



Conserving the Bas-Reliefs

In the fall of 1993, the Getty Conservation Institute and the Benin Ministry of Culture and Communication embarked on a four-year collaboration to save the bas-reliefs that had been detached from King Glélé's *ajalala* in 1988. "We knew that certain bas-reliefs were seriously threatened, and we wanted to take the first, highly urgent, preventive steps by dismounting and sheltering them," explains Rachida de Souza-Ayari, former director of Benin's Department of Cultural Heritage. "But this was not an ideal solution, because the deterioration continued. It was then that we knocked on the door of the Getty Conservation Institute."

Various earth-based mortar mixes were tested for filling cracks and cavities in the bas-reliefs.

*Photograph by
Francesca Piqué, 1994.*

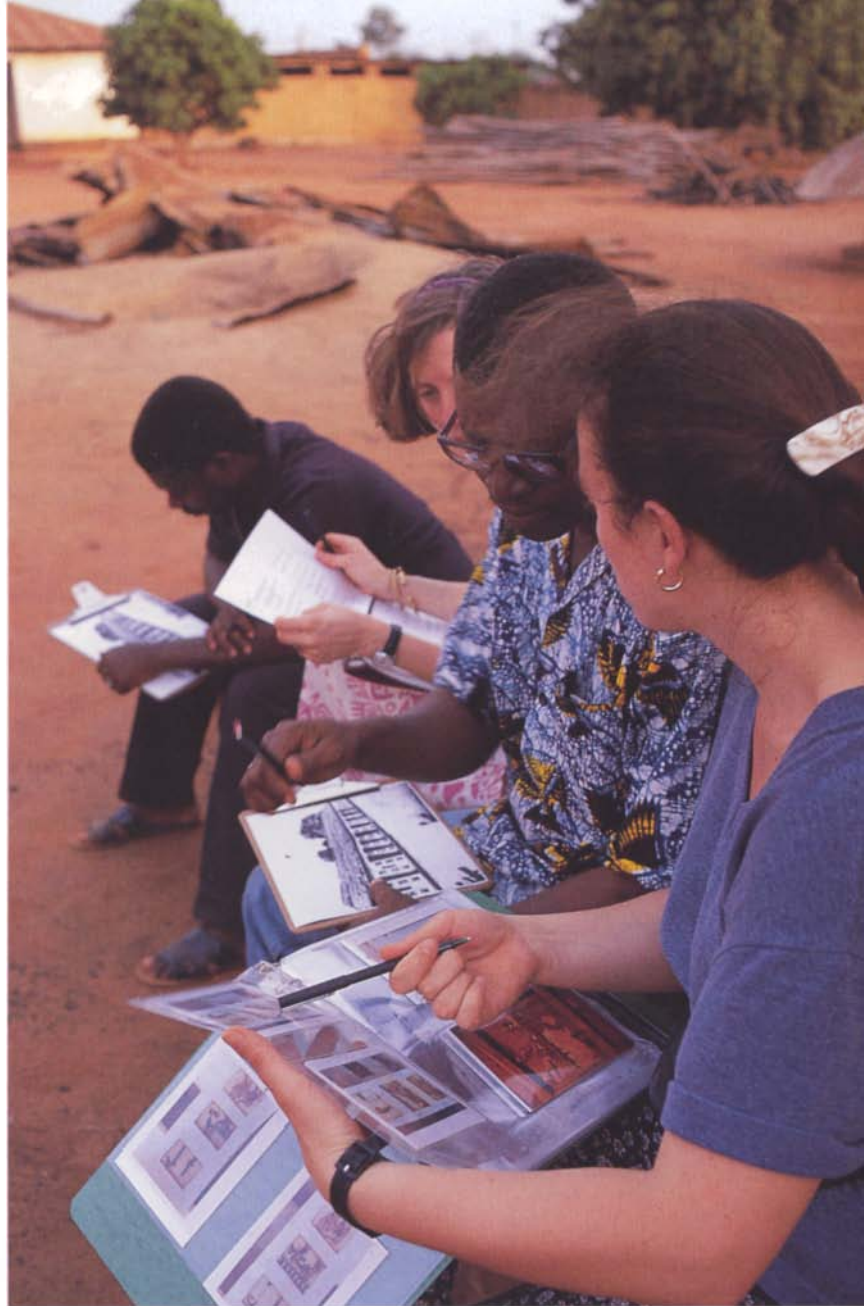


The goal was not to try to restore the bas-reliefs to their original state but, rather, to repair major damage and arrest further deterioration. Copies of the original bas-reliefs would be created for the exterior walls of the rebuilt palace (part of the Historic Museum of Abomey), and the preserved originals would be displayed inside the museum.

The international team of conservators began by researching the history of bas-reliefs to better understand their origins and cultural context, turning to Beninois historians and local artists for information regarding the traditional methods used in making them. Oral history, early photographs, and the casts and notes made by the French colonial official E. G. Waterlot in 1911 helped identify each bas-relief and determine its original location on Glélé's ajalala facade. Next, the condition of each one was recorded, and the findings documented in written reports, photographs, and graphic diagrams.

