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PRESENTED BY: Luca Samoila

ACCEPTED BY:

Will Wittig
Assistant Professor, Masters Studio Instructor

Stephen J. LaGrassa
Assoc. Dean, Director Masters Program
School of Architecture

APPROVAL:

Stephen Vogel
Dean, School of Architecture
RATIONALITY AND INTUITION: An Expression of Spiritual Space

LUCA SAMOILA

MASTERS OF ARCHITECTURE

THE UNIVERSITY OF DETROIT MERCY

SCHOOL OF ARCHITECTURE

AR 510 & AR 520

ASSISTANT PROFESSOR WILL WITTIG

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Table of Contents

5 Abstract
7 Project Summary
8 Thesis Paper

Precedent Analysis
20 The Acropolis
40 Sagrada Familia
46 The Getty
56 La Tourette
66 Hagia Sophia
82 Moldovita

96 Sketch Problem: Yoga House

118 Site Analysis
128 Program

132 Design Process: phase ONE
190 Design Process: phase TWO

268 Final Project
316 Conclusion

318 End Notes / Bibliography
Intuition and rationality are two distinct characteristics of human thought that create a way of perceiving the world around us. While at times these ideologies may seem at odds with each other, there are occurrences where the concepts of both intersect. Throughout human history these two ideologies have contributed to the advancement of society both on a personal and on a large scale level. In present day, however, we no longer have a clear distinction between the two seemingly opposing concepts. We find that a large portion of society simultaneously accepts both rational scientific theories, while practicing an intuitive religious belief. Architecture can combine both rationality and intuition in order to create a spiritual space that respects both characteristics of human understanding.
Throughout history, humanity has shown a tendency of worshiping deities. From initial nature, or animal worship, to the polytheism of the Greeks, Egyptians, the Romans and other cultures, to the emergence of the three major monotheistic religions of Judaism, Christianity, and Islam, an intuitive sense of a greater power has driven faith as well as civilizations forward. With the rise of faith, however, also came the questioning of faith. This rationality on dealing with life, not based on what was given as truth, but rather what was discovered, has driven both the rise of new religions contradicting old ones, as well as the rise of science. Thus the intuitive and the rational elements of human nature have propelled human progress by mutually stimulating each other into new philosophies and perceptions. The interaction between the two ways of thinking, while it had certain common points, at times found itself in contradiction. Through out history we see times where one faith oppressed the other or faith oppressed science. However when one steps back, we realize that neither side was right or wrong. Instead we notice that each side had a distinct point of view in a specific situation, and while both rationality and intuition looked at, what in essence, was the same thing, they had different approaches to the problem which created different interpretations.

When we look at this duality in today's context, we notice less extremes, or violent outbursts between an intuitive faith and a rational perception of the universe. While there are extremists on both sides, most people view the world around them with a combination of the two ideologies, which intertwined, makes for a complete view on a subject. This brings us to the discussion of religion as it is interpreted by contemporary society. While traditionalists would argue for a very strict outlook on religion, as well as the world, the majority of people would accept alternate views, or hybrid ideas combining both faith and rationality to make one cohesive whole. Even though tradition is key to maintaining a spiritual identity, architecture can, and should, merge rational and intuitive ideologies in order to create a reinterpretation of spiritual space.
Architecture attempts to bridge between ideas and the real world. This creation of a quasi-language in built form, potentially allows for a thought, a movement, or a policy to transcend temporality and to become part of human history. Through architecture, expressions of power, wealth, poverty, and religious ideals have become an embodiment of the societies which built them. Spiritual architecture has been a very prevalent form of expression in most historical cultures. This expression of an intuitive belief allowed for technological advancements as well as an expression of one’s conviction on a universal truth. However, that intuitive belief gives rise to questions about the belief system, and thus we start to rationalize and to question. In some ways, this questioning has led to the astronomical, scientific and mathematical discoveries spanning centuries. In today’s society a majority of people have accepted many proven “scientific” truths, however, humanity still holds on to the intuitive faith. Perhaps architecture can combine intuition and reason in order to create an architecturally valid expression of spirituality.

General Discussion of Reason and Intuition.

Reason and intuition are two main concepts on which the foundations of most of human perception are based. People are naturally inquisitive, and they generally use questions in order to deduce answers on most topics. “To be human is to question. We ask: Who are we? Why are we here? What is of highest value? For what can we hope? What should we do with our lives?”

(1) It is this questioning that drives us to try to
understand our surrounding environment. Throughout most of human history things that were not understood were assigned to deities, however, we have also tried to understand the world around us in more rational terms. Different societies (for example the Greeks and Romans) have used advanced mathematics to try to quantify the world around them. In doing so, they created a system of logic that, while valid today, still has gaps that need to be filled. It is not that the creation of this mathematical system, or in a more recent time frame, the whole notion of science and the scientific method of deductive reasoning, is flawed. There comes a point however, when we are unable, due to our own technological limitations, or even to our capability to perceive, to quantify certain notions of our surrounding world. It is at that point that faith fills the gap for many people. This mystery has tried to show itself in built architectural form. This expression, or reflection of the mystery that is hidden to us, has tried to shape an architectural form that plays homage not only to the deity, but also to the sense of curiosity and mystery generated by divinity in general.

"Architecture is asked to deliver many things to many people – shelter, comfort and perhaps beauty, expanding to more specialized programmatic or formalistic requirements. The demands of religious structures may include all of these, but it is the extra thing that they must provide or at least facilitate – spirituality – that sets them apart from secular buildings. This is a quality that contributes greatly to their cultural value since they are meant to inspire something beyond the physical satisfactions of space, and in many cases, say something about the community that they serve. Their inherent transcendent aspect is what makes them more curious to lay people and what has made them a proving ground for talent through the ages." (2)

The relationship between intuition, reason and experience is not always simple, and the creation of a spiritual space evolving out of the merger of the two ideologies is a question that can challenge architecture to create form in a way that is sensitive to both ideologies. The question of architecture reflecting a spiritual essence behind an ideology has fascinated many architects. In his recent interview with Jean Baudrillard, the French architect Jean Nouvel stated,

"I was never interested in architecture, as I have no feeling on it. I was interested in space, yes, and that certain something that in objects that are “built” give me a sense of dizziness of space. I am more impassioned about edifices such as the Pantheon, Hagia Sophia, Beaubourg, World Trade Center, Biosphere 2, in other words, singular objects. It is not the architectural sense of these buildings that captivate me, rather, it is the world that they translated into form. One can argue endlessly about styles and architectural gestures, but what these projects,
as well as others, do so well, is to translate an ideology into built form." (3)

Thus, some elements of the built environment, regardless of their style, or the casual observers personal tastes, convey a universal message that can be interpreted by all cultures. The question is then, what is the universal message that might be conveyed by spiritual space. The base, contemporary, belief of the major religions, (in particular Christianity for the scope of this paper), is an intuitive knowledge of the divine.

"The importance of intuition as a process and element of knowledge is easily seen if we observe that it is intuition which furnishes us with the first experimental data as well as with the primary concepts and the fundamental judgments or principles which are the primitive elements and the foundation of every scientific and philosophical speculation... our knowledge of notions endowed with the character of necessity and universality, as well as our idea of the Infinite, are possible only through an antecedent intuition of God present in us." (4)

Rationality is thus a resultant of the original belief system which it tries to question. This relationship has been through many phases throughout history, some in which the two coexisted peacefully and others in which the persecution of one method by the other dominated society. Today, both are integrated in daily life.

**Discussion of program and traditional typology as it relates to a contemporary blending of faith and reason.**

The joining of rationality and intuition in the creation of a culturally valid expression of contemporary spirituality within the context of a traditional religion can be expressed by the creation of not only a center for spirituality, but also a center for the pursuit of knowledge. This creates an interesting contrast between the idea of knowledge that is given to us through the relationship between audience and speaker in a traditional spiritual space, as well as the pursuit of ones own questions through research outside of the church typology. Thus, the proposal for the thesis project is a center for Orthodox Christian studies.

The center for Orthodox Christian studies contains several elements that are key in the creation of an architectural program that takes into account intuition and rationality both on a personal, more intimate, level, as well as a more community oriented approach. The center draws its inspiration from the traditional typology of a monastery, which had at its core the idea of isolated contemplation, and combines it with a large scale cathedral,
which engages not only the spiritual community, but also the secular population of the city. The third element is an educational center, which engages the public realm. Drawing from these three traditionally opposite ideas, a contrast is formed between the spiritual world and that of the secular.

The idea of the monastery brings forth several concepts; among these is private contemplation, as well as a sense of enclosure. Access to the outside world is limited, however, it is not forbidden, and therefore an important element is the boundary between the enclosure and the outside world.

