

Architecture, or the Presence of an Interior

Martin Joseph Hedrick

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and State University in partial fulfillment of the requirements for the
degree of Master of Architecture in Architecture.

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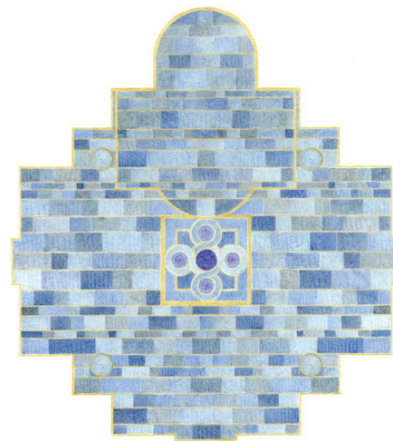
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Architecture, or the Presence of an Interior

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Abstract

An object or thing with no interiority is sculpture. Architecture begins with the making of an interior. The real character of Architecture is revealed in the distinguishing qualities of the interior: the arrangement of spaces, the heights of the ceilings and the placement of walls, the entrance of light, the colors, the textures, the patterns and the surfaces. Emphasis on and development of these formal elements elevates a work from the world of building into the realm of Architecture. The study of internal relationships in this project, specifically the geometric and proportional, patterning, and color relationships, as well as the relation of elements of the structure to one another, is an attempt to elucidate the nature of Architecture as the presence of an interior.



Acknowledgments

For God: the First Architect, the Great Creator.

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All images are by the author.

Orthodoxy

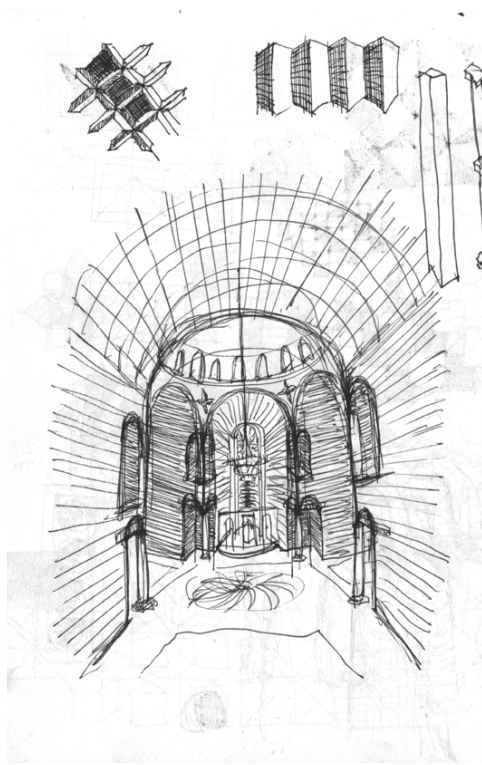
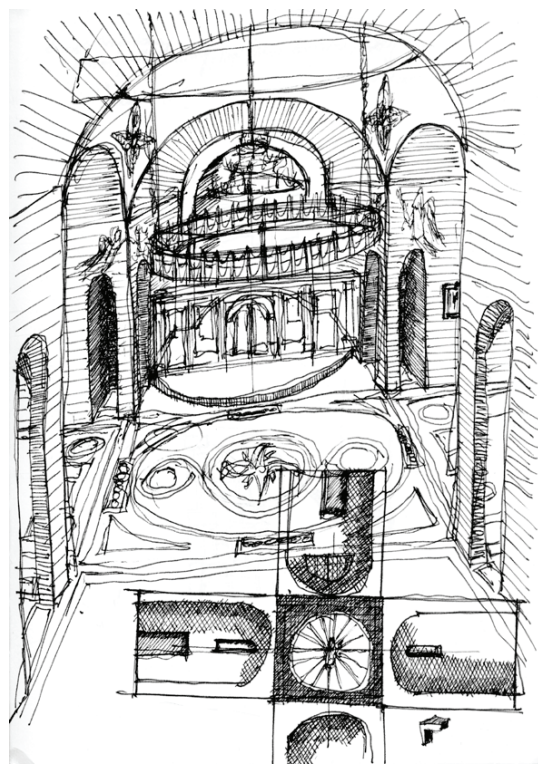
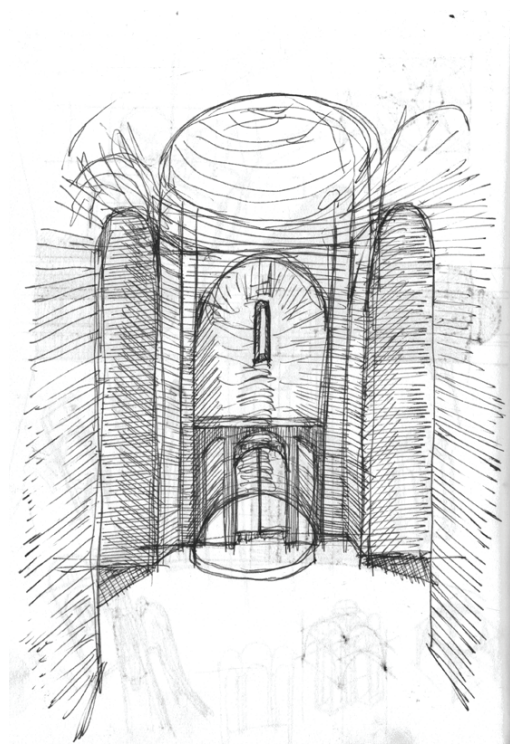
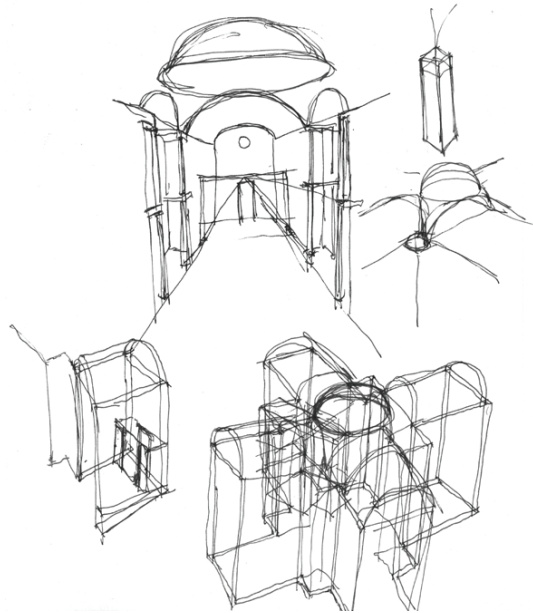
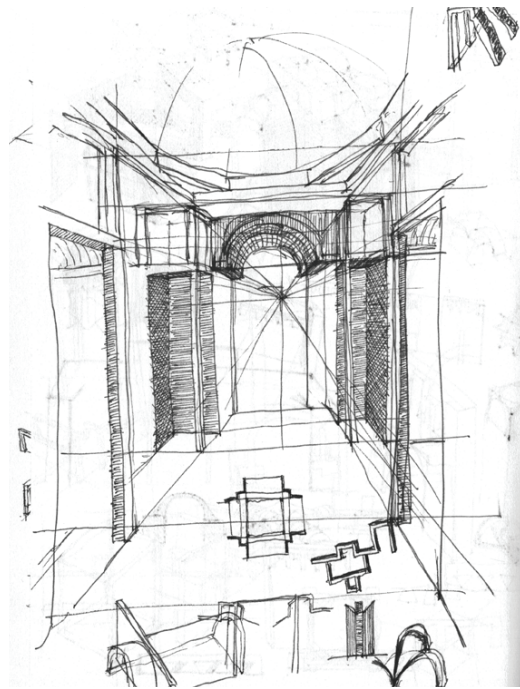
The Orthodox Church is a faith based strongly on tradition, tracing its roots to the foundations of Christianity. The faith and the practice of the faith involves a certain intensity of being, in the rituals and the fasting, and also an adherence to those unchanging tenets established with the beginning of the Church. This solemnity and strong belief in tradition influenced the formal and ornamental decisions in this project.

