Harmonious Ambition:
The Resonance of Michelangelo

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ABSTRACT

This thesis is an exploration of creating an essence in architecture through a sense of ambition and harmony. The ambition for a design to have an architectural presence and establish a clear identity, while achieving a harmony of numerous aspects of the project in order to simplify the inherent complexities of architecture and allow the ambitious identity to be clearly present.

The investigation begins with the analysis of ruins as the result of a natural process that strips down a building of secondary components and leaves the exposed soul of the architecture. As a specific example, the thesis explores the Roman ruins, how they exude their cultural history and often how they express the initial architectural intent and identity. The ambition of Rome is carried to the harmony of Florence and finally to the embodiment of harmonious ambition in Michelangelo.

His work constantly achieved an ambition in creating a new identity with each masterpiece while always attaining a beautiful moment of harmony. The thesis explores not just the wonders of Michelangelo’s life, but his inspirations and mastery of ancient traditions as well as his influence on the world after him. At the conclusion of the exploration, I propose a place of learning that both honors Michelangelo and his resonance throughout history and creates a new harmonious ambition.
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GENERAL ABSTRACT

It seems that most thesis explorations begin with a thesis question and work with an intent to find an answer in its conclusion. However, I intended to take this opportunity to refine a question about architecture that I can spend the rest of my career working towards an answer. To quote one of my mentors, Paul Emmons, “Architecture is the eternal question; Building is a temporary answer.”

To determine the question, I look back to why I pursued architecture. It was not to merely construct shelter, but rather because I found that architecture can tell a story, evoke emotion, improve functions, and a great deal more. It seemed like architecture is a living entity and it was my aim to refine a question in pursuit of capturing this living essence.

The exploration begins with studies from precedents that I found achieved this mysterious architectural essence. One common aspect of more successful projects, and I find similar to some of the most successful people, is that they have the desire and ambition to express a boldness in defining their unique character. This boldness is only apparent through the clarity and harmony in their design, examined further through architectural ruins. With this architectural ambition and harmony in mind, the thesis studies a revolutionary genius whose life and work embodied the essence I am after: Michelangelo Buonaroti.

This thesis outlines my journey through lessons from the great Michelangelo towards achieving my own Harmonious Ambition.
Acknowledgements

Throughout this rewarding exploration of my thesis, I found several parallels between the type of architecture I wanted to create and the kind of person I aspire to be. Just as how I want my architecture to find a sense of harmony with an ambition purpose, I find that continues to be precisely what I strive for in my life. Any sort of success I have had in beginning to understand this harmonious ambition is only due to the balance of influences of peers, mentors and precedents. Throughout my life, and especially in this thesis journey, there has been a large amount of overlap with precedents becoming as influential as mentors, mentors becoming as familiar as peers and peers becoming as inspiring as precedents.

Peers (including classmates, coworkers, friends and my amazing siblings) constantly influenced the ambitious nature of creating architecture that can mean something more than just fulfilling a functional need. For mentors, I would first like to express my gratitude to my amazing parents that have always stressed a sense of balance and harmony within my life. I think it was inevitable that it would translate into my work in architecture. My incredible aunt, Melanie Hughes, who greatly assisted in my falling in love with Italy. My mentors in the professional world, especially Jeff Ganthner and Erik Velazquez, who help bridge the gap from the conceptual realm and bring them into the physical world. I am also incredibly grateful to the mentors I gained in my graduate studies at Virginia Tech. My committee chair, Markus Breitschmid, worked with me to determine what exactly it was I wanted to pursue and how to take full advantage of this thesis opportunity. Paul Emmons’ incredible insight throughout the wide range of creative avenues this thesis led was critical to nearly all of my realizations and discoveries. Susan Piedmont-Palladino was exceptionally influential as well, specifically in guiding my search to find a harmony to my project with its surrounding city context of Florence. Lastly, I would like to thank Jaan Holt and Ezgi Isbilen who both provided incredible perspectives outside the regular conversations with my committee and influenced a range of new ideas, concepts and designs. Lastly, a special thanks to those precedents that may never read this: Architectural masters like Louis Kahn, Tadao Ando and Alejandro Aravena that gave me inspiration through their remarkable designs. The Michelangelo expert, William Wallace, that guided my studies through his lectures and writings about not just Michelangelo’s work but his passions, struggles and genius that allowed me to understand Michelangelo more completely. And, of course, the genius Michelangelo that will continue to inspire my work.

I truly appreciate this harmony of inspirations I have had the good fortune of learning from during this thesis exploration. I expect to reflect on this experience and constantly learn from it. As an 87 year old Michelangelo stated in 1562, “Ancora Imparo”. Yet still I learn.
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The Resonance of Michelangelo
This thesis is an exploration of creating an essence in architecture through a sense of ambition and harmony. The ambition of a design to have an architectural essence and establish a clear identity, while achieving a harmony to simplify the inherent complexities of architecture and allow the ambitious identity to be clearly present.
The first of many precedents I explored was a project that has been continuously inspiring me from my first introduction into the field of architecture. It has served as an idea of architectural perfection as Fox found throughout my studies. The Pantheon not only represents the strength and ambition of the Roman empire but has become a prime example of architectural achievement with a mind blowing concrete dome.

The Pantheon that we see today was built around 126 AD under the rule of Emperor Hadrian. While the architect is unknown, many believe that Hadrian himself designed this huge project. He was still the Roman emperor when the construction was finished, and it is on the site of an earlier temple commissioned by Marcus Agrippa during the reign of Augustus. It is still standing and the original inscription that Agrippa retained. The building has a circular plan with a portico of large white Corinthian columns under a pediment. A rectangular cela links the peristyle to the rotunda, which is under a coffered concrete dome with a central opening in the roof. The Pantheon has a height of 43.3 meters and its diameter is 43.3 meters as well. It is one of the largest unreinforced concrete domes in the world, and its height and diameter are identical.

While there is an immense amount of history and greatness to this structure, there is one overarching aspect that is brought into this thesis: the seemingly simplistic resolution of incredibly complex challenges. The Pantheon’s dome is still the world’s largest unreinforced concrete dome. The height to the oculus and the diameter of the interior circle are identical, famously stating that a perfect sphere would fit into the central space.

While there is an immense amount of history and greatness to this structure, there is one overarching aspect that is brought into this thesis: the seemingly simplistic resolution of incredibly complex challenges. The resolved design may be the purest example of overcoming these hurdles in a very elegant and graceful solution.
The elegant notion of resolving complex conditions with simplistic solutions continues to resonate in the modern era as well. Alejandro Aravena's "Elemental" architecture has a clear archaic influence in creating the simple yet expressive. Technology's capabilities today are constantly utilized to resolve any and all challenges which often results in complicated designs. Aravena's designs show the ability to be complex without becoming complicated. Summed up beautifully in an interview with Aravena, he stated, "Technology is definitely the answer, but it is our responsibility to determine what the question is."

The UC Innovation Center in Santiago, Chile is an incredible example of using intelligent design partnered with technology to create a project that is both sustainable and beautiful. The tropic environment creates the indescribable challenge of heat gain. While many contemporary designs would still implement a glass-box type structure to exhibit the technologies ability to withstand the heat of Chile through innovative glass, air conditioning and other advances, Aravena shows his willingness to step back and consider why. Instead of creating a glass box with a concrete core, he turns the design inside out. Aravena creates a much more massive and opaque exterior with large, deep-set balconies to protect the inhabited interior from the harsh heat on the exterior. To bring light into the project, he utilizes a large central atrium that extends from the skylight in the roof down to the ground level. While this design essentially solves the challenge of working with the environment of Chile, it successfully creates several other advantages as well. By the central atrium, the inhabitants are drawn to the central atrium and the life within the building. Since a glass box approach provides constant views to the surrounding context, the view loses any sort of exclusivity and becomes less memorable. By creating these large, deep-set balconies, Aravena creates very specific and special views to the context. With the design of the building drawing the attention throughout the structure towards the central atrium, he lateralizes the inhabitants attention inward towards the central atrium and the life within the building.

