

# Architecture and Music

***"Music is liquid architecture; Architecture is frozen music."***

-Johann wolfgang von Goethe

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Report by



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## 1 Introduction

How do architecture and music converge? When one listens to music, it gratifies the ears, whereas exploring architecture delights the eyes. Architecture expresses design in the form of space built in harmony with the surroundings, while music expresses emotions in sound and rhythm. Both music and architecture are abstract arts that correlate in harmony, proportion, rhythm, dynamics, and texture. Architecture produces a space that people move within. Music, however, pulls people down the memory lane of time. Therefore, architecture is described as the music of space, and many researchers chose to describe it as the "Silent music," and music is depicted as the architecture of time (Elham Azadi, Sept 2015). In their simplest form, the overall common qualities between music and architecture can bring emotions in high tones.

## 2 Creation: Music and Architecture

One can say that music is highly similar to architecture in that both use ornaments or overtones to make architectural design or music more impactful. Architecture and music use similar terms; those terms are genuinely musical but implemented in architecture explanations. For example, let us explore the phrase "rhythm." A musical rhythm is a tone that makes one dance or taps a foot. One note by itself may sound tedious. Therefore, music uses rhythm to ensure that the outcome is gratifying to the listener's ear. Rhythm comes in and creates those tones, put together as a whole.

Architecture uses rhythm as well; an architectural rhythm is a set of repeated elements used to organize spaces and create fluency to the eye. While music's rhythm is the beat and repetition in architecture, it is structural elements and shapes, combining repeated patterns that create rhythm.

Texture as well is used in both music and architecture. In architecture, the texture is the feel of the materials applied in construction, yet it is the layers of sound and rhythm in music. Harmony in music balances different musical instruments into one complete whole. Harmony in architecture is the balanced use of individual elements to build physical characteristics. When using these variables, music becomes a comprehensive, dynamic, and creative art. As for architecture, these are the building blocks of any architectural practice.

### 3 How Architecture Affects Music

Concert halls and operas are good examples of where architecture and music converge. The musician David Bryan articulated how architecture helped music evolve in one of his TED talks, detailing how he identifies a difference when playing music in several halls, acoustics change, and music sound altered (Byrne, 2020). He explains how music vocals sang in cathedrals are perfect for the context. They sing stretched long notes with consistent key and low rhythm; therefore, making it sound better because of the high vaults and open space. It is proven again by the Frank Gehry design of the Walt Disney concert hall as he designed the hall while keeping the musicians in mind. He explains: "An orchestra is only as good as the hall they play in, and to that extent, a hall becomes an instrument of its orchestra" ("Acoustics | Walt Disney Concert Hall 10th Anniversary", 2020). Gehry believes that when musicians are comfortable in the place they play in, the music sounds better. One starts to sense how context does influence the music played in it. Music has always been affected by architecture. "Well before the 20th-century composers were writing pieces specifically for their desired performance venues, be it palaces, cathedrals or concert halls" (Brice, 2018). As evident, architecture is playing as an instrument of sound; it determines how the audience receives the music. Concert halls and operas designed correctly elevate the performance of the musicians and the music.

*"Architecture is an instrument; the sound produced by a violin is always further shaped by the material and space of the environment it is played in."* – J. Voorthuis (BRICE, 2018)

Architecture does not just play a part in enhancing the sound; it enhances the setting as well. Many musical concerts have taken place with an architectural backdrop. The Eiffel Tower in Paris, the Roman Theater in Amman, and the pyramids in Egypt are just a few examples of how concerts have used unique backdrops to amplify the experience.

### 4 How Music Affects Architecture



- LeParisien, 2014



- google images

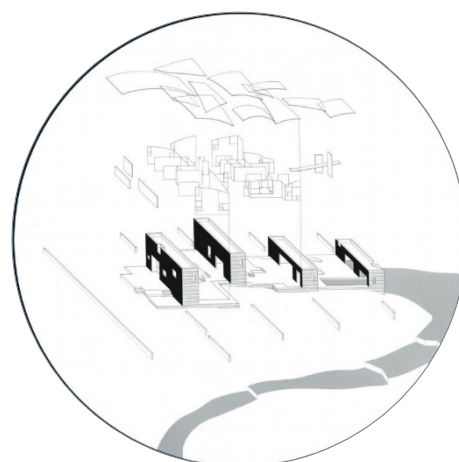
Architects throughout the years have tried to incorporate the inspiration of music in their designs. To translate music into a physical form, one must study harmony; this is the most explicit connection between both arts. Musical harmony can be translated into math using ratios, and

math into geometry, and geometry into architecture. "Geometry forms a large part of the creation of architecture; in the past, geometry and architecture were once considered the same, with architecture symbolizing geometry in the built form" ("THE METAPHOR OF MUSIC IN ARCHITECTURAL THEORY AND PRACTICE," 2020). The musical theories and concepts are used to inspire and define architecture. Therefore, to study the impact of music on architecture, one must investigate case studies of architects who took interest and inspiration from music to influence their designs.

The stretto house by Steven Holl Architects is a private house for art collectors. The stretto house design inspiration is Bartok's music for strings. Holl decides to find a concept that allows him to stress the idea of the four flowing dams found on the site. Holl had always been interested in music, so he started studying the musical concept stretto, which allowed him to achieve the concept he wanted. Looking at the images below, one can sense how the design has recreated the musical composition in the existing architecture form. He uses four concrete blocks and curvy metal roofs following Bartok's music by strings, Percussion, and Celeste. These instruments group into heavy and light instruments, so he used concrete as "heavy" and metal as "light" to promote the stretto. He also uses this concept in the configuration of the four sections. He slightly shifts them up and down, as seen in the musical composition. As a result, the stretto house illustrates how music can influence building designs by translating musical techniques into architecture.

Bartok's Concept of Music by Strings,  
Percussion and Celeste

Stretto house, Steven Holl Architects



## 5 Conclusion

Overall, music and architecture share many attributes. They follow harmony, rhythm, texture, dynamics, and both express art. The concept and principles of architecture extend and meet with those of music. Their overall qualities inspire each other in many ways. The influence they both have on one another becomes exquisitely thorough.

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