Orizaba Peak
Hill of the Star

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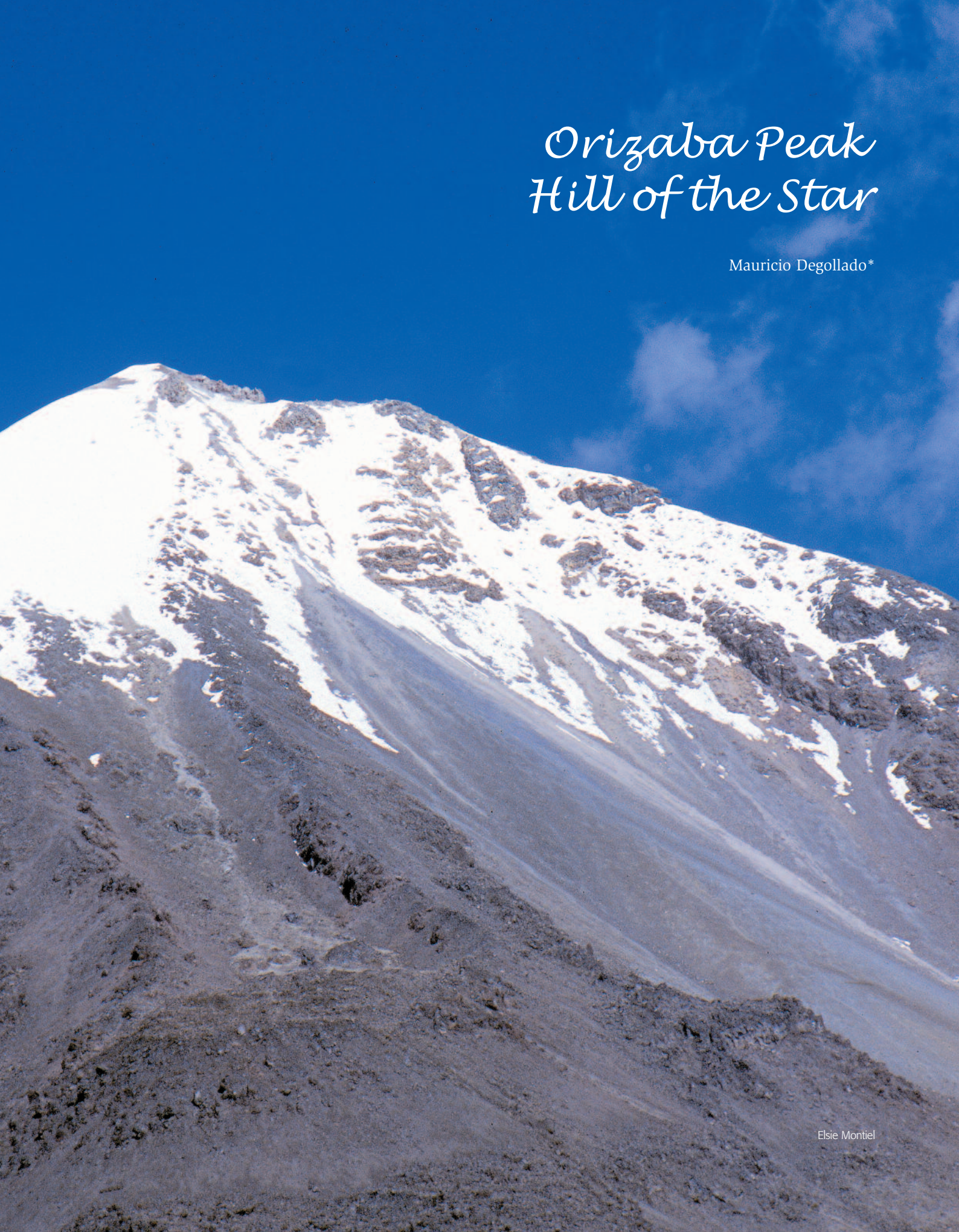

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Orizaba Peak is Mexico's highest volcano and the third highest mountain in North America. Its 5,747-meter height is surpassed only by Mount McKinley in Alaska (6,187 meters) and Mount Logan in the Canadian Yukon (6,050 meters). Orizaba Peak is in the state of Veracruz, bordering on the state of Puebla, and is part of the orographical system known as the Eastern Sierra Madre. It is world famous for the beauty of its almost perfect cone shape, captured on film by innumerable professional and amateur photographers, its different microclimates and its altitude.

Pre-Hispanic Past[1]

The obsidian mines that crisscrossed the insides of Orizaba Peak were fundamental to the economy of Central Mexico and its east coast. We know that it was used as long as 5,000 years ago in the area of Tehuacán. In the classical period it reached Guatemala and in the post-classical period it supplied Mexica workshops. After repeated Mexica attempts to conquer the region with its capital Cuauhtochco, they were finally victorious in the mid-fifteenth century, gaining control of the mines.

