

JAMES RENWICK, JR.: ARCHITECTURE LESSON PLAN AND ACTIVITIES

Objectives: Students will learn about the architectural history of two Smithsonian Institution buildings designed by James Renwick, Jr. Students will learn about Renwick, the Smithsonian Institution Building or “Castle,” and the Renwick Gallery; practice describing what they see; and make their own design, turning a rough early drawing into a final model.

Time: 60-90 minutes

- Introduction (10 minutes)
- Vocabulary and diagramming activity (20 min)
- Comparison activity and discussion (20 min)
- Design activity (10-30 min)
- Optional presentations (10-15 min, each group)

Special Skills: analysis, design, drawing, geometry, observation, presentation, visual analysis, visual communication, vocabulary

Content Area: architecture, art history, history, social studies, technology, math

Materials:

- “Ordering Principles” worksheet, 3 pages
- “Observations” worksheet, 1 page
- drawing paper
- scissors
- masking tape
- cardboard or recyclable materials

Grade Level: grades 9-12

Introduction

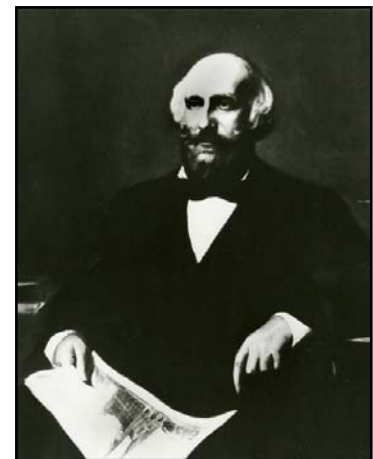
Students can learn to respond to architecture in the same way that they can be taught to respond to a painting or a sculpture by closely observing an object and talking about what it conveys. Although we may not always be aware of it, people have an emotional and subconscious response to their environment which can be intentionally shaped by the architects who design that environment. Students who develop the ability to think critically about what they see are more aware of their surroundings and are able to recognize historical, political, and social context in their communities. The first goal of this lesson is to introduce students to architecture, help students look at buildings in a new light, and encourage students to think about why buildings look the way they do.

Architects not only communicate through discussion and writing, they are also trained to use visual communication. Students who develop their ability to organize spatial elements are able to present their ideas in a comprehensive way. With this in mind, the second goal of this lesson is to have students practice visual communication through architecture by asking them to create and analyze their own designs.

Historic Overview:

The Smithsonian Institution's nineteen museums each have their own unique style, despite the fact that two of these, the Smithsonian Institution Building and the Renwick Gallery, were designed by the same architect, James Renwick, Jr. (1818-1895), in the same city, only a few years apart. Although these buildings share a common architect and are both public museums, the buildings themselves have very distinctive personalities and represent two different phases of Renwick's career.

James Renwick, Jr., was born in 1818 in Manhattan, New York. His father was an engineer and architect who taught natural philosophy at Columbia University. When young Renwick began his career, he followed his father to the



James Renwick, Jr. (1818-1895)

engineering department at Columbia. He entered the university at age twelve and spent six years as an undergraduate and three years as a graduate student. For several years, he worked as a structural engineer for railroads and water systems but eventually found his way into architecture, despite having no formal training.

It is possible that this lack of training contributed to Renwick's great genius as an architect. During the 19th century, Americans believed that by rejecting traditional western art and architecture they could establish a new, distinctly American artistic culture. Although most of Renwick's papers have been lost, his buildings are a testament to his architectural philosophy in which he revived and reinterpreted elements from many traditional architectural styles. Renwick picked up his eye for design through his broad education as an engineer, his father's work, and his own extensive travels. His first commission was the Grace Church Cathedral, an enormous yet graceful Gothic cathedral in New York. From there, the young architect made a name for himself by building Gothic churches throughout the state. It was this work that brought him to the attention of the Smithsonian's Building Committee which was touring the northeast in search of an architect to design the Institution's first building.