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Perhaps no architect in the modern era has been able to embody the idea of harmonious ambition more clearly than Louis Kahn. He was known for combining Modernism with the weight and dignity of ancient monuments. Though he was less known at his death than his early 50s, and only four decades after the age of 73, in a span of just two decades came to be considered by many as part of the pantheon of modernist architects which included Le Corbusier and Mies Van der Rohe.

Starting in the early twenties, modern architects were to be so free as modern painters were - as free to invent as the cubist painters who had just come on the scene, and as free from the shackles of responsibility. Buildings were to have no top, no bottom, no side, no up, no down - nothing that read of construction, but rather of composition. What Kahn did that was new in the high modernist period was to build buildings that were pure constructions - buildings that showed nothing of the idea of composition and no trace of pictorial freedom. This sense of pure construction combined with the use of the simple forms (circles, squares, pyramids) allowed for the clarity in Kahn’s architecture. These principles are at work in all of Kahn’s famous works: the Salk Institute, the National Assembly Building of Bangladesh, the Exeter Library and Kimbell Art Museum (all shown to the left).

While Kahn had a need to “invent” in his architecture, it was very clear that he learned and applied a great deal from the four months he spent in Rome studying the great ruins of the ancient world. These simple and archaic forms create a beautiful harmony of ‘silence and light’ as Kahn describes. Similar to the ruins he studied, his buildings become very expressive of their construction, purpose and essence.
"I like ruins because what remains is not the total design, but the clarity of thought, the naked structure, the spirit of the thing. " - Tadao Ando

Ando, similar to Louis Kahn, has a clear desire for his architecture to portray that sense of the ruin in his building. As one studies ruins, they are able to take that step into the past and explore the life of the building. Experiencing any ruin is to decode how that building was built and how time has affected the structure over time. The ruin also allows us to see the "naked structure" in its entirety. One can see how the building was constructed and its impact on the present. There is a beauty in honesty and openness to that interaction. In order to express that true nature, or soul of the thing, something I admire in Ando and Kahn was to utilize those influences of ruins into their designs.

An architect isn't seeking to create a ruin, but seeking to create a new architecture that could possibly be as self-expressive and ambitious as a ruin is. This desire brought the thesis exploration to explore the notion of the pre-emptive ruin: to look at a building's distant future as a ruin while that ruin simultaneously looks back on its past life. This harmony of past and present allows architects to show how their own creations, through both building and simplifying the structure into its essential components, turn into ruins.

As a part of the exploration of ruins, I took the opportunity to travel to Rome, like Kahn did, to study these ancient ruins. I was able to firsthand see the expressive elements that were able to stand the test of time. From the Pantheon's dome to the Roman Forum to the Colosseum I was able to walk through history and relive some of the legacy of the Roman Empire. But the ruination of the ruins allowed me to understand the erosion that has happened over time and decipher the way they built their buildings. It was truly an anti-engagement experience, as Kahn and Ando have built their designs but that of architects like Ando and Kahn. The ambition and clarity of time that one can engage in through history and not be buried in the ruins, the art of this harmonious ambition can be portrayed and the most beautiful beauty found in work of Louis Kahn and Tadao Ando.
I found incredible examples of both ambition and harmony throughout the Roman ruins, but I found discovered a true unity of harmonious ambition at Florence. Rome represented the ambition and power of the Roman empire and its emperors, while Florence constantly displayed its ambition through its history, culture, art, and architecture. Each part of the city seemed to belong to the city as a whole and spoke from one voice, all tied together under the shadow of Brunelleschi’s great dome.

Il Duomo di Firenze, or the dome of Santa Maria del Fiore, is an enormous, impressive, and beautiful dome that is the clear center of the city. Designed by Filippo Brunelleschi, it was incredibly constructed without the use of modern scaffolding. An incredible achievement, not only for the time, but still baffles architects today. The tremendous structural features of innovation and beauty embody the true nature of Florence.

Considered the birthplace of the Renaissance, Florence has been called “the Athens of the Middle Ages.” A turbulent political history included periods of civil war, the growth of trade, and economic, religious, and political revolutions. One revolution during the Renaissance was humanism, which allowed the prince to cooperate with the innate human dignity and innate morality. The clash between this belief and the religious orders from Rome would end in a period of artistic and intellectual freedom that would change the world. This Renaissance, or rebirth, brought some of the greatest minds to the city and constantly pushed the limits of possibility.
At the center of this Renaissance, this revolution of man, was perhaps the greatest artist the world has ever known: Michelangelo Buonarroti. Born on March 6, 1475 in Caprese, Italy which was “still under the shadow of the Duomo,” Michelangelo was raised a child of Florence. Michelangelo’s father, a sculptor, had just six-year old son, Michelangelo, lived with a nanny and his father’s drummer. The son of a sculptor, Michelangelo was raised in a marble quarry and a small farm. As Giorgio Vasari quotes Michelangelo, “There was a spirit of God in the air so full of the life, the subtle atmosphere of your country of Arezzo. Along with the milk of my own mother, I received the kinds of studies and habits, with which I take my genius.

Michelangelo was then sent to Florence to study grammar under Humanist Francesco di Colonna, and later, at the age of 13, entered an apprenticeship with Domenico Ghirlandaio, a master in fresco painting, perspective, figure drawings, and portraiture. At just the age of 14, Ghirlandaio was persuaded to pay Michelangelo as an artist until Leonardo da Vinci, de facto ruler of Florence, took Michelangelo into his home and attended the Humanist academy that the Medici had founded along Neo-Platonic lines.

This incredible beginning laid the groundwork for Michelangelo to not only study under some of the world’s greatest painters and sculptors but study under some of the world’s greatest philosophers that would have a clear influence on his own art. Along with the milk of my nurse I received the knack of handling chisel and hammer, with which I make my figures.”

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In order to pursue a clearer understanding of harmonious ambition, this thesis explores the works and life of Michelangelo Buonarroti. The genius of the Renaissance uncovers unique and enlightening clues to this pursuit with each masterpiece he creates in their elegance, innovation and passion.
The Dream of Human Life

This highly finished drawing has traditionally been interpreted as an allegory of virtue and vice. Even though the central figure had been identified as the human mind as early as 1642, subsequent critics largely ignored this insight to focus instead on the peripheral figures as symbols of human vices. Yet, given Dante’s verse in *The Last Judgment* made from a mass of similar forms, the semi-circle around the awakening nude must represent the crown of Michelangelo’s own head from the temples up. This fits neatly with Maria Ruvoldt’s interpretation that the image is self-referential about the act of creation.

The drawing could then symbolize Michelangelo with the central figure as an essential personification as well. The trumpeting angel breaks through the crack in the skull known as the fontanelle, the opening where the spirit was thought to enter at birth and leave at death. Michelangelo used to call his brain “my memory-box” which must therefore be the open box with a bunch of masks, schematic characterization used by the artist with once a self-portrait. The sphere is then likely to represent his inner eye to symbolize imagination.

Medieval images of the mind traditionally contained circles to symbolize the various spheric spheres of mental activity and even include central dividing lines as Michelangelo’s does. The small figures in Michelangelo’s head, some erotic including a disembodied phallus, must reflect the fertile creative struggle in the artist’s own mind, with sex as a metaphor for creation.
Early on in this thesis exploration, I knew I wanted to create a place of learning. As I did this, I learned how crucial we face. Learning from Louis Kahn:

"Suppose you were assigned to say—and what a wonderful commission it would be—what is a university. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn't know it, how a university would be organized. Or you had to write, even if you didn't know it, how a university would be organized. And instead of being given a program, you had to write, even if you didn’t know it, how a university would be organized."

