

Common Bond

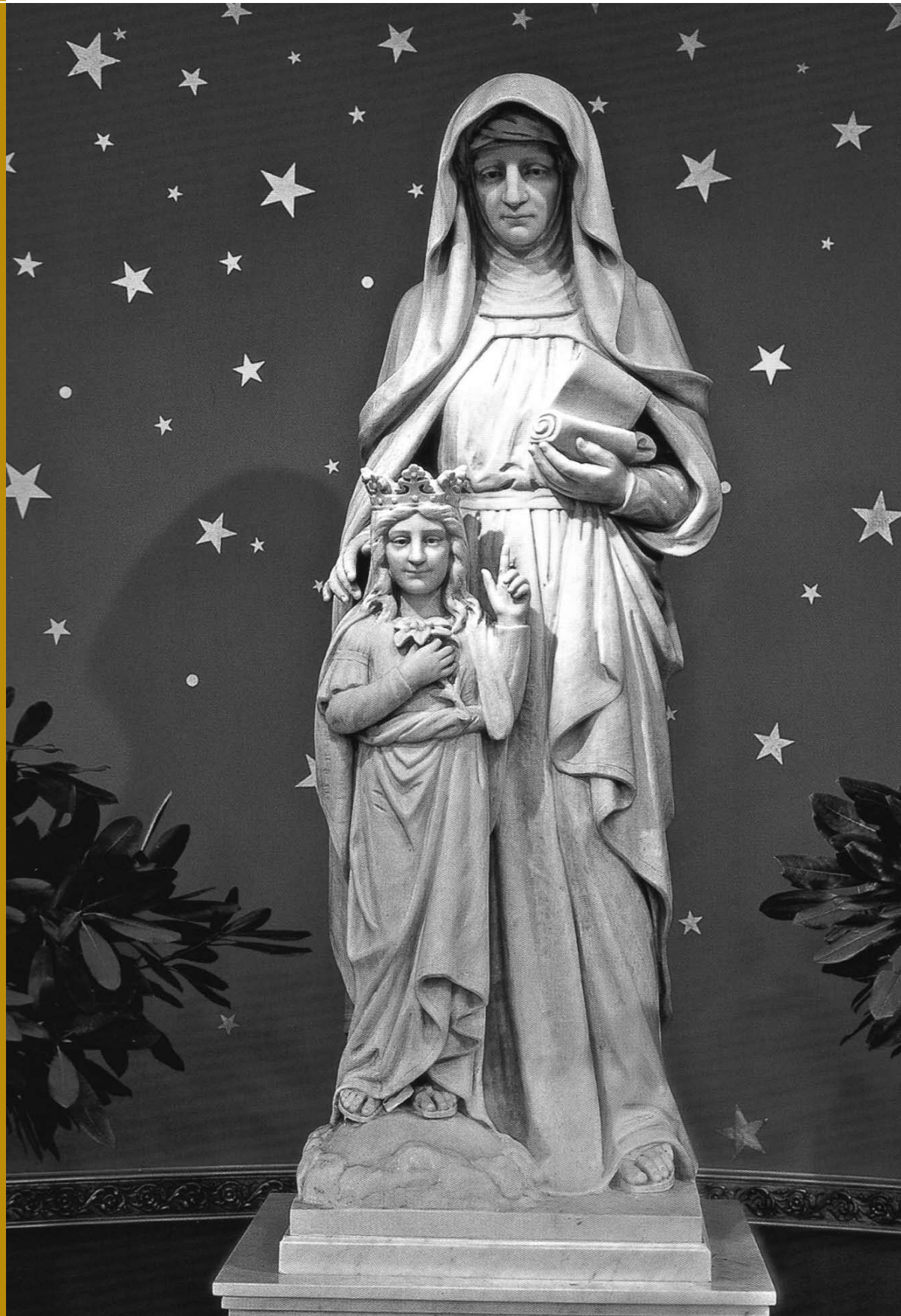
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Testing Your Metal

Call in the Experts to
Clean Marble Statues

Understanding Marble Decay

Marble in the City



The New York Landmarks Conservancy's Sacred Sites Program offers congregations throughout New York State financial and technical assistance to maintain, repair, and restore their buildings. In addition to providing hundreds of thousands of dollars in matching grants each year, the Conservancy offers technical help and workshops for building caretakers.

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Courtesy of: Jane Cowan (page 1); Richard Lipscomb (page 2, top); Altus Metal and Marble (page 2, bottom); Eglise St. Jean Baptiste (cover and page 4); Accademia Gallery, Florence (page 5, left); British Museum (page 5, right); Diane S. Kaese and Michael F. Lynch (pages 6, 8, and 9)



Metal is a broad term that can refer to such precious metals as silver and gold, or alloys such as brass and bronze. Metals can be decorated or plain, cast, forged, or engraved. In a historic house of worship, metal can be an integral and beautiful part of the building's design. Chandeliers, sconces, decorative gates, railings, hinges, hardware, lanterns, and doors are some of the items that can be made of metal. Often, these pieces may have been designed by the building's architect and can have a tremendous impact on both the aesthetic nature and history of the building.

During Christian and Jewish services, metal objects play a crucial role. Silver items such as chalices and offertory plates in churches, and *Kiddush* cups and *yadim* in synagogues are integral to worship. Because they play such an invaluable part, their care, maintenance, and preservation should never be overlooked.

Many congregations concerned about their metalwork should prepare a photo inventory, suggests Howard Newman of Newmans, LTD, a restoration and conservation firm based in Newport, Rhode Island. "It enables the congregation to quantify what they have." Such an inventory will reveal basic but necessary information about the objects. Which items are handled regularly, such as doorknobs? Which are particularly valuable and might be a target of theft because they are made of silver, bronze, or gold? Of all the metalwork, which is original to the building? Answers to these questions can help the congregation decide whether to undertake a full-scale professional restoration or not. "For a comprehensive inventory, go to professionals," advises Newman, whose firm recently conserved 150 items at Newport's Touro Synagogue (North America's oldest synagogue).

Whether it's a basic, homemade inventory, or a professionally executed one, this inventory serves as a baseline document that can prove extremely helpful, particularly in the event of a loss through theft, fire, or other damage.