The worship impacts all of the senses of the congregation. The room is filled with the sight and smell of incense burning. The numerous candles and lamps reflect light on the iconography and the wall coverings. The clergy's colorful and patterned vestments engage the vision. The communion involves both taste and touch. The icons are kissed, and the rituals involve crossing oneself. The clergy and congregation sing and chant hymns throughout the services.

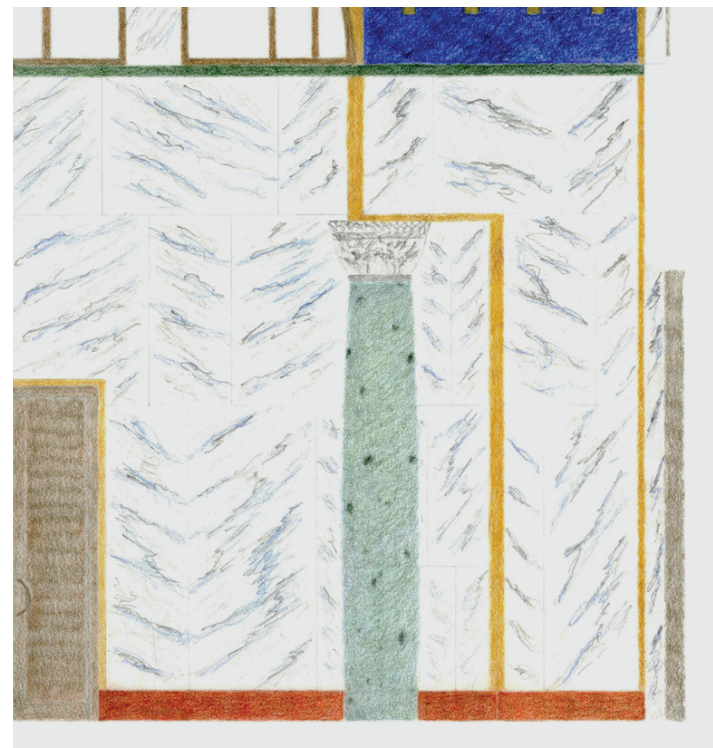
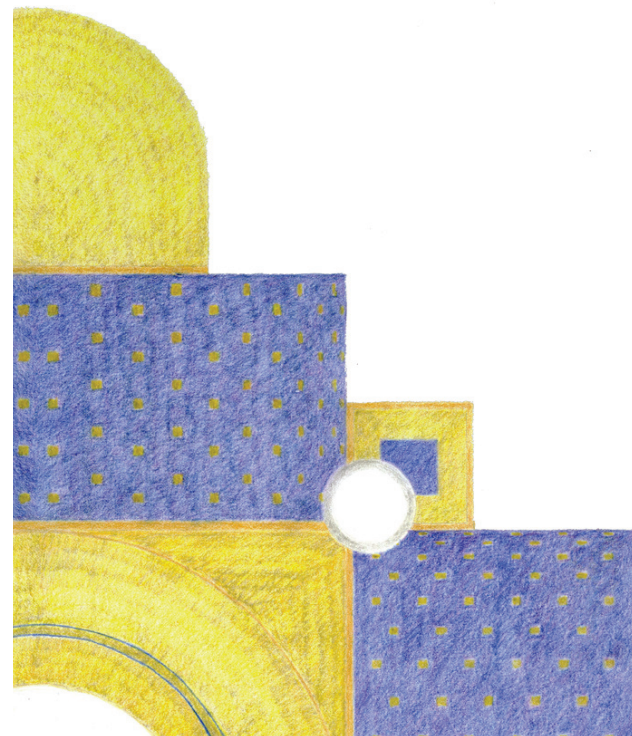
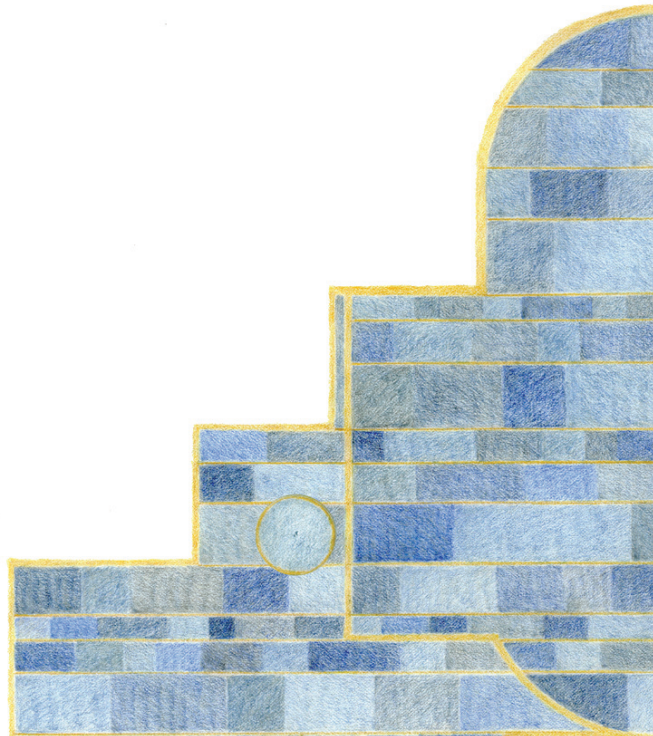
The liturgy drives the arrangement of spaces and so the liturgical form of the Greek cross was adapted for this project. The main divisions of space within the Church are between the congregation and the clergy. This separation, or transition, is marked with a screen that holds icons, called an iconostasis. In one arm of the Greek cross plan, behind the iconostasis, is the semicircular apse containing the altar. The other three arms make up the body of the Church. This is a centralized plan that speaks to the unity of the faith. The Greek cross plan is also symbolic of Christ's cross.

