The eighteenth-century emperor Qianlong (r. 1736–1795), China’s longest-reigning monarch, is among the most illustrious figures in that nation’s history, renowned for his intellectual curiosity, unparalleled connoisseurship, and patronage of the arts. Determined not to out-reign his grandfather, Kangxi, as a sign of respect, Qianlong planned to retire in 1792, at which time he would move into a compound, known as the Qianlong District in the northeast quadrant of the Forbidden City, which he had built for his personal use. Within the compound, which is composed of 24 buildings linked by four gardens, is the Lodge of Retirement, an extraordinary two-story pavilion the emperor planned to occupy once he passed the throne to his eldest son. Despite his intentions, Qianlong continued to reign for another three years.

Qianlong spared no expense in building the Lodge, commissioning the best artisans of his day, many from provinces in southern China, to decorate its rooms, which include an audience chamber and a private theater on the first floor and a series of smaller rooms on a second floor for activities such as reading and calligraphy. In their opulence and extravagance the Qing interiors of the Lodge of Retirement represent the epitome of Chinese design of that time with their painted faux finishes, carved jade insets, bamboo thread marquetry, and inner-skin bamboo carving. Silk panels embroidered on both sides so that no knots are visible are mounted within window frames that serve as light-transmitting interior dividers. Printed pattern wallpapers cover the walls of the small rooms and paintings are mounted directly to these walls. Of particular importance are the trompe l’oeil murals covering the interior walls and ceiling of the theater. The paintings, which cover a surface area of approximately 250 square meters, exhibit a Western influence and perspective, especially in the rendering of wisteria, which appears to hang freely from the ceiling. The murals are unique not only in the Forbidden City, but the whole of China, as no other examples of such scale and execution are known to have survived. Mural paintings such as these, however, inspired works produced in south China in the mid to late eighteenth century and later emerged as the exported paintings and wallpaper seen in Europe and the United States.

The Lodge of Retirement has remained largely untouched in the years since China’s last emperor was expelled from the Forbidden City in 1924.
and has been seen by only a few since then. In 1925, the Forbidden City was opened to the public as the Palace Museum for the first time since its founding in 1421; however, the Qianlong District was off limits to visitors. Over the centuries, the Lodge’s interior decoration had disintegrated or fallen into a serious state of disrepair. In particular, the paintings on paper and other fragile finishes have suffered from both a high level of humidity and lack of heating during winter months.

In 2003, WMF, in partnership with the Palace Museum, embarked on a multi-million-dollar restoration of the Lodge of Retirement, slated for completion just in time for the 2008 Summer Olympics in Beijing. A key component of the project is a program of cultural and technical exchange between American and Chinese museums and conservation specialists to establish the best possible methods and materials to use in the Lodge restoration and to aid the Palace Museum in developing the capacity to carry out state-of-the-art conservation work in years to come.

Critical to carrying out the restoration of the Lodge, however, is the ability to source materials and replicate artistic techniques, some of which were until recently thought not to have been practiced in China for decades if not centuries. Among these are the manufacturing of handmade sangpi backing paper, made from the inner fibers of the mulberry plant—perhaps the single most important conservation material that will be used in the project. It is also important to identify those skilled in intricate woodworking, and the rare arts of bamboo thread marquetry and inner-skin bamboo carving.

When WMF and the Palace Museum announced the joint project and its conservation challenges, we were delighted by the overwhelming response it elicited from artisans, particularly from provinces south of Shanghai, who were eager to offer their expertise and participate in the restoration. Officials from Anhui and
Zhejiang—along with almost 20 other cities and provinces—called to say that some of their citizens still practiced the craft traditions we were seeking. In retrospect, this should have come as no surprise as research into the Imperial Household Archives for the Qianlong period revealed that the emperor had imported many of the elaborate interiors in the Lodge of Retirement and the other buildings in the Qianlong District from these very regions, which were centers of papermaking and woodcarving during imperial times.

In December of 2004, WMF Vice President for Programs, John Stubbs, myself, and several of our consultants embarked on a week-long mission to southern China, venturing into remote villages of this region where crafts were still practiced as they have been for centuries—largely as handicrafts, with no mechanization or modern equipment. Our itinerary included a 13-hour overnight trip from Hefei to Hangzhou on a “hard sleeper” train—a perfectly apt description of a spartan yet functional rail car that sleeps 60 in 20 rows of bunk beds each three beds high, with toilet facilities on either end. This would be followed by a five-hour van ride into the nearby mountains.

Of primary importance was to find a source for the sangpi backing paper, which would be used to reinforce the fragile restored silk and trompe l’oeil scenes in the private theater before they are remounted in the room. Many layers of the paper would be used to prepare the wall surface upon which sections of the murals will be mounted.