With this notion in mind, I explored four ways in which we learn. First, to learn by doing in a place of study. This is where we learn by focusing on our work. The ideal space for this is a place of solitude from distractions to promote focus. Second, to learn from others in a place of meeting. While we may learn from experience, we can't underestimate learning from other's experience. Creating an ideal space for people to communicate and learn with each other is ideal for allowing collaboration to occur. These spaces often open in a horizontal sense to allow collaboration and focus to promote communication. Third, to learn from contemplation in a place of reflection. We are often swamped by information, so we need to take time to reflect. The experience to reflect back and contemplate on this new information is important in our development. Thus we put in spaces, where inhabitants are not disturbed from disturbance while having views of nature and/or public. Lastly, to learn from reflection. However much we learn, study and work, there are instances of creativity, ideas that can be explored. It is common of artists to have their moments of clarity, where they feel inspired to create something new. This moment often results in moments of reflection. These moments often result in moments of contemplation. Spaces that allow for reflection, can provide an inspirational place for learning. A place that allows individuals to dream. These spaces often need an abundance of natural daylight. Large windows that allow the inhabitants to look out, make them feel exposed and a vertical focus to allow inhabitants to look up to the heavens.

In the previous drawing of The Dream of Human Life, I see Michelangelo intuitively portraying the harmony of nature and nurture. In his marble, His "memory box," shows his mind and memories that he's acquired through studies, meetings and reflection. While the angel overhead inputting the moment of inspiration or creativity. In between the two is life.
The Bacchus is a marble sculpture created by Michelangelo in 1496. This statue was originally commissioned by Cardinal Raffaele Riario. However, it was rejected by him and eventually found its way to Jacopo Galli, Cardinal Riario’s banker and a friend of the sculptor, who purchased it in 1506. Some 66 years later it was bought for the Medici and transferred to the royal house in Florence, Italy.

This somewhat abstracted artwork displays a nude Bacchus, the Roman God of wine, holding a gourden wine in his right hand while clutching the skin of a tiger in his left, seemingly carrying a bunch of grapes slipping from the Roman God’s grasp. He appears intoxicated with rolling eyes and a slight leaning of the body indicating a lack of balance.

As seen in the painting by Leonardo da Vinci (below left), as well as many others, Bacchus was often depicted in various aspects in Renaissance art. However, Michelangelo took a slightly different perspective on the figure and some scholars believe that he is a metaphor for the religious and political leaders of his time. As the god of wine, Michelangelo, like so many others, portrays him as divine in various ways and through different mediums.

The perspective was taken even further with works like Caravaggio’s painting (below right) that depicts the death of the Roman God. Many scholars see this as a self-portrait of Caravaggio as a metaphor of his own overindulgence. However, Michelangelo’s true genius is portrayed in his unfathomable ability to show both perspectives and both stories through a singular form.

**Bacchus**

![Bacchus statue](image1)

![Bacchus painting by Leonardo da Vinci](image2)

![Bacchus painting by Caravaggio](image3)
Throughout Michelangelo’s oeuvre, he consistently is able to incorporate two different, sometimes even opposing perspectives into a singular moment. This harmony within conflict creates an emotional beauty in each project that is very different from any other.

Bringing this into my thesis exploration, I decided to first use a combination of simple forms similar to those described with Louis Kahn. My first exploration (as seen to the left) was the square and the circle. Throughout the Renaissance, this form was used to convey the ideas of unity and separation. My intention was to be able to experience both the square and the circle depending on the perspective. The second use of multiple perspectives was the singular vs. multiple. The intent was to create a series of separate rooms the surfaces were used to almost suggest childhood. Between these multiple buildings are tied together with the central tower making the project feel singular. And third, the perspectives of interior and exterior. The large, open central stair with exposed openings give the inhabitants perspectives of both being in the interior as well as what exposed to the elements while also being interior of the project and somewhat protected.

These were the first three explorations in the multiple perspectives achieved in a singular moment and three that I kept throughout the entire thesis. The tension in multiple readings and perceptions of design allow for beautiful moments in sculpture as well as architecture.
While Michelangelo was primarily a sculptor, he had the versatility to not only paint frescoes, but paint what many consider as the greatest and most famous fresco of all time in the Sistine Chapel ceiling. He was originally commissioned to paint only 12 figures, the Apostles. However, he rejected the commission because he saw himself as a sculptor, not a painter. After much persuasion, Michelangelo persuaded the Pope to let him paint biblical scenes which would cover the whole ceiling. At first, the work was complex, but eventually, Michelangelo painted the ancestors of Christ, male and female prophets, the Apostles and the nine stories from the Book of Genesis including Adam and Eve, Flood of Noah and the Great Flood.

Perhaps the most famous portion of the ceiling is the Creation of Adam. Michelangelo painted God and Adam together, a common practice up until that time. These two figures dominate the scene. God is on the right and Adam on the left. God is shown inside a floating nebulous form made up of draped and other figures. Unlike the figure of God, Adam is depicted as a lounging figure who rather lackadaisically responds to God's imminent touch.

Michelangelo painted with bright colors so the figures could be clearly seen from the floor of the chapel. However, what was most surprising to me was how evident some of the details of the fresco was from so far below. Among those was the gap between God and Adam's hands in the most famous detail of the entire ceiling. The tension between the two hands reaching towards each other became into the visitor feel these two worlds coming together. This idea is continued a little later on in Michelangelo's other fresco in the Sistine Chapel, the Last Judgement which depicts the contrast of the saved and the condemned.
A somewhat hidden element of nearly all of Michelangelo’s works, but especially evident in late works, is while there is an obvious religious overtone of the work there are also some humanist aspects. Using God in the Creation of Adam as an example, we can see that Michelangelo’s use of the human body developed mostly through his experiments in dissection. He had God carried in the ‘cage’ of a cross-section of the human brain. This analogy brings into other contexts of painting and sculpture more than just the story of God giving Adam his Does it imply that it is our human mind and sense of creativity that gives us our greatness?

The beauty of the human brain is consistently shown in Michelangelo’s works and there can be so much to learn from this incredible design. In addition to the hidden brain sections, the gap between the two hands could also be analogous to a synapse in our brain: a junction between two nerve cells consisting of a minute gap across which impulses pass by diffusion of a neurotransmitter. This process is how we learn.

In designing a place of learning, this idea of synapses became a very important concept. Through his synapses design in these several places, the unorganized style behind the hidden sections was realized. Also, since he used synapses, it is creating a spatial synapse that brings people together. This is different from Michelangelo’s, the School of Athens and Langhe. I wanted to learn a lot from Michelangelo’s actual work in Rome together at the same time. The painting shows very different minds of philosophers that coming together for discussion, learning and growth. In designing a place for people to learn, this idea of collaboration and interaction is a necessity.
On the first floor of the Brunelleschi cloister in Florence is the entrance to the Laurentian Library which houses what must be considered the most important and prestigious collection of antique books in Italy. Once the collection was brought from Rome to Florence in 1523, Michelangelo was immediately commissioned to design the library.

The decoration of the library went hand in hand with its actual construction. The ceiling dates to 1549-1550 while the flooring from 1558-1568. This marks the library one of the most unified works of the High Renaissance to be found in Florence. The jointing courses is provided by a large entrance vestibule (called the "ricetto") planned in elevation by Michelangelo and built. A fluted column, Mannerist two-wing combination of gray sandstone elements on white plaster. Here Michelangelo's energetic and powerfully modeled architectural vocabulary emerges in the tabernacle niches, the paired columns, the portal fully articulated with a feeling of solid strength. The interior is then entered in the cut of the vestibule, formed as a fantastic structure. It consists of three flights of steps the outmost are quadrangular shaped, the central ones convex, while the innermost three steps are completely elliptical. The vestibule in turn the explosion of complexity which the portal represents the unified character of the Mannerist style of architecture.

This grand entrance vestibule bound to a room designed just for that entry function in a great monument to the emblematic design of the surrounding rooms beyond. However, though the garden of Michelangelo, these two contrasting spaces work unusually well, the choice of Michelangelo is extremely audacious with both its statu, bronze chains to each desk and a large trompe l’oeil painted to provide light in the gallery. The remarkable juxtaposition of the necessary and the superfluous creates an incredible balance in architecture and a beautiful metaphor to the journey of learning and discovery.

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There are several lessons to be learned from the beautifully designed space of working that Michelangelo developed, many of which will be incorporated into the description of the final building design. However, one specific example developed during this thesis was an exploration in designing a modern day version of Michelangelo’s reading desk.