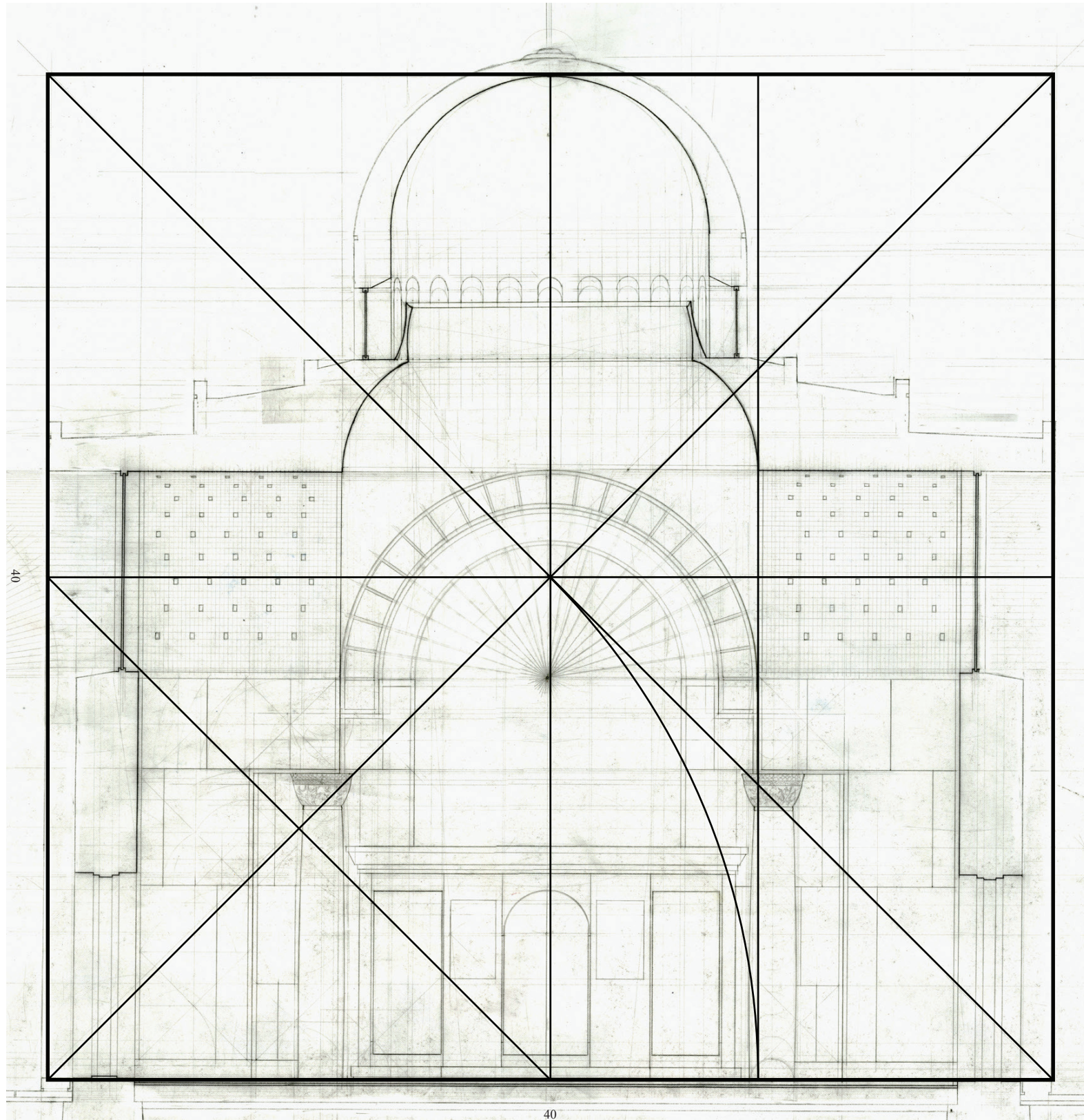
In the tradition of building associated with the Orthodox Church, the interior has been the focal point, characterized in some cases by a high degree of ornamentation and rich and profuse decoration: "all splendour of adornment was reserved for the inside."¹ In contrast, the exterior is left relatively plain and unadorned, "with little or no architectural decoration."² The interiors of Orthodox Churches were highly ornate most prominently in the height of Orthodoxy during the Byzantine era. Some of the decoration includes golden mosaics, iconography with rich colors and gold backgrounds, colorful, patterned vestments, brass or iron candle holders and censers, and marble revetments, columns, and floor tiles. This interior opulence is often contrasted with sparse exteriors, analogous to the Church's teaching that man's true nature is found in the inner self, not in the outward appearance.

