ARCHITECTURE AND MUSIC

A Senior Scholars Thesis

by

RACHAEL MONET BEAVERS

Submitted to Honors and Undergraduate Research
Texas A&M University
in partial fulfillment of the requirements for the designation as

UNDERGRADUATE RESEARCH SCHOLAR

May 2012

Major: Environmental Design
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May 2012

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ABSTRACT

Music and Architecture. (May 2012)

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Often, both music and architecture reflect a certain zeitgeist of the era in which they were created; the underlying ideas and changing social principles are reflected in the art forms these societies create. This thesis identifies the underlying ideas of three case studies and analyzes the ways in which themes manifest themselves in architectural and musical form. Each of the buildings provides valuable insight into the societies that built, occupied, and composed music for them.
ACKNOWLEDGMENTS

I would like to thank Rodney Hill, my advisor, for his guidance through the process and his assistance with the development of this idea. I would also like to thank Dr. Mark Clayton for the assistance he provided in his Research Methods course.

Thanks to my mother, father and sister, for their unending support.
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CHAPTER I
INTRODUCTION

Johann Wolfgang von Goethe famously referred to architecture as “frozen music.”¹ This comparison has been drawn numerous times throughout history, though the intention has varied from era to era. Often, both music and architecture reflect a certain zeitgeist of the era in which they were created; the underlying ideas and changing social principles are reflected in the art forms these societies create.

This thesis is a modification of David Byrne’s theory about music and architecture, as set forth in the TED Talk titled “How architecture helped music evolve,” given in February 2010. In the video, Byrne posits that music is composed with the performance venue in mind, either consciously or subconsciously; the long, reverberative notes of Gregorian chant are tailored to spacious Gothic churches; the jangly, quick-changing chords of punk rock are suited to acoustically dead punk clubs, etc.² Although this is an interesting theory, my theory asserts that both the music performed and the architecture of the venue result from certain underlying social or cultural currents that manifest in the details that make architecture and music work together.

Introduction to literature

There is a large amount of literature concerning music and architecture, but much of it is

¹This thesis follows the style of Architectural Research Quarterly.

²
concerned only with the metaphorical connection. In an article by Young, et al, an experiment was conducted in which architecture students used musical pieces as jumping-off points in architectural design by identifying “feelings” from music and translating these to architectural forms.³

In her article titled “Schoenberg’s Interior Designs,” Holly Watkins relates the atonal, unadorned music of Arnold Schoenberg to the architectural designs of his best friend, architect Adolf Loos. Though it has been asserted by other scholars that the works of the composer and the architect are a result of each other’s respective treatises, Watkins instead claims that the two artists’ early works are a result of differing reactions to twentieth century urbanism. Loos’ rejection of exterior ornament was a result of fear that urbanism’s focus on exterior ornament would result in the loss of the sanctity of the interior, private space, while Schoenberg’s atonal music was an attempt to make music a more effective medium for conveying the inner nature. Later in their careers, the philosophies behind Schoenberg’s music and Loos’ architecture converge into a renewed interest in protecting the interior privacy. Though Schoenberg’s early work attempted to break the barrier between interior and exterior while Loos attempted to make greater distinction between the two, the works of both men are a result of the same cultural construct of modern urbanism.⁴
The metaphorical connection

Many parallels can be drawn between music and architecture on a metaphorical level. Both art forms are compositions meant to be experienced by the viewer/listener in a sequential process, though this sequence is obviously more tightly regulated in music than in architecture. While architecture is a spatial composition, often music is assigned certain spatial terms, such as “height” or “depth.” The range of tones in music lend themselves to such comparisons, as the deep bass of a composition is sometimes viewed as its “foundation,” while higher structural chords are “built” on top of it.\(^5\)

In the article titled “Musical Space and Architectural Time: Open Scoring versus Linear Processes,” Galia Hanoch-Roe analyzes the ways in which the experience of perceiving a performed piece of music is similar to the experience of architecture, in that the experience occurs in real time, but does not become a solid entity until it is perceived within the mind of the listener or viewer. Though the score of music and the architectural space exist as an entity, they are “retained as a process of observation over time” and are never experienced exactly the same every time. In particular, Hanoch-Roe draws comparison between architecture and open-scored musical compositions, which allow the musician to “move freely or randomly about the musical work.” This availability of choice to the performer gives the music a more architectural quality, as the performer move through a musical composition not linearly, but freely, as one might walk about a building.\(^6\)
In Vergo’s *That Divine Order*, the relationship of Gothic architecture and music is discussed at length. Medieval thinking and learning was in a period of transition during the Gothic era, and the emergence of highly ordered structure in thinking expressed itself in the polyphonic music and construction of cathedrals that occurred during that time.