Michelangelo’s desk reduced and simplified the place of study. It incorporated a place to sit, a platform to read from and even the book storage into one elegant gesture. In an effort to replicate this notion for modern day I explored how my study table. So I began examining some efficiencies and inefficiencies in how I study on a daily basis. Much of the same principles the Michelangelo allowed could be taken today. What started as my desire to save time, save effort and not have smaller books and not have books that are too small to themselves to a design very similar to Michelangelo’s reading desk. However, today there is an undeniable efficiency of utilizing technology into our studies. While there are so much benefits to the implementation of these technologies, it should not be used as time of traditional means fast in cooperation with them. This became the main discussed in my study in time, not to completely separate one. Trying to utilize the efficiency and accuracy of BIMs versus time consuming but then disconnecting from that world entirely to utilize the flexibility and creative nature of hand sketching and physical building.

In an effort to bring these two worlds together I developed an Innovation Table that uses a similar profile as Michelangelo’s desk with an angled working surface, but with visually lighter material of wood planes and bent steel members. I also designed a profile for the support structure that allows a simple adjustment for a flat working surface. I then incorporated an overhead shelf in the singular structure to first allow for storage of books overhead. However, with a mirror placed beneath the shelf and a projector mounted at the top of the working surface, this design allows a digital worksurface to be projected upon your physical work surface. This simple and innovative design brings these two worlds together for an elegant and functional design as inspired by Michelangelo.
From the founding of Rome until its fall almost one thousand years later, the Capitoline Hill symbolized the center of Roman might and many of the city's most important buildings stood on this hill. Later during the Middle Ages, the site continued to play an important role in Rome's history. The center of Rome remained here and even today it still has some political aspects and although the city hall is rented here.

When Emperor Charles V planned a visit to Rome in 1536, the muddy Capitoline Hill was in such a derelict state (as shown to the above left) the pope Paul II Farnese asked Michelangelo to design a new square. He named his fabulous Campidoglio (Capitoline Square). The project also included a redesign of the existing buildings surrounding the square.

Michelangelo came up with an original, innovative design for the square: an irregular oval-shaped ground pattern. He rebuilt the Palazzo Senatorio, seat of the Roman senate, and integrated the facade of the Palazzo del Camerlenghi. Additionally, a new building, the Palazzo Nuovo, was to be constructed to complete the Palatine complex. With the square positioned at a slight angle, it changes the perspective in such a way that it seems much larger than it actually is. Truly Michelangelo's ambitious plans for the square included the creation of an elegant staircase, the Cordonata.

Construction of the square started in 1546 but only the staircase at the entrance of the Palazzo Senatorio was realized when Michelangelo died in 1564. The project was finally completed in the seventeenth century according to Michelangelo's design.
While Michelangelo obviously didn’t invent the idea of a Piazza or the outdoor room, similar to nearly every task he undertook, he innovated and mastered it. This idea of harmony of interior and exterior I felt needed to be brought into the design of a place of learning. In this thesis exploration, I found the importance of the inhabitants having this balance of feeling protected and part of the interior of a project, while also feeling exposed to the natural elements at times and flooded with natural daylight.

The central, open space achieving the harmony of interior and exterior was only the first of many harmonies I hope to achieve through another section that was previously discussed was the harmony of multiple and singular. While a central dome helped to bring these components nature and architecture together, the central space or void helps to achieve the union as well.

Some lessons learned early on from Alejandro Aravena’s designs were also achieved by the central atrium. The beautiful harmony of views being focused outward as well as inward was a key factor brought into the design. While changing many elements in the future, I found it vital that much of the focus should be brought inward. This balance and harmony of focus allows for flexibility in creating places of learning ranging from places of study, meeting, reflection and inspiration.

The Campidoglio design continued to influence several other elements including the spatial layout that created a space that not only seemed larger than it actually was, but also helped to give the project a direction. The centrality of a sculpture to highlight the internal focus. Michelangelo’s pavement design even helped to inspire my dome design. Many of these inspirations will be explained in more detail in the project description.
In the early fourth century Emperor Constantine, the first Christian emperor of Rome, decided to build a basilica on Vatican Hill at the site of a small shrine that marked the likely location of the tomb of St. Peter. Construction of the basilica started between 319 and 322 and was completed around 349 AD. In the middle of the sixteenth century, the basilica was taken into state and papal hands and underwent extensive renovation and enlargement at the urging of Pope Julius II, under the supervision of architect Bernardo Rossellino. Once Pope Julius V died, the work was halted.

It wasn’t until half a century later that Pope Julius II decided to finish the completely new edifice. He appointed Donato Bramante as chief architect. Bramante designed a structure with a high dome on a Greek cross plan. In 1506 Pope Julius II laid the first stone of the new basilica which soon became the largest in the world.

After Bramante’s death in 1514, the church was continued by a number of architects including Raphael, Sangallo, and finally Michelangelo in 1547 at the age of seventy-two. While other architects proposed incredibly complicated designs, Michelangelo had a strong desire to hold true to the strength of clarity in Bramante’s initial design.

At the time of Michelangelo’s death in 1564 only the drum of the dome was built. The dome was finally completed in 1626 by Giacomo della Porta. On request of Pope Paul V, the dome was extended further in 1667 by Carlo Rainaldi. The result is a true Latin cross plan with an elliptical dome, a design that was continued further by Carlo Maderno and Gian Lorenzo Bernini.

St. Peter’s

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St. Peter’s

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The exploration of the history of Saint Peter’s development actually became part of the thesis after the initial parti sketch was in the 70’s. The intent of the parti was to simplify the design as much as possible in order to create a clearer sense of the project. There must be a central point and a balance of mass and void. In a treatise of serendipity, I realized that this plan and idea had great similarity to Bramante’s design of St. Peter’s. The next step became to learn from how Michelangelo improved Bramante’s plan of 1506. This would enable me to apply these lessons to my design.

Part was the diagram of direction in both Bramante’s plan as well as my own. They have no back, side or front. Other I lacked the properly site, it needed to incorporate the context which has several key features. Although the plans to give the parti a sense of direction, it was greatly due to the influence of Michelangelo’s refinement of Bramante’s initial St. Peter’s plan.

Second was including a sense of subtracting from a mass, a feature in nearly all of Michelangelo’s architecture. The idea of sculpting spaces out of solid mass is clear and appropriate given Michelangelo’s primary focus being in the realm of sculptor. As the modern day Michelangelo expert, William Wallace explained in one of his lectures, “it’s as though Michelangelo’s architecture started with a solid block of ice and he then pours hot water where he wants to create rooms.”

This technique of subtraction can be clearly seen in such plans as San Giovanni dei Fiorentini (below) as well as many others. It became my intent to create a large central space that expanded from the central atrium into the interior libraries defined by a thick mass carved into creating several small opportunities for reading rooms, study spaces, etc.
One of the first of Michelangelo’s sculptures, the Madonna of the Stairs is a relief sculpture completed around 1491, when Michelangelo was seventeen. In this relief sculpture he depicts a figure of the Madonna cradling and nursing a baby Jesus. While there is clearly a depiction of love and care from Madonna to her child, there is also a sense of distraction in the face of the Madonna on the background of the sculpture. Behind her are the stairs on which a young child is reaching over the large railing. Many scholars see the vertical element of the railing and the horizontal element of the child’s arm as a reference to the cross. This could then be seen as a Madonna inner conflict between loving and caring for her child while knowing his inevitable death.

Around 6 years later, Michelangelo was commissioned by cardinal Jean de Billheres to create a marble sculpture of the Pietà, a sculpture that would become one of the most famous of all time. In this sculpture, the Madonna is depicted nursing Jesus who lies dead across her lap. This is on the other end of the story. Here we see the mother and son on the other end of the story. Jesus’ child is stretched across his mother’s arm and looking towards heaven as if to symbolize his eternal purpose. Her mother is depicted with a beautiful and youthful face. While the Madonna in the relief sculpture looks distracted and conflicted, here she is depicted with a look of serenity and acceptance. Her demeanor seems to imply that she is obviously saddened by the death of her son, but also at peace with the conclusion. This expectation implied earlier in his relief sculpture.