In addressing the program of the Orthodox Church, the project's form and expression encountered limitations of tradition and doctrine or dogma. These constraints required an examination of the areas of freedom which were found to be small and subtle in their appearances: a slight indentation of a wall to create a shadow line, the design of a window frame and door, the ability to use proportions to guide the design and the placement of patterning and revetment joint lines, as well as the choice of colors and materials.



INTIMATIONS OF THE
INTERIOR



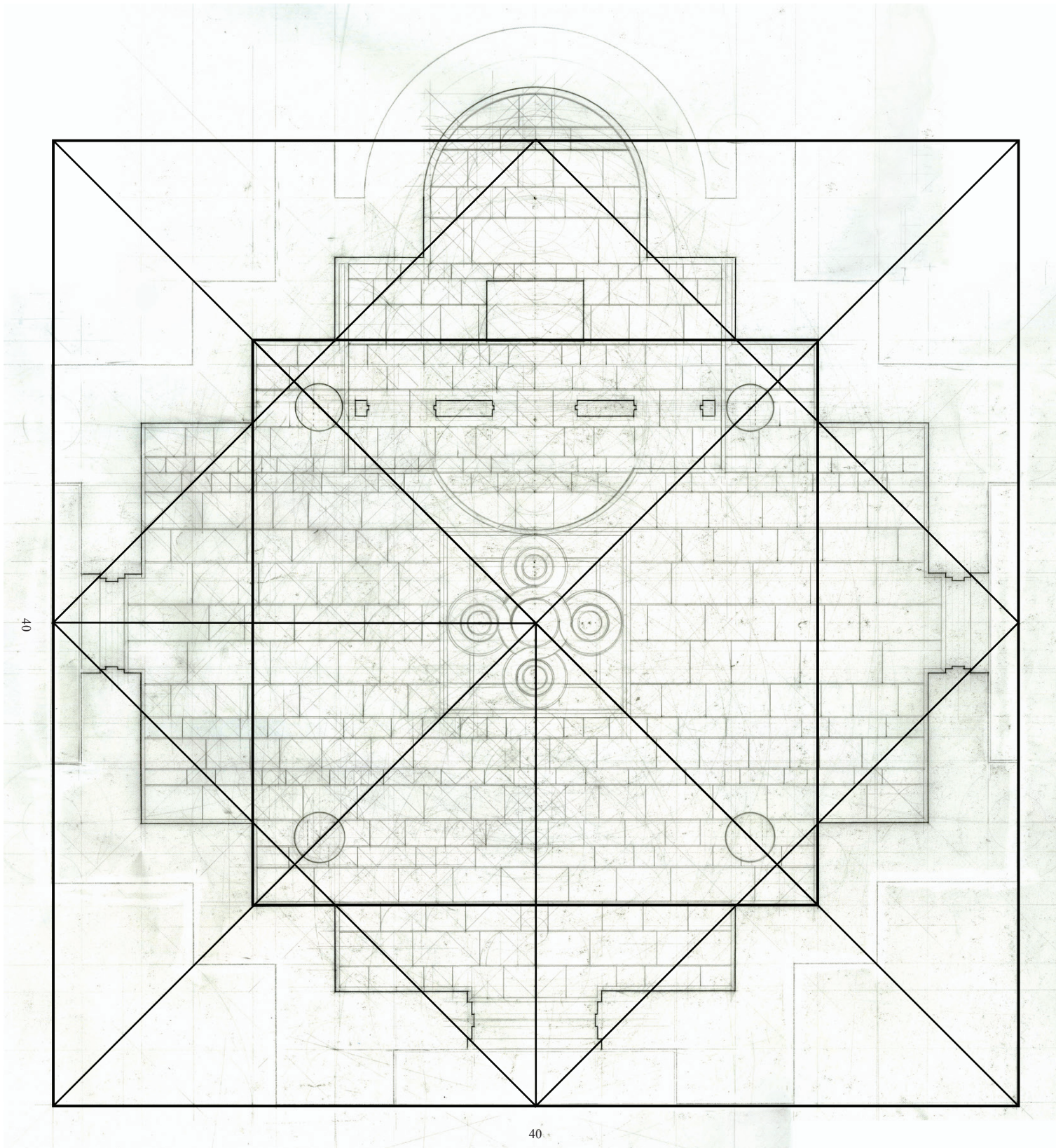


PROPORTION

The necessity for order. The regulating line is a guarantee against willfulness... a means to an end... its choice and the modalities of expression given to it are an integral part of architectural creation.³

