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33. Heat over Time, Geothermal Stories from Mexico

by
Susan F. Hodgson

Abstract: Mexican geothermal stories, ancient and modern, written and oral, record the history of geothermal Mexico. The stories in this chapter span hundreds of years. Some are from a 1541 Spanish manuscript about the just-conquered P'urhépecha, an indigenous people in central Mexico. The rest are oral transcriptions made in 1993 and 1994 at Mexican geothermal sites.

The stories offer historical commentary and drama shaped by magic realism. They include P'urhépecha political and religious ceremonies, Maya beliefs, Spanish conquistadors, the Mexican War of Independence, and country life after the Conquest.

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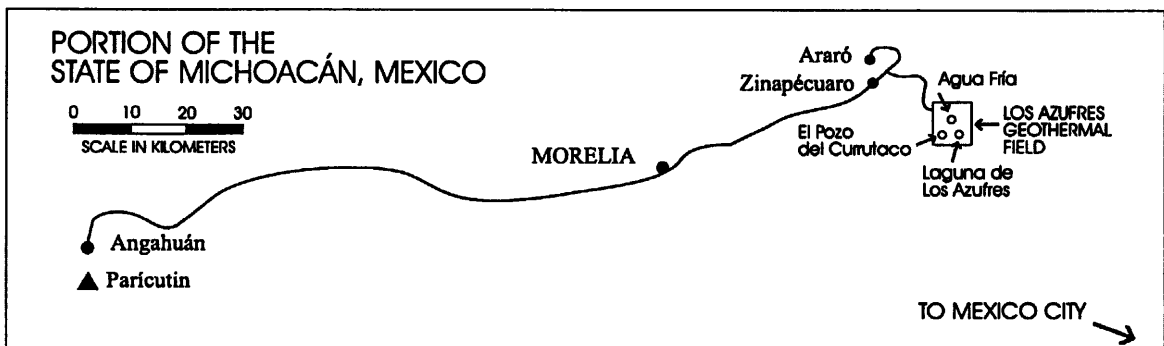
THE BEGINNING

THERE ARE MANY GEOTHERMAL STORIES IN MEXICO—REMEMBERED, forgotten, oral, and written. Here are a few. Some have characters and plots; others do not. All show how geothermal settings influence lives, the story of heat over time.

The P'urhépecha stories are first, as accounts from this indigenous Mexican people started my search. The P'urhépecha still live in the heart of Mexico, in the modern State of Michoacán. Today, their lands are bordered on the east by the State of Mexico and Mexico City, once the home of the Aztecs, an ancient enemy. Much of P'urhépecha culture was destroyed with the Spanish Conquest, which came to Michoacán in 1521.

Soon afterwards, from 1539 to 1541, a Franciscan friar, probably Jerónimo de Alcalá, interviewed the P'urhépecha and compiled the only known survey from the time of their government, customs, and traditions (see illustration on the left). He

called it the *Relación de las Ceremonias y Ritos y Población y Gobierno de los Indios, de la Provincia de Michoacán*, or *The Story of the Ceremonies and Rites and People and Government of the Indians, of the Province of Michoacán*.



Geothermal sites from the text in the State of Michoacán, Mexico.

In the *Relación*, the hot springs and volcanoes of Michoacán are woven into religious ceremonies and stories, as are many sites and cities existing today, including the volcanic hills of Zinapécuaro and the hot springs of Araró. These towns are mentioned in the following story about the P'urhépecha feast of *Sicuíndiro*, which means “the skinning” and honors the goddess of rain, who made rain clouds in Zinapécuaro and kept them as vapor in the sacred hot springs of Araró. The portion that follows retains its original cadence from the oral tradition when read aloud.

Sicuíndiro (The Skinning)

Narrative of the P'urhépecha

Relación, translated by S. Hodgson

(Probably) compiled by Friar Jerónimo de Alcalá

Michoacán, Mexico, 1539-1541

“Five days before this feast,
the priests arrived from the towns mentioned, with their gods, and they came to the
feast,
and dancers called *cesquárecha* entered the houses of the priests
and two other priests called *hauripitzípecha*,
and they fasted until the day of the feast,
and the day before the feast,
the priests marked the chests of two slaves or criminals that
they had to sacrifice the day of the feast,

and they sacrificed the slaves mentioned,
and in taking the hearts, they performed their ceremonies with them,
and while they were still warm,
they carried them to the hot springs of the town of Araró from the town of Zinapécuaro,
and they threw them in a small hot spring,
and they covered them with wooden tablets,
and they threw blood in all the other hot springs that are in the town mentioned,
that were dedicated to other gods that were there,
and those hot springs gave off vapor,
and they said that from there the clouds left to rain,
and this goddess called Cuerauáperi was in charge of them,
and that she sent them from the east, where she was,
and for this reason they threw that blood in the springs.”