The bas-reliefs removed from Glélé's ajalala were stored throughout the royal compound.

Photograph by Susan Middleton, 1994.



Conservators referred to historic photographs, diagrams, and inventories to identify detached bas-reliefs, determine their original placement, and chart their changes over time. Of the original fifty-six bas-reliefs from Glélé's ajalala, four were destroyed during

removal when the south corner of the building completely collapsed, and two others remain unaccounted for.

Photograph by Susan Middleton, 1994.



Conservators carefully documented the structural and surface condition of each panel and its added support. Transparent acetate sheets were laid over black-and-white photographs of each bas-relief. Symbols were used to identify each type of damage, and a key to the symbols appeared on each transparency. The same method was used to record the treatment conducted.

Photographs by Susan Middleton, 1996 and 1994.



From structural damage to superficial problems, from broken bases to flaking paint, the fifty bas-reliefs to be conserved presented a range of conservation challenges. Photographs of the bas-reliefs taken before 1988, while they were still an integral part of the facade of Glélé's ajalala, showed them in relatively good condition. So it was clear that the heavy and fragile panels had suffered severe structural damage during the difficult detachment operation and in subsequent moves from one storage area to another in the museum.

The support frames of some of the bas-reliefs were fractured or, in one case, completely shattered. Some reliefs had become loose or separated from their supports, while others had large cavities behind the surface, with entire sections dangerously hollow. In several cases, only the relief—and not the original support—had been salvaged during the detachment; these bas-reliefs had been installed in newly made niche panels.

The long-term destructive effects of water, to which earthen materials are especially vulnerable, were also evident. In the 1930s, after the traditional wide thatch roofs were replaced with low-pitched, corrugated metal roofs, the bas-reliefs were exposed to the elements. Rainwater gradually eroded the modeled earth of the bas-relief figures. Soluble salts may be present in the building materials, in the ground, or in the cement used in earlier repairs. When

Several bas-reliefs had suffered much damage and were found with broken bases and detached fragments of relief.

Photograph by Susan Middleton, 1995.





Above: Bas-relief detail showing multiple paint layers.

Photograph by Francesca Piqué, 1996.

Right: Bas-relief detail showing the effects of salt efflorescence.

Photograph by Francesca Piqué, 1997.



it rains, these salts dissolve in water; then, when the water evaporates, the salts crystallize—a destructive process that damages the paint and plaster, often leaving a white veil covering the surface. This resulted in widespread damage; powdering patches of earth and paint, for example, were evident on nearly all of the lion bas-reliefs that had formed the bottom row of Glélé's ajalala.

Analysis revealed that throughout their history, the bas-reliefs had been repainted several times, with some covered by as many as six layers of paint. The older layers were made from natural organic colorants and inorganic pigments mixed with an organic binder, while the newer layers appeared to be composed of synthetic paints. The fluctuating climate, along with the incompatibility of the different paint layers, resulted in serious damage: paint was flaking, powdering, or missing, and in some places where there were losses, the red earth of the support was exposed.

In devising and implementing a treatment plan, the team adhered to several basic conservation principles: intervention should be minimal; new materials should be compatible with original materials; and all treatments should be reversible. Another objective was to streamline the process so that the Beninois could easily execute future work after the GCI project was completed. The conservation training of local museum personnel was an important aspect of the project.

The bas-relief artist Cyprien Tokoudagba gave the team access to one of the local quarries. In the GCI laboratories in Los Angeles, earth taken from the quarry and earth from the bas-reliefs were analyzed and compared. In composition, particle-size distribution, and color, the samples were so similar that the quarry was selected as the source of material for the conservation project. Different mortar mixtures were tested to find the one best suited to each necessary repair. Earth stabilized with 10 percent hydraulic lime was used to fill cracks in the panels' added supports and the deep cavities behind their surfaces. For fills in the original support, local earth



Training session in a shady part of the museum courtyard.

Photograph by Susan Middleton, 1994.

Gathering earth from a local quarry for use in conservation treatments.

Photograph by Susan Middleton, 1996.





The conservation team making mortar mixes and test blocks.

Photograph by Susan Middleton, 1994.

Sieving earth to use in treatments in the museum courtyard.

Photograph by Francesca Piqué, 1995.



mixed with water was found to be the best match in color and compatibility.

Bas-reliefs received emergency preliminary stabilization before being moved to the workshop for complete treatment. In cases of serious structural damage, it was necessary to insert an internal armature into the base and build up the earth around it. Large, loose fragments were pinned from behind, anchored into the support, and reattached with an earthen mortar. Paint flakes were held in place by a facing of Japanese paper, then reattached with a solution of water and acrylic resin.

Once stabilized, the panels were ready to be moved to the conservation workshop. However, weighing about 300 kilograms (over 650 pounds), a detached bas-relief panel is difficult to move and likely to crumble or crack. So the team developed a pulley system for raising and lowering the panels, as well as a large pushcart for moving them. They also adapted a small



*Bas-reliefs in storage
before treatment.*

*Photograph by
Julián Zugazagoitia, 1993.*

industrial dolly and a portable wooden trackway to facilitate transportation.