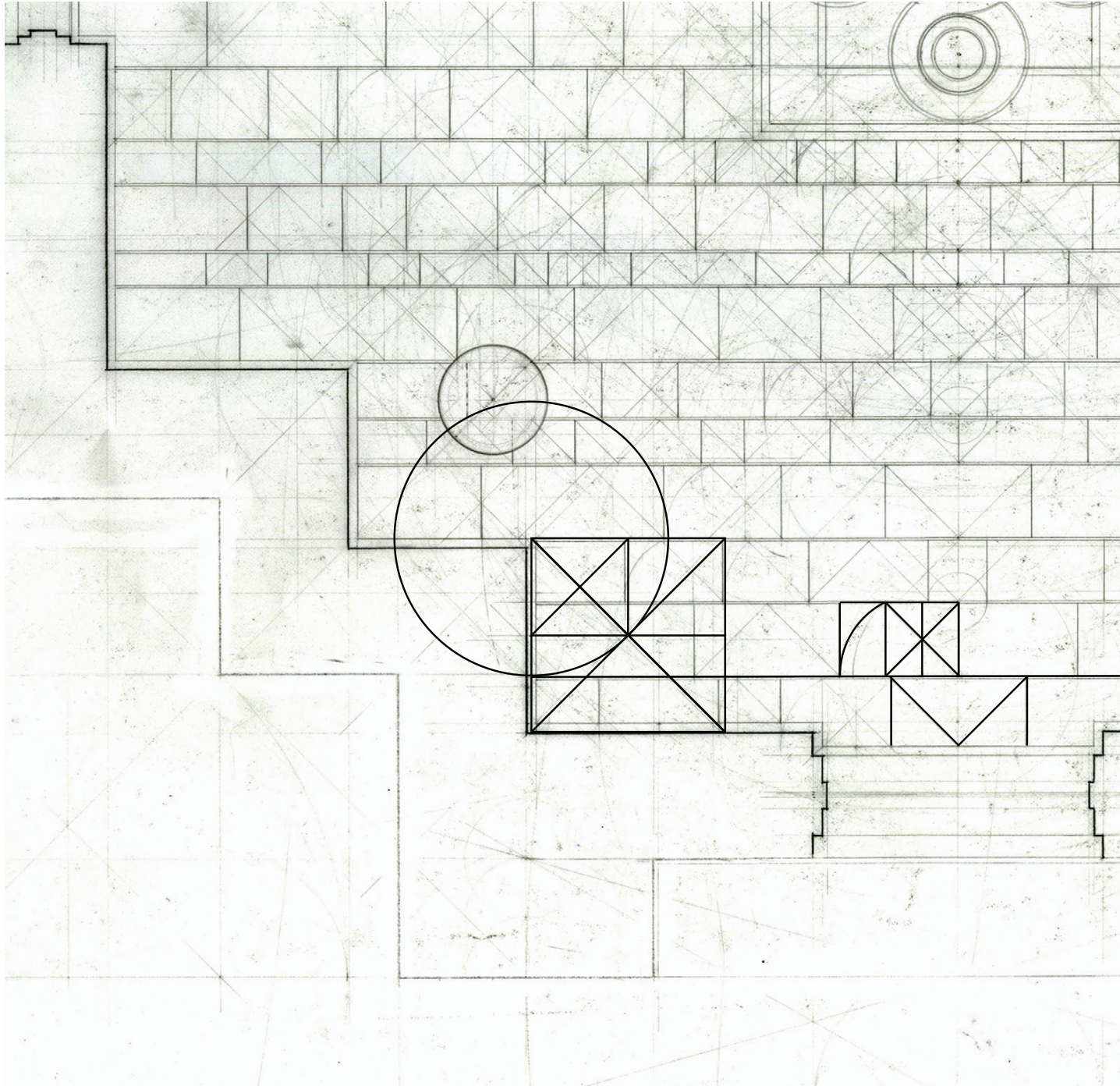
Le Corbusier

The square, or 1:1, and 1:√2 govern the heights of the ceilings and the arrangement of walls in this section.



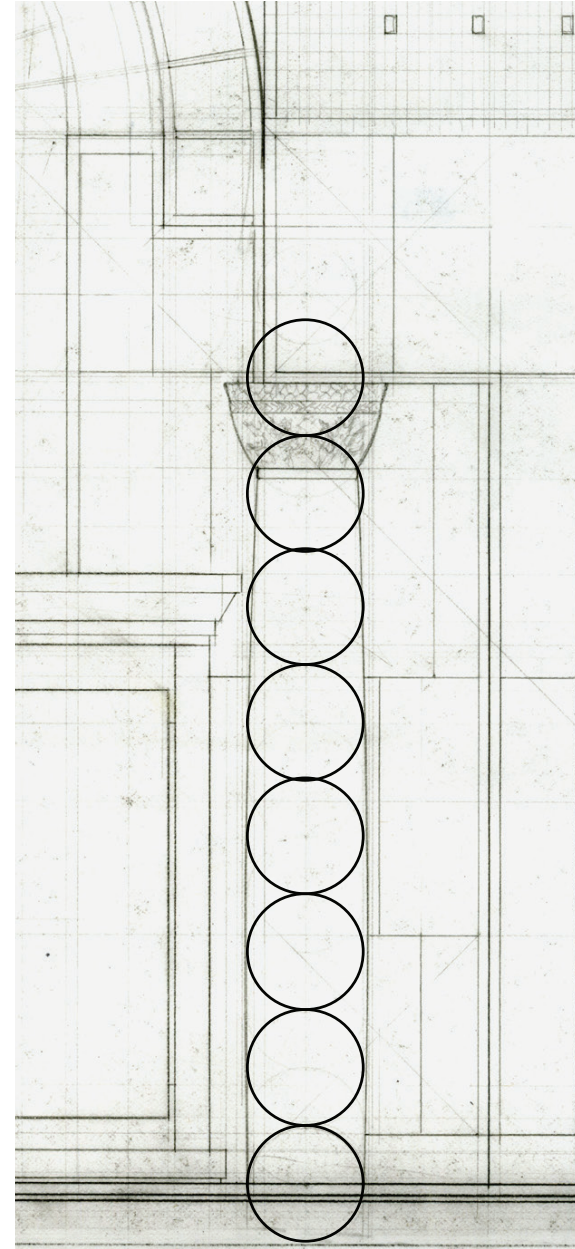
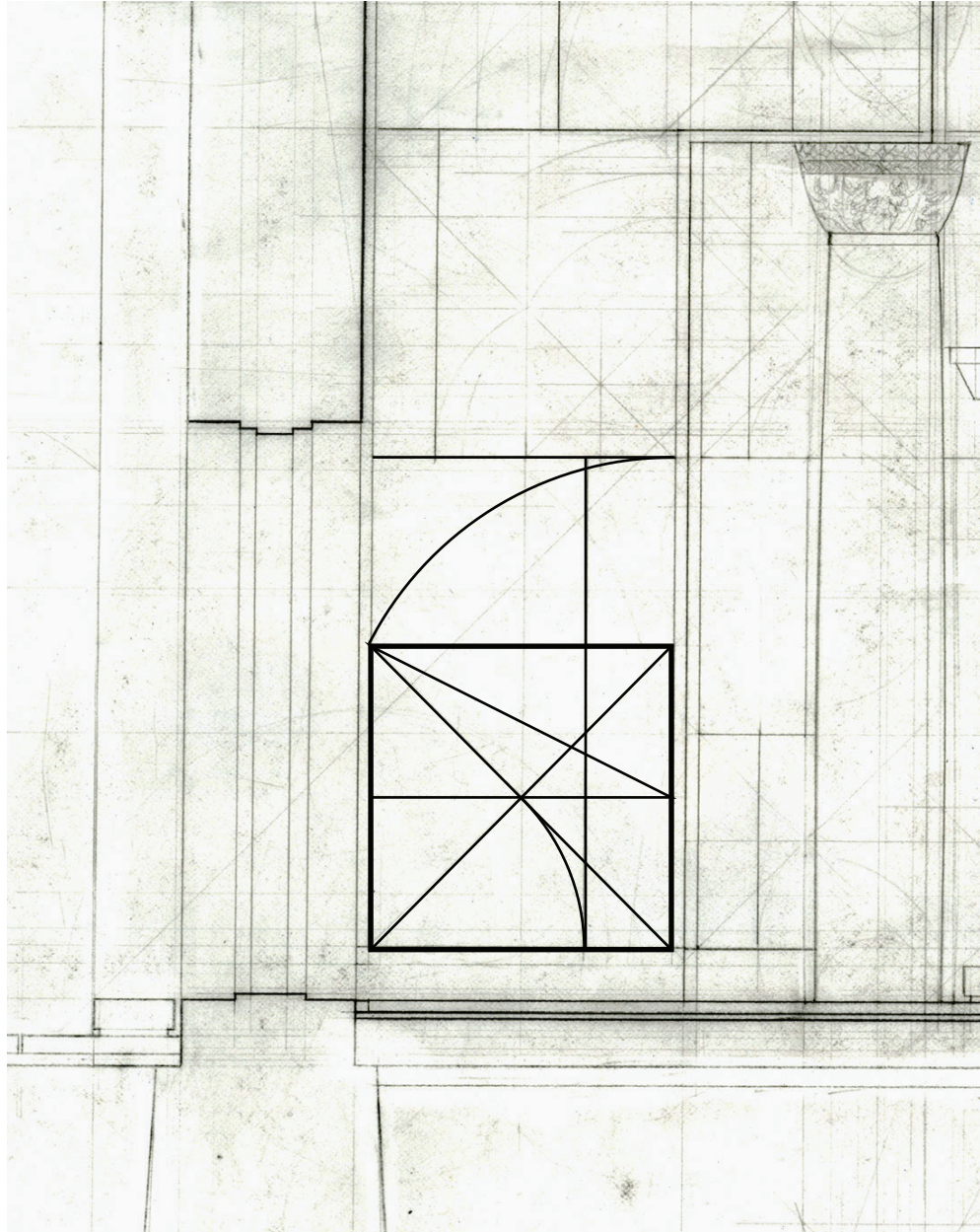
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Floor tiles