Araró, which means “the perforation site,” received its name from the feast when great warriors received lip rings, nose rings, and earrings. Blood let during the insertion was thrown in the hot springs (Corona Nuñez, 1977). Two great P’urhépecha warriors standing behind the Franciscan friar in the drawing at the front of the chapter have rings in their lower lips, most likely inserted at this ceremony.

I visited Zinapécuaro and Araró, searching for geothermal stories.

AT ZINAPÉCUARO

IN ZINAPÉCUARO, ON THE OUTSKIRTS OF TOWN, A sign advertises hot springs at a resort of therapeutic and recreational renown, *La Reina Atzimba*—the Queen Atzimba.

Stopping nearby, I asked a family about geothermal stories. They directed me to María Guadalupe Avalos, a life-long resident of the town. Señorita Avalos spoke about Queen Atzimba, calling her Princess Atzimba, and this is what she said.



María Guadalupe Avalos, narrator. *Photos by S. Hodgson*

Princess Atzimba

*Brief narrative of María Guadalupe Avalos
Zinapécuaro, Michoacán, Mexico, May 1994*

“Princess Atzimba was the sister of a P’urhépecha king named Zuangua. His palace is on a hill called *Las Clavellinas* that is by the resort of *La Reina Atzimba*, on the edge of town.”

This was the hot spring resort I had passed on the way. Although archaeological ruins found here predate the Conquest, the main temple of Cuerauáperi was elsewhere. The *Relación* states:

“Cuerauáperi had her priests in the town of Araró and other towns,
and her main idol in a temple
that is in the town of Zinapécuaro, on top of a hill,
where today it is demolished.”

Lopez Lara writes that Cuerauáperi’s temple was built and torn down on the hill today at the center of modern Zinapécuaro, the site where the Spaniards built the city’s main church in 1570. He thinks the church was built on the ruins of her temple, following the Spanish dictum, “temple over temple.”

I thought of other Mexican cities with their main churches on flat, central plazas, and Zinapécuaro has a lot of flat terrain. Yet it is true that the main church stands on a singular rise about two blocks higher than the terrain around it. Why weren’t the flatter areas used, unless the main temple for Cuerauáperi had stood on that hill?

To approach the church, you walk for about two blocks up a straight narrow street ending in two tiers of steps. The walkway rises up to the church in a carefully graded way, paved with stones perhaps especially well placed. Her old temple entranceway?



The approach to the main church in Zinapécuaro.

ON TO ARARÓ

LEAVING ZINAPÉCUARO, I DROVE ABOUT SIX KILOMETERS NORTH TO ARARÓ, TO THE FIELD OF hot springs where Cuerauáperi kept the clouds. In town I met Carlos Ferrer, a young man about 15 years old, who led the way through modern Araró out to the ancient field of hot springs described in the *Relación*. As we drew near, we passed thriving plots of corn, and Carlos explained that thermal vapors helped the corn to grow, that sometimes hot springs were used for cooking the ears of corn.

Finally we came to the ancient field of hot springs and the two modern resorts at the edge, Balneario Los Hervideros and Balneario Hingo. We parked and entered the large flat expanse a few square kilometers in size, covered with brown meadow grass and about 17 hot springs, by Carlos' estimate. He said that once a geyser, called *El Géiser*, had shot straight up and an apparition had appeared here, the "Señor de Araró." He pointed to an especially large hot spring resembling a collapsed cave, named *La Cueva del Diablo*, or "The Devil's Cave."



Hot spring in the foreground, salt collection mound at photo center, highway construction in the background, at Araró.