Before risking the original bas-reliefs on this custom-made system, the conservators decided to test it on a full-size model. Using their bare feet, they mixed a mortar of 90 percent earth from the nearby quarry and 10 percent cement, which they built up in a wooden form measuring approximately 1 by 1.2 meters. Like the detached bas-reliefs it simulated, the full-size mock-up had chicken-wire reinforcement. The team sculpted a replica of King Guezo's "perforated jar of unity" bas-relief, let it set three weeks, and then used it to test transportation methods.

Once the transportation system proved reliable, the bas-reliefs were well wrapped and moved to the workshop. There, conservators and technicians fixed structural damage, addressed inappropriate earlier interventions, and stabilized the bas-reliefs against naturally caused deterioration.

Before the damaged bas-reliefs were moved, loose paint flakes were secured by Japanese paper strips.

Photograph by Francesca Piqué, 1994.

Mini-drills and micro-chisels were used to remove an incompatible cement mixture that had probably been applied at the time the panels were detached. Deep cavities were filled using syringes to inject a liquid mixture of extrafinely sieved earth, hydraulic lime, and acrylic adhesive, and superficial losses and cracks were repaired with mortar. In the last phase of conservation, the conservation team reattached loose paint flakes with an earth mortar and acrylic adhesive; consolidated powdering paint with a low-percent solution of acrylic resin; and, where necessary, carefully cleaned the surface with poultices of acetone in cotton wadding. Inpainting—the process

of touching up paint where the original is missing—was performed only on the backgrounds, not on the painted relief figures themselves.

At first, all that was visible of the most seriously damaged bas-relief was the back of its shattered shell. The three-dimensional form was in so many pieces that it was hard to discern the original image.

To reassemble the pieces of the bas-relief, small sticks and string were used to create a reference grid (similar to those used at archaeological sites) that was laid over the panel. An identical grid was reproduced with chalk inside a wooden box the same size as the bas-relief. Using this grid





The team sculpted a replica of King Guezo's jar-of-unity bas-relief, let it set for three weeks, and then used it to test the transportation system.

They made a mix of stabilized earth and built it up in a wooden form, before sculpting the relief.

Photographs by Susan Middleton, 1994.





After the transportation system was tested with the model, the bas-reliefs were well wrapped, hoisted by pulley onto the push-cart, and moved along the portable path to the workshop. Here, again using the pulley, the team set the bas-reliefs onto a specially constructed easel for treatment.

Photographs top and far left by Francesca Piqué, left and opposite by Susan Middleton, 1994.



Fixing flaked paint with adhesive using a small syringe.

Photograph by Leslie Rainer, 1995.



The conservation workshop.

Photograph by Susan Middleton, 1995.



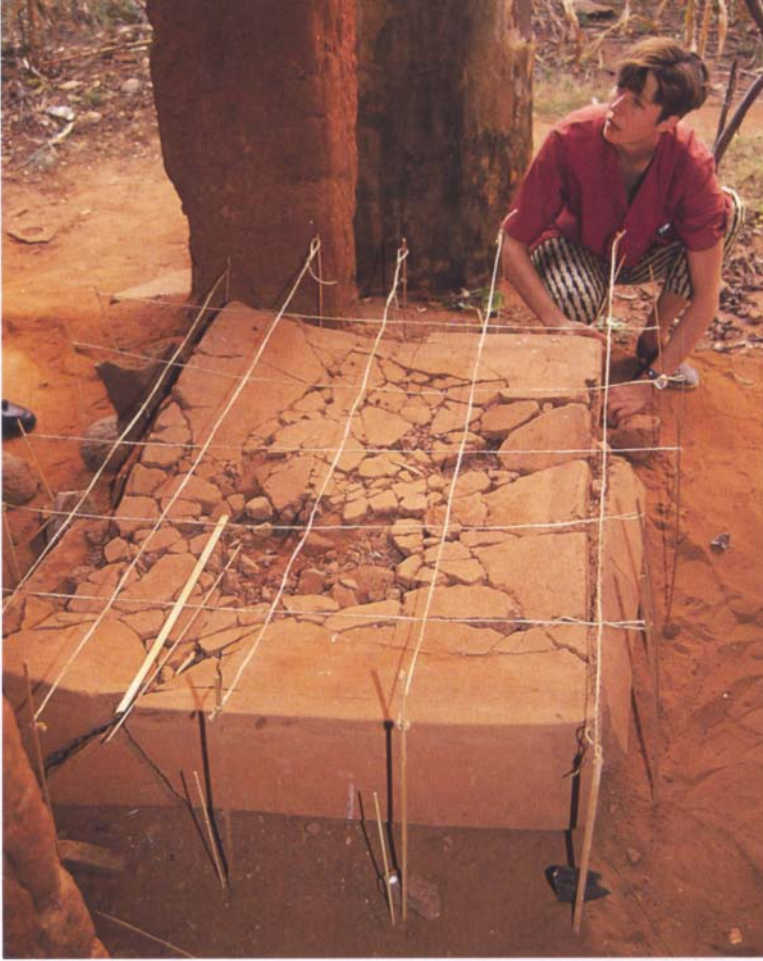
Filling cracks with earth mixture.

