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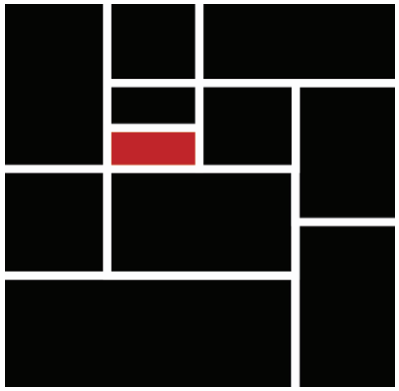

ARCHITECTURE AS THE PRODUCTION OF INTERIORITY

A Comprehensive Tool to Understand Interiority in Architecture for an Evolving World

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ABSTRACT

World population is exponentially increasing, causing a depletion of natural resources, global temperatures to rise, and buildable land to diminish. Research has shown that as a reaction to these issues, designers are using old and unused buildings as the blank canvas for new projects. The objective of this thesis is to determine new ways of understanding existing buildings in case they undergo alterations and re-purposing. More specifically, how can designers look to interiority to help solve pressing issues of space-making? In this context, interiority refers to spaces within structures that are protected from exterior elements.

Interiority of historical buildings will be analyzed through selecting eight architectural case studies that represent a large span of stylistic movements and time periods. Using a method of diagramming where interior spaces are represented as shaded black masses, the results of the case studies will be compared in order to distinguish a pattern of interior diagrammatic categories. The three types of interiority examined are structural, programmatic, and cultural. The results identify four subsequent categories of interior space that summarize interiority throughout the history of architecture: uniform interior, subtracted interior, missing interior, and interiors within interiors. With this information, designers can use the method from this thesis to categorize other architectural examples. This will create a better understanding of original designs and their interiority. This method will become increasingly beneficial as designers continue to alter and change existing structures to meet today's needs.

TABLE OF CONTENTS

INTRODUCTION

Designers are constantly faced with challenges that have never been confronted before. The problems the world is facing are greater and the consequences are higher than ever before. Designers find themselves at a pivotal point in space-making and design where empty land is no longer available in urban areas. Unused and obsolete buildings are becoming the new blank canvas for design.

Buildings that were originally used for one purpose are often being transformed into something completely different, based on local needs for space-making. Take, for example, the Church of Saint Francis Convent in Santpedor, Spain. The historic space was dramatically converted into an auditorium in recent years (Haas, n.d.). In London, we have seen a power plant was turned into a museum (Tate Museum) and a water tower turned into a home (Haas, n.d.). These are just a few instances of the widespread adaptations that are being made to existing structures. If people plan to inhabit existing structures in new ways, the structures themselves must also adapt to fit these new standards of use. Furthermore, if the design community is to successfully advance into this new era of widespread repurposing, the design community must better understand the intent behind space-making within historical buildings. Understanding the original purpose gives respect to the history of design while respectfully altering it to meet today's need.

The best way to comprehend the intentions of space-making within a building is to examine the interior attributes of that building. The current way in which laypeople and designers are taught to understand historical architecture is through a combination of physical features and attributes possessed by a building and the time in which it was constructed. Designers are taught that features such as flying buttresses or large stained-glass windows signal its Gothic architecture. The architecture community is conditioned to believe that if a home was built in the 1920s with long horizontal band windows it must be International Style. However, identifying physical features only gives the viewer an idea of historical context. It does not give them any indication as to how the building is experienced spatially by its inhabitants. Understanding the spatial and experiential attributes of a building is a much more effective frame of cognition when trying to change the purpose of any building because it focuses on program and use rather than just appearance.

Designers have to look to "interiority" within buildings to be able to adapt and change their purpose and functions. Interiority can be described as "the quality of being interior or inward" (Merriam-Webster 2020). Interiority can also be defined as the quality of interior space or "a concept of boundedness and openness, both physically and culturally"(Keane 2001, 94). Relating to architecture, in the diagram below (Figure 1), the red box can be interpreted as interiority, while the black boxes represent the surrounded elements that give the red box its inward feeling.

Figure 1

In Figure 2 below, the red box in the first diagram is understood as a building within the context of a city. In the second, as an individual office within an office building. In the third, as a closet within a home. Interiority within architecture can be present at all scales of design.

David Erdman, a professor at Yale's school of architecture wrote, "As populations increase, cities become denser, resources diminish, and economies sober, architects will need to confront new methods of interior space making" (Erdman 2017). This new method of interior space-making is only achievable if designers focus on interiority within architecture. This thesis explores interiority in historic architecture by reviewing two current architectural philosophers' theories on interiority to prove the validity of interiority. It then creates a simple method of diagramming buildings that is rooted in experiential and spatial qualities. Using

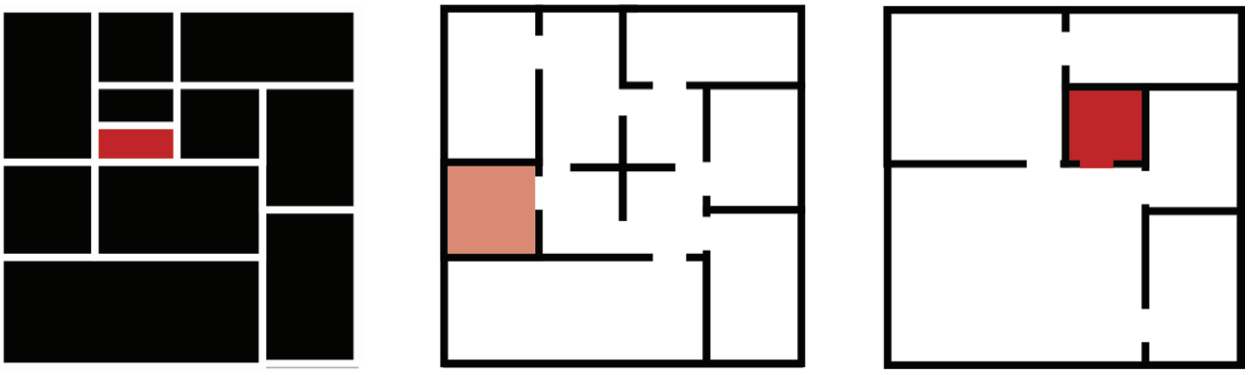


Figure 2

this method through eight historical case studies, the resulting diagrams will be analyzed to develop new categories which explain spatial relationships.

The eight buildings that will be used as case studies include the Pantheon from the Classical Style era; Notre Dame from the Gothic era; Ryoanji Temple from the Japanese Buddhist movement; the U.S. Capitol Building from the Neo-classical style; Casa Batlló from the Art Nouveau style; Barcelona Pavilion from the International style; the Chrysler Building from the Art Deco movement; the Centre Pompidou from the Post-modernism era. To properly dissect the eight case studies, appropriate literature was selected to gain a better understanding of each building examined. The literature review in the next chapter will identify and discuss the literature used for the eight buildings.

The literature review, or chapter two, is broken into two main sections: Interiority Literature Review and Historic Literature Review. The purpose of the Interiority Literature Review is to discuss current literature already engaging in conversations about interiority in architecture. This section demonstrates an existing conversation that this thesis will add to. The Historic Literature Review discusses all of the sources used for analyzing the eight case studies. With an understanding of influencing works, methodology can be explained.

Chapter three, methodology, contains the historic example selection method, historical analysis method, and diagramming method. Within the historic example selection method, the eight buildings are identified again. They are described as representing significant stylist movements that take place over large spans of time and large geographic ranges. For the historical analysis method, or the case study analysis method, The SAGE Dictionary of Qualitative Management Research's method for historical analysis was used to decipher a set of questions to answer within each case study. Lastly, the diagramming method walks through how to use a floor plan of the case study to create three diagrams that show the structural interiority, programmatic interiority, and cultural interiority.

In chapter four, the data analysis, all eight case studies are examined and diagrammed. This section discusses the essential background knowledge necessary to utilize the diagramming

method and then walks through the actual diagramming process that leads to the three diagrams for structural, programmatic, and cultural.

Chapter five is the synthesis of chapter four. Within this chapter, an overall chart is shown with all twenty-four diagrams present on one page. From these twenty-four diagrams, patterns are recognized and summarized into four overarching categories of diagrams: Uniform interiors, subtracted interiors, missing interiors, and interiors within interior.

Within the conclusion, the relevance and use of these four overarching categories is explained. These four categories and the method for diagramming presented in this thesis can be used to diagram any building in history. When a building is renovated or altered in purpose, this method can be used to better understand the original project. With this understanding, architects and designers can make appropriate changes to make a smoother transition into the new building. These findings also add to the conversation of interiority already so prevalent within the architectural philosophy community by contributing a new diagrammatic way to discuss and understand interior spaces in architecture.