Ritual Silverware

There are scores of different types of ritual objects that are used in conjunction with Christian and Jewish services. A short list might include a chalice (a goblet that holds wine for the Eucharist); ciborium (a bowl-like dish for consecrated bread); thurible (a vessel for burning charcoal); *Kiddush* cup (a vessel that holds wine or grape juice while the *Kiddush*, a prayer, is said); *yad* (a pointer to guide the reading of the Torah); and *rimonim* (Torah finials). While used for different purposes, these objects share a trait: they are generally made of silver. The religious value of these objects coupled with the fact that they are made of silver (which has seen its cost triple in the past three years) means that their protection is crucial.

Silver refers to either electroplated or sterling silver. Sterling silver is "actually an alloy comprising 92.5 percent silver and 7.5 percent copper," explains Father Lloyd Prator of the Church of St. John in Manhattan. Father Prator is a silver expert and historian. He cautions that congregations should ascertain whether an object is indeed sterling silver, by finding the markings. By Federal law, sterling must be stamped either "sterling," ".925," or "925/100." (This number refers to the composition.)

Above Gold, jewel-embedded altar cross from St. Bartholomew's Episcopal Church, Manhattan

Testing Your Metal

Care and Maintenance of Ritual Silverware

by Jane Cowan



From the Church of St. John in Manhattan, a large Eucharistic flagon and a footed paten, used to consecrate bread.

English-made sterling has a different set of markings. “Look for either the lion passant, which is a profile of a lion walking, or a city mark which would have an anchor, lion’s head, or crown,” notes Father Prator. Additional hallmarks are explained in the *Online Encyclopedia of Silver Marks, Hallmarks, and Makers’ Marks*.

Electroplated (or silver plate) pieces are made of a base metal (often copper or white die-cast metal) covered with a coating one or two microns thick of 100 percent pure silver. They are neither as valuable nor as durable as sterling. “Beware of pieces that might be electroplate being passed off as sterling,” cautions Newman. Marks to look out for include “quadruple silver plate,” or “EPNS,” which stands for electroplate nickel silver. Although Father Prator is sensitive to a congregation’s budgetary constraints, he advises against purchasing electroplated pieces. “Electroplated pieces are done cheaply, and they will not wear well.” He notes that bargain hunters may be able to find quality sterling in flea markets, or even on eBay. “I recently found two small sterling silver alms basins

for \$200. They are worth about \$1,000.”

Because silver is a soft metal and dents easily, he recommends that items be stored in a rigid box lined with a dark green or brown cloth that has been chemically impregnated to prevent tarnish. Once stored, silver items should be locked in a safe or other secure location. “The value of silver has become a real problem,” laments Father Prator. “Silver is just so easy to melt, and it sells for between \$13 and \$14 per ounce.”

Father Prator explains that it is very important to keep silver (sterling or electroplate) clean. “Clean it when it gets tarnished,” he says. A commercially available silver cleaner such as Haggerty’s or Goddard’s (allegedly used at Buckingham Palace) will do fine for sterling. “Never use scouring powder or steel wool,” he warns. Cleaning electroplate requires a gentle touch, as aggressive polishing will strip away the silver. For electroplate, use a silver wash, silver paste, or silver cream. Another thing to keep in mind is to avoid any product with a lemon scent because it will leave black marks.



Rosettes on Manhattan’s Temple Emanu-El vestibule wall were removed and restored to match their original appearance.

Other Metals

After silver, the most common metals to be found in historic houses of worship include bronze, brass, and sometimes wrought iron. Both bronze and brass are alloys of copper. Brass is composed of copper and zinc, and is usually polished and yellowish in color. Bronze, on the other hand, is usually reddish or brownish, and not polished. It is made of copper and tin.

Items made of these materials typically include lighting fixtures, railings, hardware, and commemorative tablets or plaques. Before knowing how to clean and care for these items, it is important to identify the type of metal. Whatever your project, “you must first consult with a professional,” urges Lina Gottesman of Altus Metal and Marble, a Long Island-based firm that specializes in metal and marble restoration. Got-

tesman's firm restored and currently cares for the metal work at Central Synagogue in Manhattan. "First," Gottesman explains, "the professional must determine if you need a restoration or a conservation, depending on the condition." During a restoration, the object is stripped down to its raw metal, and a new patina is applied. In conservation, the original patina is preserved and only the topmost layer of dirt is removed. This is done very gingerly, with steam or a very mild solvent, so as not to harm the patina. At Central Synagogue, where a fire in 1998 had caused extensive damage, Altus conducted a restoration of items that included brass statuary, handrails, lighting fixtures, and banisters. The restoration entailed removing oxidation, applying a lacquer and stain, buffing the surfaces, and then reapplying the lacquer coating.

Caring for bronze and brass requires a great deal of knowledge, particularly in regard to which types of cleaners to avoid. Gottesman recounts the tale of a chandelier blackened with tarnish. "Another restoration firm used abrasives, which is an absolute no-no, and the damage was irreparable," she explains. Michael Collins, the verger, or ceremonial attendant and caretaker, at St. Bartholomew's Church on Park Avenue in Manhattan, told of a church member and volunteer cleaner who enthusiastically polished a gold altar candle. The candle was actually wood with gold leaf, and in the cleaning the gold leaf was badly scratched and damaged. "It will have to be re-leafed," noted Collins. Newman echoes this cautionary advice. He urges congregations to be very careful when selecting a firm with which to work. "Don't go to somebody whose approach will be to 'fix' the item. Careful conservation requires a different mindset, a respect for the beauty and history of the object."

Ongoing Maintenance

St. Bartholomew's provides an example of an ongoing metal maintenance program. "It is rather simple," describes Collins. "It mostly involves dusting with soft cloths or rags." Items that are cared for in this manner include a brass altar cross, paschal candles (used at Easter and during baptisms and funerals), bronze screens, and brass altar gates. An

exquisite gold altar cross embedded with precious stones is periodically cleaned very gently with a toothbrush and an ammonia and water solution. Sometimes, the items are just left alone, as in the case of the church's magnificent bronze door designed by the famous turn-of-the-century architectural firm McKim, Mead, and White. "We wouldn't want to destroy the patina, which is actually protecting the doors," explains Collins. He notes that any reputable firm that has completed an extensive restoration or conservation will leave the congregation with instructions for continued care, or will provide it themselves. For example, Altus, the metal and marble firm, services the metal at Central Synagogue quarterly.

