by Angela M.H. Schuster

and Norma Barbacci

Nestled in the canyons and foothills of the Western Sierra Madre lies a suite of caves that harbor some of the richest architectural treasures of the Mesoamerican world. Etched into the landscape by falling rain more than a million years ago, the caves provided refuge for peoples who settled in the region over the millennia, each of whom left an indelible imprint in their deep recesses. The most recent occupants—known to archaeologists as the Paquimé, or "Casas Grandes" people, after a majestic site 120 kilometers to the north where their culture was first identified—began building elaborate earthen dwellings within the ancient grottos nearly 1,000 years ago.

Culturally and stylistically linked to the dwellings of the Pueblo peoples of the American Southwest, those of the Paquimé are multistoried adobe structures with stone foundations, wooden support beams, and t-shaped doorways. Many of the structures are composed of a series of small rooms built one atop the other, their exteriors finished in burnished adobe. Pine ladders provided access to upper floors. Some of the rooms were decorated with renderings of animals and anthropomorphic figures.

Although the structures were erected at some 150 known sites throughout northwestern Mexico, two of the greatest concentrations—Las Cuarenta Casas (40 Houses) and Conjunto Huapoca (Huapoca Complex)—have been found in a series of canyons on the outskirts of Madera in the state of Chihuahua. Over the past decade, both areas have been the focus of a major archaeological campaign aimed at recording what cultural material has survived and elucidating the relationship between the people of Paquimé and other cultures of the Mesoamerican world—namely those of Jalisco, Colima, and Nayarit—and the American Southwest.

Windows on the Past

EXPLORING AND RESTORING CHIHUAHUA'S ANCIENT GROTTOS

According to project director Eduardo Gamboa Carrera of Mexico's Instituto Nacional de Antropología e Historia (INAH), Cuarenta Casas and Conjunto Huapoca were once home to communities of merchants who plied the nearby Papigochic River, transporting conch shells, turquoise, feathers, and other goods between the city of Paquimé and towns along the Pacific Coast. More important, he says, the ancient communities served as vital nodes in a wider New World political system.

"Archaeologists have yet to reach consensus on the precise nature of the relationship between the Paquimé peoples and the cultures of the American Southwest," says Gamboa, "but then again, so little was known about the sites in Mexico prior to our survey of the region, which began in 1990. What the archaeological community has agreed on is the need to preserve what has survived."

Since their abandonment eight centuries ago, sites in the Western Sierra Madre have suffered not only the effects of time but substantial abuse. Local ranchers have used many dwellings in the Madera region as

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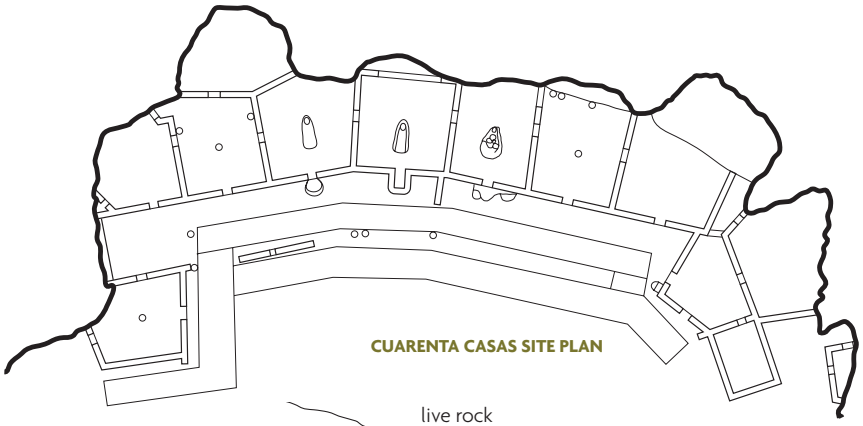
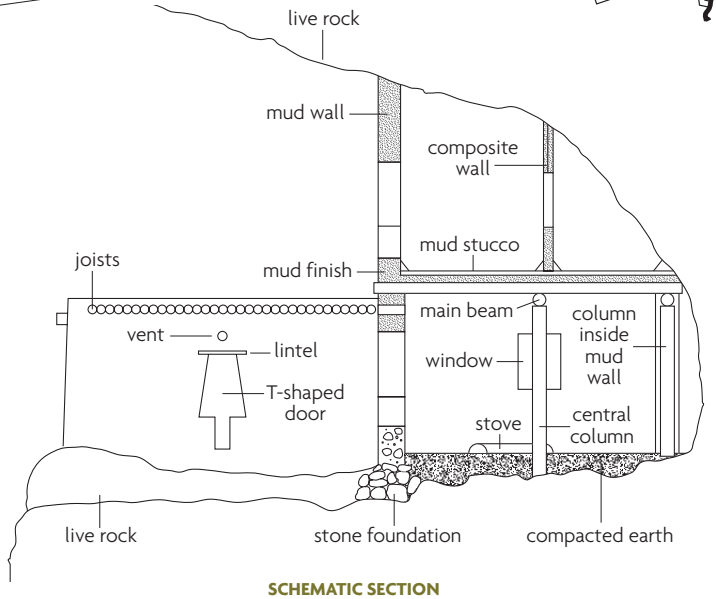