LITERATURE REVIEW

INTERIORITY LITERATURE REVIEW

To fully understand interiority and its relation to architecture, architectural philosophy can help. Philosophy and architecture have long been intertwined – philosophy can impact architecture and design, and vice versa. Humanistic thinking has always played a dominant role in architectural trends and ideas. With increased attention on architectural philosophy in recent years, interiority has been at the forefront of many conversations. The prominence of interiority with discussions of architectural philosophy can be seen in the literary works of two prevalent architectural philosophers: Graham Harman and Tristan Garcia. These two philosophers have written books that are in conversation with each other's work. Graham Harman's literature, "Object-Oriented Ontology" directly influences Tristan Garcia's book, "Form and Object: a Treatise on Things."

According to Object-Oriented Ontology, humans are not more important than any object; rather, everything is of equal value and importance. This type of ontology can be considered a "flat ontology", meaning a world view where someone sees all objects and life are of equal value (Harman 2018, 9). The main principle of Object-Oriented Ontology states "All objects must be given equal attention (human, non-human, natural, cultural, real or fictional)" (Harman 2018, 9).

While Object-Oriented Ontology (OOO) relates to a world view, it also relates to architecture. Architects and designers, now more than ever, are looking to OOO to answer questions. Mark Foster Gage, the Dean at Yale University Architecture School and also a major advocate for OOO states, "The reason OOO is being explored by architects is that it functions as an antidote not only to the Deleuzian emphasis on becoming over being, but,… to architecture being justified … by its relations" (Harman 2018, 246). In other words, OOO can help architects and designers understand the relationship that a building can create with its surroundings.

The idea that everything is treated equally, as Harman suggests, is applied directly to architecture through the work of Tristan Garcia. Tristan Garcia is one of the philosophers who has analyzed relationships in architecture through OOO. Tristan Garcia's idea for how architectural relationships interact with

their surroundings is rooted in idea of interiority. Interiority can be defined as "the quality of being interior or inward; Inner character or nature; Subjectivity" (Merriam-Webster 2020). Furthermore, interiority is the quality of the interior space, the feeling of being within something. This quality is not necessarily a measurable amount, but suggestive to an experience one feels when being inside.

This idea of interiority and Tristan Garcia's work produces the idea of the Sack, a new way of understanding spatial relationships in architecture. Garcia argues that when trying to understand an object, in this case a building, one must understand what is within that object and what is outside of it (Garcia 2014, 61). The building is the difference between these two spaces; the inside subtracted from the outside is equal to the building (Outside-Inside=Building). Garcia states "A [building] is almost like a bag. There is what one places in the [building] and what remains outside the [building]. " (Garcia 2014, 61). Viewing a building this way is important when trying to understand the interiority of the architecture under examination because it helps the user understand what is exterior, what is interior and what the threshold is between those two types of space. While interior is the only element being examined, this concept of what is inside and outside helps to understand interiority in regard to architecture. The ideas expressed in the literature of Harman and Garcia define and support the relevance of interiority and its importance in architectural space-making. While the relevance of interiority is the backbone of this thesis, the concept of interiority also needs to be demonstrated in historic examples to better realize its relevance throughout time.

HISTORIC LITERATURE REVIEW

While contemporary literature has discussed the relevance of interiority for modern architecture, history's role in this thesis must also be explained. "The criticism of architecture remains essentially historical. It is content to describe the conditions under which the styles of the past arose" (Scott 1914, 4). Historic examples of architecture are examined to understand how stylistic trends originated and evolved.

The Pantheon is the first building in the list of case studies. For the Pantheon, two books and one article were used to gather insights on the background and interiority of the building. The book by

John Pile, A History of Interior Design, covers almost all of architectural history from Ancient Rome to modern day. Because of the length of time covered in the book, the level of detail within each example is slim; however, quality base-level content regarding the Pantheon was gathered. For example, the author discusses how "[the Pantheon's] interior is a single round room 142 feet in diameter topped by a half-spherical dome" (Pile 2005, 42). The author goes on to explain more basic details about the structure and interior aspects of the Pantheon. What is missing from this source is the experiential and cultural aspect of the building. For this information, Sharon Wilson's A Perfect Trip to Italy was reviewed. Wilson provided insight into the purpose and feeling within the building, especially when she mentions how "the purpose of the oculus was … to let those in the temple contemplate the heavens" (Wilson 2011, 102). Lastly, the Ancient History Encyclopedia was consulted for more context about the time period and purpose for building the Pantheon. Mark Cartwright, the author of the article, explains how the Pantheon was destroyed and reconstructed multiple times under different Roman Emperors (Cartwright 2018). He also explains the political climate during the time each version was built, giving the researcher insight into underlying suggestions of power present throughout the interior design (Cartwright 2018).

The next building examined is Notre Dame in Paris, France. For this building, two sources were used to inform the background for the case study. A database article from Gale In Context gives insight into the global context at the time of construction of the cathedral as well as details about how the structure was built. For example, the author explains how the bishop of Paris "proposed that the city needed a new, larger, and grander cathedral that would symbolize the growing importance of Paris and the greatness of the Catholic Church" (Stock 2014). This source also gives details on how the building was constructed, stating: "The building project itself took place in stages led by four different builders who were among the best in the land over a period of about one hundred years" (Stock 2014). While this source is useful, it lacks details within the project. For more detailed descriptions of elements in the Notre Dame, an article from the Art Bulletin was consulted. The

article written by Stephen Murray, Notre-Dame of Paris and the Anticipation of Gothic, gives important facts like how the walls that are setback above the choir are 0.2 meters thicker than the lower (Murray 1998, 244). With the use of these two sources, appropriate information can be analyzed and paraphrased to understand the interiority of the Notre Dame in Paris. For the rock garden at Ryoanji Temple in Kyoto, Japan, two sources were also used to gain insight into the interiority of a Japanese rock garden. The first source, an article in Nature, dives into the science behind the format of the rocks in the garden. Since the symbolism of this rock garden is unknown, people try to find different ways of analyzing the space to come to a conclusion. trying to find different ways of analyzing the space to come to a conclusion. The group of authors for this article discovered that "the implicit structure of the Ryoanji garden's visual ground have shown that [the garden] includes an abstract, minimalist depiction of natural scenery" (Ejima, Yoshimichi, Tonder, Lyons 2002). This is useful to gain insights on the interiority within the garden, but it does not give enough background regarding the layout of the design. For this information, a second source was analyzed. In an article written by Om Paramapoonya, the origins of rocks gardens are explained. The author also gives step-by-step instructions on how to make a rock garden, giving important insight into materials and techniques used in the construction of a rock garden. While the article does not specifically discuss Ryoanji Temple, it gives great information about how any Japanese temple garden, like Ryoanji came to be. For example, "In Japanese literature, [the design of the rock garden] is manifested in the form of a folktale about a fisherman named Urashima Taro who saves the life of a sea turtle, which in return, takes him to one of the immortal islands. There the fisherman marries a princess and becomes immortal. As time goes by, however, he is stricken with homesickness and decides to return to his old village. Sadly, not long after he sets foot on the familiar shore of his birthplace, the fisherman immediately grows old and dies" (Paramapoonya 2019).

This folktale is useful to understanding the origins of rock gardens and what may have influenced the intentions behind the design of Ryoanji Temple's garden. If the intentions behind

the design are clear, the programming and cultural interiority of the diagrams will be easily informed. Since the actual purpose of the Ryoanji Temple and its rock garden are unknown, these two sources give great insight into the details of how the rock garden looks and why it may have been designed the way it was.

The next case study is the U.S. Capitol Building in Washington D.C. The United States Capitol Building has a long and extensive history regarding its architecture and decoration. There have been many architects and renovations over the past two centuries. The source used for this case study, The United States Capitol by Henry Reed, engages in discussions of the detailing behind the building's construction. This 210-page book is crucial for understanding the interiority of the U.S. Capitol building. The author discusses every architect who worked on the project and every addition and renovation made to the building since its start date in 1973 (Reed 2005, 4).

A well-respected printed journal series, Global Architecture, published a version for Antoni Gaudi's works of Casa Mila and Casa Batlló. This was the source used for Casa Batlló's case study. This printed journal from 1972 describes the intentions behind the design decisions made by Antoni Gaudi. The source also gives background about the Art Nouveau style within Catalonia. For example, "It was the rising social class that was to promote the cultural movement in all its forms, from literature to the plastic arts, and was to give that enormous impetus to architecture that made Barcelona the Art Nouveau city" (Gaudi, Futagawa, Borras 1972, 2). Regarding specific details within Casa Batlló, the book goes into extensive detail about how nature influenced every form within the home including railings, stairs and doorways (Gaudi, Futagawa, Borras 1972, 3-6).

The same publishing company, Global Architecture, printed a book on Ludwig Mies Van Der Rohe's Barcelona Pavilion. This book and another book, Mies Van der Rohe: the built work by Carsten Krohn, were the two sources used to examine the Barcelona Pavilion. Both books give extensive attention to the details of the project. The main difference between the two sources is that the Global Architecture book focus on the Barcelona Pavilion and the Tugendhat House and the book by Carsten Krohn discusses all of Mies Van der Rohe's work from 1908 to the 1970's. The Global

Architecture book is useful for detailed information such as the interior and glass walls being described as a "spatial expression of spiritual decisions" (Mies Van der Rohe, Neumeyer, Futagawa 1995) and Carsten Krohn's work is useful for gaining a better understanding of Mies Van der Rohe's overall work. For example, "Rather than seeking a unique, individual form of expression, [Mies] strove to find generally applicable principle" (Krohn 2014, 8). While this quote doesn't directly relate to the Barcelona Pavilion, it brings more attention to Mies' intention behind designing and ultimately can help to understand the purpose behind one of his buildings.