Insurance and Appraisal

If a congregation has a fine arts insurance policy, the metalwork should be covered under that policy. Such is the case at St. Bartholomew's. "Our policy covers just about everything: the stone, metal, paintings, and light fixtures," notes Collins. Since metalwork is often quite valuable, insurance is a wise course of action. Before insuring the items, though, the congregation should have the items appraised. At St. Bartholomew's, the appraiser prepared an elaborate appraisal book with extensive photographs of every item that is covered under the insurance policy, its appraised value, and a detailed description. Even if the market changes, the appraisal book provides the documentation necessary to adjust the value in the future, should that be required.

Conclusion

Imagine the interior of a historic house of worship without exquisite chandeliers, candelabra, sconces, or decorative railings. Imagine services conducted without any ritual ware. These items contribute greatly to the architectural and historic identity of the building. They embody the spirit and essence of the congregation and possess great beauty. As such, they are to be cherished, preserved, and cared for properly.

Resources

Gayle, Margot and John G. Waite. *Metals in America's Historic Buildings: Uses and Preservation Treatments*. Washington, DC: US Department of the Interior, National Park Service, Cultural Resources, Preservation Assistance. 1992

Drayman-Weisser, Terry (ed.). *Gilded Metals: History, Technology, and Conservation*. London: Archetype Publications in Association with the American Institute of Conservation of Historic and Artistic Works, 2000

Radke M., Gary (ed.). *The Gates of Paradise: Lorenzo Ghiberti's Renaissance Masterpiece*. Atlanta. New Haven, CT: Yale University Press, 2007

Online Encyclopedia of Silver Marks, Hallmarks, and Makers' Marks
925-1000.com

American Institute for Conservation of Historic and Artistic Works
aic.stanford.edu

Pieces of Touro Synagogue
newmansltd.com/restoration
(download .pdf of the Touro Synagogue restoration photo essay)



Because so many marble statues have come down to us from antiquity, a layperson might be forgiven for assuming that such enduring creations could withstand the action of a dust cloth or a quick once-over with soap and water. The fact of the matter is, the cleaning of marble statuary is a complex subject that's been known to spark international debate among art historians and conservators. For this reason, cleaning should not be undertaken lightly by any congregation with marble statues in its possession.

Marble is typically found in worship buildings in the form of statuary, carved altars, railings, decorative columns, wainscoting, and memorial plaques. In the late 19th century and early 20th century, cast and polished plaster, scagliola (plasterwork in imitation of ornamental marble), and cast stone convincingly mimicked more expensive marble. When determining proper care, it is important to make sure that statuary and other features are marble and not plaster.

Marble is primarily composed of calcium carbonate, and while it may appear very smooth, it is actually quite porous. This calcium-based composition sets it up for a number of potential problems. If a sculpture is sited outdoors, it's highly susceptible to the effects of acid rain. *The American Chemical Society* has an online lesson plan titled "Disappearing Statues" to teach children how acid rain can dissolve outdoor sculptures; the experiment involves dropping vinegar onto a calcium carbonate-based antacid tablet — a sobering way to learn what might be happening to outdoor art.

Marble's porosity can present problems both indoors or out. Pollution can lodge in the pores, causing chemical reactions or staining. Even marble that is not regularly on display can be subject to staining from contact with the materials used to pack and store it. In some cases, stains or dirt lodged into pores may be impossible to remove. In fact, certain cleaning methods may do nothing more than drive dirt deeper into the marble. According to *The Conservation of Antiquities and Works of Art*, a handbook on conservation methods by two former keepers of the research laboratory at the British Museum (H.J. Plenderleith and A.E.A. Werner), regular dusting is essential for maintaining marble, but "this should be done with a large feather whisk or soft brush. Cloths should never be used, as they tend to rub the dust into the stone."

Even water in the pores of marble can cause problems — water and freezing temperatures are an especially bad combination, as ice expands in the pores and can cause structural damage. Therefore, care must be taken not to soak a sculpture when cleaning it. Plenderleith and Werner outline a method of bathing a sculpture bit by bit, drying each portion carefully as the work proceeds. They also describe a way of cleaning a more extensively dirty statue that involves applying a poultice of either dry sepiolite (a fine, white, clay-like material) or attapulgite (a highly absorbent clay mineral) and distilled water — essentially a clay pack that helps to draw out impurities while preventing a sculpture from becoming too wet. Once the pack has reached just the right level of dryness, it is removed in sections and the underlying marble is gently washed with just enough distilled water to remove the residual clay and loosened dirt.

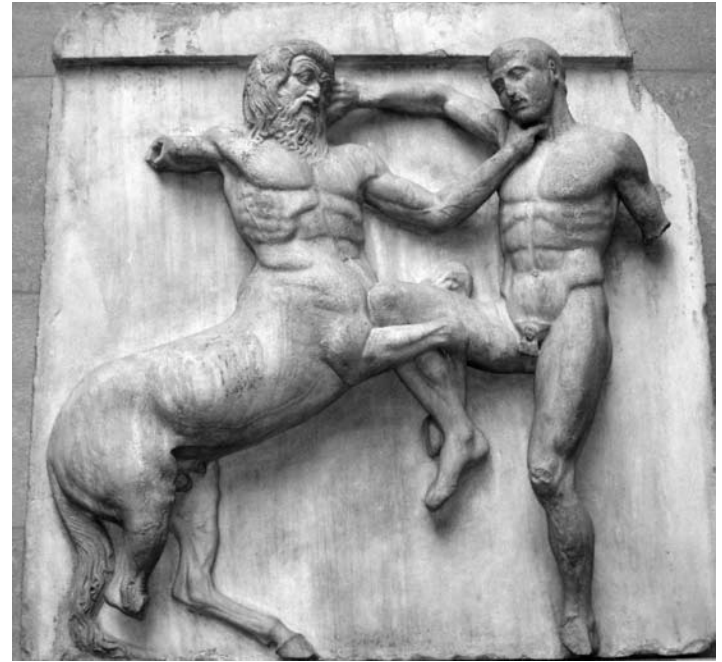
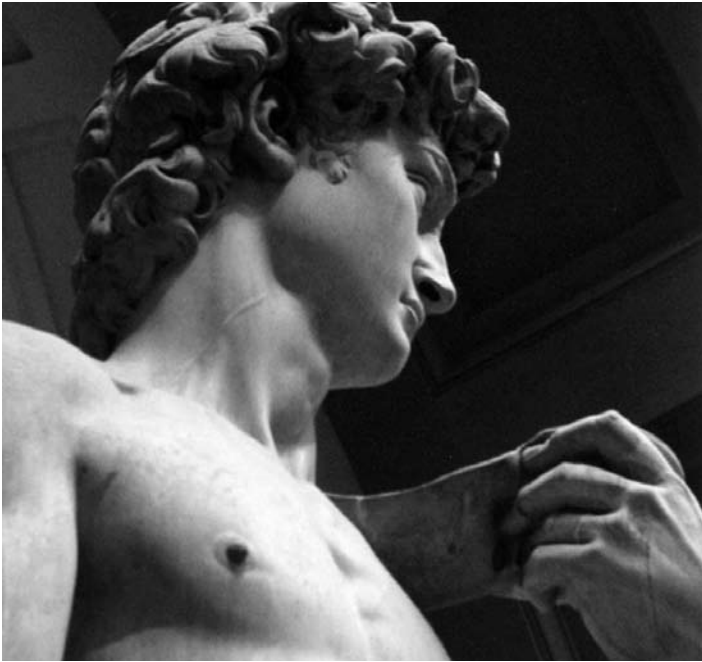
The Case of Michelangelo's *David*