The invention of the five-lined musical staff allowed for the standardization of liturgical chants, which before this point were mainly isorhythmic, or consisting of one line of melody. The notes, if ever harmonized, were chanted either a fourth, fifth or octave above the original melodic line. Before the invention of the staff by Guido de Arezzo, the liturgical chants used at Mass in the Catholic churches were recorded using a sort of relative notation, in which notes moving up or down in a scale were depicted by a note with a line indicating its direction.

This improvement in musical notation provided two major developments. The first was that rather than send priests from the Vatican City to teach the chants to monks across Europe through memorization, which could take up to ten years, the Vatican could now send out standardized sheet music, drastically reducing the amount of time taken to teach the priests chants. The second development was the ability of composers to expand the vertical “height” of their compositions. By having standardized notation, the music was more easily elaborated upon and multiple parts could be written. This led to the development of polyphonic music, which could include three or four vocal parts.
The increase in the “height” of music occurred around the same time that height came to be emphasized in Gothic cathedral construction. Though the heights of the cathedrals themselves varied very little from earlier Norman and Anglo-Norman churches such as Cluny, the methods of construction emphasized this verticality with pointed arches and engaged columns that broke off into ribbed vaults.

During the Gothic period, there was very little writing concerning the intentions of architects. The records available mostly detail daily comings and goings: financial records, supply inventories, fundraising attempts, etc. It would seem that the idea of architectural theory was not considered to be something worth recording, or at least preserving. On the other hand, references to music in an architectural sense abound. For example, theorist Jacques de Liége wrote about descant, the practice of embellishing well-established tenor plainchant from official liturgical music with ornate rhythmic parts written for higher voices. In writing about the organization of the music, he says:

> For who can devise a discant without the tenor, who can construct a building without a foundation? And just as a building owes its proportions to [those of] the foundation, so that it should be constructed not at the whim of the craftsman but according to the exigencies of its foundation, so too the discant should not be composed according to fancy, but must be determined by the exigencies and ratios of the notes of that same tenor part and should harmonize with these. Thus the discant depends upon the tenor, derives its proportions from it, and has to be in harmony not disharmony with it. The tenor is not derived from the discant, but the other way round.

This metaphoric reference to a foundation in music illustrates the principle ideas of organization in the Gothic period, both of music and architecture. The foundation of the
cathedrals is very rarely elaborated upon, but as the building soars above the foundation there exists a sort of variation on a theme, usually numeric in nature.\textsuperscript{5}

In this thesis, the relationship between music, architecture, and societal factors is studied through the course of three case studies: S. Maria del Fiore Cathedral in Florence, Italy; Palais Garnier in Paris, France; and the Apollo Theater in Harlem, New York. In each case study, the major events and zeitgeist of the creative society is discussed, as well as the history and form of the building, followed by an analysis of a piece of music that was performed in each building.
CHAPTER II

METHODS

The thesis will cover several time periods, with information being gathered from books and articles obtained through the TAMU Library services. This historical-interpretive analysis study operates under the assumption that the zeitgeist of an era manifests itself in materials created by the society during that time. The two cultural manifestations studied here are music and architecture. In order to reach appropriate conclusions about their relationship, music and architecture will be researched separately, and linked together with information gathered regarding the values and styles of the time.
CHAPTER III
RESULTS

Case Study One: S. Maria del Fiore Cathedral, Florence, Italy

S. Maria del Fiore Cathedral, alternately referred to as the Duomo, began construction in 1294, and was completed (except the façade) in 1436 with the completion of Brunelleschi’s dome. The cathedral, along with the accompanying motet, *Nuper rosarum flores*, provides insight into the period of transition from the medieval period to the Italian Renaissance.