A key element of some traditional monastery/convent architectural types is the preservation of knowledge and culture, as well as the education of not only the spiritual but also the secular population. Some of the first schools in the middle ages were founded inside monastery walls, or, by nearby monastic orders. The educational aspect of the program serves as a catalyst to the enclosure of a monastic life and generates a point in which a person's intuitive faith comes under one's own questioning. This part of the program includes a school, as well as library and archives. The small school would allow for a more in depth analysis of faith, allowing for reason to influence decisions. The library, which would be available to the public, allows for satisfaction of ones own curiosity.

The cultural part of the program also includes spaces dedicated to conference facilities. These spaces are located closest to a commercial urban context, thus implying a link between the discussions of spirituality, and the direction of contemporary religion.

History, being an important aspect of the Church's bi-millenary tradition, dictates a space where all aspects of the Churches past are explored. The museum space that is created can be used to express a vision of not only what the church has been throughout the ages, but also the direction that it is taking in present society. This allows for a critical view into mistakes or achievements in the past, and also forms a connection with the local heritage.

The above mentioned spaces help serve as balancing points to the cathedral space that serves as a meeting point between the rational and the intuitive aspects of the program. The contemporary interpretation of this space has to interweave church tradition, as well as an architectural tradition (that to some can be interpreted as a national identity) in such a way that the final result pays homage to both the traditional as well as the contemporary way of life.

In its traditional role, the church influences architecture with a set of symbolic and functional requirements that must occur to support the liturgy. The Orthodox Church is divided into several parts that are experienced separately for different spiritual reasons. Thus we have the exterior or the profane world, with everything that means a metropolis. Everybody has their own thoughts, dreams, problems, trials tribulations and successes. These thoughts make up our daily lives, thus the approach to the church must be accentuated as a focus point, allowing one to prepare for the experience inside.
Traditionally we see, where space allowed, a plaza or other open space that creates a void allowing one to concentrate on the singular object of the church. If space does not permit we see a series of steps that climb up to a platform allowing at least a symbolic journey towards a focus. Once one enters the church, one sees that it becomes a complex visual experience, which is defined by a series of spaces that gradually increase in scale, creating a sense of attraction to the east.

The visual experience, which symbolizes ones own journey in self reflection, begins with a reduced height entrance that leads into the Narthex. This area is divided into three main areas. The first, on the left or north side of the church houses an area for candles for the contemplation and prayer for the dead. To the right or south side is the location for lighting candles for the living, for health etc. In the middle we find space for a general hallway, that serves as a buffer between the outside world and the inside sanctuary. The historic purpose for this space (and also the placement of the candle spaces in this area) is the creation of the previously mentioned buffer. The Church also understood that people may not want to stay for mass but would still like to say a prayer inside a sacred space, thus the separation took on a spiritual function as well.

The Narthex spills into a space called the Pronaos. It is a space of greater height than the nartex, and, upon entering, it is the first sight that one has of the altar area. The space also gives the observer the first perception of the body of the church. Architecturally, the Pronaos represents the beginning of the Christian philosophy. The iconostasis screen, a wall separating the altar form the main body of the church visually begins this quest for mystery and understanding. One does not know what is beyond the iconostasis, and since the altar represents the tomb of Jesus Christ, the symbolism is that one does not know what is beyond the grave.

This sense of mystery from first glance expands into a symbolic sense of understanding as one proceeds through the Pronaos into what is called the Naos. This area is, traditionally, the tallest in the church, as it is representative of the sky, the heavens, and the entire universe. Ichnographically this is the place of the Pantocrator, a depiction of Jesus, ruler of all. The architectural sense of this space is that one feels humbled by the experience. It is also an expression of the realization of the divine.

To the south and north of the Naos one finds two apsides. Ichnographically, the south apside represents birth, or a beginning, the nativity scene being portrayed in this area, while the north side represents death, with the crucifixion and resurrection being portrayed. From an architectural point of view these areas must provide a visual break, or a focus point from where one can begin analyzing the space.

The altar, raised from the rest of the church by a platform called the Solea, is an area of mystery, representing the tomb of Jesus. This area is, in most circumstances, off limits to the public, and access to it from a liturgical point of view is done through several sets of deacon doors and royal doors of the iconostasis screen. The mysteries of the service ritual are housed in two separate areas of the altar. The first of these areas, called
the Proscomidia, is the place where the wine and the bread are blessed. The second, called the Diaconicon is the place where all the sacred vessels used in the service are kept. During the service ritual a glimpse into the altar is given to the public through the open royal doors, allowing them to partake in the mystery of faith.

The program of the Center for Orthodox Christian Studies has to negotiate between two separate sets of traditions. The first being the church tradition, and the ritual of the liturgy, which calls for very specific architectural needs, allowing for relatively little leeway. The second of these traditions is the actual architectural tradition of the Orthodox Church, which has had many stylistic influences throughout its history, which are not necessarily related to the traditional liturgy. Thus the program itself becomes an expression of what is needed by tradition, and what can be rationally discarded in order to create a space that encases the true essence of Orthodoxy.

**Architecture's role in the making of spiritual space, both traditional and modern.**

Architecture has to make the transition between the message of spirituality, and its built form. It is not enough that architecture seem spiritual, without a reason behind it. There are many places, that, architecturally inspire us. As mentioned earlier by Jean Nouvel:

"It is not the architectural sense of these buildings that captivate me, rather, it is the world that they translated into form. One can argue endlessly about styles and architectural gestures, but what these projects, as well as others, do so well, is to translate an ideology into built form."(4)

The essence, or the role of architecture is to do more than just create space. It must interpret the ideology of that space in order to be culturally valid.

By braking down an architecture with a long tradition, such as the church, we realize that there are mixed messages embedded in the architecture. While classically these expressions were a reflection of the technology of the day, they may no longer be appropriate in today's context. In a valid expression of spiritual architecture, there must be an analysis and a separation of the Church's needs and architectural tradition. Through this separation we come to a conclusion that architecturally the church is an instrument of learning. In a sense it is a book. It must be read in a certain order. There must be certain separations and breaks, just like paragraphs, pages and chapters break up a whole book. However, when experienced completely the architecture must make the message a cohesive whole. While newly interpreted, it must still be recognizable.
Just like the historic styles of spiritual architecture, all styles will eventually belong to the past, however they must all portray a version of the initial message that allows them to be understood.

Regarding the educational/cultural aspect of the program, the church has always tried to influence a pursuit of knowledge. While there are political periods in history in which the church suppressed knowledge, overall there has been a positive influence on the understanding of the mysteries of life. This program tries to accentuate the link between an education that is provided by the spiritual aspect of one's life and the individual questioning of this approach, just as traditional educational facilities founded by the church expected much more than spiritual studies.

“Many of the medieval universities in Western Europe were born under the aegis of the Church, usually as cathedral schools or by papal bull as Studia Generali. In the early medieval period, most new universities were founded from pre-existing schools, usually when these schools were deemed to have become primarily sites of higher education. Many historians state that universities and cathedral schools were a continuation of the interest in learning promoted by monasteries... In Europe, young men proceeded to the university when they had completed the study of the trivium—the preparatory arts of grammar, rhetoric, and logic—and the quadrivium: arithmetic, geometry, music, and astronomy.” (http://en.wikipedia.org/wiki/University)(5)

The higher pursuit of knowledge has been one of the churches priorities. In this interesting contrast between a set dogma and self questioning, faith and rationality have driven one another. Architecturally, the connection between the educational and the spiritual (the rational and the intuitive) has always been a close one. If we analyze architectural styles of classic universities such as the Sorbonne, in Paris, we see a form of architectural expression that is never overpowering to local religious sanctuaries, but at the same time creates a sense of presence for the buildings housing educational facilities, showing the respect that society deemed necessary for these elements to be linked.

**Contextual influences: site, culture, politics, and history.**

The chosen site for the Center of Orthodox Christian studies is charged with cultural, political and historical elements. The site itself, consisting of Karl Park, is located south west of the city center in Bucharest, the capital city of Romania.

Romania is a country with a majority of close to 97% Christian population. Of that 86.8% belong to the Romanian Orthodox Church. Throughout the countries tumultuous history, faith has become much more than a personal belief. The church is looked upon as a preserver of not only a spiritual tradition, but also a keeper of the national identity. Under
centuries of Ottoman Muslim pressures from the east, the church was the true preserver of the language as well as the culture that made up the country. This perseverance in maintaining the faith dates back to the time shortly after the crucifixion of Jesus when this part of the world was Christianized.