A similar method was used in 2003 to clean Michelangelo's famous *David* sculpture, causing great controversy among art conservators. In this case,

Above The Shrine of Saint Anne at Eglise Saint Jean Baptiste, Manhattan

Cleaning Marble Statues It's Worth Calling in the Experts

by Amy Radbill



Left To clean Michelangelo's *David* in 2003, a poultice of distilled water and cellulose fiber was used, a method that caused controversy among art conservators.
Right The Elgin Marbles, housed in London's British Museum, have been damaged over the past century by pollution, necessitating frequent but careful washings.

a poultice of distilled water and cellulose fiber was used. Agnese Paronchi, the specialist originally contracted to complete the work, resigned from the job in protest, stating that this method was too harsh and could potentially damage the marble. James Beck, an art historian at Columbia University who opposes most intervention on historic works of art, led an international call for a conference to discuss other cleaning methods that might be used. In the end, conservators also felt it necessary to clean off a build-up of wax on the sculpture using white spirits (a common solvent), a move that did little to appease those who objected to the use of the poultices.

The story demonstrates a basic issue in marble cleaning: opinions are divided as to whether marble should ever be cleaned with the goal of restoring it to its original state. Some conservators and restorers feel that the patina of age a statue attains over years is historically and aesthetically significant and should be left alone.

Elgin Marbles

There are, undeniably, reasons for keeping marble statuary clean. Some forms of dirt can actually be damaging to the stone; iron in dust or water, for instance, can cause staining that goes too deep into the stone to be removed simply by surface washing methods, and acidic pollutants can cause the stone to disintegrate. In the 19th century, the Elgin Marbles (also known as the Parthenon Marbles) at the British Museum were the subject of ongoing debate. According to an article on the British Museum's website, "Many of the arguments heard today for or against the conservation of ancient artworks were rehearsed in the 19th century around the case of the Elgin Marbles."

Once it became clear that the coal heating in the British Museum — not to mention the stunningly polluted air of 19th century London — was wreaking havoc on the Elgin Marbles, the famous English scientist Michael Faraday was brought in to advise the museum on their care. Faraday carefully experimented with various methods of cleaning the marbles,

including water, rubbing with fine powders, alkali substances, and even dilute acids. In the end, he wrote that the various conditions present in the museum — dust from heating, the activities of museum visitors, and the London atmosphere of dirt and damp — were "never-ceasing sources of injury to the state and appearance of these beautiful remains." Still, he concluded that more frequent, though extremely cautious, washing could be beneficial in counteracting some of the damage.

Conclusion

Clearly, it is important to maintain marble statuary by keeping it free of potentially damaging dirt, but how to do so is a subject best left to experts. For a layperson charged with the care of such sculpture, regular treatment with a feather whisk or soft brush may be the safest method to employ. The conservator who eventually completed work on the *David* made plans for the statue to be vacuumed every six weeks with a hand-held vacuum cleaner. This too may be a way for non-experts to keep statues clean without running the risk of damaging them chemically or pushing dirt further into the pores.

But conservation is as much an art as a science, and part of the job of a conservator is to decide when to act and when to leave well enough alone. An occasional inspection and cleaning by a good conservator may be a worthwhile investment for any group that wants to care properly for its sculpture. Given that even art experts don't always agree on the best cleaning methods for marble, it's wise for a layperson to use a light touch when dealing with it.

Resources

Marble Institute of America: marble-institute.com

Plenderleith, H.J. and A.E.A. Werner. *The Conservation of Antiquities and Works of Art*. Oxford University Press, 1972

Marble Decay and Erosion

Understanding its Causes, Finding Solutions

by Diane S. Kaese and Michael F. Lynch



Because marble is soft and easy to shape, it is often used for decorative carved elements. But its chemical composition makes it vulnerable to acid rain, and the stone reacts with pollutants in the urban environment, which can cause erosion and sugaring (deterioration of a stone surface, giving it a granular appearance). Gypsum, a dense black crust, also forms on marble surfaces as the stone reacts with atmospheric sulphates. This crust is tenacious and usually destroys the surface on which it forms. Removal of crusts typically exposes surfaces devoid of tooling and ornament. Local microclimates often create areas around structures that require specific attention to prevent gypsum crust formation.

Meanwhile, the deterioration of metal cramps (steel or iron anchors tying the stone to the underlying structure) often causes spalling, as the corrosion and expansion of the iron or steel pushes against the stone in which it is embedded, causing the stone to crack, displace, and fragment. Structural movement (building settlement, failed beams, etc.) also typically results in movement of the exterior walls.

Extending the Life of Your Marble Structure

The best way for an owner to protect a building weathering in the urban environment is by following these tried-and-true steps:

1. **Inspect your structures.** Look at them up close and from a distance, look at the inside as well as the outside, from the foundation to the roof. Note leaks, patterns of staining, open mortar joints, spalling stone, cracks, areas of efflorescence (salt crust deposits), and any area of organic growth. Check closely behind gutters and leaders, behind plants and shrubs, at changes of plane (interior corners and horizontal to vertical surfaces), and all flashing installations. Check the slope of sidewalks and other paved areas, and check the roof. Do all of this in varied weather conditions: good weather, during a rain, and a few hours after a good rain has stopped. Observing how a building dries out will often flag problem areas quickly. If you don't feel comfortable or qualified to inspect and read your structure, hire a professional architect, engineer, or conservator with experience in reading and repairing buildings.

2. **Document your inspection findings.** Use photographs and drawings. Date everything. Once a base line is established, inspections should be done twice a year. If something changes, call a professional.