Photograph by Susan Middleton, 1995.



Inpainting—the process of touching up paint where the original is missing.

Photograph by Susan Middleton, 1995.



system, conservators placed the frame face up in the wooden box; then, piece by piece, they turned over the fragments and transferred them to their corresponding positions in the box. Finally, the identity of bas-relief number 46 was revealed—a crocodile with a fish in its mouth, used by King Glélé to remind his subjects that “no one can blame the crocodile for eating the fish.”

Only the fish was still attached to the earthen support, and the ground of the niche had been entirely overplastered, probably after detachment from the palace, with a mix of earth and cement. The added plaster had since come loose and broken into pieces. Conservators reassembled these pieces like a giant jigsaw puzzle to produce a silhouette outline, then assembled and attached the fragments of the relief figure’s shape within this form.

Once it was stabilized in the conservation workshop, local welders fabricated a new internal armature. This support



was covered with several layers of stabilized earth before the fragments were reassembled and attached to the base. The surface was then cleaned, and the flaking paint was fixed in place to the plaster surface. The final presentation of the bas-relief shows it in its fragmentary state on the new support.

The conserved bas-reliefs were either stored or exhibited, and a maintenance

The most seriously damaged bas-relief was hard to recognize. By consulting historical photographs, the team was able to identify and position this bas-relief while reassembling it.

Photograph top left by Francesca Piqué, 1994; top right by Leslie Rainer, 1994; middle by Susan Middleton, 1995; bottom by Susan Middleton, 1997.

Bas-reliefs before and after conservation treatment, which aimed not to restore them to their original state but to repair them and prevent further deterioration. It was also important to distinguish between original and new materials.

Photographs by Susan Middleton, 1994 and 1995.





plan was prepared to ensure their long-term survival.

For both the GCI and the Beninois, the Abomey project involved more than the conservation of a set of unique and historically important objects. The joint undertaking contributed to a growing local consciousness regarding the value of conservation—which in Benin comprises not only material objects but also such perfor-

mance media as ritual, music, and dance. In addition, the inclusion of a training component in the conservation project allowed Beninois museum and conservation professionals to acquire new skills. While some of these staff will remain at the Abomey site to ensure ongoing preventive treatment of the bas-reliefs, others will use their new knowledge at other sites with similar conservation problems throughout Benin.



The Historic Museum of Abomey

The Historic Museum of Abomey is a unique institution, not only because of its setting within the palace compound of the kings of Dahomey but also because of its extraordinary collection of Fon art. In addition to the bas-reliefs, its exhibits cover the range of artistic objects produced during the dynasty's long reign. The palaces of kings Guezo and Glélé, once off-limits to commoners, are now open to the public. Colorful bas-reliefs line the exterior walls of the kings' *ajalalas*, or reception halls, while various palace buildings house royal costumes, thrones, weapons, sculpture, appliqués, and sacred voodoo and ritual objects.

*Interior gallery of
reconstructed ajalala
of Glélé.*

*Photograph by
Leslie Rainer, 1996.*



*Artist working on
bronze mask.*

*Photograph by
Francesca Piqué, 1997.*

The original opening of the museum in 1945 was greeted with much enthusiasm. An English ethnographer, for example, called it “the first national museum . . . in West Africa housed in buildings stylistically suitable for the contents.”

Today visitors enter the museum through a small rectangular building that leads to the *kpodoji*, the exterior courtyard of King Glélé. Here they are greeted by an explosion of brightly colored textiles. Hand-crafted appliqués, tablecloths, woven textiles—along with bronzes and jewelry—crowd artisans’ tables along the southern edge of the courtyard, where museum tours begin. Traditionally, these wares were not sold within the palace grounds. However, the Fon were always known for their art, and, in fact, both appliqué and brass and silver artists were retained by the kings to help glorify the monarchy. The popular open-air market celebrates the many varied art forms being fashioned in Benin today.