Italy at the time of the construction of the cathedral was very different from other nations during this period. In France and England, royal families centralized power over large countries. However, in Italy, political fragmentation abounded in the form of city-states. Each city-state had its own form of ruling class. Florence, for example, was ruled by the Medici family, who had become rich in the banking industry. This diversity allowed for cultural and economic wealth, which combined with competitiveness for honor and glory as well as patronage from the papacy, created an atmosphere that greatly contributed to the wealth of art and architecture produced during the late medieval period.\(^7\)

In the Florentine city-state during the late 13\(^{th}\) and 14\(^{th}\) centuries, the wool industry created most of the economic wealth. In fact, in 1331, the Arte della Lana guild, or the
wool merchant’s guild, took up patronage of the S. Maria del Fiore Duomo. It was this organization that oversaw affairs relating to the building of the cathedral, including the appointment of architects to continue work as well as the competition that chose Filippo Brunelleschi to complete the dome. The rise of the merchant class during this time contrasts with the dominance of the papacy during the medieval period.8

*S. Maria del Fiore Cathedral, by Arnolfo di Cambio and Filippo Brunelleschi*

S. Maria del Fiore Cathedral stands today on the site of the church of S. Reparata, which was built sometime in the early 5th century. In 1294, Arnolfo di Cambio began designs for the cathedral, and during the period between 1294-1300, construction went so well that di Cambio was granted tax exemption for life. The project was well funded during these years, and by September 1296, the rising masonry walls were blessed. Between 1300 and 1310, however, di Cambio died and the project was more or less halted, with the exception of the construction of the Campanile from 1337-1359. Work on the building itself was halted until 1357, when a nameless committee took up the work. Between 1357-1367, many major decisions were made about the form and size of the church, and from 1368-1436, the construction of the cathedral was completed.

According to Franklin Toker’s article, “Arnolfo’s S. Maria del Fiore: A Working Hypothesis,” the cathedral appears to be “the result of a series of innovations of particular parts.” A collection of odd discrepancies in the church, such as blocked windows, off-axis doors and oddities in nave vaulting point to various changes being
made over the course of its construction. However, Howard Saalman states that the authors of the building are more clear: Arnolfo di Cambio began the project, and then work was sporadic until 1334, when Giotto began work on the Campanile. In the 1340s, Andrea Pisano took control, followed by Francesco Talenti in the 1350s. After the Campanile was completed, work on the church began. By 1418, the structure was complete with the exception of the dome. In 1418, the Wool Merchants Guild, which had taken up patronage of the cathedral, held a competition to determine the designer of the dome. At the time of its completion in 1436, it was the largest dome ever built and today is still the largest brick dome.

The cathedral itself is Gothic in style. The church consists of a very wide nave flanked by aisles, which terminate in a chancel. Chapels radiate off the chancel and transept, forming a Latin cross.

The dome rests over the intersection of the transept and the nave. The dome is considered one of the harbingers of the Italian Renaissance. One of the features of the dome that indicates the coming of the Renaissance is the lack of Gothic buttresses to support it. The logistics of constructing such a dome without supports is a subject of great scholarly study. Brunelleschi, in addition to the innovation of the double-shelled brick dome, also had to invent mechanisms for lifting the bricks to the roof. Brunelleschi’s ingenuity recalls the picture of a “Renaissance man”: originally a goldsmith, he became an architect and inventor.
Another indication of the changing philosophical tides lies within the interior of the church, as seen in Figure 1. The light interior contrasts with the darkness of the medieval and Gothic churches that precede it. This lightness is a result of the beginnings of Renaissance Humanism, which regards man as an essentially good being, contrasting with the existing Christian notion of man’s need for salvation from original sin. The use of lightness in churches during this time was meant to mimic the lightness and clarity of mind that should come with knowledge of God, instead of the darkness and spirituality of the preceding centuries.

Fig. 1. The interior of S. Maria del Fiore Cathedral. The Gothic arches recall the medieval era, but the light interior shows some element of the humanism characteristic of the Italian Renaissance. Photo courtesy Mai Le.
Nuper rosarum flores, by Guillame Dufay

In Marvin Trachtenburg’s article “Architecture and Music Reunited: A New Reading of Dufay's "Nuper Rosarum Flores" and the Cathedral of Florence,” the motet composed for the 1436 consecration of the S. Maria del Fiore Cathedral in Florence, Italy, was analyzed for its connection to the Renaissance cathedral’s architecture. It was found that the connection was not necessarily as direct as first written in Charles Warren’s analysis, titled “Brunelleschi’s Dome and Dufay’s Motet,” but that both the motet and the church were built based on numerology and proportion found in the Bible.

