Architect of the Capitol

Peace and Architecture, Brumidi Corridors (West Corridor).

A section of overpaint remains on the face of Peace, *left*, and shows alterations made to Brumidi's murals in the 19th and early 20th centuries.

Uncovering the Historic Roots of Brumidi's Decorations

An Interview with Conservator Christiana Cunningham-Adams

With deft turns of a steel surgical scalpel, fine art conservator Christiana Cunningham-Adams removed thick layers of disfiguring overpaint from the wall murals in the Brumidi Corridors and discovered the exquisite artistry of Constantino Brumidi hidden underneath. Her initial test of the murals, followed by a one-year technical study in 1993, developed into a major conservation project to restore the Brumidi Corridors to their original appearance. The murals had been sorely compromised by more than a century of age, damage, and alterations by later artists in the form of heavy overpaint. Through Cunningham-Adams' perseverance and skilled hand, the integrity of the mural designs has reemerged and has paved the way to a renewed appreciation of the technical and historical character of Brumidi's painting. In an interview with the Office of Senate Curator, Cunningham-Adams shares her professional experience and unique insights as principal conservator of the Brumidi Corridors restoration effort.[1]

***Office of Senate Curator:* Restoring the Brumidi Corridors to their original appearance is a monumental task that has already taken nearly two decades and is slated to take five more years to finish. Why has it been important to undertake this project at the Capitol?**

Cunningham-Adams: The project is important for many reasons. The original artwork that we have been uncovering reveals highly refined artistic effects that have been hidden for more than a century. By recovering the aesthetic sophistication of Brumidi's original artwork, the restoration also reveals what I believe was the original intent—for the decoration to connect our new democracy with some of history's highest cultural achievements. In creating his ornamental program for the walls and ceilings of the Capitol, Brumidi referenced a decorative tradition fashioned more than 2,000 years ago by the ancient Romans. Revived and modified by artists in the Italian Renaissance of the 15th and 16th centuries, and again in the neoclassical era of the 18th and early 19th centuries, the historic decorative style was further tailored to America with Brumidi's own inspired interpretation. The connections to antiquity are more vividly apparent now that conservation has removed the layers of overpaint that obscured Brumidi's murals and his artistic vision for these public spaces. The original beauty and sophistication of the decoration is thus being recovered with the restoration project, and conservation is giving back the Capitol interiors their true quality and context.

What was Constantino Brumidi's background, and how did he come to undertake the challenge of decorating the Capitol interiors?

Born in Rome in 1805, Brumidi showed artistic talent as a child. At the age of 13, he entered Rome's prestigious art school, the Accademia di San Luca, where he studied for 14 years. He developed technical proficiency in classical painting and sculpture and was awarded prizes for his outstanding abilities. Brumidi enjoyed a successful career as an artist and decorative painter in Italy. However, in 1851, he was arrested for what was regarded as revolutionary activity during a period of political upheaval in Rome. The pope pardoned Brumidi and allowed him to immigrate to the United States in 1852. Arriving in New York City, Brumidi started a new chapter in his life. He learned of the need to decorate the Capitol extension, which was then under construction, and came to Washington, D.C., in 1854 to inquire about employment. Montgomery C. Meigs, supervising engineer of the Capitol extension, had a preference for decorating the House and Senate wings with the "European style," so when Brumidi presented his credentials to Meigs, he was the right person in the right place at the right time.

George W. Adams

Putti, Brumidi Corridors (North Corridor).

Brumidi's style is evident in even the minutest details of his murals, such as the diminutive putti with their graceful stance and the scrolling vines that delicately frame the figures.

Cunningham-Adams

Left: **Ceiling mural, Brumidi Corridors (Zodiac Corridor).**

Above left: **Ceiling mural, Palazzo Vecchio, Florence, Italy, 16th century.**

Above center: **Wall mural, Villa Poppaea, Oplontis, Italy, 1st century B.C.**

Above right: **Wall mural, Brumidi Corridors (West Corridor).**

Brumidi's wall and ceiling murals in the U.S. Capitol reference the motifs and designs typical of ancient Roman and Renaissance decorative work.

What was it that made Brumidi the right person to decorate the Capitol's interiors?