The paper must meet strict conservation standards of pH, folding endurance, content, fiber length and distribution, and uniform thickness and weight. Its quality will determine how well and how long the restored murals will endure. Although modern conservation-grade paper similar to sangpi is readily available from Japan, where sheets of varied nomenclature are made from the kozo fiber, the Palace Museum was reluctant to see this as an option, as it wanted to restore the Lodge using native products and craftsmanship. WMF agreed that promoting the production of high-quality hand-made papers in China would be a desirable component of the mural conservation project.

While this region of China once had scores of papermakers, only a handful remain today. There are still several good quality sources for the more widespread and short-fibered xuan paper used as a painting support; however, handmade sangpi paper is no longer readily available. Using original 230-year-old fragments

TO MAKE SANGPI BACKING PAPER, MULBERRY BRANCHES ARE BOILED TO SOFTEN THEM AND THEN THEY ARE PICKED CLEAN OF SURFACE DEBRIS AND IMPURITIES BY HAND, TOP LEFT. CLEANED FIBER IS WASHED IN STREAMS OF COLD FRESH-FLOWING WATER THEN BEATEN INTO A PULP WITH FOOT-OPERATED HAMMERS, TOP RIGHT. THE PENULTIMATE PAPERMAKING STEP, ABOVE, IS THE CREATION OF FLAT SHEETS USING SCREENS, A TECHNIQUE USED SINCE IMPERIAL TIMES. SHEETS OF PAPER ARE THEN PLACED ON LARGE STONE WALLS TO DRY IN THE SUN.
of sangpi paper from the Lodge as a reference, Mr. Yu Yifu, a papermaker in the mountain village of Tan Ban in Guan Zhuang, Anhui Province, was commissioned to produce samples that matched the fiber type, sheet size, weight, color, screen pattern, and fiber distribution of that used more than two centuries ago.

A laboratory analysis of Mr. Yu's samples revealed that his paper had approximately 20 percent lignin that contained wood pulp, which he had added to give the paper a tone more similar to the historic sample he was sent after observations that his earlier sheets appeared too white. Lignin containing wood pulp seriously compromises the durability of paper when used as a source of cellulose, the primary constituent of virtually all historic papers, by contributing to the generation of a low pH or high acid content. This, in turn, leads to the hydrolysis of cellulose and the shortening of the structural matrix, which causes fibers to become fragile and the paper to weaken.

While the first samples produced by Mr. Yu were not of the quality desired, they did indicate that he could in fact produce suitable paper with just a little coaching. Conservation specialists T.K. McClintock of Studio TKM in Boston, MA; Sondra Castile and Takemitsu Oba of the Metropolitan Museum of Art in New York; and WMF consultant Brigitte Yeh worked with Mr. Yu to improve upon his papermaking methods by more efficiently cleaning the bark residue from the fibers, eliminating clumps by teasing the fibers apart during cleaning, washing fibers in clean running water, and beating the pulp to promote more even distribution of the fibers during sheet formation. Within months Mr. Yu’s paper met conservation standards. His artisanal product, produced in the mountains of one of China’s southern provinces, will soon find its way on the walls of the Lodge of Retirement.

Inner-skin bamboo carving and bamboo thread marquetry, which reached their highest form during the Qianlong era, are two of the most difficult crafts.
to replicate. The conservation plan called for any damaged surviving material to be softened by steam or solvents for re-adhesion and missing material to be replaced. For production of the bamboo thread marquetry and inner-skin bamboo carving, suppliers in Huan and Gengzhou provinces were located and visited. Master He Fuli in Dongyang, a renowned wood craftsman and artisan, is expert in the production of the inner-skin bamboo carving and bamboo thread marquetry found in abundance particularly in the audience chamber of the Lodge. However, his work is geared for production of new products that use these materials. His challenge, and that of the project, is to adapt his craft as currently practiced and apply it in a conservation context.

We also visited Mr. Lu Guangzheng, an accomplished wood carver who runs a studio in Dongyang and who is nationally recognized for making highly prized large-scale carved wood murals. To create one of these masterpieces, the draftsman first draw finely detailed scenes using ink on paper. These preparatory drawings, free-hand compositions of natural scenery, ancient folk tales, or modern allegories are in themselves works of art. The drawings are then pasted onto large wood planks and become the cartoons that guide the carvers as they begin making incisions chiseling into the wood.

The least-experienced carvers do the initial blocking out of the forms. Each successive layer carved deeper into the wood is executed by gradually more senior craftsmen who create the voids that make the leaves, branches, and flowing robes that stand out from the background slab. The deepest and most intricate surfaces are reserved for most experienced carvers. With the extraordinary depth of field exhibited by the carvings, their subjects appear to float. The studio also runs an apprenticeship program where local students train and learn the crafts as part of their education, and if they are good enough, may join the studio after graduation.

As a result of our mission, the Palace Museum now has native sources for these important conservation materials, which it can employ for future restoration projects. Our next challenge, however, will be to find artisans skilled in double-sided embroidery and the carving of jade for the numerous insets. The journey continues.