There were many sources used for the examination of the Chrysler Building. A book, a commission, and three news articles were used. The book, The Chrysler Building, is the most detailed source for the history and construction of the building. The book gives specific details about the exterior façade and interior decoration that provide great insight about how the interior is experienced. The book describes the Chrysler Building as "a city within a city" due to the numerous activites within the structure that is located on prime Manhattan real estate ("The Chrysler Building" 1930, 20). While useful and detailed, this source does not help to understand the particular elements that separate this historic building from other office buildings in Manhattan. To understand the importance of this building, the New York Landmarks Preservation Commission was consulted. Within the landmark designation document for the Chrysler Building, the Landmark Preservation Commission describes how it was "dedicated to world commerce and industry" ("City of New York" 1978, 1). It also discusses how the building is the pinnacle of the Art Deco movement ("City of New York" 1978, 2). These two sources mentioned are useful for the details of the building's past. However, the building's present and future are also relevant considering the current events happening surrounding the building. Three news articles are used to tell the story of how the building was renovated and upgraded (Rubenstein 2012) but still could not get the occupancy needed to maintain the cost of the space. It recently sold for $150 million (Isidor 2019) and it is unknown what the building will be transformed into (Nonko 2019). These three news articles help to dissect why the building sold for what it

did and what could happen in the near future with this iconic building.

The last case study analyzed is the Centre Pompidou in Paris, France. For this most recent case study, one book, one news article, and the building's website were used. The first source, Architecture: A Visual History by Jonathan Glancey, only contains one page within the text on this building. Within this page, the source discussed the political background that gave birth to the Centre Pompidou which was the verge of a second French Revolution (Glancey 2017). It also mentions the essential elements of the structure like the "open-plan floors.. supported by an iron-and-steel exoskeleton" (Glancey 2017). The news article by Eleanor Beardsley was to commemorate the 40 years since the building was opened to the public. In this news article, the author discusses the controversial nature of the building from its start date, to its extreme success today. She mentions how "Some 60 percent of the Pompidou's visitors are French… At the Louvre, in contrast, almost 70 percent of visitors are foreign", making the Pompidou Centre a "museum of Parisians" (Beardsley 2017). This source gives context about the culture behind the museum and how it is designed for and used by local Parisians. Lastly, the website for the building gives details about the color-coding on the exterior elements. It also gives information about the exact dimensions and heights of the building (Centre Pompidou, n.d.). This source is important for understanding the structural context of the building.

With a review of all the literature used in this thesis complete, the method of how this thesis was conducted is explained next.

METHODOLOGY

HISTORIC EXAMPLE SELECTION

For the purpose of time and detail level, eight buildings were selected as case studies to analyze the four categories. To select the eight historical buildings, a method was devised for the structured sample. This method started with picking some of the most influential architectural movements throughout history. The movements were selected based on the amount of information available, time between movements, and geographic location of movements. These movements are as follows: Classical style, Gothic, Japanese Buddhist, Neo-classical, Art Nouveau, International Style, Art Deco, and Post-modernism. While there are numerous important architectural movements throughout history, due to time and efficiency this paper focused on a select handful. With further research and investigation, more movements and examples could be examined.

After distinguishing the eight movements to use, the next step was to pick a building that represented the movement well. The buildings selected have been previously analyzed by multitudes of historians, architects, etc., with easily obtainable information. By using this method, the goal is that any reader, with or without architectural background, should be familiar with, or is at least aware of, some of the buildings presented. The buildings selected from these movements are: The Pantheon in Rome, Notre Dame in Paris, Ryoanji Temple in Japan, U.S. Capitol in Washington D.C., Casa Batlló in Barcelona, Barcelona Pavilion in Barcelona, , the Chrysler Building in New York City, and the Centre Pompidou in Paris.

HISTORICAL ANALYSIS METHOD

The next step is to devise a method for how to analyze all eight equally. It is important to determine a method to follow while examining each precedent to ensure the most accurate results of analysis. This was accomplished by asking a series of questions when analyzing each building. The SAGE Dictionary of Qualitative Management Research's method for historical analysis was used as a basis for the questions (Thorpe, Holt, 2008). This method of analysis was chosen because it is a widely accepted method for all types of analysis, including historical and philosophical. The exact questions from this method are quoted and outlined below and then followed by the representative question that would

relate best to the purposes of this thesis. The questions to answer are as follows:
1."When was the document written? Was it contemporary with the event being described, sometime after the event or in anticipation of it? The closer the document is to the past event, both temporally and physically, the more reliable it should be."

This question can be simply translated into: When was the building built?

2."Where was it produced? Was it in that part of the organization closely connected with the events under review? A divisional report may have an immediacy of detail, but where the division is seeking to protect or enhance its own reputation, a report may differ significantly from a more dispassionate account prepared by a central function with a wider perspective."

The parallel for this question is: Where is this building located?

3."By whom was it produced? What was his/her position in the organization; what was her/his expertise and motive?"

In other words: Who built this building and what was their importance?

4."For whom was it produced and for what purpose?"

Why was this building built and who were the intended users (cultural background)?

5."What is the form of the document?"

What are some important features of the building? What does it look like?

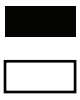
In summary, the exact set of questions asked are as follows:
1.When was the building built?
2.Where was it built?
3.Who built this building and what was their importance?
4.Why was it built and who were the intended users?
5.What are some important features about the building? What does the building look like? (An image of the building will be shown)

After answering this set of questions, an image of the floor plan will be shown to highlight some of the elements already discussed . After answering these questions and viewing the floor plan, the reader will have a good

understanding of the case study.

DIAGRAMMING METHOD

For each building, an image of the floor plan will be provided. A corresponding diagram will be made to represent the interiority after examining the floor plan of the building. Floor plans are used for the method of diagramming because they are an easy way of understanding an architectural design. With further research, sections or photographs could be analyzed using the same method. Interiors will be diagrammed as a solid black fill. Any space that cannot be designated as an interior space will be diagrammed as a white solid fill.



This method will be used three times for each case study. The three times this method will be conducted will be for three different categories: structurally, programmatically, and culturally. When looking at a floor plan structurally, walls that enclose the space will be the major signal for the solid black fill in the diagram. Furthermore, any openings within the structure of the building shown in the floor plan, will be a white fill. For programmatic interiors, the intention behind the design and the activity within the space will be the biggest identification for black shading. If there are multiple activities designated or intended for the space, multiple black fills within those corresponding areas will be present.

Lastly, the cultural interiority of the space will also be analyzed. The history of the building will need to be understood and explained in the background analysis for each case study so that the cultural experience of space is identifiable. For example, if one person who visits the site of the case study experiences a space within the building a different way than a different person of a different background does, that space would be highlighted through a black fill. The same method will be used for these three categories throughout the eight different case studies, resulting in twenty-four diagrams, shown in the synthesis.

HISTORICAL ANALYSIS

THE PANTHEON (Rome, Italy 125 CE)

The Pantheon, a Classical style building, was originally built as a Roman temple to all gods under emperor Trajan and completed in 125 CE under emperor Hadrian. The Pantheon that stands today is the third built structure on this site. The first Pantheon is believed to have been built under Agrippa between 27-25 BCE and then again by Domitian, both destroyed by fires (Cartwright 2018).

The building can be divided into two main structural elements: the porch and the dome. The exterior porch of the building is presented in a Classical Greek style while the dome is much more Roman style (Cartwright 2018). The entrance portico has eight Corinthian columns. "There are two additional rows of four columns each making the portico a deep space leading to the great bronze entrance door" (Pile 2005, 42). Within the dome, the walls are fourteen feet thick and then recessed to create spaces "dedicated to a particular god" (Pile 2005, 42). At the top of the dome, the Oculus is the only source of lighting. All these elements of the Pantheon make it "one of the most remarkable spaces surviving from ancient times" (Pile 2005, 42). Figure 3 shows an interior image of the Pantheon and Figure 4 shows the floor plan of the Pantheon. The floor plan shows the portico with the columns on the left, leading to the dome structure. There are seven recesses in the wall for the dedications and the oculus circle that is in the center of the entire structure. In Figure 5, the section drawing can help to understand how the visitor would walk up to the porch, pass through the columns and then enter into the dome, with light from the oculus flooding the interior. "The Pantheon may well be the first building from Classical architecture where the interior is deliberately made to outshine the exterior" (Cartwright 2018). The building was dedicated as a temple and later converted into different types of churches. While its purpose has shifted throughout the centuries, it still remains

Figure 3

Figure 4

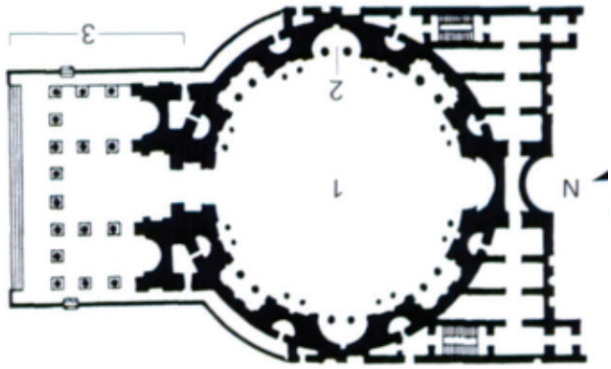
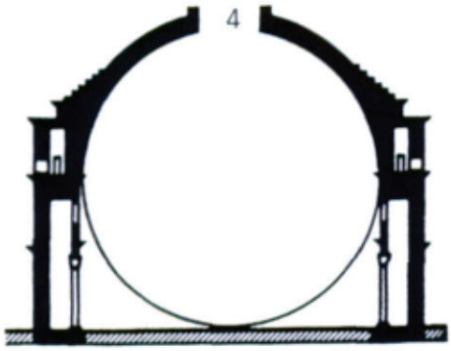


Figure 5



a religious and sacred structure. The purpose of religious structures during the Roman Empire, and arguably still today, is to bring the heavens into the building. It is supposed to make people who enter the building feel connected to that which is greater than themselves.