When Brumidi immigrated to the United States at 47 years of age, he was a mature artist with a wealth of experience and technical skill. Brumidi had designed and executed large-scale decorative programs for some of Rome's expansive neoclassical villas and palaces and had also worked at the Vatican Palace in the 1840s for Pope Gregory XVI. Brumidi's expertise struck a chord with Meigs, who envisioned classical-style designs for the artwork in the Capitol's interiors. Brumidi was the right person for the job of ornamenting the rooms and corridors in the U.S. Capitol because he was thoroughly familiar with classical and Renaissance motifs, patterns, and techniques.

Why was extensive conservation necessary in the Brumidi Corridors?

As Brumidi's wall and ceiling murals darkened and dirtied due to age and environmental damage, they were periodically "refurbished" during the 19th and 20th centuries. However, instead of cleaning the murals, the painters who did the touch-ups simply repainted the historic murals by matching the increasingly dirty and discolored surfaces. This practice eventually buried Brumidi's work under layers of added paint that reflected little of the original quality. Brumidi's painting has a lyrical beauty and technical competence that compares with ancient Roman and Renaissance decorative work of the same genre, and conservation of the murals has helped uncover the exceptional skill of Brumidi and his team of artists.

George W. Adams

Restored wall murals in 2004, Brumidi Corridors (North Corridor).

The extensive wall mural conservation project involved plaster consolidation, overpaint removal, stabilization and infilling of losses in the original paint layer, and finally, varnishing of the corridors' 153 panels.

How do you and your team of conservators restore Brumidi's murals?

The restoration methods depend on the medium as well as the condition of the murals. Brumidi employed a range of paint media in his work at the Capitol, from delicate water-based tempera to more durable oil emulsion tempera and fresco. We spent well over a decade to work our way systematically through the elaborate wall murals in the Patent, North, and West Corridors (including the North Entry), and then the Zodiac Corridor. In the long North Corridor, for example, it appeared that Brumidi had used a type of lime wash fresco, in which many of the murals' details were painted onto a wet layer of calcium hydroxide, or slaked lime. Some of the details painted onto the white lime background were then rendered brighter with colors added in tempera. In other corridors, it appeared that the wall murals were painted in oil emulsion tempera. The strong and flat surfaces that Brumidi produced with these types of paint media allowed our conservation team to use surgical scalpels to carefully slice away the added layers of overpaint. We found that the masterful brushwork, limpid colors, and exquisite detail in Brumidi's decorations were often hidden by six or more layers of overpaint, and that in many cases, the original surfaces were largely intact and recoverable.

The process of conserving these types of murals demands that a conservator focus on a surface area of only two to three inches at a time, which requires strict concentration, patience, and precision. We cannot remove the overpaint with solvents because the layers of overpaint are too thick or we might stain the original surface by putting the overpaint into solution.

When we find deteriorated areas in the original surface, such as flaking paint or old scratches and gouges, we stabilize these damaged areas, fill the depressions with a fine putty of gesso, and then retouch the puttied fills with watercolors. We prefer to use watercolors because they are chemically stable and easily reversible, if necessary. Also, the delicate transparency of watercolors best simulates aged paint that becomes somewhat transparent over time. We do not repaint the original surface in cases like this, but instead merely repair areas where paint is missing. Finally, we apply a matte varnish that seals the retouching and provides protection from the environment and from the damaging effects of human hands that might touch the walls.

Library of Congress Prints and Photographs Division

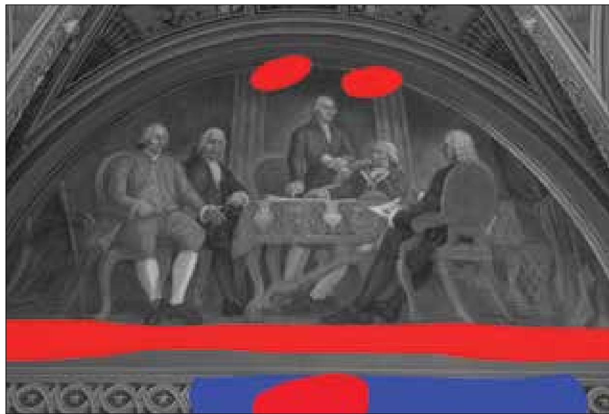
Right: **Charles Whipple repainting the Brumidi Corridors, ca. 1920.**

Below: **Conservation test exposure showing overpaint layers and original mural designs, Brumidi Corridors (North Entry).**

Overpaint altered the appearance of the murals in the Brumidi Corridors. Numbered arrows indicate the six layers of overpaint applied successively over a century to the original surface.