Warren’s error is the result of a line of thinking that abounds in the coupled analysis of music and architecture. Certain ratios present themselves in both the composition of music and the composition of spaces. On stringed instruments, which were most common during this era, the division of a string in half (ratio 2:1) creates an octave interval. Other such “musical ratios” include 3:4 and 4:5. These ratios from the time of Pythagoras have been considered “musical” ratios because of their roles in creating aurally pleasing intervals. Warren’s analysis posited that these ratios were purposely used to evoke the ratios used in music, striking some sort of subconscious connection in those experiencing the space between these musically ideal ratios and the space they were in. However, studies such as those conducted by Helmholtz on the physiology of hearing, have refuted the idea, as the human mind experiences music and space in very different ways.
What is more likely is that the ratios used in the construction are simply easy ratios to create, and are as visually pleasing as they are aurally pleasing. It has also been proven that the architectural analysis undertaken by Warren was incorrect and perhaps careless. His claim that the motet was composed with the proportions of the dome in mind is impossible, considering the respective dates of the completion of the composition and the dome.

Though Charles Warren’s conclusion was incorrect, connections have been proven between architecture and the motet composed for the dedication of Brunelleschi’s dome of S. Maria del Fiore. Guillame Dufay’s motet Nuper rosarum flores consists of an isorhythmic chant beneath, in which the two tenors chant Terriblis est locus ist, or “Awesome is this place” a fifth apart in an interlocking variant rhythmic pattern. This cantus firmus (or fixed song, forming the basis of a polyphonic composition) is based on a Gregorian chant quoting Genesis 28:17. The cantus firmus is divided into sections, whose proportions are 6:4:2:3.14 Warren’s analysis posited that this unusual set of ratios was a reference to the proportion of the dome, which was not finished for a full five months after the piece was performed. Craig Wright’s refutation states that, though the ratios are purposeful and architectural, they came instead from the proportions of Solomon’s temple, which was said to be 60 cubits long, divided into two sections of a 40-cubit nave and a 20-cubit sanctuary, and 30 cubits high.15
Case Study Two: Palais Garnier, Paris, France

The Palais Garnier, designed by Charles Garnier in 1861, housed the Paris Opéra from 1875 until 1982, when it was moved to the Opéra Bastille. The synthesis of neoclassical elements with Baroque detailing is reflective of the Beaux-Arts school that dominated France during this politically tumultuous period. The opera Samson et Dalila also characterizes the political turmoil its time.

Over the course of the building’s inception and construction, Paris saw the rule of three separate regimes. The inception of the building came during the reign of Napoleon III, during the short-lived Second Empire, during which a grand rebuilding of Paris was planned. This grand rebuilding led to the commission of the Palais Garnier. But due to the unpopularity of the Franco-Prussian war, Napoleon III fell out of favor with the French public and was replaced with Adolphe Thiers’ Third Republic. Discontent with this regime led to the 1869 Paris Commune uprising, which lasted less than a year and was quickly overthrown by the Third Republic.

Palais Garnier, by Charles Garnier

The Palais Garnier, also known as Paris Opéra or Opéra Garnier, was built from 1861–1875 in Paris, France. It was designed by Beaux-Arts trained architect Charles Garnier, under Emperor Napoleon III. Garnier won the commission as many architects of that era did; he was the winner of a design competition, judged by the emperor himself. The building was constructed to house the Paris Opéra.16
The Ecole des Beaux-Arts in France was one of the few formal architecture schools of its era. The program focused heavily on the relationships of spaces within a building’s program, laying out these spaces on major and minor axes. The main focus of the school was the progression through these spaces, also known as the *marche*. It also focused heavily on the antiquities of Rome, as well as synthesizing details from Italian and French. During the time that Garnier attended the school, the school was in the process of transitioning between favoring the Neoclassical style, taught by Louis-Pierre Baltard, the Professor of Theory at the Ecole, and an uprising of Romanticism, taught by famed Gothic Revivalist Eugène-Emmanuel Viollet-le-Duc along with others.