"Here, Christianity occurred in apostolic times. In Dobrogea - the ancient Scytia Minor - the Word of the Gospel was preached by Saint Apostle Andrew - in the second half of the first century A.D. After the Roman Empire had conquered Dacia (106 AD), the number of the faithful increased either by settling here the followers of the new faith who had left the Romanized populations in the Lower Danube or by those who came in this place together with the colonists, the army, the miners and the merchants who were sent by the Roman Empire in its new province... Some Romanian Orthodox people regard their church to be the first national, first attested, and first apostolic (church built by the Apostles themselves) in Europe and view St Andrew as the Church's founder." (6)

This strong religious and cultural pride helped sustain the culture. The idea of a private church, secluded and closed off to all except those belonging to its congregation is an almost foreign idea in a place where religion is so much a part of the public realm. It is for these historical reasons that a public park would not be eliminated outright for a proposed religious construction.

Karl Park underwent many changes in its long history. The first record dates back to the 1700 when the local Archbishop turned this swampy area into stables. Shortly after the mid 1700 the park was donated to the crown for public use as a garden. From that time to the end of World War II the park underwent a series of construction phases resulting in several very strong built and circulation axes. Among the buildings were a museum, a small school as well as a public library. Some of these buildings were destroyed by a fire and some were knocked down by the Communist regime that took power after World War II. Following 1967 all remaining buildings were demolished in all central areas of the park in order to make way for a paved axis that is approximately 35 meters wide. This processional axis is ended by the Monument to the Communist Leaders. The idea behind this axis was that masses of people would line up in order to see dead heads of state that would be interred inside the main monument.

The proposal for the Center for Orthodox Christian studies attempts to create a break in this axis by placing the program across it. Since the recognition of history is an important aspect of the project, a decision was taken to not destroy the main axis completely. Thus, the Cathedral is affected by the axis, and goes underneath it in order to symbolically show how the church had to go underground for the period of Communist
dominance.

The residence hall portion of the program is placed to the east of the main sanctuary, thus creating a link to the traditional monastery typology allowing for a sense of enclosure to occur between residences and church. The residences also have a strong street façade to the east in order to further accentuate the sense of enclosure, while still integrating into the surrounding low-rise residential and light commercial neighborhood.

The cultural center is placed to the west of the main sanctuary, embedded in the steep terrain. This integration of building and landscape allows for a flow of building down the slope pointing to the main entrance of the cathedral. This location was chosen due to the proximity to the west of a central bus hub, as well as easy access to tram stations on two major tram lines.

Rationality and intuition are represented in the circulation as well as the landscaping of the park. A symbolic axis, aligned north/south, created by a stream that flows form a fountain at the north entrance of the park symbolizes life in both the scientific as well as the spiritual realm. This decision was based on the notion that life, scientifically speaking, is considered to have evolved from water here on earth. From a spiritual point of view, life in the church begins with the act of baptism, after birth. The straight line, a path of water, symbolizes the perfect life, both spiritually and scientifically. It is a path that can not be walked on because we can not be perfect. For this reason the approach is made by a series of intertwined wandering paths that cross the linear water axis, creating a metaphor for life. This water axis terminates in the lake that is a central feature of the park. Scientifically we conclude our lives and become part of the matter of the universe, however we have an intuitive belief in the afterlife, which is why the axis is continued with a series of sculptural elements upon which one cannot walk, leading to an island that holds the tomb of the unknown soldier. This symbolizes our belief in the afterlife, as well as honors the memory of the Unknown Soldier who made the ultimate sacrifice for his fellow man.

The original paved axis is left as a scar through the park, the new paths crossing it, allowing for glimpses, and perhaps a lesson, of what occurs when humanity attempts to create the perfect society.

In conclusion, architecture can create a contemporary expression of spiritual space, accounting for both traditional, as well as modern life. The project intertwines both rationality and intuition, as the basis of modern thinking, and creates an expression of the spiritual in a language that tries to be progressive yet still keeps in mind the essence of the messages that faith tries to give. It is through this combination of intuition and rationality that both programmatically, as well as esthetically, allow the architecture to transcend the boundaries of simple functionality, or excessive decoration, in order to fully integrate religious architecture in an urban context as well as a personal one.
The Acropolis

Sagrada Familia

The Getty

La Tourette

Hagia Sophia

Moldovita
THE ACROPOLIS

The Acropolis hill, so called the "Sacred Rock" of Athens, is the most important site of the city. During Perikles' Golden Age, ancient Greek civilization was represented in an ideal way on the hill and some of the architectural masterpieces of the period were erected on its ground. 
The Acropolis rock is part of a Late Cretaceous limestone ridge that cuts through the Attica plateau in the northeast to the southwest axis and includes the Likavitos hill, the Philopappos hill, the hill of the Nymphs, and the Pnyx.

The rock rises from the basin about 210ft. and levels to a flat top 900ft. long by 450ft. wide. Its flat top is due to the numerous landfills that have accommodated construction of fortifications and temples since the Mycenaean era.
Perikles became the leader in 450 BCE, and during his leadership Athens enjoyed unprecedented prosperity and extraordinary social, political, and cultural development. The era of Pericles is known as the Golden Eon of Athens. With funds appropriated from the donation of the Delian League states, Pericles embarked on an impressive building program that adorned Athens with a splendid array of buildings and art, the likes of which influenced art and architecture for the next two millennia.
The Propylaia was built as the monumental entrance to the Acropolis rock. It is an impressive building that surrounds the natural entrance to the plateau, and one approached it, in ancient times, through an inclining ramp that led visitors straight through the steps in front of the Propylaia. Later, the Romans built a more dramatic ramp that guided the visitors up towards the great citadel entrance of the Acropolis in a zigzag fashion.
The Propylaea is a building of the Doric order with a few Ionic columns supporting the roof of the central wing. It was a complex structure to conceive and assemble, and was clearly designed to make a lasting impression for the approaching visitor.
Unlike other Greek sanctuaries of Ancient Greece, the Acropolis was built on a master plan with the buildings related to one another. Nowhere is this more evident than in the relationship between the Propylaia and the Parthenon. Several subtle features associate the two buildings. Both are structures with strong Doric flavor, although both incorporate Ionic columns in their interiors. They are also related in size, (the Propylaia width being equal to the length of the Parthenon), and in proportional ratios (4:9 for the Parthenon and 3:7 for the Propylaia). Both buildings are oriented similarly from North to South, with the Propylaia being a little to the East of the Parthenon Axis.
THE PROPYLEAIA

The relevance of the Propylaia is the process of entrance. Through a carefully choreographed procession one is guided into the Acropolis complex. The seemingly random, and some would argue, site specific placement of buildings is in fact a misconception. There is evidence that areas were filled around the Parthenon in order to create an elevating perspective from the Propylia entrance. Even the Propylia was modified several times, and records show at least three different elevations which were gradually changed in order to enhance the experience of entrance.
The classical Parthenon was constructed between 447-432 BCE to be the focus of the Acropolis building complex. Its massive foundations were made of limestone, and the columns were made of Pentelic marble, a material that was utilized for the first time. The architects were Iktinos and Kalikrates (Vitruvius also names Karpion as an architect) and it was dedicated to the goddess Athena Pallas.
The Parthenon is a temple of the Doric order with eight columns at the façade, and seventeen columns at the flanks, conforming to the established ratio of 9:4. This ratio governed the vertical and horizontal proportions of the temple as well as many other relationships of the building like the spacing between the columns and their height.
The cella was unusually large to accommodate the oversized statue of Athena, confining the front and back porch to a much smaller than usual size. A line of six Doric columns supported the front and back porch, while a colonnade of 23 smaller Doric columns surrounded the statue in a two-storied arrangement. The placement of columns behind the statue was an unusual development since in previous large Doric temples they only appeared on the flanks, but the greater width and length of the Parthenon allowed for a dramatic backdrop of double decked columns instead of a wall.
The back room sheltered Athena’s treasure and four columns of the Ionic order supported its roof. The introduction of elements of the Ionic order in a predominately Doric temple was more dramatic in the development of a continuous freeze on the exterior wall of the cella. While the integration of Doric and Ionic elements on the same temple was not a new development in Greek architecture, it was rare, and bestowed on the Parthenon a delicate balance between austere and delicate visual characteristics.
All temples in Greece were designed to be seen only from the outside. The viewers never entered a temple and could only glimpse the interior statues through the open doors. The Parthenon was conceived in a way that the aesthetic elements allow for a smooth transition between the exterior and the interior that housed the chryselephantine statue of Athena.
A visitor to the Acropolis who entered from the Propylaea would be confronted by the majestic proportion of the Parthenon in three quarters view, with full view of the west pediment and the north colonnade. As the viewer moved closer, the details of the sculpted metopes would become decipherable, and when in proximity to the base of the columns, parts of the frieze would become evident in tantalizing colorful glimpses peering from the spaces between the columns.
It seems certain that the master planners of the Parthenon conceived it as a theatrical event. The temple was constructed with the movements of the viewer in mind, and by the arrangement of the temple, the monumental sculptures of the pediment, and the detailed frieze, the emotions of the visitors were choreographed to prepare them for the ultimate glimpse of the majestic Athena Parthenos at the interior of the naos, and to maximize the effect of an awe inspiring visit.
The fact that there are no absolute straight lines on the Parthenon bestows a subtle organic character to an obvious geometric structure. The columns of the peristyle taper on a slight arc as they reach the top of the building giving the impression that they are swollen from entasis (tension) - as if they were burdened by the weight of the roof; a subtle feature that allots anthropomorphic metaphors to other wise inanimate objects.
THE PARTHENON