In the field I saw several small sites for collecting salt. At each, a wooden funnel about 1½ meters wide and high was erected over a few covered troughs. First the funnels were filled with soil from the field. Then water was poured into them, leaching out the salts and dripping into the troughs. Here the water evaporated into a salty residue. Carlos said that salt collection is an old practice, that his grandfather had done it.

Much of the field looked natural and untouched, perhaps not too different from the days of Cuerauáperi. Then I noticed highway construction crews working at the far edge, building the new superhighway across the State of Michoacán to connect Mexico City with Guadalajara. The superhighway crosses Araró's field of hot springs, and special efforts were made to save hot springs in its path.



A hot spring preserved under the superhighway at Araró.

We went to take a closer look. The superhighway rises like a bridge across the field. Between the columns that support its spans are small passageways three to four meters wide. Some passageways have holes in their concrete floors about a meter wide. Here preserved hot springs bubble and steam away, still storing the clouds.

FROM ARARÓ TO LOS AZUFRES

THE P'URHÉPECHA BELIEVED IN OMENS AND DREAMS, WHICH WARNED THEM OF THE CONQUEST at least four years before the Spaniards arrived. I believe the pine forests, volcanoes, and thermal areas of Los Azufres Geothermal Field in Michoacán are included in a dream recounted in the *Relación*. Drawings and text from the *Relación* support this, but not conclusively.

In the dream, a P'urhépecha woman is flown on the back of an eagle over steep mountain slopes covered by pine trees. The topography and vegetation of the slopes, illustrated in Plate

XLII from the *Relación*, are identical—albeit in rough-sketch format—to the topography and vegetation at Los Azufres Geothermal Field today.

On the journey, they fly over a mountain with a hot spring whose description matches that of a famous hot spring, *Laguna de Los Azufres* (“Lagoon of Sulfurs”), found today on the southern edge of Los Azufres Geothermal Field. The *Relación* describes the hot spring as surrounded by sulfur-bearing rock. The lagoon is indeed surrounded by such rock, which was mined for its sulfur in the 1800s. Here is the dream.

***“Of the Omens and Dreams This People Had before the Spanish
Came to This Province”***

*Relación, Chapter XIX, translated by S. Hodgson
Narrative of the P’urhépecha
Michoacán, Mexico, 1539-1541*

“The goddess Cuerauáperi, mother of all earthly gods,
came and took that woman from her own house,
guided her awhile toward the road from Mexico,
and turned her toward the road to Araró,
And that woman went by the road,
and on the road she met an eagle that was white,
and it had a large cape in front,
and the eagle began to whistle, and to arch its feathers,
and with some large eyes that they said to be the god
Curicaueri, and the eagle greeted her, and told her that
she was welcomed, and she also greeted him,
and told him: ‘Sir, you come just in time.’
The eagle told her, ‘Climb up here, on top of my wings,
and don’t be afraid of falling.’
And just as the woman climbed up,
the eagle rose up with her, and began to whistle,
and carried her to a mountain, where there is a hot
spring,



Portion of Plate XLII at the beginning of Chapter XIX, the *Relación*. The comet at the top is one of two that warned the P’urhépecha of the Conquest. The mountain covered with pine trees on the right depicts the topography and vegetation of the Los Azufres area. The figures are of gods in the dream, whose divine natures are shown by exaggerated features and teeth.

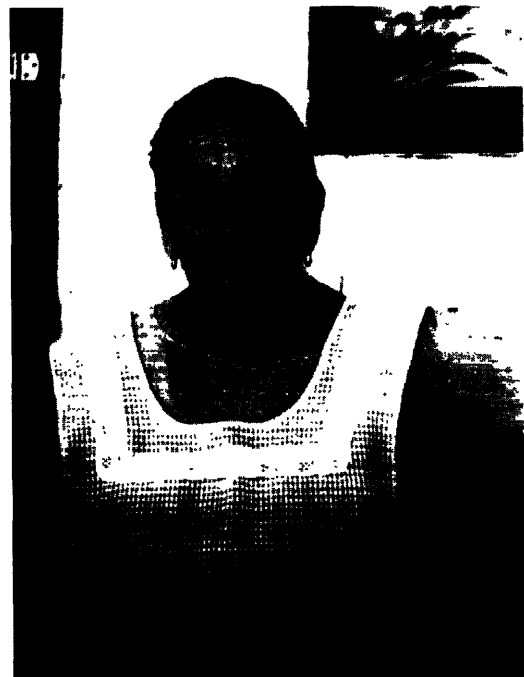
and sulfur in the rock,
and carried her by that mountain flying with her,
and now dawn was breaking,
when he carried her to the foot of a very high mountain,
that is near there, called Xanoato-hucatzio,
and carried her high,
and that woman saw
that all the gods of the province were seated.”

