

BUTABU

WEST AFRICA'S EXTRAORDINARY EARTHEN LEGACY

Among the Batammaliba of Togo, the word *butabu* describes a process of moistening earth with water in preparation for building—the prefix and suffix *bu* referencing the earth and all that is associated with it. Wet-earth construction is a complex art based on a sound knowledge of structure and the inherent properties of various kinds of earth. If the earth is not of the correct texture, if its kneading is rushed, if walls are not perpendicular to the ground, if structural design is uneven, or if a final layer of plaster is not properly applied, a building may very well collapse.

Whether modeled by hand or built of mud-

brick, the variety of architectural forms found throughout West Africa illustrates the myriad ways in which the simple properties of earth and water have come together to create works of striking artistic sophistication and interest.

Not only do the sun's rays bathe the earthen core of a building, making it hard and resilient, but they also continually redefine the structure's surface and interior features with patterns of light and shade as they pass overhead through the course of each day. Many of these edifices, especially the tall ones, boast rows of timbers bristling from their exteriors, on which the sun's shadows play off particularly dramatically. These spikey elements serve

by **SUZANNE PRESTON BLIER**

photographs by **JAMES MORRIS**



ARCHED WINDOWS PUNCTUATE
A GRAY EARTHEN MOSQUE IN
THE VILLAGE OF SAN, MALI.





IMAGES FROM BUTABU ADOBE ARCHITECTURE OF WEST AFRICA BY JAMES MORRIS, PRINCETON ARCHITECTURAL PRESS, 2003.



WHILE AUSTERE ON THE EXTERIOR, THE HAUSA MOSQUE AT KOSSA, NIGER, ABOVE, HAS A VIBRANT DOMED INTERIOR. CARVED DETAILS WITHIN THE HOUSE OF SIDI KA IN AGADEZ, NIGER, LEFT, ILLUSTRATE THE MANNER IN WHICH WEST AFRICAN ADOBE ARCHITECTURE TAKES ON THE QUALITY OF SCULPTURE.



both to solidify the structure, and to help alleviate moisture, but also to offer supportive scaffolding during yearly replastering. Building roofs, which boast wooden or pottery drainspouts to channel seasonal rains, are made of thatch or earth, the latter either domed or flat.

West African earthen architecture collectively challenges the inherent boundaries between built form and sculpture in their visual power and unique play of texture, geometry, light, and shade. These buildings incorporate the vital attributes of geometric primacy and boldness that pervade so many of the continent's figural traditions and invite tactility, an element critical to appreciation. Important too is the manner in which dynamic aspects of silhouette shape a structure, promoting a sense of geometric rhythm and a point-counterpoint of concave and convex volumes.

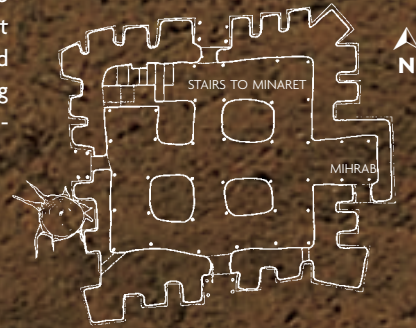
On the interior, multiple levels of space often are articulated through a combination of pole and beam flooring/terrace articulation supported by the adjacent earthen joining walls. Upper levels, which are reached by earthen steps or ladders, serve a variety of functions as both open-air spaces and enclosed chambers. Beyond their sheer architectural value, West African buildings of earth are often imbued with potent symbolism. Cones of the same material, which historically have served as shrines in this area dedicated to deities, ancestors, wild game, and an array of spirit powers, often punctuate a portal, either at ground level or along the roofline. These conical forms feature prominently in local mosques and some modern post-colonial building forms as well.

Centuries of upheaval, which led to the massive uprooting of local populations through war, migration, and slavery, also have left a mark on the region's architecture, and in part, as a result, this architecture also expresses vital social and political concerns. One example is the famous Djenne mosque in Mali. This structure was literally melted at one point in its history when an opposing Moslem leader had the structure's vital drainage system blocked. Other important works—for example Boso men's houses—were designed by former slaves, whose freedom found expression in bold new architectural idioms.

ounded in the mid-seventeenth century, Larabanga is the oldest and most revered of eight ancient mosques in Ghana, serving as an important place of pilgrimage for the region's Muslim community. Built in the Sudanese style on a quatrefoil plan, the diminutive earthen structure is ringed by conical buttresses bolstered by rows of horizontal timbers.

A minaret rises from the northwest corner; a *mihrab*, or niche pointing toward Mecca, graces the building's east facade.