Diagramming

The Oculus at the top of the dome does just that. It draws in sunlight and natural elements to connect its inhabitants to the world that lays outside the walls. "The purpose of the oculus was not only to illuminate the interior, but it was also built to let those in the temple contemplate the heavens" (Wilson 2011, 102). Figure 6 is a diagram of the interior spaces created by structure. Figure 7 is a diagram of the interior space created by programming. Figure 8 is a diagram of the interior space created by culture.

Structurally speaking, the floor plan consists of one room with the center dome and oculus at the top. Figure 6 represents this in the black space filling in the interior space and the white fill showing the missing interior that the oculus cuts out, exposing the building to natural elements. Programmatically, the Pantheon was designed to serve one purpose: act as a place of worship. The entire space being represented with a solid black fill in Figure 7 demonstrates this singular program. Lastly, the Pantheon is culturally divided into different spaces based on the seven recessions that were dedicated to different gods (Pile 2005, 42). These individual recesses and dedications are shown in black fill that overlays the black fill of the entire space in Figure 8. An overall summary of the diagrams can be described in the table on the next page.

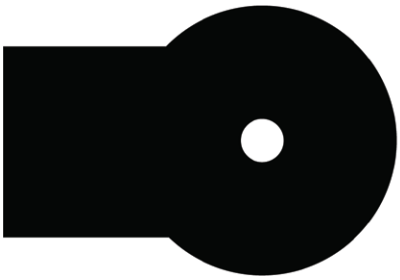


Figure 6: Structural

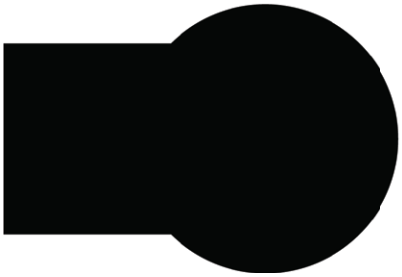


Figure 7: Programmatic

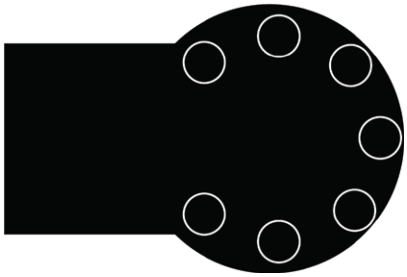


Figure 8: Cultural

Building	Structural	Programmatic	Cultural
THE PANTHEON	Dome structure with oculus in center, exposing interior to the elements.	Temple turned into Church, singular religious and sacred structure	Seven recessions dedicated to different gods, separate religious experiences.

THE CATHEDRAL OF NOTRE DAME DE PARIS (Paris, France 1163)

The Cathedral of Notre Dame de Paris is a key example of the transition out of the Romanesque era into the Gothic. It was built on the same site as two existing churches and completed by Eugene-Emmanuel Viollet-leDuc in 1163 (Murray 1998, 229). When it was decided that Paris would build a new cathedral, Romanesque was the favored style. The church wanted a better way to express its grandeur and the power they held. To do this, engineers started studying pointed arches, instead of rounded arches that characterize the Romanesque style. The stones that were used in Romanesque style also made larger scales more challenging to construct, so engineers discovered how to buttress stone to the exterior supports (Murray 1998, 230). "With the development of the flying buttress, architects realized their goal of building huge cathedrals with massive open interiors and thinner walls. Notre Dame was among the first cathedrals to take advantage of this innovation" (Stock 2014). The building measures 420 feet long and 108 feet high. The flying buttresses that make Notre Dame so identifiable span outwards about 50 feet. There are three stained-glass rose windows measuring about 43 feet in diameter (Murray 1998, 245). An image of the exterior can be seen in Figure 9. The floor plan of the cathedral follows standard design of a church during its time. There is an apse, a choir, a transept, and a nave, all of which can be seen in the floor plan in Figure 10.

DIAGRAMMING

The Notre Dame has one programmed space. The entire space is programmed for prayer. There is one room enclosed by walls. While there are some subsidiary spaces , like the chapels,

Figure 9

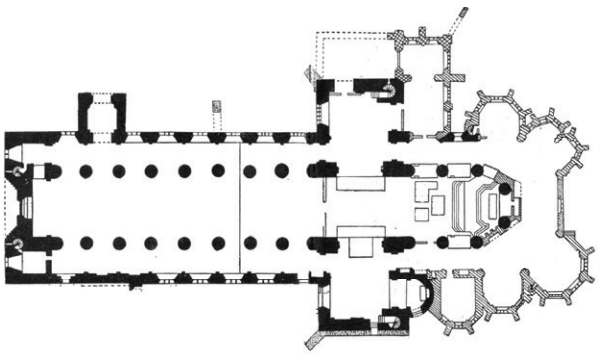


Figure 10

they are not separated into completely different spaces; they share the same general space and purpose, similar to the Pantheon. Figure 11 demonstrates the structure of the singular room enclosed by walls with no opening and no missing interiors. The entire space is one interior without interruption meaning the diagram for structure is one black fill. In Figure 12, the programmatic diagram is shown as one fill as well because the entire space is programmed for prayer and worship. The building was designed for one purpose of use. Lastly, Figure 13 represents Notre Dame as a cultural diagram of interior space. With all the different sub-spaces (i.e. naives, chapels, etc.), culturally the building can be experienced in different ways. Different areas serve different purposes and contain different levels of meaning to different cultures. These areas are highlighted as sub-interiors. An overall table representing the information can be seen below as well.

Figure 11: Structural

Figure 12: Programmatic

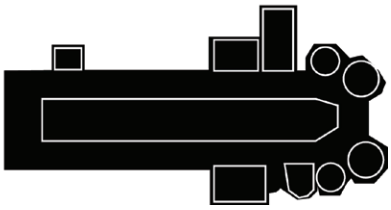


Figure 13: Cultural

Building	Structural	Programmatic	Cultural
NOTRE DAME	Single room enclosed by walls with no openings.	Singular programmed space for prayer and worship	Different experiences within different designated areas

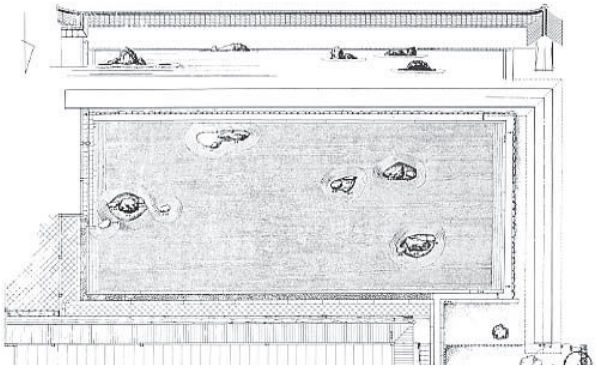
RYOANJI TEMPLE ROCK GARDEN
(Kyoto, Japan 1450)

Ryoanji Temple is an example of Japanese Buddhist architecture. It was originally built as an aristocrat's villa and was later converted to a Zen temple in 1450. "Created during the Muromachi era (AD 1333-1573), a period of significant innovation in the visual arts in Japan, the unknown designer left no explanation for the layout" (Ejima, Voshimichi, Tonder, Lyons 2002) It is best known for its rock garden. In fact, it is one of the best examples in Japanese Buddhist architecture for dry rock garden design in Asia (Paramapoonya 2019).