During Garnier’s time at the Ecole, he produced work that reflected this confusion, until 1848, when he won the Prix de Rome, the extremely prestigious competition held by the school. Following his victory, he traveled to Rome, where he lived as a *pensionnaire* in the Villa Medici. During this time, he traveled all over Italy and to Greece, where he enthusiastically studied the antiquities. His return to Paris coincided with the establishment of Napoleon III’s Second Empire, a fortuitous event for Garnier, as Napoleon III’s regime planned an ambitious campaign of rebuilding throughout Paris. Garnier became part of the highly regimented architectural bureaucracy in January 1855 and worked his way through until his luck suddenly changed: he won the commission for the Paris Opéra via a competition held by Napoleon III in 1861.
Competitions in France were unique; they allowed young, up-and-coming architects a chance to helm important monumental projects, instead of automatically awarding commissions to the well-established, older architects in the French architectural bureaucracy. In 1861, when the commission was awarded to Garnier, all other state-commissioned buildings were designed by architects of the previous generation, who were established members of the architectural bureaucracy. Napoleon III initiated this particular competition in the interest of maintaining public support for what was essentially a dictatorship. By holding a public competition, he strove to appear liberal to a sensitive public.

Prior to Garnier’s Opéra, the Paris Opéra had been housed in eight separate buildings. Four of the buildings were remodeled to house the Opéra, but did not fully respond to the reformed French theater. The other four buildings were built specifically to hold the Paris Opéra.

The building itself played an interesting role in Parisian history. Its construction began in the midst of the Franco-Prussian War, which led to the downfall of the leader that commissioned the building. During the 1870-1871 Siege of Paris, which eventually resulted in France’s defeat, construction on the building was halted and the building was used as shelter and a central holdout for the French military. The Palais Garnier was used as a hospital and a site for food storage. The National Guard also used the building as a center to distribute food to the people of Paris. Construction resumed after the fall of
Paris to the Paris Commune, but sections of the building were not completed as planned. Interestingly, the name of the theater was changed during this time from the “Academie Imperiale de Musique” to the “Academie Nationale de Musique,” reflective of the Third Republic’s dislike of the Second Empire.\textsuperscript{16}

The Opéra is a cornerstone of Beaux-Arts design, and the epitome of the time in which it was created. It captured the essence of Beaux-Arts traditionalism while encompassing new ideas of how to interpret the principles of the school. According to Andrew Ayers, Garnier’s definition of the building as being in the style of Napoleon III remains undisputed, so much does the Palais Garnier seem emblematic of its time and of the Second Empire that created it. A giddy mixture of up-to-the-minute technology, rather prescriptive rationalism, exuberant eclecticism and astonishing opulence, Garnier's Opéra encapsulated the divergent tendencies and political and social ambitions of its era.\textsuperscript{17}

The opulence of the building, with its busts of composers lining the façade, sculptures on the roof, and the gold- and nymph-laden interior, reflects the Baroque decoration that often adorned modest floor plans of Beaux-Arts buildings. The Grand Stair pictured in Figure 2 provides a stunning example of the mix of symmetry and opulence that Beaux-Arts synthesizes. The floor plan is laid out on a very precise set of axes, in keeping with the Beaux-Arts style, as seen in Figure 3. The massing on the outside, however, is somewhat of a novelty for the era. Instead of taking the Beaux-Arts principles literally, Garnier interpreted the floor plan in volume by differentiating the massing for different functional spaces.\textsuperscript{16}
The building features a number of ornate sculptures depicting famous composers, Greek gods and muses. These richly detailed statues and busts are highly reflective of the Romantic and Baroque styles.

However, the ceiling above the audience, as seen in Figure 4, was painted by Marc Chagall in 1964 and bears a modernist interpretation of scenes from 14 well-known operas. This bit of modernism in such a Baroque interior strikes the viewer as odd, even accidental.

**Fig. 2.** The Grand Staircase. The opulent, richly detailed interior is reminiscent of the Baroque style. Photo courtesy ARTstor.
Fig. 3. An abstracted floor plan of the Palais Garnier. The major and minor axes along which Garnier organized the spaces are labeled. Illustration based on engraving appearing in Christopher Mead’s book Charles Garnier’s Opéra: Architectural Empathy and the Renaissance of French Classicism.
Fig. 4. The ceiling above the auditorium. Chagall’s 1964 work contrasts with the heaviness of the gilt detailing surrounding the painting. Photo courtesy ARTstor.
Samson et Dalila: Mon cœur s’ouvre à ta voix, by Camille Saint-Saëns

Around the time the Palais Garnier was being constructed, Camille Saint-Saëns began writing one of his most successful operas, Samson et Dalila. The opera premiered in Weimar in 1877, but due to reluctance on the part of the French public, did not appear on the Palais stage until 1892.