Although Larabanga had retained much of its architectural integrity over the centuries, a coating of waterproof sand-cement applied to its exterior in the 1970s resulted in substantial damage to the building. In time, moisture trapped within the earthen walls began to weaken them, while termites, attracted by the sanctuary's high humidity, took up residence in wooden beams and support timbers. Collectively, the moisture and infestation caused portions of the building to collapse. Although the mosque's congregation worked to stem the damage, the shape of the towers and buttresses was significantly altered with each repair. In September 2002, the minaret and *mihrab* were felled by a violent rainstorm. Given the dire condition of the building, it was placed on WMF's 2002



WMF (3)



LARABANGA MOSQUE

A GHANAIAN TREASURE REBORN



BUILT IN THE SEVENTEENTH CENTURY, THE LARABANGA MOSQUE HAD SUFFERED FROM INAPPROPRIATE RESTORATION. A LAYER OF SAND-CEMENT APPLIED IN THE 1970S, TOP, TRAPPED WATER IN EARTHEN WALLS, WEAKENING THEM. SINCE LARABANGA APPEARED ON WMF'S 2002 LIST OF THE 100 MOST ENDANGERED SITES, THE MOSQUE HAS BEEN RESTORED, CENTER, USING TRADITIONAL METHODS, PROMPTING A REVIVAL OF THE VANISHING ART OF MUD-BRICK CONSTRUCTION.
WMF.ORG

list of the *100 Most Endangered Sites*.

Today, this jewel of Sudanese-style architecture stands reborn, thanks to the efforts of the Ghana Museums and Monuments Board and CRA-Terre EAG, an international research center that specializes in earthen buildings at the School of Architecture in Grenoble, France. Funded by WMF through a generous grant from American Express, conservators, working in concert with the local community, carefully removed the cement plaster from the mosque, replaced damaged timbers, reconstructed the collapsed minaret and *mihrab*, restored the portal, and refaced the structure in traditional mud plaster.

The project has served as an important catalyst for the rebirth of mud-plaster construction, an art that has waned over the decades as more and more buildings in the area are built of iron and concrete. Compared to concrete, earthen architecture requires substantial maintenance, needing to be refreshed each year following the rainy season. However, it is far more sympathetic to the environment and better suited to the extreme heat of West Africa, providing cool interior spaces throughout the year.

Since its restoration, the mosque has resumed its vital role in the spiritual life of northern Ghana. On Fridays, canopies are erected around the structure to accommodate Larabanga's growing congregation. The local community is now working to build a nearby visitors' center to share with the world the ways of a vanishing art. ■



Who are the creators of these earthen wonders? Among many West African peoples, such as the Boso, who figured prominently in the architectural development of Mali's Niger River Delta, architects hold a unique place in society, possessing special knowledge of the occult and properties of the earth. In the Djenne and Mande areas of Mali, architects are traditionally members of a *ton*, or caste-like association, whose knowledge of structures is passed from father to son. In the Hausa states of what are today northern Nigeria and southern Niger, guilds of builders are organized under a master, or *majini*, chosen for his technical prowess and creativity. Among the most famous of these Hausa masters was the nineteenth-century architect, Mallam Mikhaila of Sokoto, Nigeria, who was hailed as a *Babban Gwani* (supreme expert) and *Kakan Magini* (grandfather of the builders). According to legend, he built the Sokoto Mosque over the course of a single night. Architects in the rural Batammaliba communities of northern Togo and Benin, in contrast to their Hausa and Mande counterparts, practice independently, learning their art through apprenticeship with a master. Each signs his structures with markings where wall foundations join. Whether or not individually identified as the work of a particular builder, the creativity and uniqueness of each work of African earthen architecture is evident.

The local environment from which this architecture largely has been shaped has had an impact too. While earth is omnipresent, water and timber are becoming ever rarer commodities. So too is the expertise of skilled designers and builders of earthen structures. All of this makes the need for endeavors to preserve this extraordinary architectural legacy all the more critical. ■

THE MOSQUE AT YEBE, MALI, RIGHT, IS ONE OF A NUMBER OF RECENT BUILDINGS MODELED ON THE GREAT MOSQUE AT DJENNE. DESIGNS PAINTED ON A COMPOUND IN SIRIGU, GHANA, ARE BASED ON MOTIFS OFTEN SEEN IN TEXTILES. KNOWN LOCALLY AS THE "RED HOUSE," FACING PAGE, THE HOUSE OF A MARABOUT IN SEGOU, MALI, CELEBRATES THE RICHNESS OF THE EARTH.