Architect of the Capitol

Unlike the walls, the ceilings in the Brumidi Corridors were painted in tempera, a very delicate, porous medium. Where oil-based overpaint was applied to the ceiling murals, it penetrated the tempera, sometimes producing an irreversible bond. In some of these areas, we have had to replicate the original effects on top of the later overpaint, in order to recover the aesthetic character of the 19th-century decoration.



George W. Adams

Before addressing the paint layers in the murals, however, we first examine and treat instabilities that we detect in the underlying plaster. We evaluate and document the different types of plaster failures, including the breakdown of the plaster itself or its failure to adhere to the architectural substrate. We then fortify any deficient areas to restore the integrity of the walls or ceilings supporting the paintings.

Our conservation team's engineer, George W. Adams, developed a consolidation technique tailored to the particular plaster deficiencies found in the Brumidi Corridors. The system—essentially a reservoir of consolidant connected to the substrate by a tube—allows infusion of the consolidant into the plaster at a controlled and slow rate of pressure. This delivery system enables the plaster to more thoroughly accept the consolidant. As the mural's support, the plaster and its condition are essential in securing the continued preservation of the painting.

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Above left: **Plaster instabilities identified in *The Signing of the First Treaty of Peace with Great Britain*, fresco, 1874, Brumidi Corridors (North Corridor).**

The condition of the underlying plaster is determined so that any deficiencies can be stabilized. Indicated in red are areas where the plaster detached from the architectural substructure, requiring consolidation. Indicated in blue are areas to monitor.

Left: **Christy Cunningham-Adams addressing overpaint removal on a tempera ceiling mural, Brumidi Corridors (Zodiac Corridor).**

Cunningham-Adams has devoted the greater part of two decades to restoring Brumidi's murals in the Capitol.

Architect of the Capitol

Fruit cluster before conservation, overpainted with a pair of bananas and additional grapes, Brumidi Corridors (West Corridor).

Fruit cluster after conservation, restored to the original mural with peppers, Brumidi Corridors (West Corridor).

Bananas in the Brumidi Corridors

Late 19th- and early 20th-century attempts to repair and restore the Brumidi Corridors resulted in overpainted surfaces that altered the character of the historic, mid-19th-century murals and changed many of Brumidi's original details. A conservator's trained eye often detects these stylistic or technical differences between overpaint and original work, even before testing the paint surfaces. In 2008, conservator Christy Cunningham-Adams observed that a pair of ripe bananas in the West Corridor looked out of proportion in a panel depicting bountiful clusters of fruit. She removed the layers of overpaint and discovered that the bananas had been a later addition to the mural. Brumidi's original painting, hidden under the bananas, depicted peppers, whose smaller size better suited the composition.

Most Americans had not seen a banana in the 1850s, when Brumidi and his team of artists painted the Brumidi Corridors. The 1876 Philadelphia Centennial Exposition officially introduced the fruit to the American public and offered fairgoers a chance to buy this exotic curiosity for 10 cents. In subsequent decades, the establishment of railroads and banana plantations, as well as improved shipping methods for this perishable commodity, made bananas so widely available that, by 1910, the littered peels were considered a public nuisance.

Cunningham-Adams speculates that a crack in the wall plaster near Brumidi's peppers may have resulted in a subsequent artist's painting over the repaired fissure, as well as the original peppers, with the longer and more "modern" bananas.

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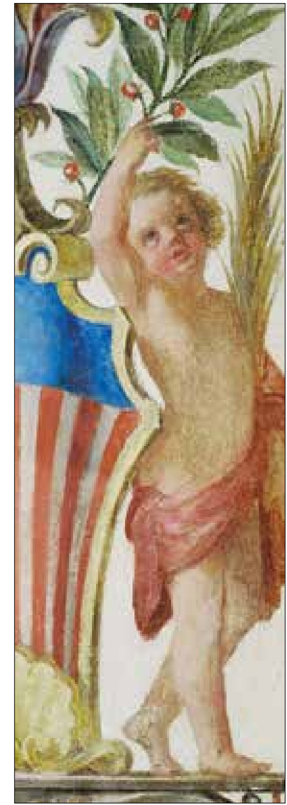


Architect of the Capitol

A putto before and after conservation, Brumidi Corridors (North Corridor).