These two sculptures both individually portray some examples of Michelangelo’s incredible ability to portray conflicting scenes and emotions within a single form, similar to his Bacchus. However, these two work together to show the development of Michelangelo’s life as a sculptor and the time in Michelangelo’s own life.
A key symbol of Michelangelo was the three overlapping boolean rings. This symbol is clearly displayed on Michelangelo’s tomb designed by Giorgio Vasari. Vasari remarked that these three rings represented the three design arts that Michelangelo was able to master in his life: Sculpture, Painting and Architecture. There is no doubt an incredible compliment to the talent of Michelangelo. However, through my studies and exploration of Michelangelo’s life and accomplishments, I would argue this is still an understatement to Michelangelo’s achievements. For me, these three rings translate to a larger scale that tries to grasp his reach and influence. These three overlapping rings then represent the past, present and future.

Michelangelo was a student of the arts and was able to learn from sculptors like Donatello, painters like Giotto and architects like Bramante. In addition, he constantly studied his ancient Roman and Greek art and the influence is very evident in his work. Michelangelo had the unique ability to take the best from his past and create greater ideas that had the good fortune to live in a time of artistic rebirth. He was surrounded by some of the best artists in history including Michelangelo’s fellow Vicinio della Porta and his brother Pompeo. The juxtaposition of talent had Michelangelo’s competitive nature and drive to create monumental works which were to dominate the world for decades to come.

Michelangelo had the uncanny ability to not only learn from these past arts but quickly master them. He had the good fortune to live in a time of artistic rebirth. He was surrounded by some of the best artists in history including Michelangelo’s fellow Vicinio della Porta and his brother Pompeo. The juxtaposition of talent fueled Michelangelo’s competitive nature and drive to create monumental works which were to dominate the world for decades to come.

Michelangelo’s genius is evident in his ability to master sculpture and architecture. His impact on art and culture was immense and his legacy continues to this day. Michelangelo’s work continues to influence the arts of today and we can see his influence on the work of artists like Caravaggio, Bernini and more.

In designing a place of learning inspired by Michelangelo, I decided this important quality of Michelangelo needed to be a focal point. Because of this quality and Michelangelo’s genius, I was inspired to create not one, but three libraries: Michelangelo’s past, present and future. These libraries explore and emphasize the true resonance of Michelangelo.
The tomb of Pope Julius II was a sculptural ensemble commissioned to Michelangelo, but one work in progress for 40 years. A few of the originally planned sculptures were actually completed, including Dying Slave, Rebellious Slave, The Bronze Horseman, and others. However, perhaps the greatest sculptures were the several that were set as unfinished.

The fame of these four powerful statues – named by scholars as The Bearded Slave, The Awakening Slave, The Young Slave and The Atlas (seen left) – was due above all to their unfinished state. They are some of the three splendid statues of Michelangelo’s tomb trilogy that were intended to be completed (as finished), magnificent illustrations of the difficulty of the artist in creating art on the largest scale. Michelangelo’s mastery and perfection of the marble was to free the spirit from matter. These sculptures have been interpreted in many ways. As we see them, in various stages of completion, they evoke the artist’s immense strength of the creative concept and try to free themselves from the bonds of physical weight of the marble. It is known that Michelangelo deliberately left them incomplete to represent this eternal struggle of a human being to free himself from temporal shackles.

As the unfinished statues reveal, Michelangelo applied the method of carving. Michelangelo believed the sculpture was a tool of God, creating it simply revealing the powerful figure already contained in it. Therefore, Michelangelo took the tool only to obey the command to reveal. He worked with the stone without referring to a drawing, as reported in Vasari’s chronicles about Michelangelo’s passion and talent. In other words, the sculptures were a process of discovery, where the most prominent parts were marked up and worked out. Only the final touches were added in the end.

It is known that Michelangelo’s statues were created with this method. To make a figure appear as though surfacing from a pool of water, Michelangelo would first create a wax figure and then gradually extract it from the marble. This method was described by Vasari in his “Lives of the Artists.” This approach allowed Michelangelo to create sculptures that appeared as though they were emerging from the marble itself, symbolizing the struggle of the human spirit to free itself from material constraints.
The beauty found in the unfinished work has long been an interesting perspective into the mind of the artist. The unfinished piece gives the viewer a "behind-the-scenes" look into how the artist actually constructed the work instead of it just appearing before them. Perhaps this need to portray the grueling and challenging process in creating his masterpieces in the form of the non-finito relates to a quote from Michelangelo, "if people only knew how hard I work to gain my mastery, it wouldn't seem so wonderful at all."

Perhaps even more interesting than discovering the physical process of construction is the journey of the thought process. "The Hand of Michelangelo," and as the study sketches for Libyan Sibyl (opposite page), allow the viewer to see and try to understand his incomplete thought. To become a sculptor means understanding the sketchbooks of Michelangelo, and others like Leonardo da Vinci, became an inspiring and educational exercise.

While these sketches are intriguing, Michelangelo finds a way to bring that sense of sketching and thought process into the literal dimension in sculpture. The non-finito of the unfinished slaves on the opposite page of the volume at Pisa to the left allow the viewer to dream with Michelangelo and internalize into the design process. Historical tools and techniques of the ideal works are necessarily abandoned but rather led the interaction to be full of meaning and interpretation. As da Vinci expressed, "we learned behind, only abandoned." Perhaps this perception of incompleteness is part of the message that is being relayed to the viewer.

For this thesis project, there are no elements that I wanted to portray as incomplete or ever ending, as in the pursuit of knowledge should never be complete. Additionally, it can be accomplished that sees the juxtaposition of ground face and split face as in the Getty Center by Richard Meier (below), exposing part of the construction process in the final design or other design opportunities that allow the viewer to inhabit the look into the mechanics process.

Harmony of the Unfinished

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Bringing the inspiration from Michelangelo into practice, these insights are explored in the building design appropriate for Michelangelo and his desire to learn and create - a place of learning. The building includes galleries, public space, libraries, classrooms and work spaces that all reflect the incredible range of Michelangelo’s talents and their effect of the world. The Resonance of Michelangelo.
In selecting a location for a place of learning inspired by Michelangelo, the city of Florence was the clear option. Michelangelo was the son of Florence and much of even today’s Florence has an overwhelming influence from his genius. There was also an incredible amount of influence and inspiration from Michelangelo to Rome, which I also studied in great detail. But I inevitably decided to incorporate this place of learning with Michelangelo’s Florence.

While studying Rome, one incredible map I discovered was the Nolli map created by Giambattista Nolli around 1748. It was an amazing, detailed map that described Rome at the time and gave me inspiration to create my own map of Florence. Through this large map, I wanted to highlight Michelangelo’s key moments in Florence which included:

- **Galleria dell’Accademia:** not only location of Michelangelo’s David, but also his unfinished slaves.
- **Uffizi Gallery:** contains Michelangelo’s Holy Family (Doni Tondo), plus works by Mannerists inspired by Michelangelo.
- **Bargello:** contains Michelangelo’s Bacchus, the Madonna of the Stairs and his unfinished sculptures from Donatello and Giambologna. Medici Chapel, chapel designed by Michelangelo and contains the tombs of the Medici family, including Lorenzo de’ Medici.
- **Museo dell’Opera del Duomo:** small museum dedicated to works that once decorated the cathedral, including the Deposition carved by Michelangelo.
- **Medici Chapel:** chapel designed by Michelangelo and contains the tombs of the Medici family, including Lorenzo de’ Medici.
- **Casa Buonarotti:** house once owned by Michelangelo’s nephew and his descendants. Now filled with a few of Michelangelo’s earliest works.
- **Santa Maria del Fiore:** Brunelleschi’s dome which is the heart of Florence and a major influence in Michelangelo’s life through its beauty and innovation.
- **Laurentian Library:** a historic library in a cloister of the Medicean Basilica di San Lorenzo.
After selecting Florence as the city for this thesis project, I needed to select the ideal site. With the idea of looking back as well as looking forward, I wanted to select a site outside of the city that could look into the historic city from a distance, to learn from those giants of the past, while not trying to be part of that past. The site needed to interact as Michelangelo did in learning from the past and hunger to look toward the future.