The Gulf Coast and the area of Cozcatlán and Tehuacán used the obsidian from these deposits for more than 4,000 years. Calcahualco and Coscomatepec, Veracruz, and La Mesa and Cantona, Puebla, were all control points for the trade routes the precious stone traveled. Workshops that made all kinds of obsidian products —utilitarian, ritual and crafts— were set up in the agricultural areas of Jamapa, in the High and Low Papaloapan Basins and on the Blanco River. Spearheads and arrowheads, scrapers and knives, made using pounding techniques, are some of the most noteworthy articles. Working these mines was dangerous. In addition to innumerable cuts and the risk of cave-ins (obsidian sticks out of the ground forming

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sharp points and blades, and the tunnels were narrow), there was the cold and the altitude (more than 3,600 meters above sea level), which thinned the air and quickly caused fatigue. It was so inhospitable a site that today there is no town at that altitude.

The Region's Influence

Orizaba Peak, also know as Citlaltépetl, has a profoundly important influence on the surrounding area: together with the Eastern Sierra Madre, it blocks the humid winds from the Gulf of Mexico, causing copious rainfall on the eastern slope and slight precipitation on the western slope.

Its ice and snow are an unending source of crystalline water for the rivers that run through deep ravines, smothered in vegetation, that even in the longest, deepest droughts maintain a considerable flow.

The flora is determined by three different kinds of climate: humid temperate, sub-humid temperate and cold, with notable differences between the eastern and western slopes. On the eastern slope, vegetation is exuberant and resplendent, evergreen, with large forests and fertile land for cultivation; on the western slope, the vegetation is scanty like a prairie, with few forest areas, predominantly covered with herbs and cactus.

Population density within a radius of 19 kilometers around the crater is quite low because a general lack of resources, communication and transportation, and in general, harsh natural conditions make life very difficult at these altitudes. There is not a single important city in the area: Serdán City is 19.3 kilometers away and Orizaba, 26.4 kilometers. The few inhabitants of the mountain spurs live in isolated cabins or in small hamlets of no more than a few hundred inhabitants; their main activities are logging, agriculture and herding.

In 1937, to protect the region's natural beauty, particularly the wild flora and fauna, Pres-

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ident Lázaro Cárdenas decreed the creation of a national park extending 19,750 hectares around the volcano.

Volcanic Activity

Orizaba Peak is considered an intermittent volcano, alternating periods of activity with periods of inactivity. During the colonial era there were several incidents between 1537 and 1687 but then it went dormant again.

Both the peak and its surrounding area have suffered from numerous earthquakes, some of them very destructive, such as the one that in the early morning of August 28, 1973 devastated the cities of Córdoba, Orizaba, Río Blanco, Mendoza City, Serdán City, and other smaller towns. This is because Orizaba Peak and its environs are at the foot of a great tectonic fault line that runs across Mexico, from the Pacific Ocean to the Gulf of Mexico, making the area around it one of the most seismic and geologically unstable in the world.

Explorers and Climbers

A paradise for climbers and explorers, Citlaltépetl was first scaled after Mexico's independence. It was explored, but not climbed by Enrique Galeotti in 1839. In 1848, it was climbed for the first time by French mountain climber Alexandre Doignon. Nevertheless, tradition has it that the first to climb the volcano were the U.S. soldiers of General Winfield Scott's invading army. It was also visited by many scholars, among them botanist Hugo Fink in 1874, who collected data about the volcano's flora and described the forests below the snow line. Others who reached the top in 1883 were Mateo Polwes and Pedro Vigil.

It was in the twentieth century that climbing expeditions multiplied, with four routes to the top. Professional climbers and adventurers from the world over challenge the cold,

the altitude and the rugged terrain, very often without experience, guides or appropriate equipment. Innumerable chronicles of the climb describe the rocky, dusty pathways, the pine forests, the ravines of great sand beds and the intrepid beauty of its glacier brightly reflecting the light as obstacles the mountain puts in the explorer's path to prove whether he/she is ready for anything in order to conquer the summit.