To understand the temple spatially, the history of Zen rock gardens must be explained because it introduces a new purpose for space unfamiliar to many Westerners. From the 5th to 8th century in Japan, there was a popular folk tale of a man who once saved a sea turtle. As a thank you, the turtle took this man to an immortal island where he married a princess and became immortal. He grew homesick and eventually went back home. As soon as he stepped foot onto the land of his hometown, he grew old and died. To represent these islands of immortality, the Japanese Buddhist put rocks in ponds as a reminder that the purpose of life is not to live forever. As Buddhism and Japanese culture evolved, the word for "garden" was "shima", literally translated as "island". Throughout the 14th to 16th century, "garden makers in this period stripped nature bare and created Zen gardens mainly of rocks and sand, in order to reveal the true substance of life and nature" (Paramapoonya 2019). The wavy patterns in the sand mimic water and the rocks still represent islands, as well as mountains. The purpose of Zen rock gardens is to provide a space for Buddhists to meditate and reflect on nature. Making the wavy patterns in the sand is a form of moving meditation that Buddhists believe can clear your mind and return it to its natural form. As for the Ryoanji Temple, the rock garden is adjacent to the "Hojo", or the head priest's former residence. The deck that expands from the Hojo directly borders the edge of the Zen rock garden. The Hojo is programmed as a living space and the garden is programmed as a meditative space only to be occupied for reflection. An image of the Hojo and the Rock garden can be seen in Figure 14.

Figure 14

Figure 15



DIAGRAMMING

Both of these spaces have a clear exterior border that can be seen in floor plan (Figure 15) below, the deck off the Hojo and the narrow rock-way around the sand of the garden. Because there is actually no structural interior within this garden, the corresponding diagram is represented in Figure 16. The solid white fill outlined in a thin black line demonstrates the missing structural interior. Both spaces are outside and exposed to the elements without a physical wall separating them, only a differentiation in program to set them apart. In Figure 17, the diagram for the programmatic space is represented by two different layered black fills, the first being the Temple interior and the second being the rock garden program. While the two programs complement each other, they are intended for different user groups. A space like this can become confusing because the thresholds are not as apparent as in other categories. However, one could argue, while it is not as visible to the naked eye, this programmatic separation of spaces can be stronger than an actual wall. In Figure 18, the cultural diagram is represented as a layer of interiorities as well. The rocks are shown as the second layer of interiority because, as discussed above, they have different meanings in different cultures and depending on the person. The rocks within the garden are experienced differently based on the person viewing them. An overall table representing the information can be seen below as well.

Figure 16: Structural

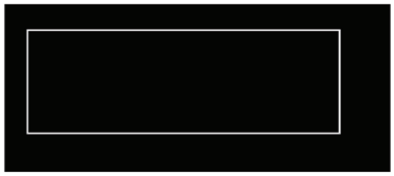


Figure 17: Programmatic

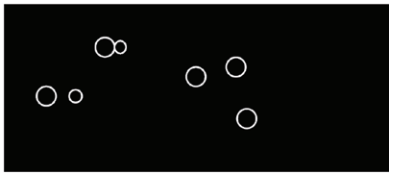


Figure 18: Cultural

Building	Structural	Programmatic	Cultural
RYOANJI TEMPLE	There is a lack of physical structure, only experienced "outside"	The rock garden is programmed for prayer and the surrounding deck is programmed for viewing and walking.	The rocks within the garden have different meanings to different people.

U.S. CAPITOL BUILDING

(Washington, D.C., United States 1793)

Construction began on The U.S. Capitol building in 1793 (Reed 2005, 4). During the next one hundred years, the Capitol building would experience numerous architects, fires, destruction, remodeling, extensions and additions. While the history of the built form and materials in the building is quite extensive, the purpose and uses of the building has remained constant. The primary idea of the building was a central dome that separated two wings, one that would hold the House of Representatives, the other the Senate (Reed 2005, 91-98). Within both of these wings there are offices and meeting spaces. Today, the United States Capitol building is approximately 751 feet long and 350 feet wide, for a total of about 175,170 square feet (Reed 2005, 51-52). Figure 19 is an exterior image of the building. It was built in neoclassical architecture style. The neoclassical style is apparent in its Roman classical revival of columns and Roman temple-like form. As mentioned in The United States Capitol, this replication of the Classical style was intentional because the founding fathers of the United States wanted to use the democratic ideals of both the Roman and Greek society to influence the core values and laws of the new nation (Reed 2005, 42).

Figure 19

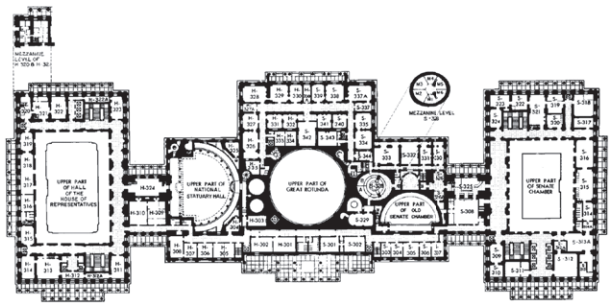


Figure 20

DIAGRAMMING

In the floor plan (Figure 20), the central dome can be seen separating the two wings and legislative branches of the US government. When looking at the overall structure, there are walls surrounding 100% of the interior building. There aren't any elements of a missing interior in the structure. While the dome is supposed to give the illusion of externality, it remains interior. Figure 21 demonstrates the structural interiority

with the black fill. In Figure 20, the plethora of offices and other rooms that make up this structure can be seen by all the black-outlined boxes. The many different spaces in the building, programmed for different events (i.e. office, meetings, governing, touring, etc.) characterize this building's programmatic interior as a layering of interiors, shown in Figure 22. Lastly, the cultural aspect of the building's interior is separated into two main wings, the Senate and Congress. These two parts of the government represent different job cultures and different experiences within the interior of the building (Figure 23).

Figure 21: Structural

Figure 22: Programmatic

Figure 23: Cultural

Building	Structural	Programmatic	Cultural
U.S. CAPITOL	No exposure to exterior, completely enclosed by surrounding walls.	Different chambers, domes, and meeting rooms all programmed for different events	Two wings for Senate and Congress who make up different parts of the government

CASA BATLLÓ

(Barcelona, Spain 1905-1907)

The Casa Batlló was designed and built in Barcelona, Spain, by Catalan architect Antoni Gaudi in 1907. He was commissioned by the Batlló family for a remodel of their house on Paseo de Gracia, a major street in the city of Barcelona. On this street there were already three other homes constructed in the Art Nouveau style, a style Gaudi was known for. Art Nouveau was a then-relatively new stylistic movement that Catalonia implemented and took pride in. Casa Batlló is categorized into the Art Nouveau movement because of its natural flowing movement within the ornamentation of the building and its intention to mimic nature (Gaudi, Futagawa, Borras 1973, 7).

The building was constructed of glass, iron, and ceramics. Some critics believed that the exterior and interior of the building were inspired by sea-waves or gusts of wind that take momentary pauses, earning it the nickname of "the house of yawns". The façade of the building is three-dimensional and sticks out into the street to mimic natural forms. An image of the building is presented in Figure 24. Gaudi designed in three-dimensional ornamentation because he "had now observed that the structures of nature never spring from flat planes or angles, but from everything that can produce concaved or convex forms, helicoids and parabolas, which was perfectly suitable to the pathos of Art Nouveau" (Gaudi, Futagawa, Borras 1973, 4). He also used a lot of color within his building because he believed that "Ornamentation has been, is and always will be colored; nature offers us no objects in monochrome or uniform color, whether in vegetation or in geology, in typography or in the animal kingdom" (Gaudi, Futagawa, Borras 1973, 4).

DIAGRAMMING

As expressed in the paragraphs above, the Casa Batlló was designed with nature in mind. As with all of Gaudi's Art Nouveau projects, natural forms and inspiration can be found on the exterior and interior of the building. Not only was

Figure 24

his inspiration the outdoors, he actively tried to make nature accessible inside the building through heavy use of glass that allowed exterior light and views into the house. Figure 25 shows the floor plan used for diagramming. One place where he incorporated glass was the skylight-like feature through the center of the building. The structural interiority diagram can be represented as seen in Figure 26. The black fill represents the interior of the building while the white fill represents the lack of interior feeling created by the large atrium shown in Figure 24. Programmatically, the building is divided into different rooms within the house. The bedrooms, bathrooms, stairwells, and living spaces all provide different programs for the user, resulting in Figure 27. In terms of culture, the entire building is experienced as a house. People from all backgrounds and cultures would be able to inhabit this building and understand it was designed and used as a home. Figure 28 represents this uniform black fill for cultural interior.

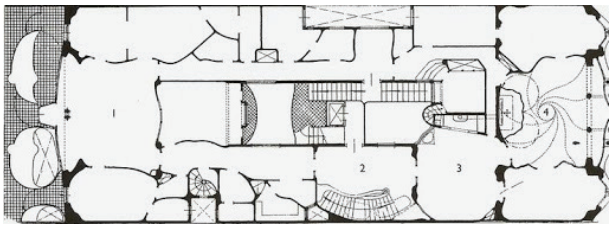


Figure 25

Figure 26: Structural

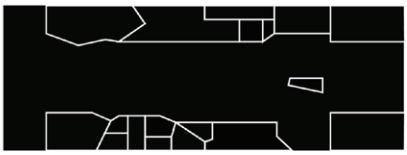


Figure 27: Programmatic

Figure 28: Cultural

Building	Structural	Programmatic	Cultural
CASA BATLLÓ	Central skylight used for stairways that break up the interior space	Different rooms within the house for different programs (i.e. sleeping, cooking, etc.)	People who visit understand this building as a home from their own personal experiences

BARCELONA PAVILION
(Barcelona, Spain 1928-1929)

Ludwig Mies Van der Rohe was asked by Germany to design and build a pavilion for the German Exposition in Barcelona, Spain in 1929. His only instructions were to design a pavilion that represented the German nation and its future. Mies later states that this was his hardest project to undertake because he himself was the client. He had no program and no exhibits to showcase (Krohn 2014, 76). He was supposed to demonstrate "architecture as fine art".