3. **Work with a professional for major cleaning.** If the exterior of the building hasn't been cleaned and it is difficult to assess its condition due to dirt accumulation, call a professional to clean your structure. In general, marble structures respond well to water misting and/or water soaks. This seemingly simple technique is very effective but requires contractors with experience, as well as daily adjustments to accommodate differing conditions. Water cleaning of stone that includes iron-based inclusions (pyrite) can result in unwanted and unanticipated "rust stains" that are themselves difficult to remove. Cleaning tests on small areas are recommended prior to wholesale cleaning. And remember that one building may have different types of stone, or different sources of marble, that require different cleaning methods. You will also likely need to do repairs prior to the cleaning to prevent interior damage.

4. **Undertake the small repairs.** It often doesn't seem worth the time and effort necessary to get someone in for a day to do a series of small repairs, but the simple fixing of a disconnected leader or loose flashing often prevents major interior repair projects. Wet walls can quickly become a major interior environmental cleanup.

5. **Think carefully about modern interventions in and around historic building materials.** The placement of evaporative chillers in areas with minimal ventilation has damaged many early masonry structures. Condensation from window air conditioning units dripping onto masonry walls is often a major contributor to mortar deterioration.

6. **Work with professionals to determine when you should make significant repairs.** Stone repair and replacement, repointing, patching, re-anchoring, and consolidation are all actions that should be done in conjunction with a professional. These will most likely require permits from the local agencies that regulate historic properties and/or the building department.

7. **Work with professionals to prepare long-term maintenance plans for your structure.** Plan budgets for maintenance.

Lastly, establish a relationship with a number of professionals who will take the time to learn about your building and work with you over time to keep your structure in good shape.

Above Gypsum crust forms on marble surfaces, while exposed surfaces erode as the stone reacts with atmospheric sulphates.

Marble in (and Around) the City

Its Origins and Use in Historic New York Buildings

by Diane S. Kaese and Michael F. Lynch

As an international port from its very founding, New York City has always had ready access to building materials, including stone, from a wide variety of sources. But typical of all developing economies, construction in New York City was strongly influenced by locally available materials. The vast majority of the early residential and commercial buildings in the city were constructed with wood. Government and institutional buildings and mansions of the wealthy were often built of masonry — either brick with stone trim, or all stone. Locally quarried Manhattan schist and sandstone from northern New Jersey and the lower Hudson Valley were used before marble. After the Great Fire of 1835, all new buildings were required to be of fire-resistive masonry.

By the late 18th century, marble was being quarried in northern Manhattan, primarily for use as headstones. The first quarry that supplied quantities of marble for buildings opened in 1818 in Hastings-on-Hudson in Westchester County. This quarry is part of what is known as the Inwood Deposit, which stretches in a northeasterly direction from mid-Manhattan through Westchester. The most well-known quarry that supplied stone from the various Inwood deposits is located in Tuckahoe.

The marble quarries along the Hudson River were helped by relatively easy, quick, and inexpensive water transportation. Inmates quarried the marble available in Ossining and constructed early Sing Sing prison buildings. The deposits of Tuckahoe marble were discovered in Westchester, and quarries opened there in 1822. (The quarries continued supplying stone until they closed in 1930.) Tuckahoe marble was used to construct the burial vaults at the New York Marble Cemetery (1830) and the New York City Marble Cemetery (1831), both repositories of influential and prominent early citizens. The list of local buildings constructed of Tuckahoe marble is long and includes: Grace Episcopal Church (1846), the Cardinal's residence behind St. Patrick's Cathedral on Madison Avenue (1884), the Washington Square Arch (1891), and the Immaculate Conception Catholic Church in Eastchester (1911). Perhaps the most well-known, or notorious, building built of Westchester marble is the Tweed Courthouse (1861-1881).

Due to the similarities of the various Inwood stone deposits, white marble in New York City is often assumed to be from the Tuckahoe quarry. Stone from different Inwood quarries varies in color from light gray to light green, to a bluish white or the brilliant white often found in the Tuckahoe quarries. A distinctive characteristic of the Inwood marble is the medium-to-coarse size of the calcite and dolomite particles that pri-



marily compose the stone. It often contains minor amounts of hematite and pyrite. Oxidation of these iron-bearing minerals causes the stone to turn orange-brown when the stone is exposed to weather.

Tuckahoe is not the only marble "native" to New York State. Marble quarried from St. Lawrence County from about 1825 to 1940, variably known as "Gouverneur," "St. Lawrence," or "Whitney" marble, appears in the Third Presbyterian Church of Rochester (1892), the Unitarian Universalist Church of Canton (1897), and the United Methodist Church of Potsdam (1903). These marbles are characterized by their smaller grain size and light gray color.

Higher quality, finer grained Vermont marbles became available after the mid-19th century with the rise of rail transportation, reducing the use of the Westchester stones. The New York Public Library's main branch and the Sacred Hearts of Jesus and Mary in Southampton are clad in Vermont marble. Less common in New York, but also of high quality, is marble from Georgia, such as the Our Lady of Victory Basilica and National Shrine in Lackawanna (1925). Some buildings may contain marble from a combination of sources. For example, the main block of St. Patrick's Cathedral is of Westchester marble, but the turret marble is from Lee, Massachusetts, and the tower of Grace Church is marble from Southerland Falls, Vermont.

The variable quality of the Westchester stone available on the market and used in the city is discussed by J. C. Smock in an 1890 bulletin of the New York State Museum. The author describes a phenomenon we now call "sugaring" — the total disintegration of a piece of marble. Specifically, he cites observations of stones where "the granular structure, in which the grains fall out on weathering, and the ruin of the stone is only a question of a comparatively short period of time." Without understanding the actual mechanisms causing deterioration, the writer clearly observes and documents that the "gradual decomposition and wear of the surface is evident in the loss of polish on the best marbles, when exposed for many years to the corrosive action of the atmosphere of the city." He also notes that the stone of Grace Church had "become bluish-gray in color and the surfaces of the block are much roughened by the weathering." It is interesting that Smock incorrectly describes the stone at Marble Collegiate Church as a Vermont marble, possibly indicating that it was weathering better than other Westchester-sourced stone buildings.

Above Sacred Hearts of Jesus and Mary, Southampton, NY



Restoration in the late 1990s of Manhattan’s Marble Collegiate Church (constructed in 1854 with stone supplied by the North River quarry in Hastings-on-Hudson) began as a simple project to clean the façade. Following a full conditions assessment including binocular surveys and an inspection of the steeple, it developed into a full restoration of the building envelope.