Before conservation, overpaint gave the putto a cartoon-like appearance, *left*. The greater refinement of the original putto's face and modeled forms can be seen after conservation, *right*.

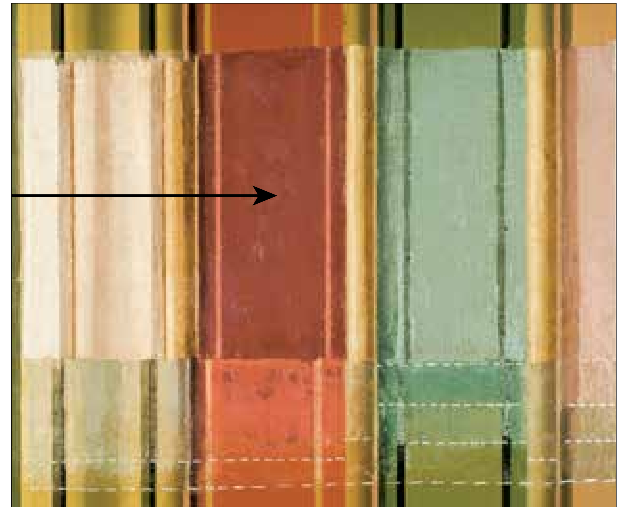
Left, top to bottom: **Groundhogs before, during, and after conservation, Brumidi Corridors (West Corridor).**

Conservators documented the restoration of this mural depicting a pair of groundhogs. Before treatment, *left top*, overpaint introduced teeth and heavily rimmed eyes. After removal of overpaint, *left center*, paint losses in the original mural are evident. The same detail is shown after careful inpainting of the paint losses, *left bottom*.

What is it like to work at such a close range on a painting?

Studying an artist's paintings as closely as conservation treatment requires certainly does allow us to develop an understanding of Brumidi's techniques and style. This familiarity makes it easier to discern alterations to the original artwork. We estimate that over the past 140 years, 6 major restoration campaigns have been carried out on the Brumidi Corridors' wall murals. Not every inch of surface was repainted in each campaign. Generally, the decorative detail was found with three layers of overpaint, while the backgrounds were repainted five to six times.

Because Brumidi's murals reference a well-established style, overpaint stands out to the trained eye if it has compromised the integrity of the artwork. For example, the fire-engine red frequently used as overpaint in the Brumidi Corridors looks incongruous because one would expect "Indian red" instead, a natural mineral color that was used since ancient Roman times in such instances.



Architect of the Capitol

Conservation test exposure, Brumidi Corridors (North Corridor).

Removal of overpaint in a test window shows color and proportion changes introduced by later overpaint. Arrow indicates the traditional "Indian red" buried under fire-engine red overpaint.

Below: **Original surface versus color shift with five layers of overpaint, Brumidi Corridors (West Corridor).**

With each repainting of the murals, color shift gradually occurred. Here, overpaint eventually transformed the white and light pink background to a dull yellow and made the details darker, heavier, and uncharacteristic of Brumidi's original painting.

Architect of the Capitol

George W. Adams

Villa Arianna, Stabiae, Italy, ca. 80 B.C.

This example of ancient Roman wall painting shows the type of color palette, marbleizing, trompe l'oeil panels, and illusionistic architectural elements that Brumidi referenced in his mural designs for the Brumidi Corridors.

How did the traditions of antiquity influence the murals in the Brumidi Corridors?