The Barcelona Pavilion's location was strategically picked. Its rectangular plane is placed perpendicular to the existing axis of the site to make a statement of the "neo-baroque disposition" (Krohn 2014, 76). The building is made of travertine, Tinian marble, glass and steel. There are eight evenly spaced cruciform columns that support the 24" thick roof. The columns and the steel framed roof are the only structural elements of the building. The interior and glass walls are a "spatial expression of spiritual decisions" (Mies Van der Rohe, Neumeyer, Futagawa 1995). As mentioned, there was no program in the building. As Walter Genzmer, another German architect, explains, the purpose of the site was "solely to encourage the visitors passing through the Exposition to linger awhile and look around" (Krohn 2014, 80). When examining the floor plan of the building, as shown below, it is mostly one large space that is divided by free-standing walls. The goal of these free-standing walls was so that the "whole panoply of outlooks and views could only be experienced and fully appreciated by traversing the space" (Mies Van der Rohe, Neumeyer, Futagawa 1995). Also notable in the floor plan is the contrast of open and closed spaces, which encouraged people to walk around the building and experience the vistas framed by steel supports. Overall, the Barcelona Pavilion is a space programmed for one thing: user experience in an exhibition.

Figure 29

DIAGRAMMING

The Barcelona Pavilion is a single uniform space programmed for one purpose: user experience in an exhibition. While glass composes much of building's walls, the interior is still enclosed and protected from exterior elements. In the floor plan from Figure 30, the glass makes the building appear as if it is exposed to the outdoors. However, by referring to Figure 29, it is apparent that the interior of the building is structurally closed off from the outside. The structural diagram for the interior of the Barcelona Pavilion is represented by a solid black fill (Figure 31).

Programmatically, a visitor of the building is only meant to walk around and experience the architecture. Because of this, the programmatic diagram for the interior of the building is also one solid black fill to represent the uniform interior (Figure 32). When analyzing the cultural aspects present in the building, it becomes clear that Mies' intention for the design is the most pertinent evidence because it was designed to showcase the future of Germany. Many other countries and cultures would come to this exhibition and the goal was that they would all understand the message Mies was making about Germany. Regardless of the viewer's culture, they would be able to interpret the meaning of the space the same way as anyone else. With this analysis, a solid black fill for cultural interiority is the best representation (Figure 33). For the Barcelona Pavilion, all three diagrams look identical.

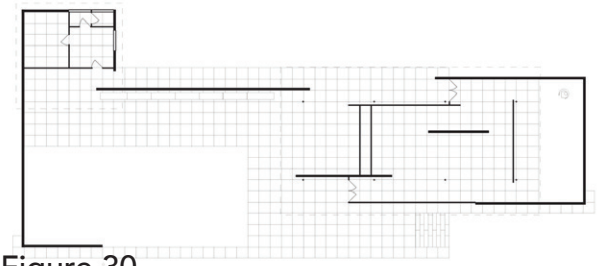


Figure 30

Figure 31: Structural

Figure 32: Programmatic

Figure 33: Cultural

Building	Structural	Programmatic	Cultural
CASA BATLLÓ	One room surrounded by walls of glass and marble	Programmed for lingering and viewing only	Created to demonstrate the future of Germany

THE CHRYSLER BUILDING
(New York City, United States 1930)

The Chrysler Building was originally commissioned in 1927 by William H. Reynolds to be designed by William Van Alen ("The Chrysler Building" 1930, 6). Eventually the costs for construction piled up and Reynolds couldn't afford the project anymore. He sold the property to Walter P. Chrysler who decided to keep Van Alen on the project. Chrysler wanted this building to be "dedicated as a sound contribution to business progress" ("City of New York" 1978, 1), since he had just announced his place in the business world with the success of his automotive company. Van Alen and Chrysler worked to create the tallest building in the world at the time of its completion ("City of New York" 1978, 1).

William Van Alen was motivated to build the tallest building because of the competition during this era to build taller and taller. Through the use of steel framing, the Chrysler Building was able to accomplish the goal of becoming the tallest building in the world at 1,046 feet ("The Chrysler Building" 1930, 8). It only held this title from 1930 to 1931 when the Empire State Building was completed. While Van Alen was focused on height, Chrysler focused on design. He wanted the building in the popular Art Deco style. To achieve this, sun-burst patterns were designed into the stainless-steel spire at the top of the building ("City of New York" 1978, 3), visible in Figure 34. There was also the ziggurat-like structure of the building that was popular during this stylistic movement and influenced by setback laws in skyscraper construction ("The Chrysler Building" 1930, 10). In addition to these elements, there were "horizontal black and white stripes between floors" ("City of New York" 1978, 4). While this building was revolutionary for its time and remains an icon to this day, the building has faced challenges with staying occupied in recent years.

Figure 34

In the 1980s, the building underwent some renovations and in 2009, the building was updated to be awarded LEED Gold certification (Rubenstein 2012). Despite these efforts to keep the Chrysler up to date, it was put up for sale in 2019 and sold to an overseas real estate company for $150 million (Isidore 2019). With over a million square feet of space within the building, this means it sold for $125 a square foot (a sixth of the neighborhood's average). The company who bought the building has not verified an intended use or changes that will be made to building. However, according to news articles following the story, one of the main suspicions and hopes is that the building will be turned into low-income housing units (Nonko 2019). With New York having the highest rental rates in the country, low-income housing is a problem needing a fast solution. The question is, if the Chrysler building is turned into low-income housing, how will this affect its inhabitants? The building was designed and used for offices and for companies to grow business. How can this designated programming be turned into a place that people live in? If developers want to change the entire purpose of the building, studying and understanding the external features of the building will not help. They will need to examine the interiority of the original Chrysler building to make appropriate and needed adjustments.

DIAGRAMMING

To examine the interiority of the Chrysler Building, an image of the floor plan is provided in Figure 35. This floor plan is for the 6th through 10th floors. Because of the ziggurat-like structure of the buildings, different floors have different floor plans. When analyzing Figure 35, the "H" layout is probably one the first things to notice. The second characteristic to notice is the central circulation. This core of the building is where the elevators, stairs, and bathrooms are present. Outside of this space, there is a large open floorplan broken into different office spaces. Now that the elements in the floor plan have been highlighted, diagramming is the next step.

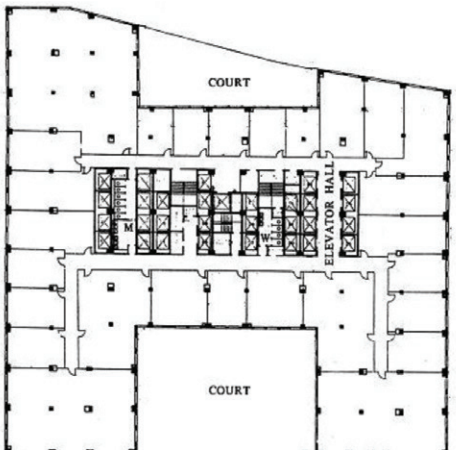


Figure 35

To diagram the structural interiority, the large-open floor plan is in the "H" form is filled with solid black. The other offices, bathrooms, and circulation are then layered on top as another structural interior because of the walls that enclose these spaces. The resulting structural interiority diagram can be seen in Figure 36. Programmatically, the Chrysler building was designed as an office building and an office building only. This single program is represented with the solid black fill of interior space, shown in Figure 37. Lastly, there is a cultural implementation to acknowledge while analyzing this building. Culturally, there is a separation between each floor dependent upon the company working within them. There is also a separation on each floor between the large open spaces that were most likely filled with cubicles and the private offices of the higher-ups. This separation can create a hierarchy within the office. This is important to acknowledge because if this was turned into low-income housing, similar cultural implementations may follow. For example, these may be more private spaces than the open floor plan areas, so people within low-income housing may pay more for these spaces. This would create a divide within the housing that needs to be considered. The cultural division between the open floor plan and separate offices is demonstrated through solid black fills present in Figure 38.