Maintenance records were not clear about the last major work on the façade. It wasn’t until scaffold access allowed us a close-up inspection of the walls that we found cement patches that provided dates of the last two major repair campaigns — 1908 and 1952.

The mortar in many joints was severely deteriorated and, in some cases, missing. Due to the joint conditions, we established a two-part pointing procedure. All mortar joints were cleaned of dirt and mortar debris and back-pointed prior to the building cleaning. Finish pointing was completed after the water wash to insure joint faces were located behind the edges of the stone.

In addition to the mortar joints, all of the finials were disassembled. We found severely corroded steel cramps and reinforcing. The finials were reconstructed with new stainless steel reinforcing. Small replacement stones were inserted in locations of severe stone deterioration.

Although we knew that water was probably the best means to clean the stone, the project was complicated by a two-year drought and water restrictions. We conducted numerous cleaning tests with different products that minimized water usage. But we had very limited success and found that water worked best. After cleaning the façade the following year with a water wash, we treated excessively stained stones with chemical poultices. The poultices lightened the staining, minimizing the aesthetic effect, but did not completely remove the stains. Work was completed in 2000.

Project Team

Owner

Marble Collegiate Church, Collegiate Church Corporation

Project Architect

Hall Partnership Architects

Masonry Preservation Consultant

Diane Kaese, WJE Architects & Engineers

Masonry Contractor

Henry Restoration

Support Contractors

Vertical Access, Landmark Slate and Copper, Ottavino Stone Corporation, and ProSoCo

Marble Collegiate Church

A Restoration in Detail

by Diane S. Kaese and Michael F. Lynch



A close-up inspection of the church's walls revealed cement patches showing dates of the last two major repair campaigns — 1908 and 1952.



Floral motif with gypsum crust and staining, prior to cleaning.



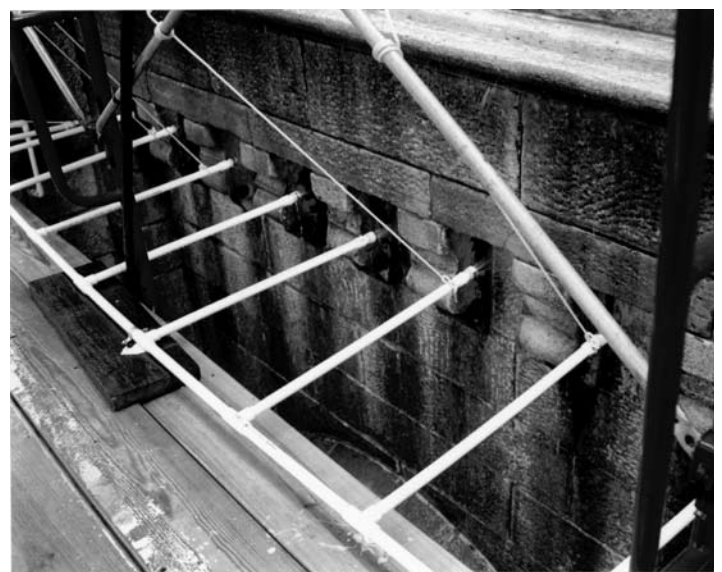
The finials were disassembled and reconstructed with new stainless steel reinforcing.



Numerous cleaning tests were conducted with different products that minimized water usage. Nothing worked quite as well as water.



The reconstructed finials



A network of pipes directed water to heavily stained areas.

Religious Heritage Survey Progresses to Queens

This summer, three accomplished student interns (an architect, a candidate for master's degrees in historic preservation and planning, and an archeology scholar fluent in Hebrew and Arabic) completed the Conservancy's Queens-based survey of 103 Roman Catholic parishes, as well as 105 synagogues and former synagogues, all built before 1970. In total, the survey team visited and photographed 150 churches and synagogues. (A prior group of interns visited 30 Queens churches and synagogues last spring, and many of these required return visits to access interiors). The team also identified and researched an additional 93 churches and synagogues using online sources, but determined that they were all either too recent or too altered to be eligible for National Register listing, and did not warrant a field survey.

As in Brooklyn, the Queens survey identified dozens of Roman Catholic churches, built between 1893 and the 1950s, that were substantially intact, historically and architecturally significant, and potentially eligible for listing on the National Register. Perhaps the most architecturally interesting buildings are a handful of Art Deco churches built in the 1930s and 1940s by New York architects McGill & Hamlin and Henry V. Murphy.

The survey established the 1920s as the decade of greatest expansion for Catholic churches in both Queens and Brooklyn. This was a decade of explosive growth and construction in the outer boroughs, as economic prosperity inspired second-generation immigrants to build new homes and establish new houses of worship outside of Manhattan. The survey also highlighted a major difference between the two boroughs' Jewish communities: while the 1920s saw enormous synagogue growth in Brooklyn (78 synagogues constructed in that decade survive today), the period of greatest synagogue construction in Queens was the 1950s, followed closely by the 1960s (35 and 28, respectively).

While the survey identified one or two architecturally significant and intact Queens synagogues from the mid-20th century, Queens' relatively late synagogue growth — and major alterations to many of the buildings — means that only about 10 of the 105 Queens synagogues surveyed appear eligible for National Register listing. However, these include several important buildings with congregations enthusiastic to pursue National Register nomination, including the Free Synagogue of Flushing.



Interns Miriam Aranoff (Barnard College '07), Rosalind Streeter (Columbia University), and Yasuyuki Mizushiro (Pratt Institute) consult a Queens map highlighting 120 church and synagogue sites visited in the summer of 2008 as part of the Conservancy's ongoing survey of historic religious properties.

St. Saviour's Rescued



The New York Landmarks Conservancy participated this spring in the 11th-hour rescue of the former St. Saviour's Church in Maspeth, Queens. Designed by Richard Upjohn and constructed in 1847, the site of this Carpenter Gothic church had been purchased for redevelopment, and the adjacent rectory and surrounding trees and vegetation were razed pending imminent demolition. With funding from Queens Borough President Helen M. Marshall, preservation advocate Christabel Gough, the Conservancy, and the Juniper Park Civic Association, St. Saviour's was carefully dismantled and stored for re-erection at nearby All Faiths Cemetery. The Conservancy recruited and funded the services of master carpenter Russell Powell of Island Housewrights and preservation architect Kaitsen Woo to guide and document the project, as each building element was labeled and keyed to detailed drawings. The Conservancy continues to participate in planning and fundraising to reassemble the building at its new site.