Saint-Saëns was a child prodigy, and grew up as a prolific writer of poetry and music during the transition between the bombastic “grand opéra” style of Meyerbeer and the newer French lyrique style of opera, which emphasized personal relationships and more restrained music. His music in particular, reflective of the musical and architectural esprit of France at the time, was Neoclassicist, providing drama while avoiding overly over-emotionality and placing importance on rationality of thought. During his early years of composing opera, he aligned himself with progressive composers such as Liszt and Wagner, though he would later identify himself as a conservative musician.18

Due to France’s loss in the Franco-Prussian war, tensions between France and Germany were high, and these tensions did not exclude opera. Any opera that was considered German, especially Wagnerian, was looked down on. The Wagnerian style incorporated leitmotifs, or recurring themes, throughout the course of an opera, often weaving them into the symphonic fabric of the instrumentation. In Samson et Dalila, Saint-Saëns adapts the Wagnerian style to the French lyrique as well as grand opéra, and this inclusion won him few fans in the French audience.
The opera, centering on the Biblical story of Samson and Delilah, was met with alarm at the idea of depicting Biblical characters in an opera, despite many precedents. The discomfort with the idea issues from the tradition of portraying Biblical stories as oratorios, as this opera was originally intended; oratorios were depicted without the use of costumes, scenery or action out of respect for the sacred subject matter. Coupled with this reservation, the opera’s Wagnerian style also bred dissatisfaction in the French public. The combination of these conditions led Saint-Saëns to premiere the opera in Germany at the Weimar. Only later was the opera to appear on the stage of the Palais Garnier.

The opera as a whole leans more toward the grand style of Meyerbeer, with its grand chorus in the first act and spectacle of sight, but the arias intended for Dalila have unmistakable *lyrique* qualities. The music itself is illustrative without being overly sensual; as the Philistine satrap Abimelech enters the scene, the orchestra plays what Hugh MacDonald refers to as “gross instrumentation (two ophicleides) which Bernard Shaw deplored as too Meyerbeerian, ‘with his brusque measures and his grim orchestral clinkings and whistlings’.”

This opera is reflective of its time for a few reasons. First, the Neoclassic rationalism reflects the general trend of the Ecole de Beaux-Arts at the same time as its composition. The melismatic nature of the piece, with syllables spanning multiple notes, gives the aria
a sense of flowing that feels more Baroque than it does Classical. The instrumentation employs multiple string instruments to create chords in a technique called divisi. This sense of unity among disparate parts recalls the different types of Classical details used on a building to create a sense of unity. Second, the balking of the French public at the Wagnerian style is reflective of the political consequences of the Franco-Prussian war and the growing mutual resentment between the Germans and the French.

**Case Study Three: Apollo Theater, Harlem, NY, USA**

The Apollo Theater in Harlem catered almost exclusively to the black neighborhood it occupies. The story of a society treated as less than others, struggling to find their place within the creative and political community during the 1930s-1970s is embodied in the repairs and modifications made to the theater during this time, as well as the jazz and soul music played in its programs.

*The Apollo Theater, by George Keister*

The Apollo Theater is located on 125th Street in Harlem, New York. George Keister, architect of numerous theaters including the Stuyvesant/Belasco Theater, the Selwyn Theater, and the Earl Carroll Theater, designed the neoclassical theater. Completed in 1914, the theater was first called Hurtig & Seamon’s New Theater and barred blacks from patronizing or performing in the space, which specialized in burlesque shows. Then, in 1933, future mayor Fiorello La Guardia took up political arms against burlesque, causing the theater’s closure. At this time, the building’s owner, Sidney
Cohen, and his managing partner, Morris Sussman, restructured the theater’s format to market directly to the growing black population in Harlem. It closed in 1976 due to dwindling audience attendance and a dearth of performers wanting to appear. Percy E. Sutton, a radio tycoon in New York, reopened it in the 1980’s, but, unable to turn a profit, he gave the theater over to the Apollo Theater nonprofit in 1992.