The proportions of floor tiles based on $1:\sqrt{2}$, the golden section, the square or 1:1, the octave or 1:2, and 1:3.

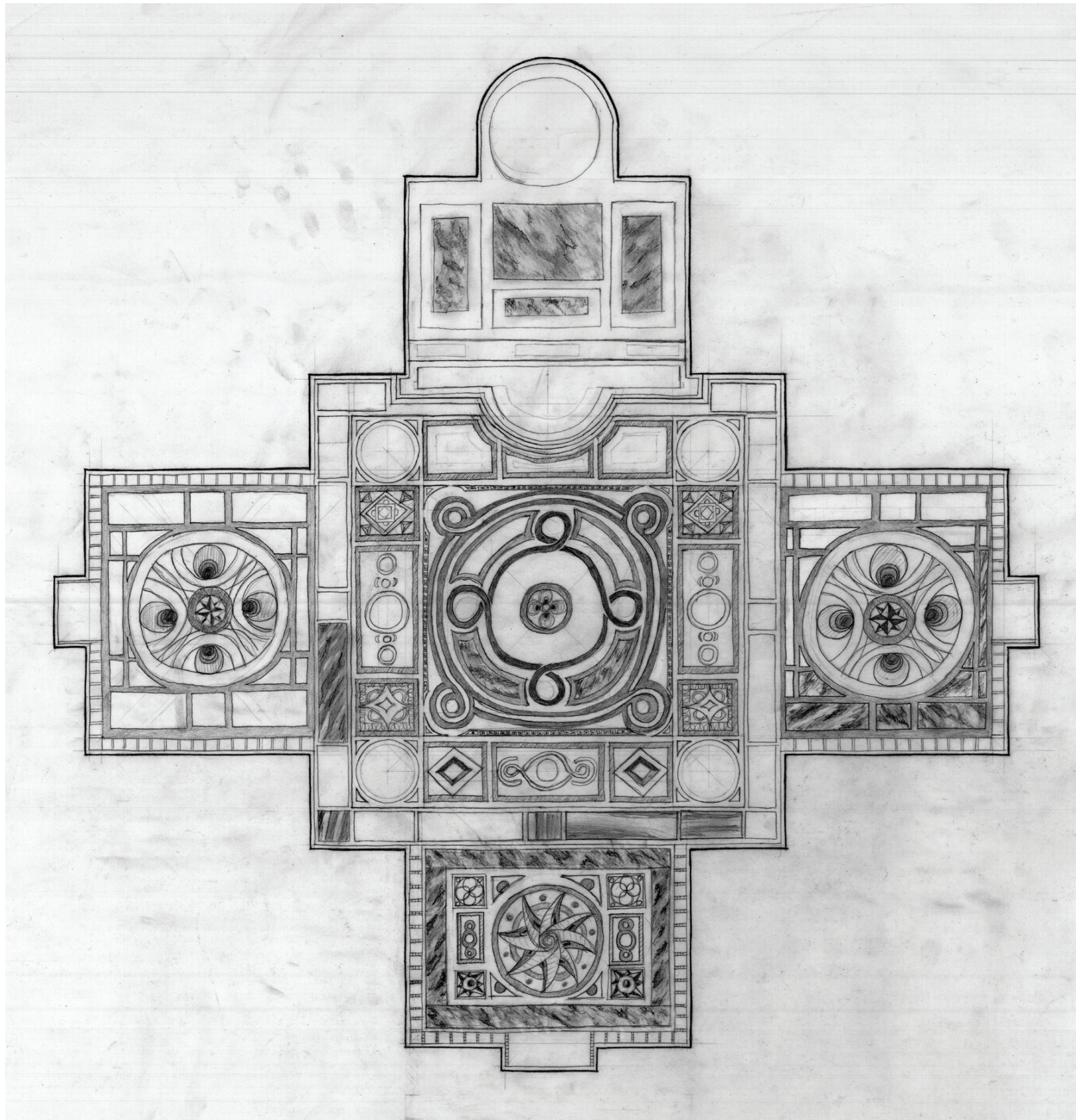


Wall revetments

[Left] The wall revetments were designed using the proportions of $1:\sqrt{2}$, the golden section and the square or 1:1.