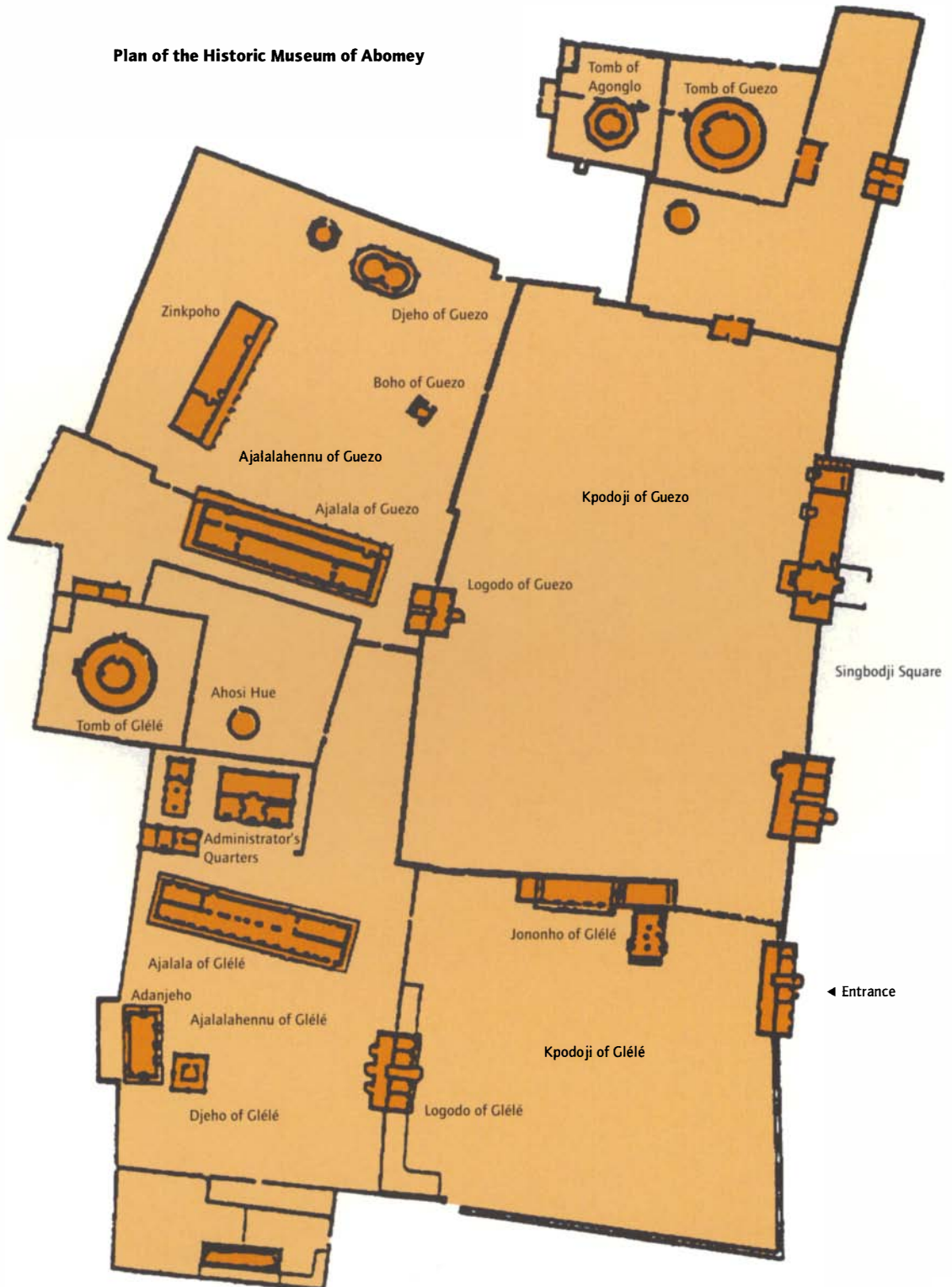
On the northern edge of the courtyard, Glélé’s *jononho*—the reception hall where, more than one hundred years ago, he received foreign visitors—houses an exhibit covering the history of Dahomey. Maps show the migration of the early



*Reconstructed palace
of Glélé. Visitors
can compare the
replica bas-reliefs
seen here with the
conserved originals
on display inside.*

*Photograph by
Susan Middleton, 1996.*

Plan of the Historic Museum of Abomey



Dahomeans and the subsequent expansion of the kingdom.

Glélé's *logodo*, where the king once met with his council, connects the outer and inner palace courtyards. It houses models of the royal palace compound. Straight ahead, through the interior courtyard, lies the *adanjeho*, with an exhibit of military objects and regalia—*makpos*, ceremonial swords, other weapons, and costumes.

To the right is Glélé's *ajalala*, where costumes, appliquéés, and royal parasols, as well as gifts offered to the kings by visitors from other countries, are on display. The facade is adorned by fifty-six new bas-reliefs, carefully wrought replicas of those that decorated the original structure. Those on the top row show the king's arsenal: *recades* (messenger sticks), *makpos*, hatchets, swords, *goubassa* (the ritual sword of Gu, god of war), and rifles. The middle



Museum exhibits include royal jewelry, above, and ceremonial recades, left.

Photographs by Francesca Piqué, 1997.



Appliqués at artists' market.

Photograph by Susan Middleton, 1997.

row depicts battles, scenes of enemies being tortured, and royal allegories. Along the bottom row are bas-reliefs depicting Glélé's symbol of strength, the lion.

Some of the conserved original bas-reliefs from Glélé's ajalala are exhibited in the former quarters of the French colonial administrator, where they are protected from the elements. The exhibit also presents information about preservation efforts from the early 1900s onward, describes the bas-reliefs' removal from the palace walls, explains the iconography of their scenes and symbols, and documents their recent conservation. Bas-reliefs not on display are kept in long-term storage; they constitute an important archive of information about the Dahomey kingdom.