Solemnly, the gods warn the woman that invaders are coming, that “everything will be gone, other men will be throughout the land.” They say she must warn everyone, including King Zuangua, that the fates of the P’urhépecha people and the gods themselves depend on him.

Though warnings were issued, King Zuangua ignored them and the Conquest came. It began in 1519 to the southeast, where many indigenous peoples were attacked, including the Aztecs. The Aztecs appealed twice for help from the P’urhépecha and were refused both times. First they petitioned aging King Zuangua, who would die of smallpox in 1520. They next asked his heir, but to no avail. By 1521, the Aztecs were conquered and the Spaniards had moved into P’urhépecha lands, where the onslaught continued (Bravo Ugarte, 1963).

NOW AT LOS AZUFRES

TODAY, 473 YEARS LATER, JUST ON THE northern edge of Los Azufres Geothermal Field, Doña Celia Escalante Arreola runs a small hot spring resort on lands where her family has lived at least as far back as her great-grandparents. On her front porch, she told me a very short story of an Aztec queen, *Xóchitl*, which means “flower.” The Los Azufres area was a boundary between P’urhépecha and Aztec lands, and her account reflects the cultural interface. This is what she said.



Celia Escalante Arreola, narrator.

Queen Xóchitl

Brief narrative of Celia Escalante Arreola

Michoacán, Mexico, May 1994

“When I was a child, Queen Xóchitl would bathe here in the thermal waters. She did this because the waters were beautiful and kept you young.”

As she spoke, Doña Celia nodded to the southeast, indicating the location of the hot spring—the same direction as the nearby famous Lagoon of Sulfurs, although she didn’t mention it by name. She said that the Virgin of Guadalupe has appeared there as well.

The next two stories feature Los Azufres Geothermal Field and the Lagoon of Sulfurs at its southern border. The stories are by Arturo González Salazar, a geologist who has worked extensively in Mexican geothermal fields. Comments by Celina Silva and others are included.



The author with narrators Celina Silva and Arturo Gonzalez Salazar, in Agua Fría.

The History of Los Azufres

Narrative of Arturo González Salazar

Morelia, Michoacán, Mexico, November 1993, May 1994

Additional narrative by Celina Silva

Agua Fría, Michoacán, Mexico, May 1994

“In 1968, I arrived in the high pine forests of eastern Michoacán,” said Arturo González Salazar. “I explored the geology of a place now called Los Azufres Geothermal Field in

the Parque Nacional de Los Azufres [Los Azufres National Park]. The Comisión Federal de Electricidad [CFE] sponsored my work and I lived by the famed Lagoon of Sulfurs, today on the field's southern edge. This hot spring area, known through centuries for steamy vapors and curative waters, is just south of the CFE's main field camp and a volcano called Las Humaredas, so named by people mistaking its vapors for smoke.

“When I came to Los Azufres, almost no one was there. One day I climbed the slopes of Las Humaredas, and near the top in a flat grassy area, I found rock patterns laid out on the ground and some rocks piled into a triangle.



Rock patterns at Las Humaredas.

“Small funerary rock piles and triangular rock mounds were by the Lagoon of Sulfurs as well, and I asked about them. The country people said the rocks were from the past, part of P'urhépecha religious ceremonies when a young girl entered puberty.

“From the time of the P'urhépecha, there are stories of women seeking fertility in the waters of Los Azufres, and of people bathing to alleviate rheumatism and arthritis. When I came, I saw many using the waters for cures. Poor rural people arrived on burros, bringing along their own food and blankets.

“For the P'urhépecha, the lagoon was a sanctuary and a center of religious life. Priests held ceremonies in the early morning when vapors from the hot waters were intense. We can imagine them colorfully dressed, standing in the hot coiling vapors, worshipping the sun.



The Lagoon of Sulfurs, with people bathing in the waters.