The Piazzale Michelangelo, then became the ideal site for the place of learning for a variety of reasons. First it aligned with the external perspective as I mentioned. But it also already had a solid dedication to Michelangelo that wasn’t fully realized. This Florence piazza was designed by architect Giuseppe Poggi and built in 1869 on a hill just north of the Arno river. The original intention was to house a museum of works by Michelangelo, but this idea never happened. This site then becomes a point of interaction within a made-up of sculptures from Michelangelo—including the David, as well as Night, Day Dawn and Night.

Lastly, the site had another feature that brought this exploration into a tangible reality. It is currently mostly dominated by parking. This was a dis-appointment in my visit to Florence after contemplating the site promising capabilities. However, this allowed me to dream of a better opportunity and the potential of a place of learning that would honor the vision of Giuseppe Poggi, provide a public structure in a highly visited location and take advantage of the most beautiful views of one of the most beautiful cities.
There were several strengths already built into the site that made it an ideal fit for this design. However, there were also a few opportunities for potential improvement of the site. The redesigning of the site became highlighting and aligning the benefits already incorporated while also applying those opportunities for the site to realize its potential.

The first strength I wanted to take advantage of was the incredible view of Florence to the northwest of the site. This became the focal direction of my building and any building design needed to incorporate a defined and framed view of the city. Second was the existing bronze sculpture of the mash-up of Michelangelo masterpieces, Il David. This would become my focal point within the central atrium, similar to the central sculpture of Marcus Aurelius in the Capitoline.

There were several strong axes to respond to; however, there was a disconnect between the strong vertical axis from the piazzale (to the south) and the other strong axes that aligned with the Gate of St Nicholas just to the northwest of the piazzale. Between the gate and the piazzale was already a strong sense of symmetry in the landscape design with the winding road going up the hillside. However, the piazzale needed to completely break away from this axis and only respond to the relation with the gate to the north. Allowing the site to respond to my new building, just as the building responds to the site, I adjusted the extents of the piazzale to reach out further on the northeast corner. This not only allowed for some breathing room for the new structure, but allowed the piazzale to respond to both axis northwest and south. Reefining the piazzale design on the east and allowing for a more gradual ramp access also allowed the Giardino dell'Iris to become an active part of the piazzale.

Using this refined piazzale profile, the building design allowed for another challenge and opportunity to arise. The raised piazzale allowed for a lower access point on the north side and enter into a public lower level. However, the challenge was allowing enough daylight to access the functions within. This challenge was allowing daylight to access the lower portion of the piazzale (as shown in the parti sketch to the left). This allows for daylight into the lowest level as well as a large stair to access the ground level of the central atrium.
In designing a project celebrating the resonance of Michelangelo, it’s only appropriate to learn through making several models and sculptures of the design. This process involved several wood, paper and even clay models, but the concrete models were the most beneficial in starting to building ideas.

One of the first models was conceptualizing the parti form of the project. The intent was to design the form that achieves two different objectives: First, to create the triangular central void within the cylindrical mass. Then to create a design that allows the three existing masses to be read as a singular form.

To achieve these two objectives, a dome and connection balconies were utilized. The connection balconies provided rigidity to the form and placed them in a spiral design, so that they move in a clockwise motion as each level is added. A series of movement that suggests the sculptural elements from Michelangelo or Bernini. The existing domes, while creating a sense of rigidity in the model, enable the three separate masses to be read as a singular entity.

While there may not be any doors or windows in the model, it was essential in conceptualizing the beginning of the massing for the project. Even though the final design may differ greatly from this initial parti model, it is easy to see how much of this parti’s spirit is still present.
Developing from the parti model further, the design progresses with more detail. The three solid masses of the parti model are now divided into habitable spaces and include points of access. However, the dome is clearly the most revised from the parti model. While it does contain the unifying element, its unique nature is highlighted in the reduction of scale and change in material. The reduction of the dome’s size allows it to cover the central atrium as well as work in a better proportion to the whole. The other change is from a concrete dome, as explored in the parti model, to a lighter, and more modern, steel dome.

After developing the design, the lessons learned from studying the Roman ruins returned as an opportunity. In exploring the ruins, it was easier to uncover the soul and essence of the structures. As a design exploration, the updated project is conceived as a preemptive ruin. This process allowed for a deeper perspective on the essential components of the structure as well as the essential spirit of the design.

I’ve completed several section models throughout my architectural education that allowed me to explore not only the form of the model, but the spaces on the interior as well. While they have always been incredibly helpful in my designs, the ruin model was a completely new and rewarding exploration. The model provided a unique way to understand the form and spaces, but a perspective that also projects the life of a building. The process was vital in understanding the project more holistically and playing a necessary role in developing towards the final design and the final model.
As the thesis exploration concluded, a final model was developed at a slightly larger scale than previous models and in more detail to portray the complete intent of the building design. The first step in the construction of the model was creating the solid mass that was continuously explored in the previous models. These three thick masses now clearly portrayed levels, walls, and rooms. The exterior in-filled with the pietra serena stone masonry (represented though lasercut chipboard). The refined design now also needed to represent the transition of materials from the heavy mass of the structure to the lighter elements within. Wooden floors are then joined to the interior of the mass and supported by six steel columns surrounding the central atrium. These six steel columns rise to support the steel-framed glass dome overhead (represented with 3D prints).

It is obvious to notice the vast differences and progression from the previous models, especially through the increase in detail and the model finally beginning to look like an inhabitable building. These mass models now have the best representation of the progression of the idea. The refinement of the initial conceptual stages and the sense of the building form fulfilled an important starting position. The mass model diminished the desire to find the essence of the project and how the design was striving to achieve. After developing this idea, I was able to apply it to a location and make it a feasible reality. The final model and the final design that became not just a translation of the concept, but that concept then applied into the world – an appropriate perspective on architecture as a whole.
With this thesis having a consistent quality of harmony, it was imperative that the material selection followed in these steps. The desire was to create visually heavy masses that would be symbolic to more traditional construction, similar to the time period of Michelangelo. But to also create the more visually lighter framework that would be analogous to modern construction.

The design started with the previously discussed techniques of Michelangelo's architecture being similar to sculptor techniques of carving out of a solid mass. An incredibly aspect of Michelangelo's life was working in the marble quarries. It allowed him to choose the right marble column for the specific project or work to create. I saw the marble as a marble Delta work until I set him free. In order to achieve this importance of Michelangelo, I wanted to show the building and the spatial work in harmony to the dissonance of a marble being cut from the quarry. However, the main aspects of the material selection was travertine instead of marble. The design allowed for the outer piazza to be travertine stone paving and the inner structure, the facade being travertine stone from the marble quarry. In order to apply some accents of color, Pietra Serena stone was cut into windows in the windows pattern in absence of travertine dome construction.

This massive, heavy column protects the heart of the project on the interior while allowing air, natural movement, and lovely to penetrate the massing and views of the environment. As one gets closer to the interior, the materials become more modern and visually lighter. The heavy travertine stone and concrete (used for interior structure and long spans) transitions to wooden floors and beams that not only give a lighter aesthetic but a warmer feel to the libraries within. This finally transitions to the glass curtainwall structure with metal columns that holds the shape and creates an enclosure for the central atrium space. The transition not only provides a balance of materials and creates a transition of the forms and size of the interior and exterior frames, but also transitions the design from heavy stone mass with warm light reflected off stone, glass, and steel in the heart of the structure representing the angel in the stone that visitors will set free.
Perhaps the most difficult challenge in this thesis experience, as it is in architecture, was trying to accommodate a wide range of different concepts, forms, and inspirations to simplify into a singular form. One of the most important steps was to ensure the conceptual and the real were brought together, achieved through the merging of the concept of harmonious ambition and the physical form of the project.