The theater’s programming reflected its audience; most of the talent brought in was either talent sourced from the streets of Harlem or famous black comedians, jazz musicians and soul singers. In his book, Uptown, Jack Schiffman says, “the sound on the stage of the Apollo is just a refinement of the noise outside... more disciplined, of course, but still echoing its environment.” The musical and comedic performances of the Apollo acted as a sort of sounding board for the social condition of the Harlem neighborhood it occupied. Schiffman also states:

> For it is at the Apollo that the tragic past, the turbulent present, and the uncertain destiny of the black man are microcosmically portrayed in song, dance and humor. In the course of an evening there one may learn at a stroke more about the black experience than can be derived from a whole library of black studies...

One of the most important programs hosted by the Apollo Theater was Amateur Night, began by Ralph Cooper in 1934. This program gave rise to talents such as Ella Fitzgerald, Sarah Vaughn, James Brown and even Jimi Hendrix. The results of Amateur Night were determined almost entirely by the crowd’s reaction to the performers. If the crowd showed approval, the act was allowed to continue. However, if the act was found
to be wanting, the crowd would boo and a staff member would chase the performer off the stage with a hook.27

This democratic atmosphere contrasts greatly with the hierarchal and stratified nature of the Palais Garnier, which was overseen by government-appointed architects, and the S. Maria del Fiore Duomo, which was overseen by the Church. The Apollo was managed solely by private citizens for private citizens, and had no governmental body to oversee its management. As a result, as the theater fell into disrepair over the years, repairs that were made were not often in keeping with the original details. Sometime in the 1940s, the scrolled sign of the Hurtig and Seamon theater was replaced with the vertical blade sign that still sits on it today, sporting red neon Helvetica letters, as seen in Figure 5. The coffers in the ceiling of the lobby, along with its pilasters, were removed in the 1960s and replaced with pink marble and brass doors. Murals were painted over, and then covered by red cloth. Over the course of time, the end standards were replaced with mismatching pieces, resulting in eight different kinds. Often piecemeal repairs, including the replacement of the once-beautiful spindly balustrade at the top with a cheap post and plywood mock-up, were the result of small business owners looking to cheaply replace the damaged parts and keep the show moving.28

The original façade of the Apollo was an exercise in eclectic neoclassicism. The neoclassical style began in Europe in the late 18th century as both a reaction to the ornate Baroque and Rococo styles of architecture and a revival of the “ideal” classical societies
of Greek and Rome. The movement emphasized rationalism and Classical ideas of civic duty and democracy. Neoclassical art and architecture strove (and strives, as it is still used today for buildings ranging from federal government institutions to small houses) to invoke the purity of the ideals of Classical societies. It was later incorporated into the Beaux-Arts style, spread in the U.S. by Richard Morris Hunt and Henry Hobson Richardson, the first Americans to study at the Ecole des Beaux-Arts in Paris. This particular use of Neoclassicism was more of a reflection of America’s deference to Europe in terms of taste and style. The Neoclassicism that presents itself in this theater is most likely an example of the Beaux-Arts-derived neoclassicism.

This project came with a fairly large budget of $600,000. Using this financial freedom, Keister deviated from the more traditional purist Classical façades he was known for and created a highly decorated neoclassical theater. On the façade, he employed anthemia, the highly scrolled floral decoration characteristic of ancient Greek and Roman architecture, along with egg-and-dart molding, Ionic and Tuscan capitals, Greek keys, and eagle cartouches. Gilded relief urns, garlands and portrait medallions decorate the interior of the theater, as seen in Figure 6. The interior theater space itself consists of orchestra-level stall seating, with lower and upper mezzanine areas. The interior is currently still under renovation, to replace the mismatched and haphazard alterations that have taken place over time.
Fig 5. The façade of the Apollo Theater. The red neon Helvetica sign has hung on the neoclassical façade since the 1940s. Photo courtesy The Apollo Theater Foundation.
Fig 6. The Apollo Theater interior. The interior has been restored to the original detailing. Photo courtesy the Apollo Theater Foundation.

*I May Be Wrong (But I Think You’re Wonderful), by Henry Sullivan and Harry Ruskin*

I May Be Wrong (But I Think You’re Wonderful) was written in 1929 by Henry Sullivan with lyrics by Harry Ruskin. This piece was played “before each and every show by whatever band was featured that week.” Like most jazz pieces, this song was recorded by various artists in various ways over the years. The performance of the piece varied each time: the lyrics, chord expressions, and structure change drastically from performer to performer. Male performers, including Perry Como, include the verse “All of my shirts are unsightly/ All of my ties are a crime/ If dear in you I’ve picked rightly/ It’s the very first time.” Female recording artists, including Doris Day and Judy Garland, omit this verse for obvious reasons, and include the verse “Deuces to me are all aces/ Life is to me just a bore/ Faces are all open spaces/ You might be John
Barrymore.” Fitzgerald, on the other hand, adapts the “male” verse to female performance by changing the words to “All of my skirts are unsightly/ All of my shoes are a crime...”