Visitors to the museum can view other palace buildings from the times of Guezo and Glélé—buildings to which not only commoners but also important

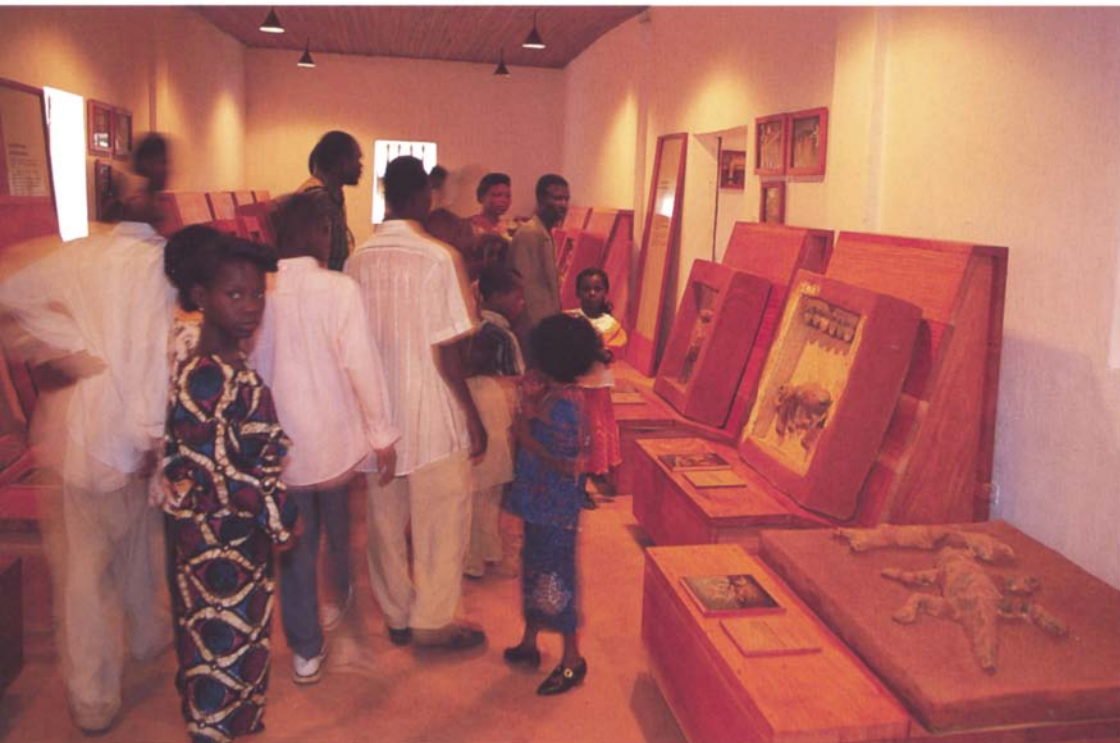


Funerary symbol and sculpture on display in museum.

Photographs by Francesca Piqué, 1997.

Museum visitors view exhibit of conserved bas-reliefs.

Photograph by Susan Middleton, 1997.





*Voting in presidential
election outside
the palace of Glélé.*

*Photograph by
Leslie Rainer, 1996.*

visitors, as well as the most noble-born Dahomeans, never would have gained admittance: the small *boho*—or power house—of King Guezo; the *djebo* (spirit house) where his soul is said to rest; the sacred tomb of King Glélé; and the collective tomb (*ahosi hue*, or house of the king's wives), where the forty-one wives who followed Glélé to the afterlife are buried.

The palaces are also the site of ongoing ceremonies—civil, religious, and royal—many of which are presided over by the Fon people's current royal guardian, King Agoli-Agbo III of Abomey, who lives outside the royal compound. Several of the kings' wives—royal descendants who reside on-site—make offerings every four days to the souls of Dahomey's ancestral rulers, thereby keeping alive the tradition of connecting to those who have traveled to the next world.



“Our colleagues tell us that this is not a museum,” says Rachida de Souza-Ayari, former director of Benin’s Department of Cultural Heritage, “since the objects, though they are inventoried, continue to be used. . . . We believe that this site lives through the existence of its material culture—its buildings, its objects, its bas-reliefs—and its non-material culture, which is its most important dimension.” At the museum, history, culture, art, ritual, and commerce intersect in a space that is both sacred and secular, at a time when centuries-old art forms are being both preserved and reinvented.

Royal dancers performing at ceremony in palace compound.

Photograph by Susan Middleton, 1997.





A Living Tradition

From its historical origins as religious art, and then as the official art of the Dahomean royal monarchy, the bas-relief has in recent years blossomed into a popular and versatile artistic vernacular. In contemporary Benin, bas-relief art complements other traditional practices. In addition to the works in the Abomey palace compound, newly fashioned examples of the form—both secular and religious—can be found throughout the country. As practiced by various Beninois artists, the art encompasses a wide range of subject matter—from traditional royal symbols to commercial iconography, from religious and folk imagery to the epic themes of African history.