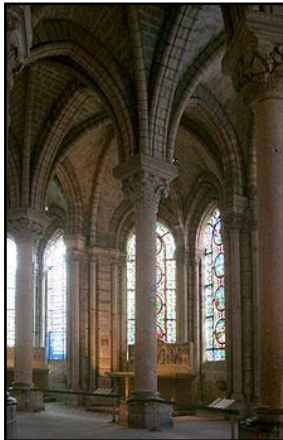
Renwick sketch of the Castle's north tower

The Smithsonian Institution was established in 1846 from a bequest by a British scientist named James Smithson. In his bequest, Smithson left his fortune to the United States and specified that the funds were to be used to establish an institution "for the increase and diffusion of knowledge" in his name. However, there was no set plan on what this institution should be. After a decade of debate, it was decided that the Smithsonian should be a place of research, exhibition and discovery that would include research laboratories, exhibit space, a library, an observatory, lecture halls, offices, and an art gallery.

Renwick, who was also famous for working well with his clients, was the man the committee chose to try and merge all of these needs into one building. Many different men in Washington, DC, wanted to dictate how the building would be built. On one hand there was the Building Committee which wanted a large Norman castle that would occasion, as



Tower of London built during 11th c. Norman Conquest

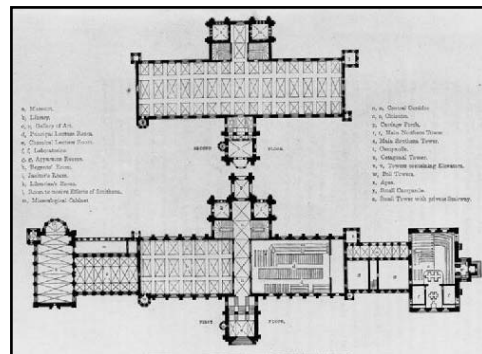


The Cathedral Basilica of Saint Denis, Paris, has beautiful vaulted ceilings.

was often said, “such awful grandeur and sublime sensations in the mind of the astonished beholder.” On the other hand there was the first Secretary of the Smithsonian, Joseph Henry, who wanted the building to be cost effective and functional. The institutional politics created a storm that Renwick had to work within, and there were some who thought he could be easily led. The architect was just

twenty-seven years old when he designed the Castle in 1846, but he reconciled the warring factions and created a very sophisticated design to house the Smithsonian.

The Castle is made up of a central block with two wings, each attached by a low range. There are nine different towers, none of which are quite the same. When it was first built, the main building was intended to hold a lecture hall, library, and reading room on the first floor, leaving the



Floor plan of Castle, by James Renwick, 1849.

entire second floor open as a large space for museum collections to be displayed. The Gallery of Art was in the west wing, and the chemical laboratories and apparatus rooms for scientific equipment were in the east wing. The smaller towers, placed around the outside of the building, held staircases to connect the floors without interrupting the floor plan and also acted as ventilation shafts. The largest towers held offices.

The building incorporated a wide spectrum of different architectural styles that came from 12th century Europe, sometimes called Saxon, Norman, Gothic, or Romanesque depending on the exact time period that the building comes from. The Smithsonian Regents never thought the medieval style would imply that the institution was stuck in the 12th century; they were more focused on the effect caused by that style of architecture, mainly its ability to evoke the feeling that institutions had great authority and influence in society. Like many 19th century visionaries, their definition of American culture came from a reinterpretation of western culture.