CUARENTA CASAS SITE PLAN



SCHEMATIC SECTION

PREVIOUS PAGE: 1,200-YEAR-OLD ADOBE DWELLINGS LINE CAVE WALLS AT THE SITE OF CONJUNTO HUAPOCA. IN ADDITION TO RESTORING THE BUILDINGS WITHIN THE CUEVA DE LAS VENTANAS, ABOVE, ARCHITECTS AND CONSERVATORS DESIGNED AND INSTALLED NEW WALKWAYS TO MINIMIZE VISITOR IMPACT ON THE SITE. A PLAN AND PROFILE OF THE CAVE, LEFT, SHOW THE LAYOUT OF BUILDINGS WITHIN THE SHALLOW GROTTO.

shelter for livestock. Because of their remoteness—and hence lack of protection—the sites have been prime targets for vandals and treasure hunters. "Perhaps more disturbing," says Carlos Lascano, an intrepid explorer responsible for locating numerous Paquimé sites and bringing them to the attention of archaeologists and the general public, "the caves, particularly the lesser-known ones, have found renewed life as entrepôts in a Mesoamerican mercantile network, serving as hideouts for drug dealers transporting narcotics across the U.S. border."

Although the caves at Cuarenta Casas, being the best known and most accessible, had been open to visitors for some time, and thus afforded modest protection, the site remained vulnerable to uncontrolled tourism. In the early 1990s, INAH had carried out emergency repairs and installed walkways to minimize visitor impact on the site. However, the cave's fragile remains were covered in graffiti and had been trampled by travelers coming to the cave off hours. Given the severity of the situation, Cuarenta Casas—along with the entire suite of caves in the Madera region—was placed on WMF's 1998 list of the *100 Most Endangered Sites.*

PHOTOS COURTESY INSTITUTO NACIONAL DE ANTROPOLOGÍA E HISTORIA

This past fall, Cuarenta Casas became the subject of an extraordinary conservation effort undertaken by the INAH's Chihuahua office and the Escuela Nacional de Conservación, Restauración, y Museografía (ENCRM). Underwritten by INAH Chihuahua, WMF, and the J.M. Kaplan Fund, the work has focused on a 16-unit complex known as the Cueva de las Ventanas (Cave of the Windows), the largest of the three principal caves that compose the archaeological complex.

Prior to any conservation efforts, Haydee Orea and her ENCRM team analyzed the entire site, documenting every crack and crevice—even the graffiti—to determine the most appropriate materials and methods to use. The ENCRM team decided on a conservative approach to the restoration, opting to conserve and stabilize crumbling areas rather than completely replacing them with fresh adobe. They replaced and reinforced wooden structural elements only where absolutely necessary. Following stabilization, restored surfaces were then visually integrated with original ones so that the patina was consistent throughout the site.

"The result was nothing short of extraordinary," says Gamboa. "We were privileged to have had what was no doubt the best restoration team assembled in Mexico in a very long time."

In addition to restoring the ancient adobe buildings, the pilot project included development of a long-term management plan and improvement of walkways, overall site interpretation, and visitor services. Today, work at Cueva de las Ventanas is complete, serving as a model for future conservation efforts in the region. The same team is now developing plans to carry out similar work at Huapoca and lesser-known sites so that they too may be preserved for future generations. ■

MATERIALS AND EQUIPMENT TO CARRY OUT THE RESTORATION HAD TO BE BROUGHT INTO THE CANYON ON FOOT, TOP. FRESH ADOBE WAS USED TO CONSOLIDATE CRUMBLING AREAS WHERE THERE WAS SUBSTANTIAL SURFACE LOSS, CENTER. ABOVE, WORKERS REPLACE FAILED OR ROTTED WOODEN STRUCTURAL ELEMENTS. GRAFFITI COVERS THE FRACTURED FACADE OF A MADERA CAVE DWELLING PRIOR TO RESTORATION, LEFT.