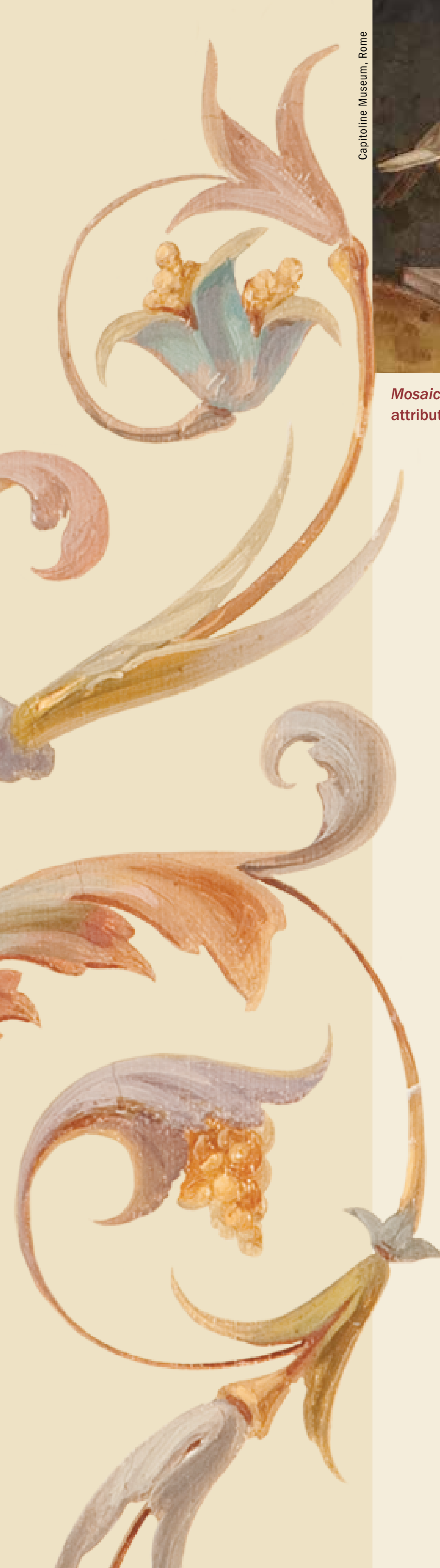
The rich tradition of classical wall painting can be seen in the overall design layout, the decorative patterns, and many of the motifs in the Brumidi Corridors. The painting style and subjects fashioned by the ancient Romans influenced artists like Brumidi, who looked to antiquity and its revivals to embellish the walls and ceilings of contemporary public and private buildings.

In the third century B.C., the ancient Romans drew from Egyptian and Hellenistic traditions to develop a painting style for walls and ceilings that reflected the character and sophistication of their own culture. The ancient Romans used fresco painting to make plain surfaces appear to be constructed of costly materials and to create the illusion of greater space within interiors.

For nearly four centuries, ancient Roman wall painting flourished. Throughout its development, the wall painting used a formal layout of established wall divisions and a standardized color palette of primarily earth tones, as well as embellishments simulating marble or stone to integrate the painted decorations with the architectural structure.

Typically, wall murals in ancient Roman interiors were divided into three sections. The middle section, which was the largest, was divided vertically into rectangular panels that were outlined with flat bands of contrasting color. While the earliest designs depicted illusionistic architectural elements with elegant simplicity, the panels eventually became more elaborately painted with garlands of fruits and flowers, floating figures, inset landscapes, or complex architectural illusions. The lower section, or dado, and upper section, representing a cornice or frieze, were both treated with trompe l'oeil slabs of colorful marble or other stone.

The mural painting was executed with a light hand to keep the overall character lively and three-dimensional. The painting was characterized by a high level of technical skill and lent a distinct look to the interiors.



Capitoline Museum, Rome

Mosaic of the Doves, Roman copy of the Greek mosaic attributed to Sosos (active 2nd century B.C.).

Architect of the Capitol

Brumidi's adaptation of the birds at a vessel, Brumidi Corridors (North Corridor).

The Doves of Pliny

Classical antiquity strongly influenced Brumidi's efforts in the Capitol, and his namesake corridors hold a witty reference to one of antiquity's most celebrated mosaics. The second-century B.C. floor mosaic, called the *Doves of Pliny*, was executed by the ancient Greek artist Sosos and depicted four birds perched on the rim of a water vessel. This subject permitted the artist to demonstrate his aptitude in creating artful illusions, such as reflections upon water, with mosaic *tesserae*, or tiles.

The dove mosaic was described in 77 A.D. by Roman natural historian Pliny the Elder in *Natural History*:

> A remarkable detail . . . is a dove, which is drinking and casts the shadow of its head on the water, while others are sunning and preening themselves on the brim of a large drinking vessel.
> (XXXVI.184)

The Greek mosaic described by Pliny, however, no longer exists. A Roman copy, believed to be a faithful replica of Sosos' original, was discovered in 1737 at Hadrian's Villa in Tivoli. When the Roman copy—called the *Mosaic of the Doves*—was discovered, it became immensely popular. As neoclassicism swept Europe in the 18th and early 19th centuries, copies of the dove mosaic flooded the markets. The image enjoyed such popularity that it was even replicated in jewelry for fashionable ladies.