Examples of these styles can still be found throughout Europe in old churches, cathedrals, monasteries, and of course castles. The Smithsonian's Building Committee chose the Norman style's thick stone walls and plain surfaces for their simplicity and economy, but Renwick persuaded them to



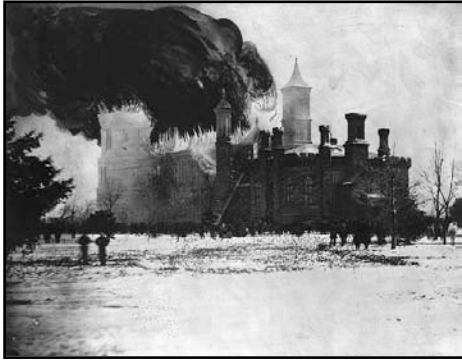
Buttresses in west wing of Castle, 2005

allow some Gothic elements that would add grace and ornament to the design. The



Buttresses create a central hall and side hall, like the main halls of the castle.

rose windows, vaulted ceilings, and tall thin windows came from Renwick's experience with Gothic churches. By the end of the project, the architect had grown to appreciate the Norman style as well, saying that it was the only architectural style "in which there is any hope for genius at the present day." For their part the Regents came around to Renwick's view as well. The chair of the building Committee, Robert Dale Owen wrote, "I like the independence with which it has shaken off the shackles of formal rules [...] the endless variety of character in its expressions."



Retouched photo of the Castle on fire, and the exhibits moved to the great hall on the main floor. In 1865, a large fire destroyed the upper story of the main building, prompting it to be rebuilt, and as recently as 2011 an earthquake cracked the chimneys on the east wing. The interior has been redone so that the original red stone walls and vaulted ceilings can only be seen in the west wing.

Today the Castle houses the Smithsonian Secretary's offices, additional administrative offices, exhibit space, and a welcome center. Although the Castle's functions have changed over the years, other museum buildings throughout the Smithsonian have maintained the original intention of their architects.

One of these museums is the Smithsonian American Art Museum's Renwick Gallery. When the gallery was acquired by the Smithsonian, it was renamed in honor of its architect. However, when Renwick designed



Painting of the Corcoran Gallery, 1870



William Wilson Corcoran (1798-1888)

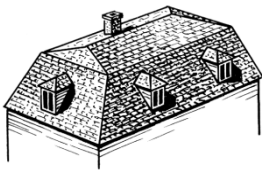
the building in 1859 it was called the Corcoran Gallery. Unlike the Castle, which was commissioned to house a public institution, the Corcoran Gallery was built by the wealthy banker and art lover, William Wilson Corcoran, who wanted a gallery to house his personal art collection.

In just four years after the Castle was completed, James Renwick, Jr., had earned a reputation as a brave and experimental designer, who combined many different architectural traditions in order to create a new American style. A pioneer, today, historians recognize that Renwick was playing with eclectic architecture several years before it was a popular style!

For the Corcoran Gallery, Renwick chose the Second Empire architectural style, made popular by the Louvre in Paris, France. Rather than reviving a medieval style, he was now experimenting with the current trends in



Tuileries Palace in the Second Empire Style, Paris



Mansard roofs have two angles.

European design. The Second Empire style is characterized by steeply sloping mansard roofs, paired columns, and sculpted decorations on the facades. The style was chosen in part for its connection to the great public buildings in Europe, which seemed a fitting design for an elite art collection.

The gallery was as richly ornate and artistic as the collections that it contained and in every way this building was intended to celebrate art. Over the entrance on the south façade are carved the words “Dedicated to Art,” and along the façade there originally stood three statues of Rubens, Rembrandt, and Titian. Underneath the roofs, the pediments are carved in elaborate detail. The columns have flourished caps and the façade is decorated with carved wreaths.

It took over a decade for the gallery to open when its construction was interrupted by the Civil War. For five years, the Union Army occupied the half-finished building and used it for offices and storage space. When the building was returned to him, Corcoran held a spectacular ball which attracted many



Corcoran Gallery of Art, late 19th century

important visitors to the building, including President Ulysses S. Grant. Eventually, Corcoran was able to install his collections and the building opened as the city's first art museum in 1873.