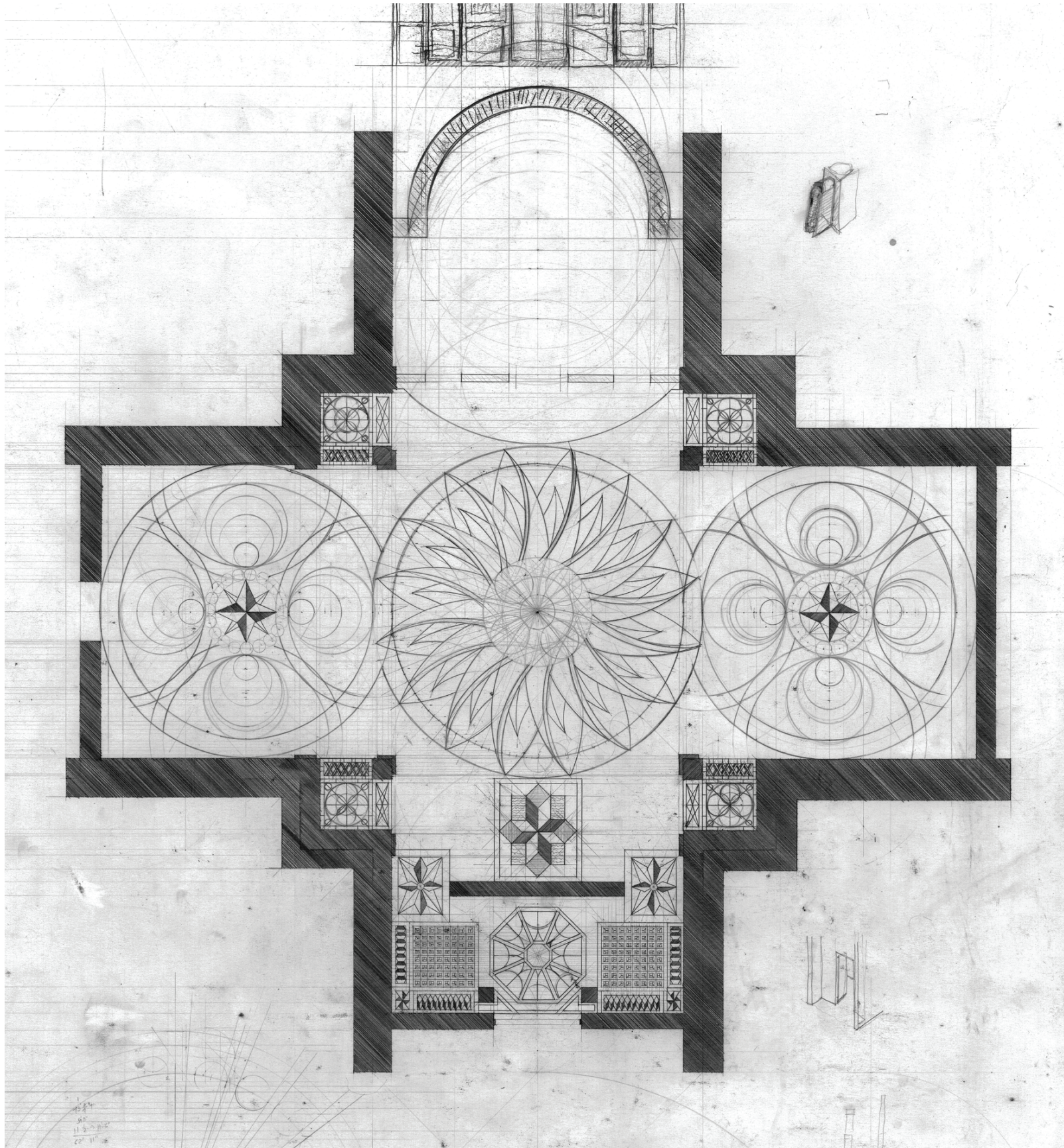
Column

[Right] Relation of the base diameter to height based on the Doric proportion of 1:7.



PATTERNING

Geometric patterns. These floor patterns are inspired by the Cosmati pavements, techniques prevalent in the Byzantine era and seen in Greece, Istanbul, and Italy.