The peristyle columns are over ten meters tall, and incline slightly towards the center of the building at the top (about 7 cm), while the platform upon which they rest bows on a gentle arc which brings the corners about 12 cm closer to the ground than the middle.
THE PARTHENON

The architects of the Parthenon appear to be excellent scholars of visual illusion, an attribute undoubtedly sharpened by years of architectural refinement and observation of the natural world. They designed the columns that appear at the corners of the temple to be 1/40th (about 6 cm) larger in diameter than all the other columns, while they made the space around them smaller than the rest of the columns by about 25 cm. The reason for this slight adaptation of the corner columns is due to the fact that they are set against the bright sky, which would make them appear a little thinner and a little further apart than the columns set against the darker background of the building wall. The increase in size and decrease of space thus compensates for the illusion that the bright background would normally cause.
These subtle features set the Parthenon apart from all other Greek temples because the overall effect is a departure from the static Doric structures of the past, towards a more dynamic form of architectural expression.
The elegance and delicate forms of the Erechtheion contrast sharply with the neighboring Parthenon that counterbalances the architectural complex with its majestic, Doric presence. The temple faces east and its entrance is lined with six long Ionic columns. To the north and west the wall of the temple drops dramatically to almost twice the altitude of the front and south side's. The temple is unusual in that it incorporates two porches (prostaseis); one at the northwest corner which is supported by tall Ionic columns, and one at the south-west corner which is supported by six massive female statues, the famous Caryatids.
The Caryatids have become the temple’s signature feature, as they stand and seem to casually support the weight of the porch’s roof on their heads. Their identification, or the purpose for such elaborate column treatment is lost through the centuries, but it was by no means a new feature in Greek architecture. The Syphian treasury at the sanctuary of Delphi similarly substituted female figures for columns as far back as the sixth century BCE. The building of the Erechtheion concluded the ambitious building program initiated by Pericles during a time that the Athenian empire enjoyed unprecedented political and cultural influence.
The "Templo Expiatorio de la Sagrada Familia" was the idea of a bookseller, Josep Maria Bocabella, literate and devoted man who in 1866 founded the Asociación Espiritual de Devotos de San José, whose objective was to achieve, through the protection of St. Joseph, the triumph of the Catholic Church in a time in which the phenomenon of dechristianization was impelled by the Industrial Revolution.
Gaudí thought that gothic architecture did not provide a definitive solution to the problem of the thrusts on the arches and vaults; it only made it appear that the walls held the weight, because in reality it fell upon the flying buttresses, which were like the crutches of a cripple. In addition, these flying buttresses were outside the building, that is, at the mercy of the elements, which quickened their deterioration. The Sagrada Familia would not have been such a great monument of new architecture if flying buttresses had been used. Gaudí concentrates the weight on the columns, thus making a more efficient design.
Gaudí imagined a church in the form of a Latin cross over the initial crypt; above the crypt, the major altar, surrounded by seven chapels in the apse dedicated to the seven pains and the seven sins of St. Joseph, and in each of them there would be a representation of the Holy Family. Across from the altar there would be two great doors at the ends, of the Nativity and the Passion. This transept is composed of three naves. It follows perpendicularly the central body of the temple, composed of five naves and closed by the colossal monument that will be the Façade of the Glory or the main entrance to the temple, by Mallorca street.
Gaudí left no written plan but he left, clearly specified on the model which was built, his thought about the form and symbolism of the building. He was always conscious that he would not be able to finish the work due to its great magnitude. He also left some drawings in which the polychrome nature that the building will have can be observed—because he said that color is life.
The Getty Center designed and constructed by Richard Meier between 1984 & 1997, occupies a unique hilly site along the San Diego Freeway, jutting southward from the Santa Monica Mountains into the residential neighborhood of Brentwood. Most of the buildings are thus organized along two natural ridges that form the southern end of the 110 acre parcel.
In all its particulars, the layout establishes a dialogue between the angle of intersection and a number of curvilinear forms that are largely derived from the contours of the site inflected by the Freeway, the metropolitan grid, and the natural topography. The overall parti relates to both the city of Los Angeles and the Santa Monica Mountains.
After arriving, a visitor will have to choose between entering the museum at once, or exploring the gardens and other facilities at leisure. The organization of the project—a multitude of smaller buildings breaks down the scale of what would otherwise be an overwhelming institution, while the spaces between the buildings allow glimpses of the outside world and permit interplay between inside and outside spaces.
Although the museum is the most public part of the J. Paul Getty Trust, its galleries do not by any means occupy the entire complex. The other programs at the Getty Center will employ an even greater number of people.
Since most visitors come to The Getty for a half a day or more, the Food Service Building is a major attraction. With separate dining rooms for both staff and visitors, as well as private rooms for meetings, the Food Service building accounts for most of the dining facilities provided on the site. Its sitting close to the central plaza gives convenient access to most parts of the complex, while its windows and terraces provide outstanding views to the mountains on the north and to the ocean to the west.
The other major public building, a 450-seat auditorium for lectures, concerts and other cultural events, is on the north east side of the plaza. This building terminates the building’s long east elevation.
Along the more secluded western ridge, The Getty Center for the History of Art and the Humanities completes the complex. The building comprises a million volume library, reading rooms, study carrels, a small exhibition space, and offices for staff and scholars. It has been given a radial organization, focused about a central, circular building. The information, however, is not centralized, but organized into a series of smaller sub-libraries. The plan is designed to encourage scholars to explore incidental areas in the open stacks, while pursuing specific materials. Also, the building’s curvature expresses the Center’s introspective and analytical nature.
Throughout the hilltop, landscaping will integrate the buildings into the topography, with gardens extending into the entire site, where water will play an essential role in uniting the structures with the heavily planted terracing. Fountains and raceways cascading down the principal buildings will eventually drain into the central garden water course between the natural ridges.
The Getty center raises several interesting points. Among these is the treatment of an elevated site. The complex forms a plateau not unlike the Karl Park site, however it then engages the landscape to the south east. This treatment allows for multiple views to be created and for the visitor to fully engage the architecture on different levels. Areas of a very public nature are formed at the first encounter with the architecture, however one finds a surprising amount of intimate spaces created between the buildings. The exquisite use of materials strays slightly form Richard Meier’s stark white metal panels. In this case the panels are an off white, which complements the rough hewn limestone. This creates a very pleasing materiality, of surprising warmth when compared to some of Meier’s other work. Although two grid systems were used to divide the space, one feels a more organic experience than the plan would suggest, which permits the visitor to wander around and to explore every aspect of the center. A negative point was the way light was handled in most of the buildings. While the museum condition dictates a certain degree of illumination, more could have been done in order to enhance the experience. Another issue with the project is the garden space. While the gesture to incorporate a large garden as well as a water concept is appreciated, the garden seems to have been an afterthought. It does not seem to belong. Overall the project is an intense experience. One does not need to enter the many functions of the project in order to feel amazed, and while it has its negative areas, the way that the visitor engages the architecture both from the inside, as well as the outside without feeling forced creates a sense of peace. It is an unexpected feeling that occurs to the visitor most intensely upon leaving.
Le Corbusier's La Tourette Monastery, constructed between 1953-1959 outside of Lyons, France, shows the architects interest of monastic virtues of material poverty, simplicity and self denial. La Tourette was ment form the very beginning to be a very private building and its austere, rough, dark gray concrete façade repels visitors the same way that the interior fascinates them. Visually, La Tourette, is a brutal block from the outside hovering darkly on a ridge over Beaujolais country, a few miles west of Lyon. Its sheer walls of shuttered concrete topped with various asymmetrical protrusions, all perched on ranks of pilotis, seem to embody austerity.
The site of La Tourette was selected by Le Corbusier in such a fashion that it is located on a west facing wooded slope with access through woodland along the linear axis of the site. The height of the complex ensures distant views to the north west. In essence the site is a mirror of the site in Karl Park. The slope location there would allow for great views to the North as well as to the North East.
Le Corbusier Retained the original courtyard grouping for the monastic complex, placing the church on the northern side. The form becomes rectilinear in acknowledgement of the linear site axis and by detaching the church a potential tension is created at the point of cleavage between the forms. It is at this point that an entrance off the main access is created in order to fully experience the break as one passes along side it.
The monks are accommodated according to seniority, with novices in the east block and senior brethren in the west block. Instead of the traditional cloister, Le Corbusier suspended a circulation spine along the contours of the project, giving a processional route from the atrium to the church. A link to the spine is provided from the novices block. And they also have their own route to the church. Senior members of the community descend to the atrium by spiral stair within a cylindrical tower.
The cells rotate around the atrium in a pinwheel formation. A small chapel or oratory is provided for the novices by a cubic projection with a pyramidal roof on cruciform supports. The roof of the circulation spine maintains the horizontality established by “floating” the cells. The pitched roof of the atrium identifies this important gathering point.
In the main church, the public are separated from the monks by the zone of worship. The sanctuary, approached only form the sacristy under the church, is the devotional heard of the monastery, where the monks pray at a series of private altars.
Lighting plays a very important role inside the church. Both in the sacristy and the main church we see protrusions which house skylights. These skylights create an eerie light that seems to emanate from the tube. Le Corbusier wanted to create a different kind of light from what one would normally encounter. The tube provides light into the space, while at the same time disguising the source.
Le Corbusier’s monastery of La Tourette includes several intriguing elements. The fact that clergy has a different entrance than the lay people is a logical yet compelling proposition. Typically, monasteries had only one entrance into a central court. Le Corbusier eliminated this element due to the fact that he was dealing with a slope which he wanted to engage not flatten. This also allowed him to separate the church from the main body of the monastery thus creating the one place where both clergy and the outsiders interact.