Due to the striking view of Florence and the direction the connection from the site to the majority of the key landmarks of Michelangelo’s life, the northwest face of the building was the starting point for the design progression. First was incorporating the true resonance of Michelangelo’s life through time by developing the series of libraries focused on three time periods: the first library of the giants of the past who had an influence on Michelangelo’s life; the second library celebrates the masterpieces of Michelangelo and his peers that helped push him to the limits of human capabilities, the third library exploring the ways Michelangelo influenced the world that followed his death starting with Mannerism and continuing to today.

To bring concept into physical form, Michelangelo’s physical presence played a crucial role. The building parameters were centered on the site change and the direction of Michelangelo birthplace (Caprese) as the starting point of the library of Michelangelo (right side of the rendering on the opposite page) and the direction of the place he died, Rome, as the other side influencing the form of the building. The library of the time before Michelangelo then extends to the north side (before Michelangelo born) and the library representing time after him into the southwest (after his death). The form also begins to resemble time periods with the library of the past extending from the north to the future library and the library of the time after Michelangelo then extending to the north (before Michelangelo’s birth). Using this timeline as a design scheme for the building allows for the disconnect between the past and the future on the northwest facade and gives the opportunity for two references to Michelangelo. As experienced in his Unfinished Slaves sculptures, the separation of these sections show the entrance at the tidelines of both past and future extend indefinitely. This unfinished aesthetic is represented throughout, with text inscriptions on the interior face of each library, just as opposite is the smooth, ground face of the exterior. From the coastline of the shows allow for a glimpse of the timeline of the structure from the exterior as well as an amazing framed view of Florence from the interior of the libraries as the two ends of the structure seem to reach towards each other, just as Michelangelo’s hands of God and Adam.
The raised position of the piazzale on the hill provides the unbelievable view, but it also allowed for a gradual transition from the existing piazzale to the lower level that wasn’t currently being utilized in the existing piazzale. Coming from the gate of St. Nicholas to the northwest of the site, this entrance aligns with the existing axis that was previously discussed. Three visitors enter an interior walkway consisting of a cafe, lecture hall, and permanent gallery.

The visitor first ascends the central stairs to enter the gallery space near the lowered terrace so that the visitor comes in with the natural daylighting. With the cafe at their left, they arrive into a large space filled with galleries in front not just the same year, but also several skylights overhead. While there is an inherent beauty in the gallery space in the southwest adjacent storage, mechanical and electrical rooms separating the different galleries, the central focal point in the gallery is the center of the lower level. The focal point is a large, rough faced marble mass with a smooth-faced, circular gallery in the interior. This focal point is a large double-circular gallery supported on a base filled with helical galleries, each filled with skylights. One also impacts the interior of the Il Duomo above.

The large lecture hall is the final feature of the lower level with direct access of the piazzale and direct transition to the exterior on the north end. This lecture hall has the flexibility to be used for very public events as well as very small private events. Its rectangular shape allows for the building center on the previous page within the interior of the large grand stair of the piazzale.

\( \text{Lower Level} \)
The lower level access provides an interior public gallery space for visitors, a feature not currently provided in the existing piazzale. However, the piazzale does provide a wonderful, open public space for visitors to casually explore. The new design tried to not lose this feature of public, accessible space on the piazzale level. To achieve this, the only interior portion at this level is the visitor’s center at the southeast section of the structure. The rest of the structure remains open to the air and indirect access for the public. The central masses create sculpture niches for visitors to experience at their leisure. This structure defined the open central atrium that is highlighted by the Il David sculpture pavilion at the very center.

Another key feature of this level is the transition from the lower terrace of the piazzale to the north to the higher level where the sculpture niches and atrium are accessed. This transition is highlighted by a grand stair with reference to the Laurentian Library stair (above left). The Laurentian Library stair was design with two ways of access, the central cut or readable and the side stairs for general access, the two merging at the landing and continuing the continuous flow of the流动空间. Inspired from this idea, the Risonanza di Michelangelo’s stair has access on the sides that re-center the visitor at the landing before entering the central atrium. While this could be a strictly functional moment of transitioning from one level to another, this stair becomes a special, sculptural moment – just as in the Laurentian Library. The stair then becomes, to quote Alex de Rijke, “sculpture’s gift to architecture.”
While the lower level and ground level are very public and easily accessible, as one works their way to the second level they begin to transition into the more private spaces of the design. The three libraries begin at the second level with three large volumes that look into the central atrium. The thick travertine stone masses that contain these volumes are carved with serving spaces, such as restrooms and stairs, along with reading rooms and study niches.

Separating the three libraries are two large rooms: the writing center and the computer center. The contrast of how we study/work is in reference to the overall theme of harmony, specifically with past, present and future. The more traditional practice of hand writing and drawings lies between the library of influences to Michelangelo and the library of Michelangelo. The more modern practice of internet research and computer-aided drafting takes place in the computer center which lies between the library of Michelangelo and the post-Michelangelo and his influence.

At this second level all three of the libraries are defined by differences in height, but bleed into one another in order to be experienced as a singular library. Natural light pours in from the central atrium into all three libraries and ties them together for an even more unified experience.
The three libraries each have triple-volume centers with surrounding banks of book stacks and reading rooms looking into their spaces that look into the central atrium to result in a transition of volumes from an intimate, cozy niche on the third floor to the large, open and public central atrium.

Continuing the transition to a more private function, the third level becomes nearly entirely private, reading rooms and study niches with some flexible study areas and two balconies. The two balconies are located above the writing and computer centers on the first floor and provide an opportunity for visitors to take a book outside and experience the Italian sunlight.

In order to provide some additional privacy within the reading rooms carved into the thick mass, a screen was designed (shown to the left). The design allows for wooden bookshelves to create a visual screen between these rooms, the reading rooms and those that pass by. The wooden doors access the reading rooms from inside, into the thick stone mass and close to maintain that intimate purpose. The screening practice is continued to all of the reading rooms across the structure. The same screening design is shown to the right (innovation table shown on page 32) located on the perimeter of the north and southwest side of the project. Taking a note from the Laurentian Library’s reading rooms, there is a narrow window in the Pietra Serena masonry at each table to allow for natural daylight onto each visitor’s reading or working surface.
Functionally, the fourth level is very similar to the third level with two exceptions. One, the two exterior balconies to the east and south are no longer accessible, but visitors have a visual connection as they can look down at the activity in the balconies below. Second, the major difference is the main balcony on the northwest side of the structure.

While the upper levels of the structure provide a transition to more private spaces for studying and reading, it was important to allow the public visitors to experience a portion of these upper levels while still allowing the readers their privacy. The two balconies on the northwest are open to the air and have open-air landings at each level. This allows for the public to view life inside the libraries as they work, their view large, wrought-iron balcony on the fourth level. This balcony becomes another merging point of private and public as the private inhabitants are able to close from their intimate study niches and access this balcony that would provide another opportunity to the magnificent view of Florence above the public at the piazza level. This balcony also allows visitors to look down into the central atrium and view all three libraries filled with life. Lastly, they get a glimpse of the scholars working in the next level and pass by them as they walk around the cloister at the dome's base.
With the transition of the public lower and ground levels followed by public-accessible, but more private libraries in the second through fourth levels, the appropriate function of the highest level is a private space for scholars to work/study. The carved niches in the stone now become reading rooms with rare book storage. There, very flexible work arrangements allow for a range of non-standard postures, sociability and range of intellectual effort. A scholar could work on a research project, painting, sculpture or science project within these flexible spaces. The main layer of this level is set back from the rest of the structure for three main reasons. First, it denotes the unique function of this level and visually separates it from the more public libraries below. Second, it provides a visual base to the dome and transitions the mass from the circular to the larger cylindrical structure. Third, it creates an abundance of exterior balconies for scholar use and provides an ideal location for a place of reflection.