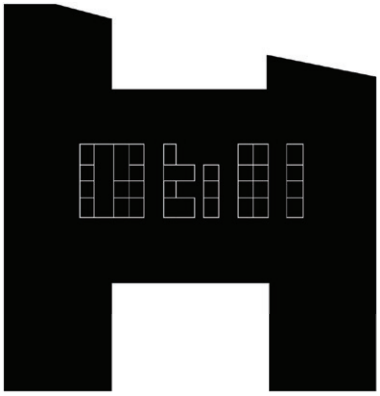


Figure 36: Structural

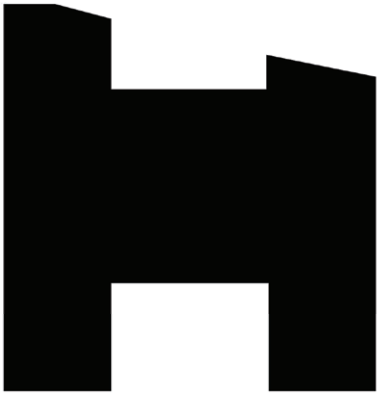


Figure 37: Programmatic

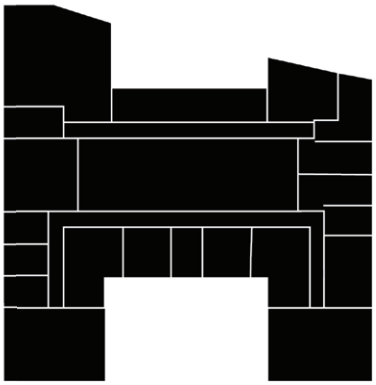


Figure 38: Cultural

Building	Structural	Programmatic	Cultural
CHRYSLER BUILDING	Large open floor plan in "H" shape with central offices and circulation in the center	Programmed only as an office space for "industry"	Separation of spaces potentially providing hierarchy within the workplace

CENTRE POMPIDOU (Paris, France 1977)

The Centre Pompidou was designed by Renzo Piano, Richard Rogers, and Peter Rice. It was initially a design competition submission that won the challenge for designing a cultural center that would be active day and night in 1971 (Glancey 2017,). The building is located in Paris, France and wasn't actually completed until 1977.

The building is unique in architectural history today because the building is "supported by an iron and steel exoskeleton, while all services [are] hung on the outside of the building" (Glancey 2017). An image of the building's exterior can be seen in Figure 39. The escalator was also exposed on the outside, only covered by a plexiglass tube (Beardsley 2017)) and the theme of the building was "legibility." To create legibility, a color-coding system was put in place for different exposed elements. The air conditioning ducts were blue, electrical wires were yellow, red was used for elevator cables, staircases were a neutral grey, and the overall structural systems in the building were white (Centre Pompidou, n.d.). The reason for these features and many others was so the building would display "openness" and "social pluralism" (Centre Pompidou, n.d.).

DIAGRAMMING

The floor plan of the building, shown in Figure 40, demonstrates the

Figure 39

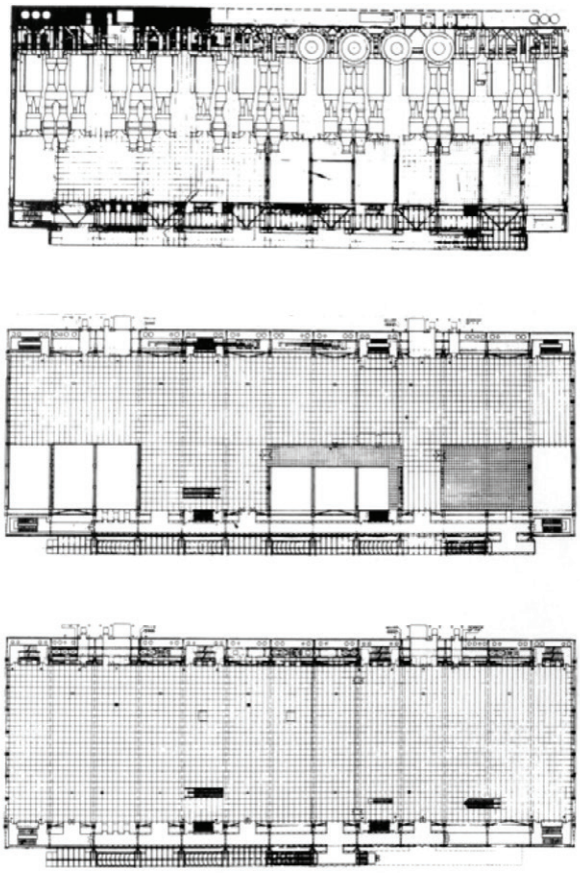


Figure 40

openness of the floor plan within the building. All of the inner workings of the building have been pushed to the exterior and forced to interact with exterior elements. The elements on the exterior of the building are visible by the grouping of objects shown along the edge, in comparison to nothing in the building center. Structurally, the building is one open floor plan with enclosing walls. This is represented with a solid black fill in the structural interiority diagram (Figure 41). Programmatically, the Centre Pompidou is designed to be a museum. While there are other activities within the building, it was designed as a museum. This single interior program is represented by a solid black fill of the building's interior in Figure 42, looking identical to the structural interiority diagram of Figure 41. Lastly, the culture of the building is also experienced uniformly. As mentioned in the literature review for this building, this is a museum for Parisians (Beardsley 2017), and most of the visitors are local. The cultural experience is uniformly French. Visitors from outside of Paris would also walk into the space to see French art and installments. This uniform cultural interior is represented by a solid black fill (Figure 43). Like the Barcelona Pavilion, the Centre Pompidou looks identical in structural, programmatic, and cultural interiority diagrams.

Figure 41: Structural

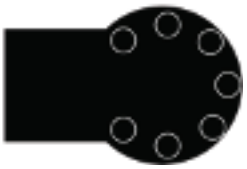
Figure 42: Programmatic

Figure 43: Cultural

Building	Structural	Programmatic	Cultural
CENTRE POMPIDOU	Exterior walls not connected around entire structure	Programmed solely as an art museum	Culturally understood as an art museum throughout entire building.

SYNTHESIS

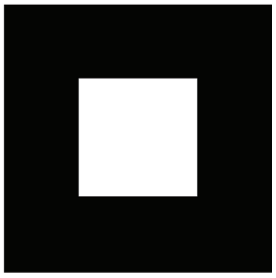
After analyzing the eight buildings, the final diagrams for all structures are as follows in the chart below. The buildings are listed in chronological order, as they were in the data analysis section. This Synthesis Chart demonstrates time in relation to interior diagrams. Once all interior diagrams are placed side by side in the table above, general trends can start to be identified. For example, there

BUILDING	STRUCTURAL	PROGRAMMATIC	CULTURAL
PANTHEON			
NOTRE DAME			
RYOANJI TEMPLE			
US CAPITOL BUILDING			
CASA BATLLÓ			
BARCELONA PAVILION			
CHRYSLER BUILDING			
CENTRE POMPIDOU			

are many diagrams that are only solid black. The Pantheon, Notre Dame de Paris, the US Capitol Building, and Barcelona Pavilion all have structural diagrams that are solid fills, meaning an entirely enclosed interior space with no break in boundary. The Pantheon, Notre Dame de Paris, Barcelona Pavilion, and Chrysler Building also all have a uniform black shape for their corresponding program diagram. Lastly, Casa Batlló and Barcelona Pavilion are also solid black fills for cultural interiority. To summarize the diagrams with uniform solid fills, the following category name and diagram can be used to describe all cases mentioned above:

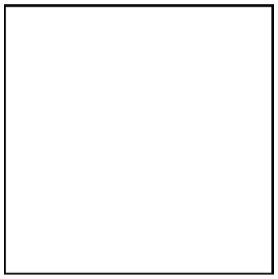
Uniform Interior

The Pantheon and Casa Batlló have structural interiority diagrams that appear to have a hole punched through the middle of the diagram to represent a missing interior. No other categories have a diagram like this. The following category name and diagram can be used to describe all case mentioned above:



Subtracted Interior

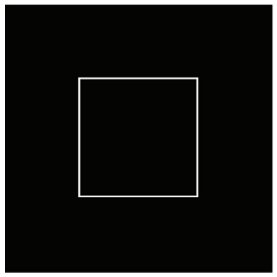
The structural interiority diagram for the Ryoanji Temple is one outlier diagram where there is no interior quality at all. To summarize this type of diagram, the following name and diagram is defined:



Missing Interior

Lastly, the cultural diagrams of the Pantheon and the Notre Dame look similar because of the layering qualities of interiors. This characteristic is also found in the programmatic diagram of the Ryoanji Temple, the US Capitol, and Casa Batlló. The Chrysler building has two diagrams that follow this layering of interiority: structure and culture. To best summarize this category of diagrams, the

category name “Interiors within Interior” will be used and the diagram is as follows:



Interiors within Interior

The case studies were selected to range in time periods and stylistic movements. These findings demonstrate that time periods and stylistic movements have no effect on interior spaces structurally, programmatically, or culturally. In the chart below, the case studies are again listed in chronological order, but this time the four diagrams defined above are the categories examined and the fills of the chart represent the different areas of interiority (i.e. structure, program, and culture). In the chart, structure is represented by a solid black fill, program is a striped fill, and culture is a dotted fill. If there is a box that is white, that means there is no category that matches that diagram type for the specific building.