A negative aspect of the project is the lack of interaction with the public. In the church the public is held to the smallest area and is forbidden to proceed further by the use of both physical as well as visual barriers. In contrast, lighting is the most actively engaged in a unique way in the sacred spaces. Here both visitor as well as clergy can experience a light which, because of the effect of the tunnels in which the skylights are placed, create a diffuse glow. Another interesting aspect which has an interesting impact on the design is the use of the circulation hallways, which link the church with the cells. These hallways, separate form the regular circulation routes of the monks only serve the purpose to take them to service. This guarantees a clear path unobstructed by foreign elements. Le Corbusier’s choice of rough concrete also contributes greatly to the overall statement of austerity of the secular life.
HAGIA SOPHIA

"Solomon, I have surpassed thee!"

Justinian

The Church of Hagia Sophia, associated with one of the greatest creative ages of man, was also the Cathedral of the Ecumenical Patriarchate of Constantinople for more than one thousand years. Originally known as the Great Church, because of its large size in comparison with the other churches of the then Christian World, it was later given the name of Hagia Sophia, or Holy Wisdom.

The Church is built on the ruins of a much earlier church which served as the Cathedral of the Ecumenical Patriarchate of Constantinople. After several earthquakes the earlier church was unusable. Emperor Justinian conceived the grandiose project of rebuilding the Great Church from its foundations. Nothing like it was ever built before or after. Construction work lasted five years between 532 A.D. – 537 A.D. and on December 27, 537, Patriarch Menas of Constantinople consecrated the church.

The Cathedral of Hagia Sophia is classified as a transitional type of the domed Basilica. Its most remarkable feature is the huge dome supported by four massive piers, each measuring approximately 100 square, m, at the base. Four arches swing across, linked by four pendentives. The apices of the arches and the pendentives support the circular base from which the main dome rises, pierced by forty single-arched windows.
The site of the Cathedral of Hagia Sophia is on the West bank of the Straights of the Bosporus. It is in close proximity to the old Royal Palace, as well as the Patriarchate.

Ground level plan of main church.
The choice of plan was decided and imposed by Justinian himself. Wanting his creation to be unique, the emperor did not adopt the typical basilica plan generally adopted for large buildings, instead he chose a more centralized pattern to the plan.

The adoption of this plan creates a massive central dome. The thrust of the dome is countered by the two half-domes opening east and west, the smaller conchs of the bays at the four corners of the nave, and the massive outside buttresses to the north and south. The exonarthex and exonarthex, to the west, are both roofed by cross vaults. Two roofed inclined ramps, north and south of the exonarthex, lead up to the galleries. The vast rectangular atrium extending west of the exonarthex had a peristyle along its four sides. At the center stood the fountain of purification with the well known inscription that could be read from left to right and from right to left: “Cleanse our sins, not only our face”.

Beams of light stream through the windows and illuminate the interior, decomposing the masses and creating an impression of infinite space. Twelve large windows in two rows, seven in the lower and five in the upper, pierce the tympana of the north and south arches above the arched colonnades of the aisles and galleries.

Light piercing through the fenestration of the South East side althar creating a sense of lightness.

The dome of the Hagia Sophia has spurred particular interest for many art historians and architects because of the innovative way the original architects envisioned the dome. The dome is supported by pendentives which had never been used before the building of this structure. The pendentive enables the round dome to transition gracefully into the square shape of the piers below. The pendentives not only achieve a pleasing aesthetic quality, but they also restrain the lateral forces of the dome and allow the weight of the dome to flow downward.
The nave form the west end gallery. The picture accentuates the flow between the central dome and the half dome to the east end.
The church measures 77m x 79m, and the impressive huge dome soars 62 m. above the floor has a diameter of about 33 m. According to R. van Nice, a scholar well versed in the problems posed by the architecture of Hagia Sophia. The nave is 38.07 m. wide, more than twice the width of the aisles, which measure 18.29 m. each. The vertical planes formed between the two north and the two south piers by the arcades of the aisles and galleries and the tympana above them are aligned flush with the side of the piers facing the nave. Thus, the mass of the piers is pushed aside into the aisles and galleries. By this clever arrangement the bearing structure is hidden from the eye, creating the impression that space expands in all directions and that the dome floats in the air.

Perspective view of the west entrance. Of note are the massive pillars that denote the entrance. The vertical elements help break up the horizontal lines of the exonarthex, drawing the eye from the door upward to the central dome.
West facade, location of the main entrance, elements such as the side buttresses which slant inward, not only create a structural element, but also help accentuate the height of the cathedral.

Outside view of the main dome. The dome shape has changed several times over the centuries in order to adjust errors in calculations that brought down the dome several times. The current shape is slightly taller than the original so that the loads are more evenly distributed on the bearing walls.
East West section and North South section. The top section shows the proportion as well as the construction of the main dome, cascading into the two half domes at the East and West ends of the nave. The bottom section helps accentuate the vertical space of the building, allowing for the eye to follow the East West axis to the altar. The two half domes create a sense of lightness for the central dome.
Detail of gilded wrought iron work that symbolizes the natural landscape in the garden of Eden. Natural elements such as this are very predominant in both the architecture as well as the decorative objects of the church. This symbolical connection to nature helps give the person inside the church a sense of peace.

Restored mosaic detail depicting Jesus Christ the King in the center. To His right is the figure of Saint Constantine, also known as Constantine I or Constantine the Great. Constantine was the Roman emperor that officially changed the religion of the Roman empire to Christianity. To the left of Jesus is the figure of Saint Helen, the wife of Constantine. She is given credit for finding the remains of the True Cross. This is just one example of how iconography is used in the orthodox tradition not only to teach theology, but also to maintain a historic identity.
Chart displaying the mathematical proportions derived from the major spaces in the Cathedral of Hagia Sophia. The smallest space relates to some of the more intimate spaces in the Church, and parts of the exonarthex. The square with a side of 12 feet refers to the main entrance proportion in section as well as how it relates in plan to the exonarthex. The 29 foot side square refers to gallery spaces as well as major parts of the circulation paths. The 70 foot square refers to the space dedicated to the altar, directly in front of the 70 foot diameter curved wall and dome of the altar. The 99 foot square refers to the outmost points of the interior of the main dome.