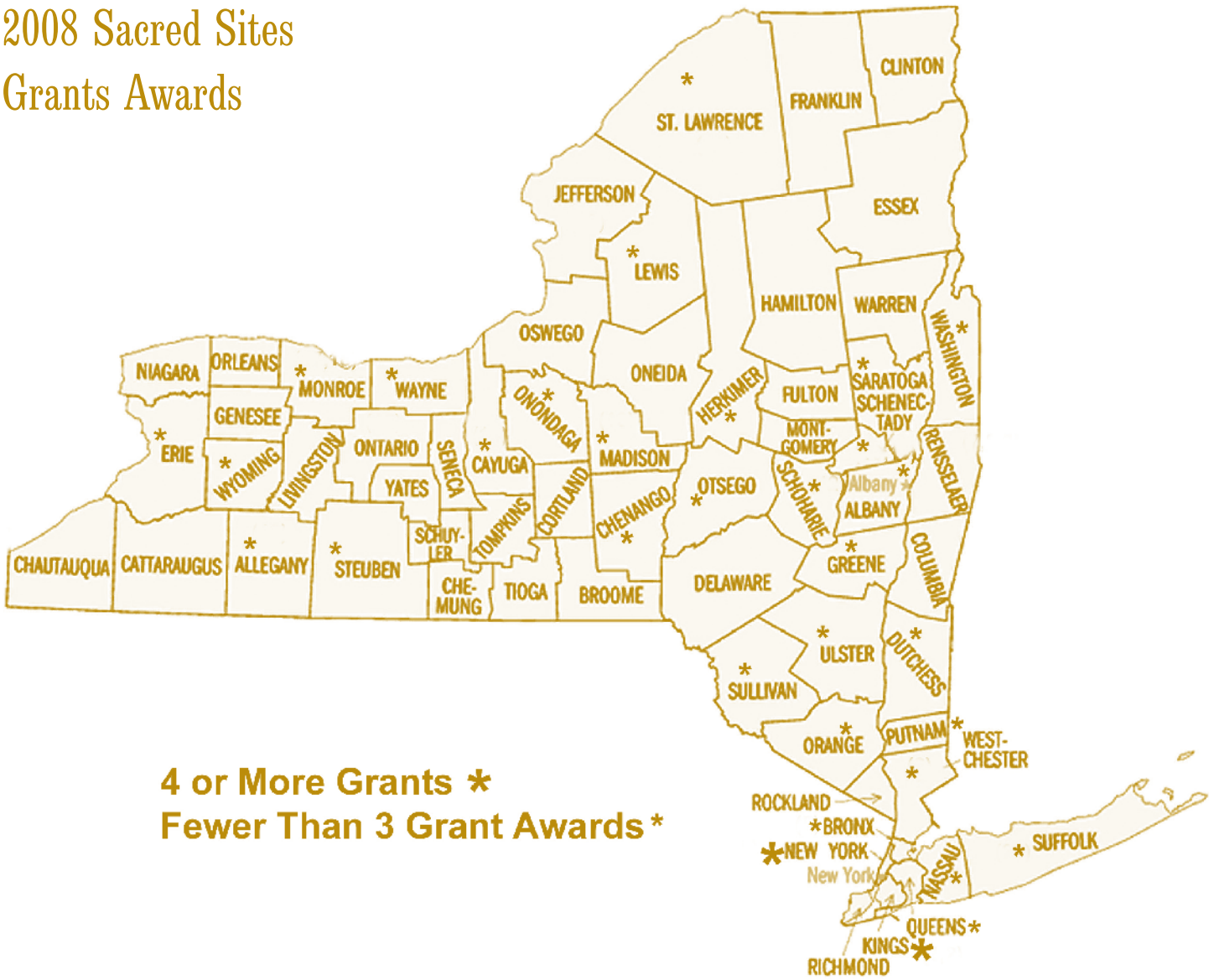
From left to right: Ron Grossberndt, Island Housewrights; Kaitsen Woo, Architect; Ann Friedman, Jim Mahoney, and Karen Ansis, Conservancy; Bob Holden, Juniper Park Civic Association; Russell Powell, Island Housewrights; Ed Kampermann, Juniper Park Civic Association



Left: Unfortunately, narrow street widths and overhead bridges and utilities precluded moving the church to its new site without first dismantling it.

Right: The monumental trusses were removed with a crane.

2008 Sacred Sites Grants Awards



4 or More Grants *
Fewer Than 3 Grant Awards *

The New York Landmarks Conservancy’s Sacred Sites Program is one of the oldest programs in the country dedicated to the preservation of historic religious properties. The program has made over 1,000 grants totaling almost \$6 million to nearly 650 institutions since its inception in 1986. The Conservancy awards three kinds of grants: Sacred Sites Grants, Consulting Grants, and Robert W. Wilson Sacred Sites Challenge Grants.

In addition to grants, the program has helped hundreds of landmark-quality religious institutions with hands-on technical assistance, referrals, and workshops on the maintenance and repair of historic religious properties and associated financial issues. For more information and an application form, please visit nylandmarks.org/Assistance.php.

Sacred Sites and Consulting Grants

The New York Landmarks Conservancy awards Sacred Sites and Consulting Grants to congregations of all denominations that are planning or undertaking the restoration of historic religious properties. To be eligible, properties must be located in New York State, owned by a religious institution and actively used for worship, and listed on the State or National Register of Historic Places or designated pursuant to a local landmarks ordinance by New York State. Eligible properties include, but are not limited to, churches, synagogues, meetinghouses, mosques, and temples.