STRUCTURAL

PROGRAMMATIC

CULTURAL

BUILDING	Uniform Interior	Subtracted Interior	Missing Interior	Interiors within Interior
PANTHEON				
NOTRE DAME				
RYOANJI TEMPLE				
US CAPITOL				
CASA BATLLÓ				
BARCELONA PAVILION				
CHRYSLER BUILDING				
CENTRE POMPIDOU				

From this chart, it becomes even more clear and reinforces the ideas that there is no trend of interior experiences, or interiority, that follows time or stylistic movements. Essentially, if stylist movements have no correlation between the interior experiences, or the "interiority", of the building, understanding the stylist movement and time period of the structure cannot aid designers in making alterations and changes to the interiors of buildings. To make the changes and renovations, designers need to look to interiority as the first step before any design decisions are made.

CONCLUSIONS

During a time of overpopulation, depletion of natural resources, rising temperatures, and decreasing buildable land, designers and architects are faced with new challenges of space-making. It is becoming common place to take an existing structure and completely change its purpose and design to meet current needs. To properly change the function of a building, the interiority of the building must be analyzed because of interiority's relevance to structural, programmatic, and cultural experiences of the space. How and why a space is used cannot be understood by examining the façade or exterior elements. Knowing this problem, the question to ask is: How can designers look to interiority to help solve pressing issues of space-making? Through a method of diagramming interior space, we can start to understand these spaces in new ways that will help issues of space-making.

The method starts by analyzing a floor plan of the case study. Then, a solid black fill is used to diagram interior space and a solid white fill to represent a lack of interior space. This was done three times to represent the structural interiority, the programmatic interiority, and the cultural interiority. The resulting three diagrams from each case study were compared side by side, resulting in twenty-four diagrams. From these diagrams, a pattern was realized. The results of the synthesis were an over-arching set of categories that describe the case studies examined. The four categories are a uniform interior, subtracted interior, missing interior, and interior within interior.

The contribution of this thesis includes the method used for finding the categories and the four categories themselves. With this contribution, designers and architects can start to understand interiority of existing architecture in a new way that will help when trying to alter an existing interior.

While the contribution of this thesis is important, the conversation this thesis adds to is also relevant. There is already a realization of the importance of interiority in architecture, as demonstrated in the work of Graham Harman and Tristan Garcia. However, these conversations lack application to real life architectural examples. This thesis fills the gap between the importance of interiority and its relationship to historic architecture.

With more time and further research, this thesis could be extended to analyze more case studies. It could

be extended to analyze more case studies. It could also be used to find more sub-categories within a uniform interior, subtracted interior, missing interior, and interior within interior.

With the rapid growth in industry and technology, an increased emphasis on the harm done to our planet, and a lack of usable pace due to growing populations, we will start to see unique buildings that test the relationships between inside and outside. Now more than ever, designers need to dedicate time to solutions that are innovative enough face the most pressing issues in the world, and this can start with a deeper understanding of spatial relationships in our built environment. It can start with understanding interiority.

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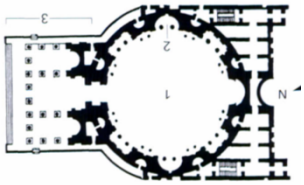
FIGURES

Figure 3

Interior image of the Pantheon

Erected in 17 BCE; destroyed by fire in 80 CE and rebuilt under Emperor Hadrian (76-138 CE) in 110 CE. Pantheon. architecture. https://library-artstor org.colorado.idm.oclc.org/asset/LESSING_ART_1039901758.



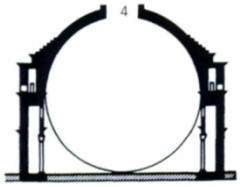


Figure 4/5

Floor plan and section of the Pantheon

Pile, John F. 2005. *A History of Interior Design*. 2nd ed. Hoboken, N.J: J. Wiley & Sons.

Figure 9

Exterior view of Notre Dame

https://library-artstor-org.colorado.idm.oclc.org/asset/SCALA_ARCHIVES_10310196176.

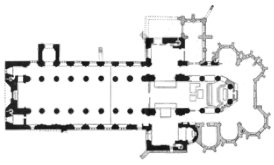


Figure 10

Floor plan of Notre Dame

https://sites.google.com/?tab=i31&authuser=0

Figure 14

Photo of rock garden at Ryoanji Temple

15th century (creation), Era: CE, Image: 2010. Zen Garden, general view, showing garden wall. gardens. https://library-artstor-org.colorado.idm.oclc.org/asset/SS7730878_7730878_11930893.

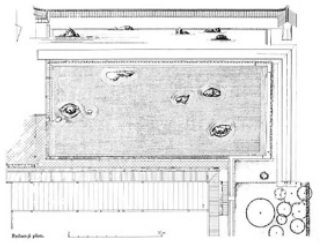


Figure 15

Plan of Ryoanji Temple

Izozaki Arata, Ma: Space/Time in Japan, Cooper-Hewitt Museum, New York 1976.

Figure 19

Exterior view of Capitol Building

Dr. William Thornton; Charles Bulfinch; Benjamin Latrobe. Begun 1792; enlarged 1827-1850. U.S. Capitol Building Towards Mall. Architecture. https://library-artstor-org.colorado.idm.oclc.org/asset/HARTILL_12319253.

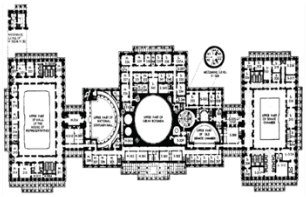


Figure 20

Floor plan of US Capitol Building

Thomas U. Walter et al., U.S. Capitol, main floor plan, as expanded in 1851–67, showing House chamber in south wing and Senate chamber in north wing, both enclosed by rooms and with no outside walls (Carrier Corporation, *Weather Vein* 9, no. 3 [1929])

Figure 24

Interior photo of Casa Batlló

Antonio Gaudi; Contributing artists: Josep Maria Jujol i Gibert and Joan Rubio Bellver (façade), Badia Brothers (Iron), Casas i Bardes (carpentry), Sebastia Ribo (Ceramics), Tallers Pelegri (glass cases); Sculptors: Joan Beltran, Joesp Limona i Bruguera,. 1905-1907. Batllo House (Casa Batllo), Interior. https://library-artstor-org.colorado.idm.oclc.org/asset/ASITESPHOTOIG_10312736125.

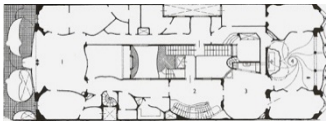


Figure 25

Floor plan of Casa Batlló

https://www.archinform.net/projekte/385.htm

Figure 29

Interior photo of Barcelona Pavilion

Krohn, Carsten. 2014. Mies Van der Rohe - the Built Work. Basel/Berlin/Boston: Walter de Gruyter GmbH. Accessed February 16, 2020. ProQuest Ebook Central.

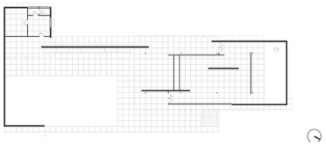


Figure 30

Floor Plan of Barcelona Pavilion

Mies Van der Rohe, Ludwig. 1929. German Pavilion, Barcelona Pavilion. https://library-artstor-org.colorado.idm.oclc.org/asset/AWSS35953_35953_34611404.

Figure 34

Exterior image of the Chrysler Building

Bridges, Marilyn. 1988. Chrysler Building, New York City. Photography. Place: City College of New York, Current location: Compton-Goethals Hall, 245A., New York, NY, The David and Lenore Levy Collection of Contemporary Photography. https://library-artstor-org.colorado.idm.oclc.org/asset/ACCNYIG_10313166024.

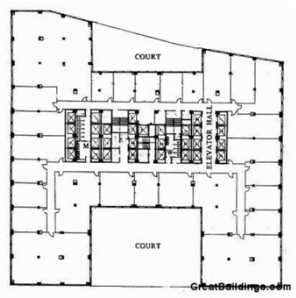


Figure 35

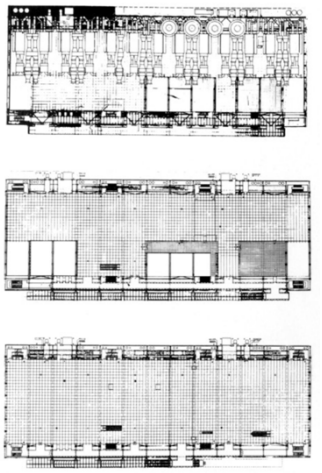
Floor plan of Chrysler Building

https://www.archdaily.com/98222/ad-classics-chrysler-building-william-van-alen/5037f25828ba0d599b0005e4-ad-classics-chrysler-building-william-van-alen-plan-01

Figure 39

Exterior image of Pompidou Center

Piano, Renzo 1937- ; Rogers, Richard 1933-. 1971-1978, Image: 1981. Centre Pompidou, View Description: East facade with external escalator, from southwest on Piazza Beaubourg.



Floor Plan of Pompidou Centre

Piano, Renzo & Rogers, Richard. 1972-1977. Centre Pompidou. https://library-artstor-org.colorado.idm.oclc.org/asset/AWSS35953_35953_29409917. Exhibition/Performance/Recreation. https://library-artstor-org.colorado.idm.oclc.org/asset/AWSS35953_35953_34201581.

Figure 40