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It was Justinian's great church that first demonstrated how to place a vast dome over a square plan. The solution was to place the dome on pendentives, or spherical triangles, that make a circle out of the square by rounding its corners. The pendentive can be understood by visualizing its geometry. A square drawn on the ground has two circles, one circumscribed around it, the other inscribed within it. A hemisphere set on the larger circle is intersected by vertical planes rising from the sides of the square, forming four arches. A horizontal plane is then passed through the hemisphere at the tops of these arches, providing a ring on which is built the dome, which has a diameter equal to the circle inscribed within the square. The pendentives are spherical triangles, the remaining portions of the first, or outer, hemisphere. This layout also allowed for the great half domes to the east and west of the central dome. These domes along with the multitude of windows allow for the space to seem endless and eternally light. The complexities of the structure have had a way of displaying mistakes in calculations or in building quality with dramatic results. Portions of the dome have collapsed several times due to the poor craftsmanship of the exterior walls.
Chandeliers provide a dim glow to supplement the filtered light in the circulation areas.
The quality of light in the exonarthex is achieved with high placed windows that help to internalize the experience, and enhance the sense of privacy. The floors and the walls have a dull polish which helps reflect some of the light allowing for an eerie glow that adds to the sense of spirituality.
The entrance to the crypt is done through a series of ramps. The ceilings are kept low on purpose to accentuate the enclosure of the dead as well as give a sense of intimacy to visitors. Another recorded theory is that the spaces were made low and small in order to allow the Byzantine Emperors to visit the tombs in solitude without worry of assassination.

Light plays an important role in the experience of the space. Here a colonnade is used to filter some of the light entering from the galleries, thus allowing for a mystical perception of both the interior of the main sanctuary, as well as the lighter gallery dome.
The main altar space is one of the few places where one can experience a large amount of direct light in the main sanctuary. Traditionally this area would also be filtered from the rest of the church with the incorporation of an iconostasis.
Iconography depicting the Archangel Gabriel. The mosaic work allowed for the walls to become an open Bible.

The Cathedral of Hagia Sophia is surrounded by a green barrier thus diluting the harshness of the tall walls.
The monastery complex of Moldovita founded by King Peter Rares in 1532, is located on the remains of another monastery dating back to 1402 – 1410, built by King Alexander the Good. The new monastery conserved some elements of the old 1402 buildings and expanded the complex to its present state. The complex, of rectangular shape, contains within its walls, the main sanctuary, 3 towers, a rectory and administration building, and residences, occupying the entire south inter wall. The residences are two stories in height.
The church in the center of the complex greets the visitor entering from the east gate tower.
The surrounding walls of the monastery and two of the towers, one, cylindrical in shape, designated for defensive purposes (north-east corner), and the bell tower, with a top part of a rectangular base prism, raised in the south-east corner, date to the time when construction was started on the site in 1532.

The gate tower, contained in the center of the eastern side of the monastery, dating back to the original construction, was rebuilt in 1612, the same year that a new rectory was built in the north-west corner of the monastery. This house is divided into two floors containing rooms with barrel vaulted ceilings. The house was fully restored in 1957.
East, west, north and south elevations of Moldovita Monastery showing the predominant role that the church plays in each elevation. The placement of the main sanctuary contributes to the overall perception of a triangular geometry pointing upward.
In its present state, the residence hall is a new addition placed on the ruins of an older residence hall dating back to the early 1800. The most important edifice of the entire complex, the sanctuary, one of the best examples of medieval Moldavian architecture. Its builders, drawing from the influences of the church at Humor, created, on the same structural system, a monument with very impressive characteristics.

The high naos is accentuated by the dome raised on the interior in the traditional Moldavian system, containing, cantilevered arches, offset arches, and pendentives. On the exterior, the dome is supported by two star shaped bases. The pronaos, of a rectangular shape, reproduces the one in form the St. George Church form Harlau dating to the time of Stephen the Great. It is caped by a spherical dome at its center raised on the complex system of eight arches, crossed with a sphere. The exonarthex raised in fornt of the pronaos adds a sense of verticality to the entrance. The stone pillars that mark the exonarthex are thinner than the supporting walls of the church, and divide the entrance space along the main façade into three parts. A new architectural feature is displayed in the subdividing of the entrance arches raised to the height of the doors thus contributing to the human scale of the entrance.
South elevation of the main sanctuary. In this view the expression of the three main elements of the church are clearly articulated in distinct architectural forms. The exonarthex is articulated by the west most arches in the elevation. The roof form denotes this area with its slope ascending to the pronaos. The pronaos is distinctly marked by the constant height of the roof form. The naos follows, its space architecturally accentuated by the eight sided tower that rises form the roof. The altar is shown with another high pitch of the main roof terminating the elevation.
South facade outside frescoes. The purpose of the outside frescoes is to give the impression of the church as an open book. Even if the church is overflowing with people or it is closed, the experience of not being left outside is created with the outdoor frescoes. The frescoes renders the wall, immaterial or transparent and gives an illusion of lightness.
The pronaos dome displaying the complex building technique used to achieve a spherical dome form a four sided space. The transitional arches divide the space into an eight point star creating a space for the iconography divisions. This structural transition not only serves as an efficient way to carry the loads form the dome into the load bearing side walls, but also helps create a sense of lightness which would be lost in a transition from a square base straight into the hemispherical dome. The upper part of the church with the multitude of arches and barrel vaults symbolizes the equivalent, built in stone, of the universe, is reserved for the representation of the divine church, triumphant, while the lower parts, walls, is representative of the struggle, or fighting of the church. Depictions of bible stories and martyr saints are portrayed here.
Above: Fresco depicting the siege of Constantinople. This siege lasted several years with its termination with the fall of Constantinople in the year 1453. The fall was the end of the Eastern Roman Empire and its dominance over cultural events through most of the eastern world. Romania played a key role in the sheltering of refugees of the royal families of Byzantium, and the fortified monasteries allowed for the preservation of a strong faith even as the Ottoman Empire turned its eyes to Europe. Through the next 350 years under sieges and numerous wars, places such as Moldovita monastery helped preserve the remnants of the fallen empire as well as a national identity.

Left: Main entrance to the church.

Opposite Top: Views of the entrance and the south east facade.

Opposite Bottom: Side archway into exonar-thex and fresco view of the pronaos.
Above: South west view of the main sanctuary in the center. To the left is the rectory and to the right is the gate tower. The Roofline tries to mimick the surrounding hilly terrain while the tower shows a more man made element inserted into the terrain much as the monastery is inserted into its site.

Right: Elevations of the Royal Throne located inside the church. Since this was a royal commission the monastery had to be able to handle a royal visit.

Opposite: Overall arial view of Moldovita Monastery. To the left is the residence hall.
The Sanskrit word 'yantra' derives from the root 'yam' meaning to sustain, or hold. Hence in metaphysical terms a yantra is visualized as receptacle of the highest spiritual essence.

A Yantra is a pure geometric configuration, composed of basic primal shapes. These shapes are psychological symbols corresponding to inner states of human consciousness. This innate simplicity of composition is identified with spiritual presence. The use of such elementary shapes is not simplistic but represents the highest conception in visual terms, because the projection of the symbol is then direct and bold, so that even a small miniature can create a sense of expansiveness.

The dynamism of tantric imagery is generated by a quest for geometric order. A yantra represents a particular configuration whose power increases in proportion to the abstraction and precision of the diagram. A yantra gradually grows away from its center, in stages, until its expansion is complete. Around the center are several concentric figures which take part in this expansion. This concentric architecture defines the volume of the yantra -and creates a rhythmic unity.

The proposal for the Yoga house focuses around this concept. A central element of the design is a cube representing perfection, or enlightenment that one seeks through spiritual cleansing. The yoga house displays a contrast between an internally focused interior program and an exterior that is more open. A path is created through the site allowing for a complete exploration of the program leading all the way to the cube sculpture symbolizing the exploration that one must follow through in order to reach one's goal.
SQUARE
HEMISPHERE
CONE
CRESCENT MOON
CIRCULAR DISK

SQUARE = EARTH

DOM = NUBB = CONTAINER

CON = FIRE
MOON = AIR

CIRCLE = WHOLENESS = TOTALITY
The site chosen for the project is a park in Bucharest, the capital city of Romania. It is a city that does not have a cathedral so the park was chosen due to its central location as well as its historic ties to both culture as well as religion. For the majority of its existence before the Communist regime the park was a center of culture, having a multitude of built spaces that house museums, a library, a church, as well as other cultural functions. After a devastating earthquake as well as several fires the majority of the buildings were razed in order to create a strong processional axis as well as the central monument which right now is obsolete due to the regime change in the country. It is a site that is mostly constructed by man and most vegetation is foreign to the once swampy land that existed here before. Because of these characteristics the park offers many possibilities to the development of the project.
Karl Park is one of several large public parks in central Bucharest. The earliest record of the park dates back to 1792, when archbishop Filaret II made considerable improvements to the site. Among these features was the lake that was converted from a swamp. His follower, archbishop Filitti, continued work on the park from 1793 to 1812 when he donated the grounds to the Romanian Crown, to be used as a public garden.