As one of Rome's leading artists, Brumidi would have been well familiar with this traditional motif. Cleverly, Brumidi adapted the design of the renowned mosaic for use in the North Corridor of the Capitol by inserting American birds into the ancient formula. Copying the vessel and the birds' poses and shadows, Brumidi traded classical doves for American Robins and an Indigo Bunting.

Your description of ancient Roman wall painting calls to mind the murals in the Senate's first floor reception area, which have been transformed by your conservation efforts.

Yes, the Senate's first floor reception area shows how Brumidi integrated classical elements within a contemporary setting, although for many decades, overpaint concealed the extent of his artistry. These murals present Brumidi's reference to the earliest ancient Roman wall painting style, with primarily illusionistic architectural elements punctuated by occasional medallions of landscapes and animals.

Although the design was well balanced and in proportion to the lobby's architecture, the murals' apparent execution reflected little of the refinement of ancient Roman traditions. We suspected that this anomaly was due to overpaint that obscured Brumidi's original work and that changed the character of the entire decoration. The type of paint used was too shiny and dense to create any delicate illusion or pleasing effect. The panels' borders looked stiff, as if they had been painted using a yardstick to create straight edges instead of freehand. Furthermore, the drab brown color palette of the overpainted panels struck a discordant note, considering the vibrant palette typically associated with classical wall painting. Intriguingly, the panels' eight inset landscape medallions—linking New World imagery to the classical decorative scheme—were of such an obvious high quality that the absence of an aesthetic context of equal refinement and beauty made us very curious about what might be hidden beneath the overpaint.

What did you eventually find when you restored the Senate reception area's wall and ceiling murals?

As we began to remove overpaint from the wall panels in the Senate reception area, brightly colored and three-dimensional effects emerged. Brumidi's refined trompe l'oeil techniques made the panels appear to be composed of inset plaques or slabs of colored stone surrounded by molding. The alternating colors of celadon and salmon, punctuated with bands of "Indian red," bore strong resemblance to the classical prototypes that inspired them.

Cunningham-Adams

Left: **Senate reception area before restoration, Brumidi Corridors.**

Darkened incrementally by numerous repaintings, the reception area developed a predominantly brown, grim appearance.

Opposite: **Restored Senate reception area, Brumidi Corridors.**

A combination of conservation and replication of the wall and ceiling murals reinstated the original bright colors and the dimensionality of the trompe l'oeil panels. The restoration effort has helped reconnect Brumidi's designs with ancient Roman prototypes.

Restoration of this area has helped enhance our understanding of Brumidi's well-planned design for the interiors of the Senate wing. Once restored, the murals in the Senate reception area began to complement the décor in the adjoining corridors. Overpaint had undermined the subtle but important details, such as the palette, succinct brushwork, and high quality of execution, that Brumidi skillfully employed to unite very different spaces and styles in the Brumidi Corridors.

Conservation has helped inform our understanding of Brumidi's wall and ceiling murals. What additional design elements have you explored?

In 2001, after spending several years focused on the wall murals in the Brumidi Corridors, we investigated earlier finishes on the cast-iron window enframements. The enframements' existing cream-colored paint was incongruous with the types of historic effects that would traditionally accompany a decoration like the one Brumidi created for the corridors. We wondered if paring away the overpaint would reveal something more relevant.

With extreme care, under a microscope at 10x, we revealed some sophisticated faux marble in a one-square-foot test area. Our exposure found a grey-colored coating applied directly to the cast-iron enframement. A previous study indicated that this was a primer applied at the factory. The next layer that we uncovered was a pinkish-mauve color that I believe functioned as a chromatic base and preparation for the marbleizing. When we revealed an off-white layer with grey patches and bluish-grey veining, the effect of simulated marble immediately became apparent. The faux marble matches genuine marble used throughout the Capitol, particularly in the columns in the Senate's adjoining East Entry. More testing and analysis will be necessary to complete these promising initial findings.

In our continued research, we studied the dark green, overpainted cornices in the corridors and then replicated the earliest color that testing found—a pale grey color that gives the cornices the appearance of natural stone. Similarly, an exposure on the plain pinkish tan-colored wall sections surrounding the Brumidi Corridors' decorative panels revealed marks that could be intended to depict sandstone. I hope that future study will tell us the whole story about the trompe l'oeil effects used throughout the Brumidi Corridors. The frequent references to stone would considerably broaden our appreciation of Brumidi's overall design and link the Capitol's decoration even more strongly to historic prototypes.