“The lagoon served other purposes. P’urhépecha society was very hierarchical and the country people told of large, periodical P’urhépecha migrations to the lagoon, where leaders would undertake the formal rites matched to their political status, mixing religion and power. Ceremonies were held at nearby Cerro Las Humaredas as well.

“All this ended with the Spanish. After Cortés began the Conquest of Mexico in 1519, the Spaniards moved quickly to alter native religious expression. At first this did not stop people from worshipping secretly in small groups, continuing to speak with their gods, but then it did. One day at Los Azufres, I found an ancient Spanish coin from that time.

“The end for Mexico of almost 300 years of Spanish rule began on September 15, 1810, in the State of Guanajuato with Miguel Hidalgo’s famous cry, ‘El Grito de Dolores.’ His proclamation is considered the Declaration of Independence for Mexico. The revolution spread south into Michoacán, which quickly became a center of the conspiracy and a home for revolutionary leaders.

“Because the revolutionaries had no gunpowder, they made their own. They mined sulfur, the main ingredient, at Los Azufres from the rock surrounding the Lagoon of Sulfurs, perhaps increasing the size of the hot spring in the process. Walking around the lagoon today, you pass several old mine shafts filled with water. The revolutionaries drained the water through a channel cut into solid rock.

“Once the sulfur-rich rock was mined, it was brought to a nearby gunpowder factory built where the CFE has placed its main field camp at Los Azufres. The factory itself



Fragment of the gunpowder factory wall at Los Azufres.

was over a stream, the Arroyo de Agua Fría, a source of water in case of attack. At the base of a fragment of wall still standing, a beautiful stone archway marks where the creek flowed through it, passing into the building.

“The rocks with sulfur were pulverized at the factory by large grinding wheels. Today one of the wheels is displayed on a rise overlooking the field camp. The gunpowder factory was among the first in Mexico and the source of the first gunpowder used in the revolution. When the war was over and no more gunpowder was needed, the factory was abandoned.”

Celina Silva told Arturo González Salazar and me that the sulfur miners used large pots, called *casos*, to process the sulfur into large pieces called *marquetas*. Some miners were injured or killed by fumes of hydrogen sulfide. The factory had a special area for storing explosives.



Grinding wheel used to pulverize rock.

Celina Silva grew up at Los Azufres, and both she and Doña Celia said it was once part of the Hacienda Agua Fría and the home of Melchor Ocampo, a prominent Mexican political figure in the mid-1800s. Celina said that the father of the revolutionary priest, Miguel Hidalgo, had lived

at Los Azufres. I asked the CFE if old land records could confirm this, but unfortunately nothing in the files could. I was disappointed, for this could be the way revolutionaries had learned of sulfur at the Laguna de Los Azufres.

Arturo González Salazar continued, “When I came to Los Azufres, just a few sections of factory wall remained. A man living nearby told me about the ghosts, saying that in the vapors of Los Azufres he had seen the ghosts dressed in costumes from the days of the Conquest and from the time of the gunpowder factory. He and others never went out at night for fear of meeting them.

“I was sent to Los Azufres because Luis de Anda, in the newly formed CFE, had placed the area on a list he made in the 1940s of geothermal sites to be developed for electrical generation. Thus, I saw the famous thermal features and forested hillsides almost untouched by mankind.

“Today Los Azufres is a national park and beautiful, but at the same time some things have passed away and changes have come. Some are from geothermal development, of course, though Los Azufres Field is a good geothermal project and great care has been taken.

“Even so, for a long time I didn’t go back; I didn’t want to return. I feared the ghosts in the vapors, the sight of Los Azufres as it used to be.”

The next story, also by Arturo González Salazar, is a geothermal legend about a hot spring a few kilometers away from the Lagoon of Sulfurs, called *El Pozo del Currutaco*.

El Pozo del Currutaco

“A *currutaco* is an old-fashioned pejorative in Spanish meaning a man with exaggerated elegance, a dandy. A hot spring in Los Azufres Geothermal Field is called *El Pozo del Currutaco*, and this is how it got its name.

“At the turn of the century, a *currutaco* came to a small community not so far from the hot spring where he fell in love with a woman who had another suitor.

“The *currutaco* was very elegant and perhaps even handsome. The woman loved him for this, and forsook the first suitor who was humble and poor.