More work was done to the park by decree of King Karl I. This work was completed between 1905 - 1906. With the abdication of King Michael and the ascent to power of the communist party after WW II, the park was renamed Liberty Park. A large monument, approximately 150ft. tall was constructed on top of the large plateau at the southern end of the park. This monument, for the sacrificed communist martyrs, took the place of a much smaller yet more significant monument. This was the tomb of the unnamed soldier, where two bodies, one form WWI and one form WWII were interred. The bodies were moved to a much less prominent tomb at the foot of the hill.

With the collapse of the communist regime in Eastern Europe in 1989, there have been several appeals to demolish the monument on top of the plateau. The return of the bodies of the unknown soldiers from the bottom of the hill back to their original place is planned. The demolition of the communist monument is already underway and the large granite slabs that cover it will likely be recycled in the new monument.
CATHEDRAL  7432 SQ.M
CRYPT     930 SQ.M
MECHANICAL 743 SQ.M
STORAGE   930 SQ.M

TOTAL 10035 SQ.M

ADMINISTRATIVE  464 SQ.M
SCHOOL       5 CLASSES 464 SQ.M
LIBRARY       743 SQ.M
ARCHIVES     372 SQ.M
STUDIOS      5 STUDIOS 464 SQ.M
RESTAURANT   464 SQ.M
CONFERENCE HALLS 1595 SQ.M
SHOPPING AREA 186 SQ.M
BOOK STORE   46 SQ.M
MUSEUM       930 SQ.M
MECHANICAL   244 SQ.M

TOTAL 5972 SQ.M

RESIDENCE ROOMS  25 ROOMS 589 SQ.M
GUEST SUITES    3 ROOMS 223 SQ.M
PRIVATE CHAPEL  372 SQ.M
CAFETERIA       232 SQ.M
ADMINISTRATION/MONASTIC FUNCTIONS  812 SQ.M

TOTAL 2228 SQ.M

TOTAL PROJECT 18235 SQ.M
The project calls for the exploration of the merger of rationality and intuition in a spiritual architectural context. The exploration calls for a spiritual gathering place to be the focus of the project, however this space will not be complete without the supporting functions of a school as well as dwelling spaces, food consumption spaces including both private and public functions, administrative space, which needs to consider both the school and the public functions of the program, a library which can be used for both public and private space. Great consideration needs to be given to how the public would encounter the architecture from the outside so a public park space may also be included. The hope is that an experience can be created that include both public as well as private spaces, and the transitions that occur between them without diluting the overall spirituality of the complex.

Contemplation of both self as well as the world is one of the main actions that will be considered. This leads to an approach to the architecture which dictates a certain serenity. A sense of self needs to be developed, and the interaction with one's own mind in an internal conversation needs to be accommodated, while contemplating others and the world dictates a more extroverted aspect of the program. Another aspect of contemplation is the contemplation of self through the environment, where light and sound as well as elements that engage the other senses create an interwoven whole that has a different message celebrating different aspects of the rituals partaken in the facility. From this the action of prayer involves several aspects of the program. Through ceremonies that vary in their sense of engagement of the public, such as baptism, marriage, funerals, an analysis of the atmosphere needed to create the right mindset evolves. This creates an engagement of both ones self as well as a multitude of people.

Study as well as scientific research can partake in the program, the first taking a more central role compared to the latter. Through the study of both liturgical texts as well as different philosophies, and expanded onto the study of proportion and form, through the examination of frescoes, mosaics, oils temperas and other techniques that will be analyzed. The research of the methods of both creating as well as restoring new works as well as old, will engage the general staff, students as well as the curiosity of outsiders that have perhaps never experienced a similar process.

Dining takes an active role in the project, engaged by both the people that inhabit the project as well as the education on fasting of the attendants. Through aims the poor will experience the satisfaction of fullness as well as the feeling of gratitude for receiving something that society at large seems to have forgotten about.

Living in the project, as a private experience, along with temporary habitation of both homeless as well as travelers and pilgrims, which takes on a slightly more public aspect, need to find a place in the project. A place for play, an environment that is safe, perhaps a park creates a sanctuary for children as well as for their guardians, trying to find a place of solitude in a congested world. This garden also takes on the symbolic meaning of the garden of Eden, in a sense a paradise or an oasis in a storm of turbulence. Water needs to play a role in this space both as a tranquil element, as well as a symbolic one representing the baptism, and, in a sense purity. The word play also brings to mind the idea of an actual theatrical production, through which
morals about living can be drawn.

Writing can play two roles in the program. The writing, interpreting, and translating of diverse religious texts is only one part of the project. Another part draws from an interesting tradition of European writers excluding themselves in monastery spaces in order to be able to separate themselves from the outside world in a place of peace where they can create. This writing does not need to take on a religious aspect, as is the case with Bram Stolker, who wrote several non-religious novels while staying in various east European monasteries.

The act of serving both God and people plays a role both the active teachings of the Church as well as the program. Both the clergy as well as the population at large serve both God as well as their fellow man, through teachings, rituals, as well as different aims that are given on different occasions through out the year. At this instance the project wants to take into account the passing of time as an element of design.

Active discussions, perhaps debates, will partake in the activities evolving around the project, along with the pursuit of philosophical knowledge. The discussions will engage the partakers at different levels, from the sermon after a service, to a bible study for the young to spaces for symposiums, as well as church councils. Ideas about religion art and architecture in the modern age are to be studied, which generates a need for an archive of information that generates this discussion.

Healing in the form of religious counseling, as well as a spiritual renewal is important to the project. The idea of dealing with life’s difficult moments in a guided way in order to promote a positive effect or aftermath of the unfortunate event emerges. This calls on the project to create a sense of serenity in certain areas suitable for a counseling activity. The nourishment of the soul, as well as of the physical body evolves form this concept, becoming one of the major messages of the project.

Administration of the space needs to concentrate in several key areas, including but not limited to: space administration, religious coordination, scholastic and scientific organization, accounting, as well as food production and distribution.

Group co-habitation, as well as the interaction between people during different activates needs careful consideration. Procession and ritual, two elements that are somewhat intertwined, need to be addressed, both separately as well as they come together as two interactive forces.

In essence the project wants to create a space that responds in a sensitive way to all of the above elements, through both the design of the interior as well as the exterior. Using a multitude of symbols, construction elements, as well as vegetation the project creates a message that through geometry, proportions of volume as well as the void between volumes create a balance of the spirit.
The first phase of the design process attempted to explore the basic ideas that tie the project together as well as to the thesis. The first series of drawings attempted to clarify some ideas such as the manipulation of light as well as flow. The idea of merging with not only the location on site but with the entire site, as well as the surrounding urban context was studied in a series of gesture site models. These site models allowed for an understanding of not only the site but also the idea of merging the two concepts of rationality and intuition. They also explored the idea of weaving as well as barriers that one must navigate around, through, over or under.

The following set of sketches explored the ideas such as negative light as well as light as a solid. This generated some rough architectural gestures representing the idea that light becomes architecture. The idea of site flowing into building was also further studied.
in further sketches. It is at this point that the rough placement of program occurred on the site and therefore thus some sketches that tried to understand the relationship of site to program were created. These sketches also began to think about the element of water as well as the idea of bridging or crossing water which later would develop into the idea of the implied north/south axis with a series of crossing paths.

The next series of sketches again looked at light as a creator of architectural shape. This idea tied into the rational part of the thesis because light, as a scientific phenomenon, is a major element in experiencing architecture. Form a faith point of view one can also say that divine light allows for the form to be experienced, thus the two concepts merge together as the approach the light source.

The following step in the design process tried to understand a more rigid architectural form as a barrier that one must pass through or around. At this point in the design process an idea of a chapel that appeared to be floating in the middle of the lake drove the design to further explore the idea of a circulation flow as well as further developed the idea of bridging.