Architect of the Capitol

Conservation test exposures of cast-iron window enframement, Brumidi Corridors (Patent Corridor).

The earliest layers of paint appear to have created a marble effect, seen in the top exposure. Nearly 25 layers of overpaint on the enframement covered the marble effect.

Architect of the Capitol

Discovery of trompe l'oeil ceiling, conservation test exposure, Brumidi Corridors (East Entry).

Overpaint concealed the nuanced faux marble and trompe l'oeil anthemia pattern and drastically altered the once-elegant appearance of the East Entry.

You recently made a particularly thrilling and important discovery while conducting conservation testing in the Senate's East Entry—is it the discovery of a lifetime?

Our recent discovery in the East Entry certainly seemed like a reward for a decade of patience! The East Entry's dull, mustard-colored ceiling had bothered me for years as an unsuitable companion to the marble columns that adorn this formal entrance to the Senate wing of the Capitol. The marble is a classic white stone shot through with splashes of dark blue and charcoal gray, but the ceiling has been a lackluster expanse of mustard paint for as long as anyone can remember.

Finally, in 2010, we performed overpaint removal tests. Our patience was amply rewarded. We discovered that underneath the dull, mustard-colored ceiling was a striking faux marble that made the ceiling resemble the real marble columns in the entry. Not only did the ceiling appear to be constructed of marble, the arches in the dome-vaulted ceiling also looked as if they had been carved with ornate bands of anthemia, a classical border motif with palmette, or fan-shaped, leaves. The trompe l'oeil ceiling was a remarkable find and offered a dazzling testimony to the range of skills of Brumidi and his assistant artists. Among Brumidi's many talents was his ability to connect his designs to the architecture of the Capitol. With this thrilling discovery of the trompe l'oeil ceiling, we are now able to envision the original resplendent and impressive entranceway in the Senate wing.

Nearly 20 years ago, you embarked on the conservation of the Brumidi Corridors, and still you are deeply inspired and passionate about your work. What do you find most meaningful about the conservation you have accomplished at the Capitol?

It is both exhilarating and deeply moving to be a part of this important restoration project and to see the types of aesthetic details that we are recovering through conservation. The association between the U.S. Capitol and classical traditions thousands of years old has been reawakened, and visitors, scholars, and curators can now appreciate the many historic elements that Brumidi brought to the Capitol. It has been important to restore the Capitol interiors to their original refinement, so that the artistic adornment of the building can once again complement the architectural quality. Although our work here is not complete, what we have seen so far promises much.

Architect of the Capitol

Part of the Brumidi Corridors conservation team for the past 15 years, Laurie Timm is shown retouching the trompe l'oeil borders in the Zodiac Corridor. After the challenge of removing overpaint, this phase of recovering the original aesthetic character is the conservator's reward.

Architect of the Capitol

Ancient vessel with fruit, Brumidi Corridors (North Corridor).

Reinterpreting a Classic

The design for the most prominent section of the Brumidi Corridors was inspired by the Vatican Palace's loggia—a virtuoso Renaissance interpretation of ancient Roman ornamentation. In the early 1500s, the Italian Renaissance artist Raphael studied ancient Roman motifs, including those discovered in 1480 at Emperor Nero's palace, and incorporated them in his murals for the Vatican's 213-foot-long arcade, or loggia, just outside the pope's private apartment. The loggia's iconic decoration had an enormous impact across Europe and brought many classical wall painting techniques and designs back into vogue. The scrolling vines, birds, animals, floral wreaths, and trompe l'oeil panels decorating the Brumidi Corridors derive from the distinctive Vatican murals. In the late 1700s, discovery of ancient Roman sites like Pompeii and Herculaneum revitalized classical styles and fueled the neoclassical period, during which Brumidi trained and worked. Brumidi absorbed characteristics from ancient Roman, Renaissance, and neoclassical styles into his repertoire.

The imprint of Brumidi's own time and place can be felt in his murals at the U.S. Capitol. Most notably, Brumidi assimilated American iconography into the classical framework and used a color palette that worked in concert with the Capitol's 1850s Minton floor tiles. Ancient vessels overflowing with North American fruit, an allegorical figure of Authority customized with a tablet inscribed "Constitution and Union," and *scudi*, or shields, patterned with American stripes are just a few of the traditional motifs Brumidi adapted to reflect the contemporary interests of his adopted country.