*Contemporary artist
Cyprien Tokoudagba,
assisted by his son,
making bas-relief on
Abomey market wall.*

*Photograph by
Susan Middleton, 1996.*





In Benin today, there are a number of artists working in the bas-relief form and related sculptural media. To a large extent, their craft is based in traditional techniques, which have been enhanced by recent discoveries of new materials. For example, the replica bas-reliefs on the reconstructed palace buildings of Guezo and Glélé in the Historic Museum of Abomey include a small amount of cement—rather than the traditional palm fibers—to stabilize and enhance the material’s ability to withstand climatic conditions. And other bas-reliefs are often made wholly of cement rather than of the traditional earth. Also, rather than preparing their own dyes from natural pigments, today’s artists generally use commercially available synthetic paint.

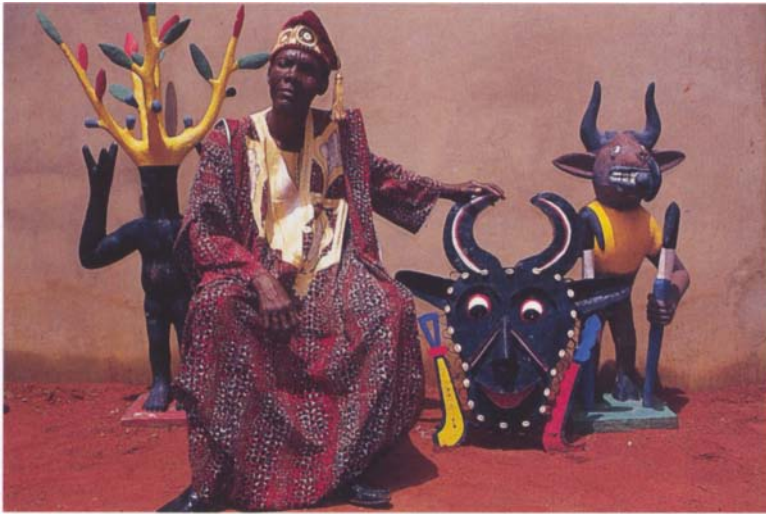
These artists pass their knowledge along to new generations of apprentices—often from the same family—who today, as in centuries past, form a sort of guild. In keeping with this practice, one of the

Current artists execute traditional themes in a contemporary fashion, such as in this bas-relief by Tokoudagba and his family on wall surrounding Abomey market.

Photograph by Susan Middleton, 1997.

Opposite: Johnny Walker bas-relief at CoEco Bar, by contemporary artist Yves Pédé.

Photograph by Susan Middleton, 1997.



Cyprien Tokoudagba with several of his sculptures, which depict various deities and other folk figures. His art has been exhibited at the Pompidou Center in Paris.

Photograph by Susan Middleton, 1996.

Sculpture by Cyprien Tokoudagba in the Sacred Forest, known as the home of voodoo spirits, near Ouidah.

Photograph by Susan Middleton, 1994.



best-known artists in Abomey, Cyprien Tokoudagba, is joined in his work by various family members. In a break from traditional guild practice, in which only men worked on bas-reliefs, Tokoudagba's wife and daughter also participate in such endeavors as the creation of the replica bas-reliefs now displayed in the Historic Museum of Abomey.

Tokoudagba's art draws from the cultural and historical imagination of the Fon people. His bas-relief depictions of the traditional iconography of the Dahomean monarchy also decorate various public places in Abomey, attesting to the enduring power these images exercise in the popular imagination. Other creations range from whimsical polychrome statuettes and small bas-relief plaques to reinforced concrete statues and wall paintings that decorate a number of temples throughout the city.



The arrangement of bas-reliefs on the Toffo monastery near Abomey is reminiscent of the royal palaces.

Photograph by Susan Middleton, 1998.

The monastery bas-reliefs depict biblical scenes, such as Adam and Eve in the Garden of Eden.

Photograph by Susan Middleton, 1998.

One of the best-known works of the sculptor and architect Ayi, another contemporary master, is the chapel of the Toffo monastery, near Abomey. Here, bas-reliefs adorn columns lining an inner court, forming an integral architectural element in much the same way they did in the palaces of the Dahomean kings. The chapel bas-reliefs depict scenes from the Bible: one shows the Creation of the world, for example, while another represents the myth of the Garden of Eden with a black Adam and Eve.

Yves Pédé expresses both traditional and contemporary themes on appliqués and bas-reliefs. He is the first artist to create popular depictions of voodoo priests and dancers—images that had previously been restricted to royal palaces and religious temples. Pédé's bas-reliefs depicting the symbols of Dahomey's traditional kings are on the walls of hotels and restaurants throughout the country. Contemporary symbols—





Bas-relief of Hevioso, voodoo god of thunder, on the palace of Guezo. One of the powers of the thunder gods is to strike dead by lightning those who work the fields on the day commemorating a great battle.

Photograph by Susan Middleton, 1994.

Voodoo

While about one-third of the people in Benin are Christian or Muslim, the majority believe in animism—the doctrine that spirits exist separately from physical bodies. Whatever their religion, however, they commonly practice voodoo. Rooted in ancient beliefs, voodoo was born among the Fon, Ewe, and Yoruba peoples of the Guinea Coast. The

Fon incorporated gods of conquered tribes into their own pantheon, creating an ever-evolving animist religion. In the New World, this belief system evolved into voodoo, as transplanted West African slaves incorporated elements of Christianity and European folklore into their native beliefs.