As the program became more defined there came further sketch experimentation of different geometries weaving themselves into form, as well as the idea of contrasting forms creating an architectural space. This phase soon moved into model form where a series of texture models were made. These models attempted to study materiality as well as the duality between a mold and the final shape which was seen as the expression of the thesis concept. This duality could not exist unless both parts existed and merged together to create the final result. Ideas such as layering as well as undulation were further explored in texture model form.
- Axis

Architectural periods: Examples
- Symmetrical
- Detention
- Direction
- Vision axis
- Perspective

Accidental periods in history - 2000 years
- 65 years
- 1945 - 1990
- Insignificant
- Dominant axis
- Symmetry
- Monumental scale
- City - few streets
- Almost - 100 meters
- Approx 330 feet

- Red Square
- Funeral
- Icosahedron
- Unique concept

- Rationalization of Park
- Bridge
- 2 things
- Isolation of monument
- Free view of lake

- No more function - free money
- Creation of visual axis N/S
- Persistence of focal point
- Not circulation
Intuition
Reason.

Leaf on
Tree
Both.

French - Front Garden
English - More Mimick.
The second phase in the design process began with a more in depth study of the site. At this point the major parts of the project had been defined and a further exploration of odd placement in relationship to flow as well as the idea of progression form a rational element to an intuitive one with the cathedral as a joining point at the middle occurred. The development of the untouchable axis occurred at this point as well as ideas of the partial erasure of the original axis.

It is at this point in the process that the exploration of rough architectural form occurred as well as the idea of the existing axis affecting the architectural shape of the Cathedral. Several studies were conducted as to whether the axis should go underneath, penetrate, or pass over the architectural form. The idea of the cultural center part of the program merging into the hillside, as well as the circulation flow through the program as well as down the hill started developing. This began to represent the flow from the rational to the intuitive through an architectural buffer that one must penetrate through.

The next step in the process was the development of rough floor plans that deter-
mined the placement of functions as well as of architectural shape. The Cathedral went through several phases of development, starting out with more nontraditional shapes in plan as well as section, however as further research was done on architectural form as well as expression in Orthodox Christianity the idea of a more traditional plan came into existence. The idea of ribbons of earth starting form the ground and turning into the structural members of the church occurred as well as a debate on structural elements that were to be used in the design process. The debate was weather to opt for a steel space frame truss system or a concrete thin shell design. A first rough building form took shape with the use of thin shell concrete, however upon further research into the seismic activity of the site a triangulated space frame truss system was chosen for the final design.

The final design of the cathedral attempted to merge both vernacular elements that were considered mandatory in order to maintain a cultural identity as well as new elements that would further attempt to combine rationality and intuition as two characteristics of human understanding of the surrounding world. The final development of the central spire located over the Naos was finalized at this point. The design reflected the spiritual idea of a reach for the heavens, in this case by twelve spires that represent the twelve apostles. The complex structural system of the tower as well as the ribbons that form the vaults of the Pronaos allowed for a more secure seismic design. The stepping of the ribbon arches to allow for fenestration on the western façade was also reduced from previous versions in order to offer a more diffuse form of lighting which allows the interior to seem more mysterious in nature. The lighting is controlled in such a way that it never is seen as direct light as one looks to the altar, but rather it is either filtered through a series of layers or only illuminates form behind.
SQL: Simple Query Language

Rooms
- Design Studio
* ? DEFINES ALL

Find "*" FROM Rooms WHERE function = Design Studio

ORDER BY "Room Size"
MATERIAL

STANDARD

REAL WORLD

SCALE LARGER THAN ACTUAL

PATTERN

RENDERING SIZE

ANIMATION OF BUILDING

ALL DETAIL

DETAIL FRAGMENT MODEL

BASE - EARTH HAS THICKNESS

EXPLODED AXONOMETRIC

SIGNIFICANT PIECES

RENDER DIFFERENCES

SKETCHES

SPRAY PAINT PLEXI

MORPHOSIS:

KEY PLAN

COUNTER

TEXT DOES NOT OVERPOWER

WALL SECTION ORTHOGONAL

MEL ZAVARI

FRAGMENT
AREAWAY WALL WITH REINFORCING SEALANT

W III /" SLAB ON GRADE, W ZZ ~

POROUS FILL FOR DRAINAGE, AREAWAY SLAB ABUTS BUILDING

SEALANT AND BACKER ROD AT EXPANSION JOINT

BENTONITE CLAY OR OTHER WATER STOP

RIGID INSULATION OR OTHER PROTECTION BOARD MATERIAL

WATERPROOFING MEMBRANE OR COATING

GRAVEL FILL

FILTER FABRIC OVER 4" DRAIN TILE

SHAPE SOIL TO FORM GUTTER

MIN. 3cm HIGH, MIN. RIGID NONBIODEGRADABLE CANT WITH LIQUID MEMBRANE COATING AT TOP SURFACE

PROTECTION OR WORKING SLAB, INSULATION PROTECTION BOARD

WEARING SURFACE, WEARING COURSE, DRAINAGE COURSE

WATERPROOFING MEMBRANE, STRUCTURAL CONCRETE SLAB

CONCRETE FOUNDATION WALL (10" MIN.)

REINFORCED CONCRETE SLAB

COLUMN

COMPACTED BACKFILL UNDISTURBED SOIL

SLOPE AS REQUIRED BY LOCAL CODE

SECTION

FOOTING BELOW

FOOTING BELOW

FOUNDATION WALL

FOUNDATION WALL

COLUMN

COLUMN

COLUMN

COMBINED MAT OR COMBINED FOOTING

CONCRETE WORKING MAT

SECTION

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CONCRETE FOUNDATION WALL

CONCRETE FOUNDATION WALL

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COMBINED MAT OR COMBINED FOOTING

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This project attempted to engage the question of rationality and intuition as two characteristics of human thought in the creation of an architectural expression of spiritual space. The scope was the creation of a Romanian Orthodox Cathedral as well as an Orthodox Center of Christian Studies in Bucharest, Romania. The major struggle in this project was the fact that the Orthodox Church has not gone through an architectural evolution in the same way as other denominations of the Christian faith. The Orthodox Church places a great deal of importance on its architectural concepts and therefore certain rules of design must apply in order to create a true Orthodox place of worship.

The project was approached from two different ways as one encounters it on the site. The idea was to take a traditional approach to entering a monastic center for one route, while at the same time allowing for the creation of an equally important approach based on the modern day openness of religion. Thus, as the project is approached either from the east or the west, a traditional monastery typology is encountered. The entrance is made through a set of gates that allow for a centralized view
of the main sanctuary. A sense of inward focus as well as a feeling of enclosure is further accentuated in the cultural center side by the descending path that is surrounded by buildings on either side. The desired effect is that of a buffer from the outside world. When the project is approached from either the north or the south an open effect was desired in order to reflect the contemporary idea of openness and choice regarding one’s own views on spirituality. This approach is further accentuated by the creation of a new north/south axis, which symbolizes the ideal of perfection in both an intuitive as well as a rational sense. In the intuitive sense the line symbolizes a morally perfect life that one can never really achieve. The wondering paths stray further and closer to this perfect line, at times intersecting it representing the different situations in a person’s life and the different paths that one might take. In a rational analysis the line symbolizes perfection which can only be achieved through a mathematical concept.

The idea of a perfect line can exist; however that line can only be constructed to a certain degree of accuracy in the real world. From this approach the main sanctuary is placed off center, differing from the traditional point of view, thus religion becomes more of a personal choice rather than something that you are guided through. The blending of the two ideologies is thus represented with the same symbol and one is free to decide which representation fulfills their concept on life.

The main sanctuary intersects with the old axis of the park creating both a historical reference to the oppression of the Church by a communist government that attempted to deny any reference to an intuitive faith, as well as the idea of the negative intersection of rationality and intuition. Thus when one way of thinking overpowers the other completely there is no more mutual stimulation and we are left with one path that does not allow any form of questioning.

The residence hall attempted to deal with both the monastic way of life, which is rooted in a faith based outlook on life, as well as the urban condition with which it tries to interact. Thus the east façade mirrors the surrounding context with very rigid architectural forms. The rooms of the residence create a solid element on the second floor contrasting with the ground floor that has large fenestrated areas. This allows the outside world a glimpse into an otherwise very enclosed way of life, still allowing for the traditional barrier form the outside world.

The cultural center also attempts to mirror the urban context that it faces on the west façade. Here however, as one progresses inward through the project the architecture begins to transform into a more organic expression. Since the majority of the park is constructed by man, the idea of the building becoming nature seemed appropriate. Thus the eastern façade of the cultural center follows the contours of the terrain, undulating in a similar fashion.

The entire project attempts to serve as a merger of two characteristics of human thinking in the approach to spirituality, just as on a personal level one merges the two characteristics in one’s own view on spirituality. The next step in the design process is further development of the landscape. Through this process a stronger connection between all three elements of the project can occur allowing for a more seamless flow between a rational and an intuitive form of architectural expression.
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A documented discussion on the views of both architects in regard to architecture in general as well as singular objects, or architecture for one specific purpose.


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