The other element on this level comes from research on many religious structures during this thesis exploration. The use of a cloister in monasteries was inspiring to me and felt that it was incredibly appropriate in a place of learning. The ability to scholars to walk and contemplate or walk and discuss topics with colleagues brings to mind learning at Raphael’s School of Athens painting. The cloister becomes the structural base of the dome and allows a formal progression of the degrees of separation for a scholar to them as they walk by screens for the flexible classrooms, framed views of the city, look down at the atrium and the closest view through to dome to the heavens above.
Michelangelo looked at everything with an artist’s critical eye, and he was not easily impressed. But when Michelangelo first saw the Pantheon in the early 1500s, he proclaimed it “...an angelic and not human design.” Brunelleschi’s innovative dome design in Florence became an incredible inspiration to Michelangelo who exclaimed “the two-shell design into the dome at St. Peter’s.” These two monumental domes provided some of the most influential experiences during my exploration in Italy.

The dome quickly became one of Michelangelo’s favorite architectural elements. Analogous with many of the Humanist concepts that he grew up with, the dome was a way for man to construct the idea of the heavens overhead. When you walk into the space under the dome you can truly understand this notion of perfection above you. From the interior, the dome, both Brunelleschi’s in Florence and Michelangelo’s in Rome, create an ideal transition of building and sky. Incorporating a dome into a space of learning inspired by Michelangelo became no longer a good idea but rather a necessary component to the design.

Furthering the dome research beyond Rome and Florence, I began searching for similar devices that inspired a similar vision of structure and form. The Radcliffe Camera in Oxford, for example, had a slightly smaller dome that topped the central atrium within. Learning from the accomplishments of this design influenced several refinements into my design.

Lastly, the intent was to create a dome that belonged not to the time of Michelangelo and the Renaissance, but a dome that belonged to today. The innovative Reichtag Dome of Norman Foster became my inspiration, very similar to how Brunelleschi’s dome was to Michelangelo.
The dome and the central atrium become the heart of the design. The trend of the atrium two story floor the three libraries find its root in the mythical structure of the dome. The libraries representing places of learning and innovating from the central atrium, wished to not only belong to today’s time but result in an amiable space. Surrounding the perimeter of the central atrium are six steel column structures. Each column is composed of four hollow tube steel columns held rigidly together with metal screens. The wires (steel) based on weaving analogy of cords that form the dome by means that represented Michelangelo’s versatility. These six columns are set in six massive columns on the lower level. The screen and column design then became a modern, light representation of the mid-those traditional domes below.

The six columns that through the central atrium providing support to each level and then support, the dome overhead. The spiraling dome design was inspired by the pavement design of Campidoglio by Michelangelo, in which he wanted to represent the world. Important to note, is that the column is not empty support, despite empty, it was really historic form of the dome to create a kind translation between column and dome. At the top of each column, there are six steel tube structures that serve as “ribs” of the dome. These ribs, formed from the columns below, then extend out to the circumference of the atrium and reach towards each other - once again referencing the reaching hands between God and Adam - or between Man and Understanding. The steel and glass construction of the dome allows for a controlled amount of light to enter the atrium, but also allow for the dome to illuminate at night and become a beacon on the hill from the city.
Perhaps the most famous sculpture from Michelangelo, and my personal favorite, was not forgotten in my analysis of Michelangelo’s influence on this exploration but rather was so influential it needed to be separately addressed in these concluding remarks.

Michelangelo’s David was sculpted from a discarded column of marble destined for burial by several sculptors of the day. However, Michelangelo saw the potential in this block of marble and gave it a new life. His interpretation of David was particularly challenging and revolutionary for the time period.

David was sculpted from a discarded column of marble deemed too flawed by several sculptors of the day. However, Michelangelo won the commission to work on this block of marble and carved the biblical hero, David. My personal interpretation of this story is emblematic of a thesis exploration. Michelangelo had the daunting task of doing exactly what he wanted. He was a student of anatomy and loved to carve the male nude, so this project allowed him to carve a 17' male nude. He constantly craved a challenge and the commission allowed him to script a giant that everyone else had already declared they could not carve. Perhaps David's development with this commission and its impact on the Renaissance style of conquering Goliath. They usually show David standing tall in victory with one foot on the decapitated head of Goliath. However, Michelangelo decided to show David just before facing Goliath. He achieves perhaps his greatest moment as David looks both afraid of the incredible task ahead of him as well as ambitious and confident of his destiny.

Michelangelo’s confidence in the unflawed block of marble, as was Michelangelo. This is my interpretation of Michelangelo's thesis, as he is experienced enough to not let the Finnish matter, the light moments to spread his life pursuing something. While Michelangelo did carve the Finnish men, he was not creative and revolutionary. He was something more, the heroism of Florence. The David was the real beginning of his incredible life. Michelangelo finally completed the David at the age of 29 - the same age I complete my thesis.
It seems that many thesis projects begin with a question and are completed in search of an answer. On the contrary, this thesis exploration began with a wide range of complex concepts in pursuit of the correct question. Similar to the earlier referenced conversation with Alejandro Aravena regarding technology being the answer, “it is our responsibility to determine what the question is.”

The incredible masterpieces of Michelangelo served as constant lessons in nearly every aspect of the design as well as in refining this thesis question. Looking into not just the finished work, but the mind and process behind it allowed me to capture some of the questions for which Michelangelo must have been pursuing an answer. Deliberating a way to exhibit those range of lessons was vital in the design profession, it was only appropriate that the project be a place of learning. Isaac Newton once said, “If I have seen further, it is by standing on the shoulders of giants.” Michelangelo was truly one of those giants whose shoulders I found myself being able to stand on.

This thesis provided me the opportunity for great exploration. With its discussion with my unification trip to Italy and in knowledge with my Renaissance studies. This exploration allowed me to further expand that can now spend my life trying to pursue, which is such a poetic parallel to architecture as a profession. From this process, I discovered that the spaceship person, “discovery” in the central question, building in a temporary answer to the body of Michelangelo’s work is something that many of his contemporaries in that era had always pursued this central question with inconceivable masterpieces. From a comparable moment in history and our ability to continue to look into his life and continue this pursuit towards achieving a sense of harmonious ambition. Michelangelo is quoted at the age of 87, “Ancora Imparo.” Yet still I learn...

Risonanza Di Michelangelo
Throughout this rewarding exploration of my thesis, I met several parallel mentors and precedents. Throughout my life, and especially in this thesis journey, there has been a large amount of overlap with precedents becoming as inspiring as precedents. I would like to express my gratitude to my amazing parents that have always stressed a sense of balance and harmony within my life. I think it is very significant that i could make a positive impact on my work. In my career, I want to be a part of the new generation of architects and designers. I want to inspire my work.
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2.37 **Developed Parti Sketch** - Illustration by Michael J Hathaway
2.38 **Face of Madonna from Pieta** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.39 **The Madonna of the Stairs** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.40 **Pieta** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.41 **Faces of David from Donatello, Michelangelo and Bernini** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.43 **Bernini’s David** – Book | Gian Lorenzo Bernini: the sculptor of the Roman baroque by Rudolph Wittkower
2.44 **Michelangelo’s Influence Timeline** – Design board by Michael J Hathaway
2.45 **Detail of St. Matthew sculpture** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.46 **The Atlas sculpture** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.47 **The Bearded Slave, The Awakening Slave, and The Young Slave** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.48 **Masonry Detail of the Getty Center by Richard Meier** – Website | http://www.richardmeier.com/?projects=the-getty-center
2.49 **Rondanini Pieta by Michelangelo** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner
2.50 **Michelangelo’s sketch studies for Libyan Sibyl** – Book | Michelangelo, 1475-1564: complete works by Frank Zollner

**Chapter 3 | Place of Learning**

3.1 **Etching of Florence** – Website | http://historic-cities.huji.ac.il/italy/florence/maps/lloyd_austriaco_1860s_firenze.html
3.2 **1847 Molini Pocket Map of Florence** – Website | http://www.guccimuseo.com/it/museo/piazza-della-signoria
3.3 **1748 Nolli Plan of Rome** – Website | http://nolli.uoregon.edu/
3.4 **Map of Michelangelo’s Florence** – Design board by Michael J Hathaway
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