The practice of voodoo is based on a belief in the existence of hundreds of spirits, each with unique supernatural powers. Such deities as sky gods, thunder gods, earth gods, fate gods, and ancestor gods dwell everywhere, connecting the earthly realm to the spirit world. “You couldn’t begin to count the voodoo gods,” cautions Suzanne Preston Blier, professor of African art history at Harvard University. “There may be two thousand, there may be two hundred thousand.” They protect

against evil forces and play a role in every conceivable aspect of daily life. In the modern world, for example, Gu, the ancient god of iron, exercises dominion over automobiles. However, observes Blier, “the Gu dwelling in your car would be different from the one dwelling in mine.”

Voodoo worship typically takes place in a fetish temple. Ritualized worship of the spirits or fetishes of ten involves blood, animal sacrifice, dance, and—perhaps most dramatically—trances in which a god is said to take possession of a devotee’s body.



Voodoo ceremony in private house.

Photograph by Francesca Piqué, 1997.



Temple at Tinji, outside Abomey.

Photograph by Susan Middleton, 1997.

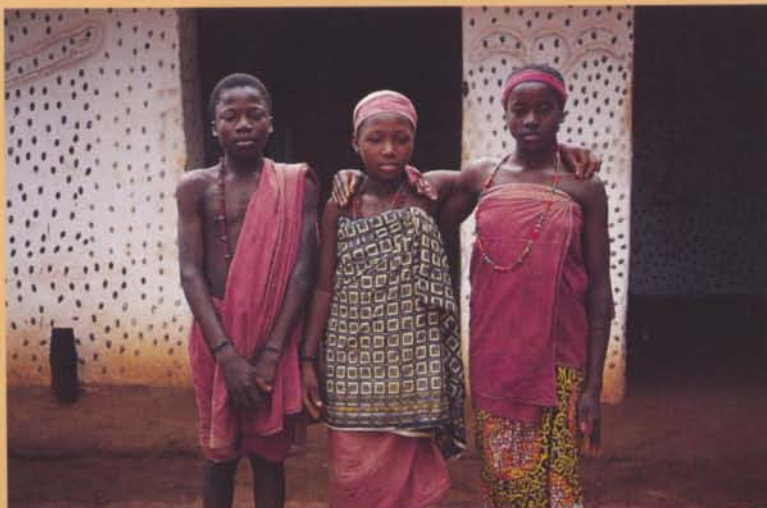


*Hut in honor of
voudou spirits, with
wall paintings.*

*Photograph from report by
René Le Herissé, 1911.*

*Voudou priest
and priestesses at
Temple of Sakbata,
near Abomey.*

*Photograph by
Francesca Piqué, 1997.*





such as the locally celebrated white horse at a popular Abomey bar and the abstracted relief figures at an Abomey hotel—also demonstrate the medium’s versatility.

Bas-relief art can be found elsewhere throughout the country as well. Its scope is particularly evident in the Gate of No Return, a national monument at the end of the Slave Road in Ouidah, the seaside town conquered by the Dahomean monarch Agaja in the early eighteenth century—and which, until the late nineteenth century, served as a center of the West African slave trade. The monument, a collaborative work by artists from both Benin and neighboring countries, features an immense arch with bas-relief decoration, as well as various free-standing sculptures.

The monument’s design and historical subject matter embody the tradition of visual storytelling central to the bas-relief form since the first works were commissioned by Dahomean kings in the eighteenth century. Here, however, history is told not on palace walls but against an immense natural backdrop of earth, sea, and sky; and the purpose is not to glorify the exploits of the Dahomean monarchy but to acknowledge the countless thousands of Africans deported in slave ships to the New World—including those sold to European slave traders by the Dahomean kings themselves. The monument was commissioned by Unesco and the government of Benin to commemorate the historical truths of the slave trade; it is one of the country’s most visited sites.



White horse bas-relief by Yves Pédé at the Fifth Dimension bar in Abomey.

Photograph by Susan Middleton, 1997.

The artist Yves Pédé in the courtyard of Hotel Guedevy.

Photograph by Susan Middleton, 1997.



Modern bas-relief at the CoEco Bar.

Photograph by Susan Middleton, 1997.



The saga of the Abomey bas-reliefs suggests how conserving the art of the past can illuminate the art of the present by affording a deepened understanding of the history and traditions that nourish it. In Benin today, the practice of bas-relief art serves as an homage to the Dahomean dynasty of centuries past as well as a way of perpetuating and celebrating Fon culture in spite of the vicissitudes of history. One hundred years after the end of the kingdom of Dahomey, the art of the Dahomean kings has become the art of the Beninois people.

Gate of No Return, Ouidah. In addition to honoring the memory of the Africans shipped into slavery, the monument is dedicated to their descendants living throughout the world today.

*Photograph by
Leslie Rainer, 1997.*