Ella Fitzgerald, former winner of the Apollo Amateur Night, accompanied by Joe Pass on guitar, recorded the version chosen for the purposes of this thesis. Pass moves freely between chords, adding embellishments in the pauses between Fitzgerald’s lines. This improvisational collaboration is characteristic of jazz performances consisting of vocal performers and rhythmic accompaniment. The instrumentalist “comps” chords, or plays indicated chords while the singer is singing, but during pauses, adds “licks” of his own. The scat singing heard in the solo section is one of Fitzgerald’s vocal signatures. Her improvisation is followed closely by Pass’s solo over the head. After this solo section, a reprisal of the lyrical section plays with the structure of the song in a sort of verbal improvisation.

The improvisational nature of jazz music is reflected in the spaces in which jazz was played. Especially in the early days of jazz, very few venues were created specifically for its performance. Clubs, such as the Apollo, Minton’s Playhouse, and the Cotton Club, often reused spaces intended for different types of musical or theatrical performance for their own purposes.
CHAPTER IV

CONCLUSION

All of the case studies above have connections with the spirit of the time in which they were created: S. Maria del Fiore reflects the religious backdrop on which Italian merchant society at the time flourished, Palais Garnier reflects the lushness of the French upper class that attended the operas as well as political turmoil, and the Apollo’s piecemeal repairs and updates reflect the democratic society that it served. But, at the same time, there are limits to the range of viewpoints these buildings and their music reflect. Especially in the first two case studies, the buildings were created and commissioned by leaders of the upper class (the Church and the Emperor, respectively), and as such, the buildings reflect the zeitgeist that existed within those echelons of society. During the Renaissance and the Second Empire, stratified class systems spelled a different reality for people of lesser wealth. Naturally, these people did not commission long-lasting monumental buildings. The day-to-day lives of the lower classes are not as accurately reflected in these buildings. But they tell part of the story: they tell of the religious society that glorified God and money above all else, they tell of political upheaval and the search for identity by a country caught between nostalgia for the past and hope for the future, and they tell the story of a society treated as less than others, struggling to find their place within the creative and political community.
REFERENCES


<http://www.ted.com/talks/david_byrne_how_architecture_helped_music_evolve.html>


[7] Cassidy, Brendan, Politics, Civic Ideals and Sculpture in Italy, c. 1240–1400
  (London: Harvey Miller Publishers, 2007)


<https://libcat.tamu.edu/vwebv/holdingsInfo?bibId=3085570>

[20] Macdonald, Hugh, 'Samson Et Dalila,' Grove Music Online,  
<http://www.oxfordmusiconline.com/subscriber/article/grove/music/O904621?q=samson+et+dalila&hbutton_search.x=0&hbutton_search.y=0&source=omo_gmo&search=quick&pos=1&_start=1>


<https://libcat.tamu.edu/vwebv/holdingsInfo?bibId=3108706>

[23] Pristin, Terry, 'Big Ideas for Apollo Theater are Held Up by Internal Squabbles,' *New York Times*, (September 17, 2000)


<http://www.apollotheater.org/about/history>


<http://www.traditional-building.com/Previous-Issues-06/AugustProject06apollo.html>
[29] Neoclassicism and America 1750–1900 - What is Neoclassicism?


[31] Sullivan, Henry and Harry Ruskin, “I May Be Wrong (But I Think You're Wonderful),” Perry Como, Saturday Night with Mr. C, 1958, mp3

[32] ---“I May Be Wrong (But I Think You're Wonderful),” Doris Day, Young Man with a Horn, 1950, mp3

[33] ---“I May Be Wrong (But I Think You're Wonderful),” Judy Garland, Over the Rainbow / I May Be Wrong (But I Think You’re Wonderful), 1944, mp3

[34] ---“I May Be Wrong (But I Think You're Wonderful),” Ella Fitzgerald and Joe Pass, Speak Love, 1983, mp3
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