El Pozo del Currutaco, "The Dandy's Hot Spring."

"One day, an outing was arranged into the countryside at the hot spring. The party included the *currutaco*, the woman, and her humble suitor.

"At a propitious moment, the humble suitor pushed the *currutaco* into the hot spring. The water was so hot, the *currutaco* couldn't get out and he died.

"Thus through crime, the humble suitor changed his fate and came to marry the woman he loved. Ever since the hot spring has been called *El Pozo del Currutaco*.

"Today the scalding waters are still famous. People come from miles around. Kneeling by the hot spring, wary of splattering bubbles, they reach inside to dig out clay for beauty masks, poetic justice for the handsome *currutaco*."

CHIAPAS

THIS STORY BY ARTURO GONZÁLEZ SALAZAR IS FROM THE STATE OF CHIAPAS. THOUGH MODERN, it may be the oldest of all, an evocative paradox of nature, mankind, and geothermal resources, and a volcano named Chichonal.

My Days at Chichonal

“About 20 years ago in the Mexican State of Chiapas, a governor phoned the Comisión Federal de Electricidad [CFE]. He said he had flown over a mountain on fire, smoke billowing from its sides. The governor asked the CFE to come to Chiapas and explore the mountain, a volcano called Chichonal, for he feared something serious could happen.

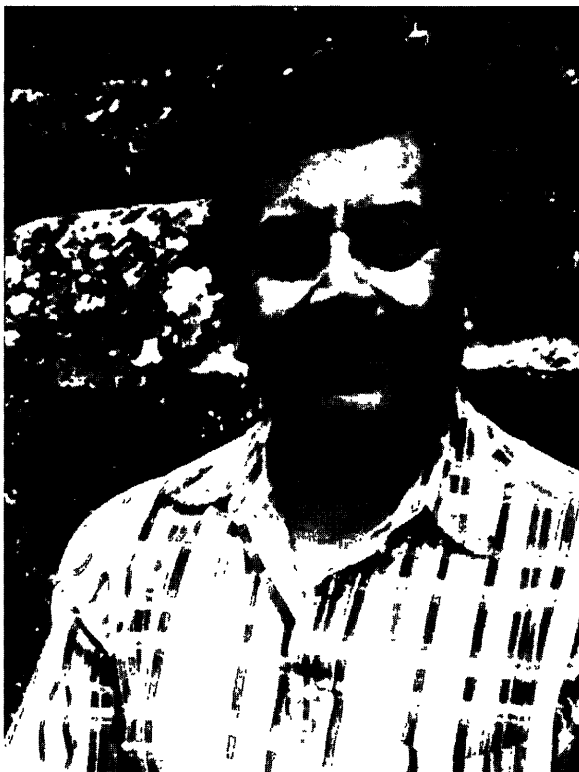
“The CFE sent a geochemist, Rafael Molina Berbeyer (now deceased), a geologist (myself), and a technician, Blas González Mendez. After a long journey, we finally arrived in the

town of Pichucalco in Chiapas. From there, we drove with great difficulty to a little town called Volcanes, a site very isolated in the heart of tropical jungle. It was a dangerous trip and we crossed several wide rivers by jeep.

“When we arrived in this small farming commune (whose members were Mayan, of a tribe called the Zoque), the town authorities let us stay in the school. We spread out our belongings and that evening talked to people who returned from the fields. We explained why we had come and asked them to take us to the volcano Chichonal, now not so far away. We could see the ‘smoking fumaroles’ from the town.

“To our great surprise, nobody would go. This was very unusual for in general the people we met were helpful. Finally, we convinced a small group to guide us up the slopes of the volcano. The leader was a man named Cansino, who agreed on condition that we would walk ahead of him.

“The next day, we penetrated an untouched jungle of rich, tropical vegetation without roads or trails. We went first and our hesitant guides stayed a distance behind, nervous



Arturo González Salazar, narrator.

and fearful. From time to time, passing carefully through dense foliage and stands of huge leaves, Cansino and I spoke. Gradually I realized that he feared visiting the volcano because he had heard its loud noises. He had watched birds flying near fumaroles fall dead from the sky and feared he, too, would die.

“I found it no mystery what had killed the innocent birds—the hydrogen sulfide gases breathed in from the vapors.

