victory over Tikal. They discovered that Caracol enjoyed a building boom at that time. There was also a dispersal of wealth throughout the community, with finer pottery and more opulent tombs showing up in many households of that time period. To the victor go the spoils.

Not all Mayan archaeologists agree with the Chases' assumptions about what they have unearthed at Caracol. Nicholas Hellmuth, a Mayan iconographer who teaches at Rollins College, questions whether the conflict with Tikal was a full-fledged war or merely a skirmish. Other archaeologists think the Chases have overestimated the population of Caracol.

But clearly the findings at Caracol are adding to a new surge of information about the Maya. Once thought to be a peaceful, contemplative people, they are turning out to be far more warlike and complex. The clues they left behind are twofold - in the dirt at digs like Caracol and in the art of their pottery and monuments.

The Chases are doing their best to straddle both worlds.

"Everyone knows that history can lie," says Arlen Chase. "Maybe the leaders of Caracol may have exaggerated their accomplishments on the stellae. But we have hard archaeological evidence, too, and that does not lie. Which is why I like being able to compare the two."

IN THE MORNING - AFTER MRS. Rita, the camp cook, has miraculously produced a batch of homemade donuts for breakfast - Diane and Arlen go to the Belizean camp to discuss the day's work.

Don Valentine, the foreman of the Belizean crew, wants to talk to the Chases about the whereabouts of one of the older workmen, who wandered away from camp to try to find some Mayan ruins he remembers seeing as a young man. A search party will have to be organized.

Like many of the workers, Don Valentine has classic Mayan features. He is short and stocky, with a broad nose, black hair and caramel-colored skin. He wears a camouflage cap and a doggedly patient expression. This won't be the only crisis he'll have to deal with today.

The Chases have similar expressions on their faces. They may be archaeologists, but they are also, in essence, the administrators of what amounts to a small town. They supply the power, food, payroll, transportation and medical treatment for 100 people.

And something is always going wrong.

The bad road accounts for many problems. Specifically, people keep wrecking their cars on it. You have to go fast or you'll get stuck in the mud, but when you do go fast - anything over, say, 10 miles an hour - you risk smashing the undercarriage against hidden boulders and eviscerating your drive shaft.

Once, in the middle of a moonless night, the Chases were stranded several miles from camp when a boulder in the road snapped their rear axle.



Arlen: "I didn't even have my machete. But we decided we had to walk back to camp."

Diane: "There was no moon."

Arlen: "It was pitch black."

Diane: "We held hands. He walked in one rut, and I walked on the other. It was the only way we could keep from getting lost."

Arlen: "That gives you an idea of how it is out here. You realize what you can do when you have to."

The Chases' frequently have to relay requests for car parts and other supplies via their only link to the world from Caracol. They have two radio contacts - a Belizian forestry official 20 miles away and the U.S. Embassy in Belize. The embassy call is a daily ritual: At 5 p.m. someone climbs to the top of Caana with a hand-held radio because that's the only point high enough to get the signal.

And because of the road and the remoteness of the site, bringing in food and water and supplies is always a strategic nightmare.

So today's problem of the lost workman, serious as it is, just takes its place along with all the other routine tribulations of the camp.

Diane Chase is philosophical.

"The way I see it, it's all archaeology," she says.

Arlen Chase is philosophical, too. When he presents slide shows for students, he always includes a picture that, for him, represents the lifestyle that an archaeologist adopts.

It is not a bejeweled artifact recovered from some Mayan tomb. It's a picture of a primitive structure in the middle of a jungle clearing. Chase always asks the

students if they can identify the structure and gives extra credit to those who respond, correctly, that it's an outhouse.

CARACOL'S STONE PYRAMIDS must have seemed unshakable to its citizens. The peaceful reservoirs, the broad plazas and ball courts, the lofty places where ceremonies and celebrations were held - all of it was a vision of ordered permanence.

But around a thousand years ago, it all fell apart, and Caracol and most of the other Mayan cities were deserted.

A handful of the cities in the south were still inhabited when the conquistadors arrived. But for all intents and purposes, Mayan civilization had already disappeared by the time they began pillaging what was left of the cities.

The old theory for the demise of Mayan society was that a peasant revolt took place: Rebellion, followed by anarchy and the end of the metropolis.

The Chases and many contemporary Mayanists disagree. A milestone work by Schele and Mary Ellen Miller in 1986, *The Blood Of Kings*, argues that the Maya fled their cities because it had simply become too dangerous to live in them.

Throughout their history, the Maya city-states squabbled with each other. At first, their wars were popgun affairs. A defeated city might see a few of its citizens carted off into slavery and a few of its monuments toppled or defaced.

There was killing, and it was done with great ceremonial relish and a taste for the macabre. Sometimes, a prisoner was beheaded - and the head encased in rubber kicked back and forth on the ball court. Sometimes, the heart was cut out - an event that took place frequently enough that each city had four priests whose job was specifically to hold down the limbs of the victim while another performed the ritual.

But the killing was not a wholesale slaughter. That came later.

At first, the warrior kings who ruled over the cities were perceived as demigods. They protected their subjects, and in order to do that, they had to become familiar with the darker, more mysterious forces of the universe.

To do this, they participated

in bizarre religious rituals. Among the most important were bloodletting ceremonies. Blood, as Schele has phrased it, was "the mortar of ancient Mayan ritual life," the ultimate talisman, imbued with immense symbolic significance. Still, it is difficult to understand the lengths to which the Maya went to draw blood in bizarre, ceremonial self-mutilation as tributes to the gods.

The women would pierce their tongues in these ceremonies, and draw a rope through the opening to keep the blood flowing. The men would make cuts on either side of their penises.

Sometimes, the Maya elite also partook of ritual enemas - perhaps with a liquid that, when absorbed in the intestinal tract, induced hallucinations.

All these rituals prepared those who indulged in them for a life of leadership, a closeness to the spirit world that enabled them to guide and protect the people under their domain.

But the Mayan elite paid the price for power. If a city lost a battle, it was very possible that the king would lose his head, while the farmer growing corn on the outskirts of the city would retain his.

Then, over time, the rules of war changed. There were more soldiers, better weapons and more killing. Possibly, too, marauding bands of soldiers from other areas began raiding the Mayans. A city became a frightening, dangerous place.

"I think what happened was that people began to realize that the rulers could no longer protect them," says Arlen Chase. "Once that idea died out, the cities were doomed. The people simply left them because they were afraid for their lives."

Not long ago, a film crew visited the Chases' camp at Caracol. The interviewer was convinced that the Maya had suddenly just disappeared - a whole civilization vanished, swallowed up by the jungle.

But the Maya did not "disappear" - all it takes to dispel that idea is one look at the many Belizians who are their obvious descendants.

And it was not the jungle that killed off the great civilization of the Maya. The jungle had only to wait.