Listed by County:

Albany	
Cathedral of All Saints, Albany	
New Slate Roof at Choir Wing	\$8,000
Trinity Church, Rensselaerville	
Conditions Survey	\$5,000
Allegany	
First Baptist Church, Cuba	
Repair of the Steeples and Roof	\$4,000
Bronx	
Grace Episcopal Church, Bronx	
Roof Replacement	\$5,000
Tremont Baptist Church, Bronx	
Interim Repairs to Slate Roof	\$5,000
Cayuga	
Episcopal Church of Saints Peter and John, Auburn	
New Asphalt Shingle Roof at Chapel Wing	\$3,000

Chenango		German Evangelical Lutheran Church of St. Paul, New York	
Hamilton Monthly Meeting, Hamilton		Design Documents for Stabilization and Restoration of Spires	\$7,500
Restore Porch; Upgrade Perimeter Drainage	\$2,000		
Dutchess		University Parish of St. Joseph's, New York	
The Reformed Dutch Church of Poughkeepsie, Poughkeepsie		Restoration of the Entryway and Fence	\$6,500
Conditions Survey of the Bell Tower	\$3,000		
Erie		Onondaga	
Trinity Episcopal Church, Buffalo		Grace Episcopal Church, Syracuse	
Install Protective Glazing at Tower Stained Glass	\$2,000	Construction Documents for Accessible Entrance	\$3,000
Greene		Sacred Heart Basilica, Syracuse	
United Methodist Church of Durham-Oak Hill, Oak Hill		Construction Documents for New Slate Roof	\$3,000
Belfry Restoration	\$5,000	Installation of New Slate Roof	\$10,000
Herkimer		St. James Episcopal Church, Skaneateles	
Trinity Episcopal Church, Middleville		Condition Survey	\$3,500
Engineering Services for the Installation of a Drainage System and		Orange	
Foundation Repairs	\$3,500	First United Methodist Church, Newburgh	
Jefferson		Roof and Spire Stabilization	\$9,000
Christ Episcopal Church, Sackets Harbor		Otsego	
Architectural Fees for Roof Structure Restoration	\$18,500	Chapin Memorial, Unitarian Universalist Society of Oneonta, Oneonta	
Kings		Restoration of Stained Glass Windows	\$3,000
Church of the Ascension, Brooklyn		Zion Episcopal Church, Morris	
Masonry, Coping, and Chimney Restoration	\$8,000	Structural Stabilization of Undercroft Chapel	\$6,000
Lewis		Putnam	
Rugged Cross Baptist Church, Brooklyn		St. Mary's Church-in-the-Highlands, Cold Spring	
Architectural Services to Develop Restoration Work Scope and Budget	\$5,700	Planning and Oversight of the Steeple and Buttress Restoration	
Madison		and Repair	\$7,500
Forest Presbyterian Church, Lyons Falls		Queens	
Repair Church Drainage System; Repair Shingle Siding	\$5,500	Church of The Resurrection, Kew Gardens	
Monroe		Copper Shingle Roof Restoration	\$10,000
Asbury First United Methodist Church, Rochester		Trinity Lutheran Church, Long Island City	
Restoration of the Steeple	\$10,000	Conditions Survey	\$7,500
Nassau		St. Lawrence	
Community Church of East Williston, East Williston		Grace Episcopal Church, Canton	
Construction Management Services for Slate Roof Restoration	\$2,000	Roof Replacement	\$10,000
Roof Restoration	\$8,000	Wanakena Presbyterian Church, Star Lake	
New York		Conditions Survey	\$1,500
Church For All Nations, New York		Saratoga	
Stoop Restoration	\$3,000	Temple Sinai, Saratoga Springs	
		Master Plan for Facility Restoration and Expansion	\$3,000
		Schenectady	
		First Presbyterian Church, Schenectady	
		Restoration of Stained Glass Windows	\$4,000
		Schoharie	
		Saint Mark's Evangelical Lutheran Church, Middleburgh	
		Repair of Bell Tower and Soffits	\$2,500

Steuben		German Evangelical Lutheran Church of St. Paul, New York	
First Baptist Church of Painted Post, Painted Post		Restoration of Copper-Clad Spires	\$30,000
Roof Replacement	\$4,000		
Suffolk		St. Andrew's Episcopal Church, New York	
Old First Presbyterian Church, Huntington		Restoration of Polychrome Slate Roofs	\$25,000
Belltower and Entry Restoration	\$10,000		
Sullivan		Union Theological Seminary, New York	
Eldred Congregational Church, Eldred		Spire Repairs at James Memorial Corner Towers	\$25,000
Repair of Structural Damage from Termites	\$5,000		
Ulster		Putnam	
Immanuel Evangelical Lutheran Church, Kingston		St. Mary's Church-in-the-Highlands, Cold Spring	
Roof Replacement	\$1,500	Steeple Restoration	\$25,000
Washington		Queens	
Saint Paul's Church, Salem		Flushing Monthly Meeting, Flushing	
Exterior Conditions Assessment	\$1,500	Restoration and Repair of Wood Shingle Roofs; Chimney, Drainage system; Rafter Reinforcement; Exterior Wall Shingle; Stone Foundation; Porch; and Exterior Doors	\$25,000
Wayne		2008 Total Robert W. Wilson Grants:	\$300,000
Grace Episcopal Church, Lyons			
Masonry Restoration	\$6,000		
Westchester			
St. Luke's Episcopal Church, Katonah			
Stained Glass Window Restoration	\$2,500		
Wyoming			
First Presbyterian Church of Wyoming, Wyoming			
Structural Engineering Services to Stabilize Choir Balcony	\$2,000		
2008 Total Sacred Sites and Consulting Grants:	\$247,700		

Robert W. Wilson Sacred Sites Challenge Grants

For comprehensive repair and extensive restoration projects, the Robert W. Wilson Sacred Sites Challenge Grant Program offers matching funds to churches. Matching funds must be donated from new sources. Since its launch in 2000, the program has awarded 54 challenge grants totaling \$1.6 million, generating over \$1.8 million in grant matches that will facilitate the completion of over \$28.5 million in restoration of historic religious properties across New York State.

Listed by County:

Kings

Church of St. Ann and the Holy Trinity, Brooklyn
Restoration of South Side-Aisle Roof \$25,000

Rugged Cross Baptist Church, Brooklyn
Restoration of Roof, Bell Tower, and Stained Glass Windows \$70,000

St. John the Baptist Roman Catholic Church, Brooklyn
Protective Glazing Installation \$25,000

New York

Church of the Ascension, New York
Brownstone Façade and Roof Restoration \$50,000

Help Us Publish *Common Bond*

Since 1973, the New York Landmarks Conservancy has been dedicated to preserving, enhancing, revitalizing, and reusing architecturally significant buildings in New York City and State. The Sacred Sites Program helps congregations throughout New York maintain, repair, and restore their buildings. In addition to providing hundreds of thousands of dollars in matching grants each year, the Conservancy offers technical help, workshops, and publications including *Common Bond*, a journal about the maintenance and preservation of older religious structures.

Common Bond depends on support from you. It remains the only journal in America focused on giving you vital information about the maintenance and restoration of religious properties.

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On the Cover

The Shrine of St. Anne at Eglise Saint Jean Baptiste

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