“Hours later we came to the fumaroles but stayed briefly, for the hydrogen sulfide fumes were intense. Then we returned to Volcanes. Here, Cansino convinced others that the situation was not perilous, that they should help establish our camp at the top of the volcano. With great organization they did so, bringing us food and water each day.

“With time more people began to help, while we explored one of the most remarkable geothermal zones I have ever known. The temperatures were very high, there were immense areas of fumaroles, and more enchanting, perhaps because it was unvisited by any human being, the zone was a verdant and natural sanctuary for animals I had known in books but had never seen.

“On the days I stayed there I saw many deer, tapirs, peccaries, snakes of many kinds, and birds of all colors and sizes. Many times I felt like Christopher Columbus in the New World, finding a paradise full of thriving plants and animals. It was something extraordinary.

“In the nighttime, I meditated. I knew breaking into this sanctuary would have mortal consequences, because teaching the people to enter here without fear would increase man’s predation. I have always regretted this, but it was our job to explore the volcano.

“Nonetheless, I listened with hope to Cansino, their leader, who said that hunters would not be permitted to kill in this place, although the taboo was gone. For seeing us move calmly through the vapors, our guides had lost their fear.

“After 45 days we were done. Working in heat over 40° C and in constant rains and cyclones from the Caribbean Sea, we had sampled vapor, measured the temperature of

land, and mapped the area. The hydrogen sulfide was so concentrated that we often had headaches, but clearly great geothermal promise existed.

“In my report, I wrote that we had felt tremors from five to six earthquakes each day, that perhaps the volcano of Chichonal was awakening. Thus with several kilos less of weight, without our boots, and with dirty clothing, our mission was ended and we returned home.

“Years later, in 1982, the volcano Chichonal erupted, spewing volcanic ash that changed the climate of the world and destroyed nearby areas, including the sanctuary with the flora and fauna I had so admired. With time, they have told me that almost all my friends and guides of Chichonal died in the catastrophe, which in the end brought destruction, death, and sorrow to the Zoque tribe.

“As a final note, perhaps it is worthwhile here to remember the geologist Salvador Soto Pineda, who died in one of the eruptions while trying to save a community. It was when the volcano was in its full eruptive cycle and some people living in a little town nearby did not wish to evacuate their homes. Salvador Soto Pineda went to convince them to leave, for the risk of death was clear. He and others arrived by helicopter in a humanitarian effort. Once in the town, all were surprised by an eruption and buried forever under tons of volcanic ash. For this I consider Salvador Soto Pineda a hero of volcanology.”

GEOTHERMAL STORIES

THUS GEOTHERMAL FORCES DESTROY LIVES, AND GEOTHERMAL SITES ENHANCE THEM. JUST WHERE devastation reigns from earthquakes, eruptions, lava, hot water, fumes, and fire, there the gods and mortals commune, ailments are alleviated, beauty perfected, crop growth quickened, food cooked, sulfur and salt mined, resorts visited, and energy made. Geothermal stories record it all.

But our affinity to geothermal forces goes deeper. A quote from Benito Bravo helps illustrate the connection. Benito lives in the P'urhépecha town of Angahuán, which is near Parícutin, the volcano that rose in 1943 in the middle of a cornfield in Southwestern Michoacán.

Angahuán remained untouched by lava flows covering nearby areas. I asked Benito what people in Angahuán think about Parícutin, which has so influenced their lives and he said, “It is important because we saw it when it was born and when it died.”

Birth and death. Like us, geothermal features begin and end, moving through cycles of their own. We draw towards them, lured by change, beauty, and an unusual cast of the familiar—water, rocks, and heat. We search them for answers to mysteries in our own lives, like birth and death. We have done this through time, and geothermal stories are the archives of our quest.



Benito Bravo, narrator.

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The assistance of Arturo González Salazar was fundamental to this task. In his career with the CFE, he was among the first to visit geothermal areas. He not only looked at geology but talked with people and remembered what they said. His personal narratives, assistance with interviews, and interest in what we saw made a big difference.

Thanks also to María Guadalupe Avalos, Carlos Ferrer, Celia Escalante Arreola, Celina Silva, and Benito Bravo, who shared their geothermal stories.

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Osorno volcano and the Petrohué River in the Chilean lake country. *Drawing by Jim Spriggs*