The collections and building received visitors and were admired for many years, but eventually the Corcoran's collection outgrew its building and moved to a new location on Seventh Street in Northwest Washington, DC. By 1899, Renwick's building housed the US Court of Claims, until they too needed more space and moved to a larger building in the 1950s. First Lady Jacqueline Kennedy intervened and saved the building when it was slated to be torn down, but the gallery remained empty until the eighth Secretary of the Smithsonian, S. Dillon Ripley, brought it to the attention of President Lyndon B. Johnson. In 1965, the gallery building was turned over to the Smithsonian Institution.



Grand Salon, 1971

Today Smithsonian American Art Museum's collection of American crafts is on display at the Renwick Gallery. The building underwent a series of renovations that returned it to its original appearance, and, when the collections were installed,

the designers kept the cozy elegance of private gallery, rather than the sleekness of modern museum.

Both the Renwick Gallery and the Smithsonian Institution Building are open to the public almost every day of the year, and are now National Historic Landmarks.

Instructions for Teachers:

Part I. Learn about James Renwick

Using the slides and historical overview teach students about James Renwick, Jr., and his design of the Smithsonian Institution buildings.

Part II. Practice Ordering Principles

Hand out the three pages relating to “Ordering Principles” and go over the architectural terms that are defined on the first page. Explain how these words are used to interpret designs and ask students to find where the principles can be applied to both the Smithsonian Institution Building and the Renwick Gallery. On the page called “Renwick’s Use of Ordering Principles,” have students identify examples of each principle in each building through a simple diagram. In small groups have students compare (1) which examples they chose to diagram and (2) how they decided to illustrate the example in their diagram.

Part III. Compare the two buildings

Hand out the work sheet called “Observations” and have students organize the information that they learned in Part I and their observations from Part II. Discuss what conclusions they can draw from these observations. Possible questions include: Why did the Smithsonian decide to build a castle to house its operations? What is the difference between the design of a public gallery and a private one? What is the theme of each building? Which building is the most iconic? Which would you rather visit?

Part IV. Design a building

Split the class into small teams and assign them the task of creating a building of their own. Give students a set of parameters, for example what purpose the building needs to serve, budget issues, environmental concerns, etc. If you decide to have students create a museum, they could explore images of the other [Smithsonian museums](#). Each team should decide what kind of museum they want to design (for ideas they could explore [images of the other Smithsonian Museums](#)). Encourage

students to use a variety of architectural design elements. Have students begin by developing some drawings of their design, explaining the style, material, color, size, and other needs taken into consideration. Once the team has agreed on a plan they should build a small model to present to the class. The more time allowed the more elaborate these models can be—with landscaping, color, mixed materials—but the designs can easily be communicated through plain cardboard or recyclable materials. When they are finished, have students present to the class, explain what parameters they began with, show their drawings, and present their model.

Additional Resources:

Glossary of Architecture Terms,
<http://www.nyc.gov/html/lpc/html/glossary/glossary.shtml>

Historic photos from the Smithsonian Institution Building
<http://siarchives.si.edu/history/exhibits/pictures/smithsonian-institution-building-castle>

Historic photos from the Smithsonian American Art Museum, Renwick Gallery
<http://siarchives.si.edu/history/exhibits/pictures/smithsonian-american-art-museum-and-renwick-gallery>

Biography of James Renwick, Smithsonian Institution Archives,
<http://siarchives.si.edu/history/exhibits/documents/renwickdrawing.htm>

Battle for the Castle, by Charlotte Helmer, November 2011, The Bigger Picture Blog,
<http://siarchives.si.edu/blog/battle-castle>

Smithsonian Institution Education site,
<http://www.smithsonianeducation.org/educators/>

The Smithsonian Museums,
<http://www.si.edu/Museums>

A Guide to Smithsonian Architecture, by Heather P. Ewing and Amy Ballard.
Washington, DC: Smithsonian Institution, 2009.

The Castle: an Illustrated History of the Smithsonian Building, by Richard E. Stamm,
second edition, Washington, DC: Smithsonian Institution, 2012.