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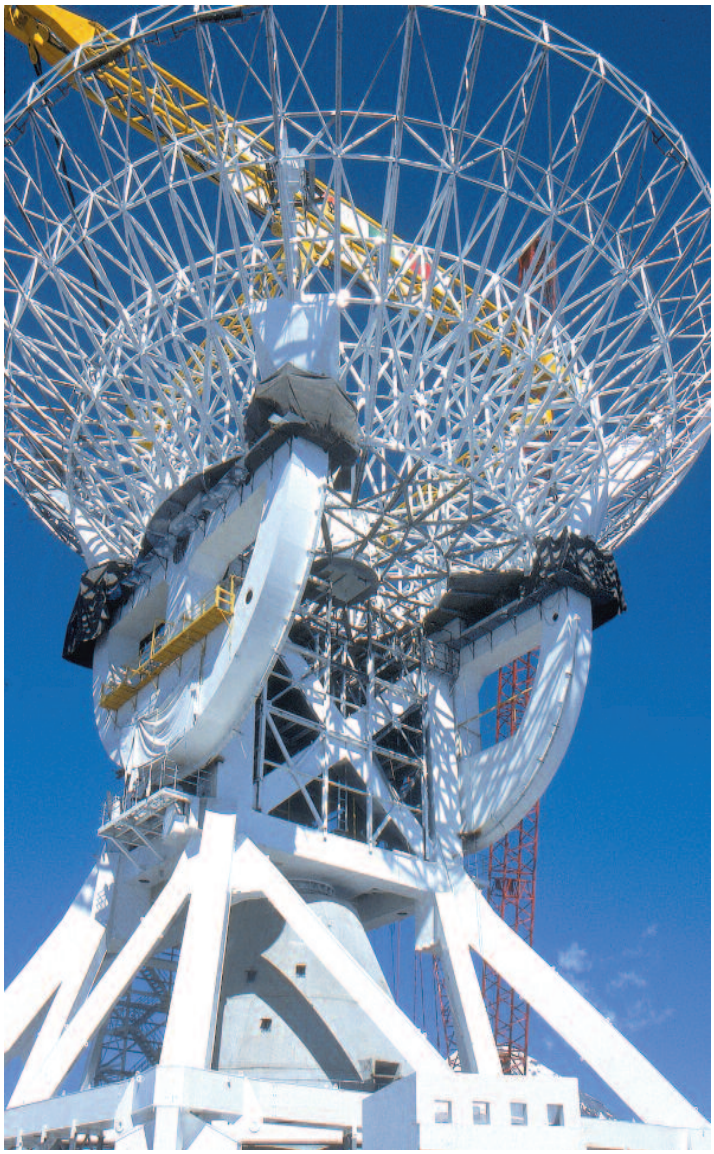
A Famous Neighbor

On the top of Tliltépetl, also known as the Sierra Negra Volcano, just across from Orizaba Peak, is the Large Millimeter Telescope (LMT), a 50-meter-diameter optimized antenna that, once in operation, will take astronomic readings in millimetric waves. The telescope project is the result of a collaboration between Mexico and the United States, headed up by the National Institute of Astrophysics, Optics and Electronics (INAOE) and the University of Massachusetts at Amherst. The LMT, the largest and most sensitive of the world's millimeter telescopes with a simple aperture operating between 0.85 mm and 4 mm, will begin scientific operations in 2008. It will research topics as diverse as the composition of comets and the atmospheres of the planets, the formation of planets outside the solar system, the birth and evolution of the stars, the hierarchical growth of galaxies, clusters of galaxies and their large-scale distribution and cosmic microwave radiation and its anisotropies. VM



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The Large Millimeter Telescope will begin operations in 2008.

Notes

[1] Information in this section was taken from Rubén B. Morantes, "Túneles de cristal en el Pico de Orizaba," *México desconocido* 226, 1995, consulted online at http://www.mexicodesconocido.com/español/cultura_y_sociedad/actividades.economicas/detalle.cfm?idcat=3&idsec=

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Of Myths and Names

The first name given to the volcano in pre-Hispanic times was Poyautécatl, "he who lives among light clouds," or "the lord of the mist." However, it was better known as Citlaltépetl, which means "hill of the star" (*citlallin*, or star, and *tépetl*, or hill), probably because its large snow cap shone perpetually or because the fire from its eruptions must have looked like a star from afar.

During the colonial period, it was also known as San Andrés Hill, after the town San Andrés Chalchicomula (today Serdán City), located only 19.3 kilometers from the volcano, even closer than the city of Orizaba, from which it received its current name, located 26.4 kilometers away.

According to legend, the volcano was born of the friendship between Nahuani, a woman Olmec warrior, and her advisor, a fishing eagle named Orizaba. Nahuani lost her life in one of many battles, and in reaction, Orizaba rose to the heavens and then let herself fall back to earth to a place where, little by little, a mountain would grow. After a time, Orizaba would remember what happened to Nahuani and erupt in fury on several occasions. To contain her fury, the villagers would ascend to the top of the volcano to worship Nahuani, Orizaba's eternal friend.

Another pre-Hispanic legend says that when Quetzalcóatl left the city of Tula, he did not go to Coatzacoalcos, as was generally thought, to take out a canoe with two intertwined serpents on its bow, nor was he lost forever in the immensity of the sea, as mysteriously as he had arrived. Rather, this wise figure remained in beautiful Ahuializapan (Orizaba) until he closed his eyes forever. On the summit of Citlaltépetl, a funeral pyre was erected that burned the body to ashes; and at the break of day, the ashes rose in the form of a splendorous cloud as a sign that the spirit of Quetzalcóatl, transformed into a quetzal, had arrived to the mansion of the Great Spirit amongst the twittering of thousands of beautiful birds. It is said that a moment later, the rising sun was hidden for four days by the darkness in a sign of mourning. Then, a faint, muted light once again invaded the area. In the place the funeral pyre had been, the Indians gazed wide-eyed at a beautiful blue star. The elders say that that splendid star was the apotheosis of wise Quetzalcóatl who thus announced his immortality to the four corners of the earth. That is why ever since then, Poyautécatl, on whose summit rests the mysterious star, has been called Citlaltépetl, or "hill of the star."