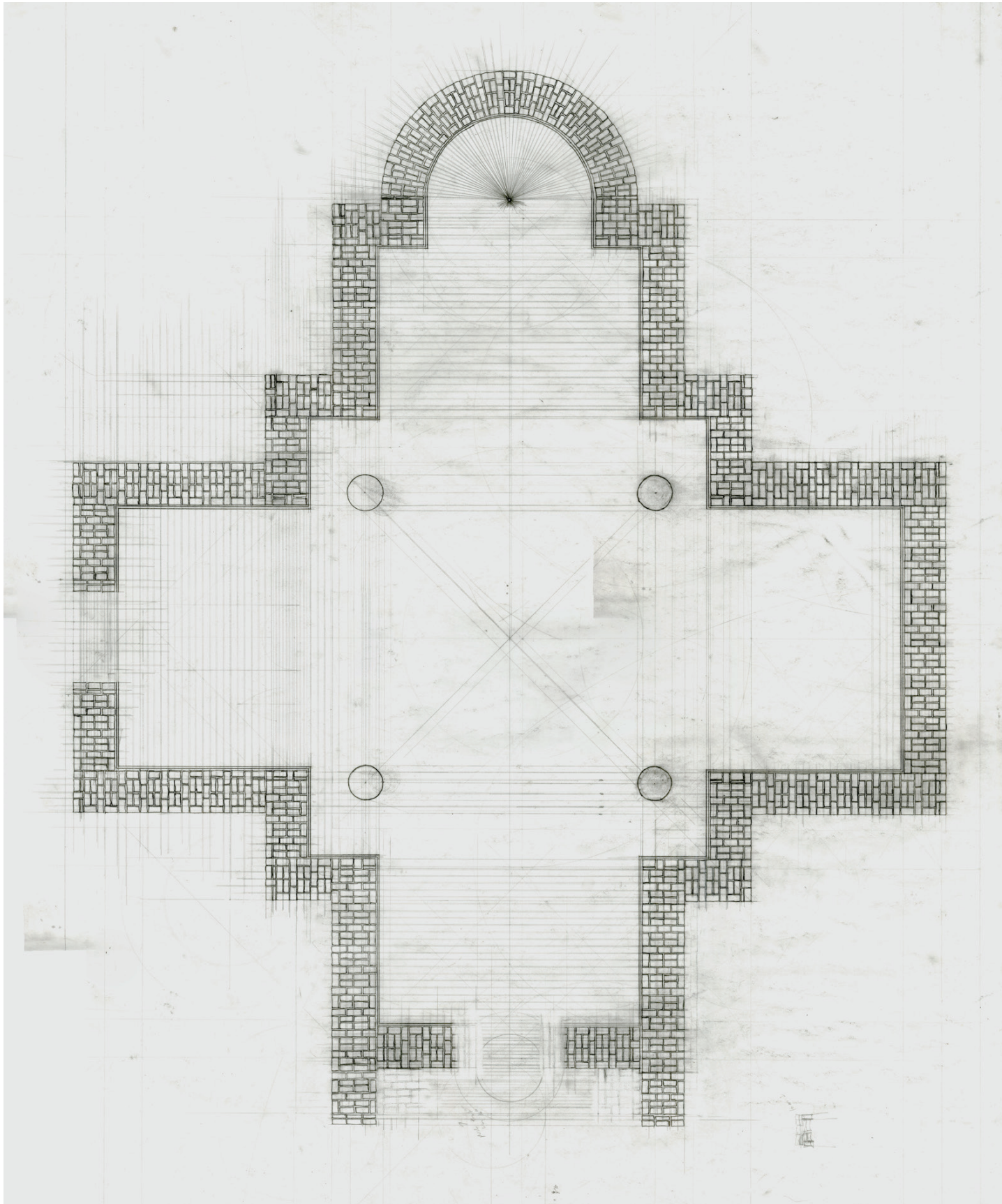


Constructed geometric patterns

Geometry is the language of man.⁴

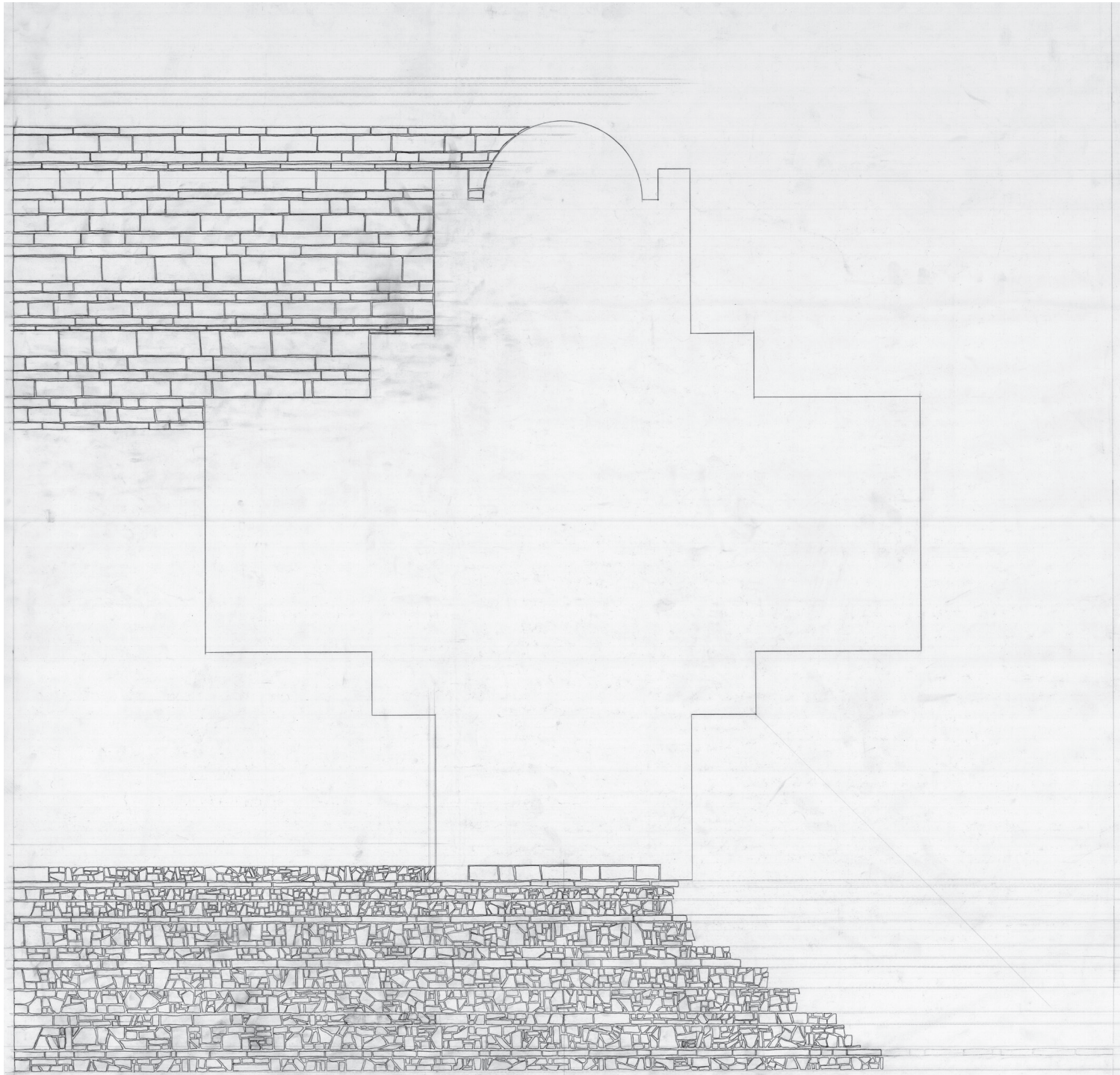
Le Corbusier

Floor paving patterns with a focus on the play of the circle and square, the figural patterns, and the illusion of depth.

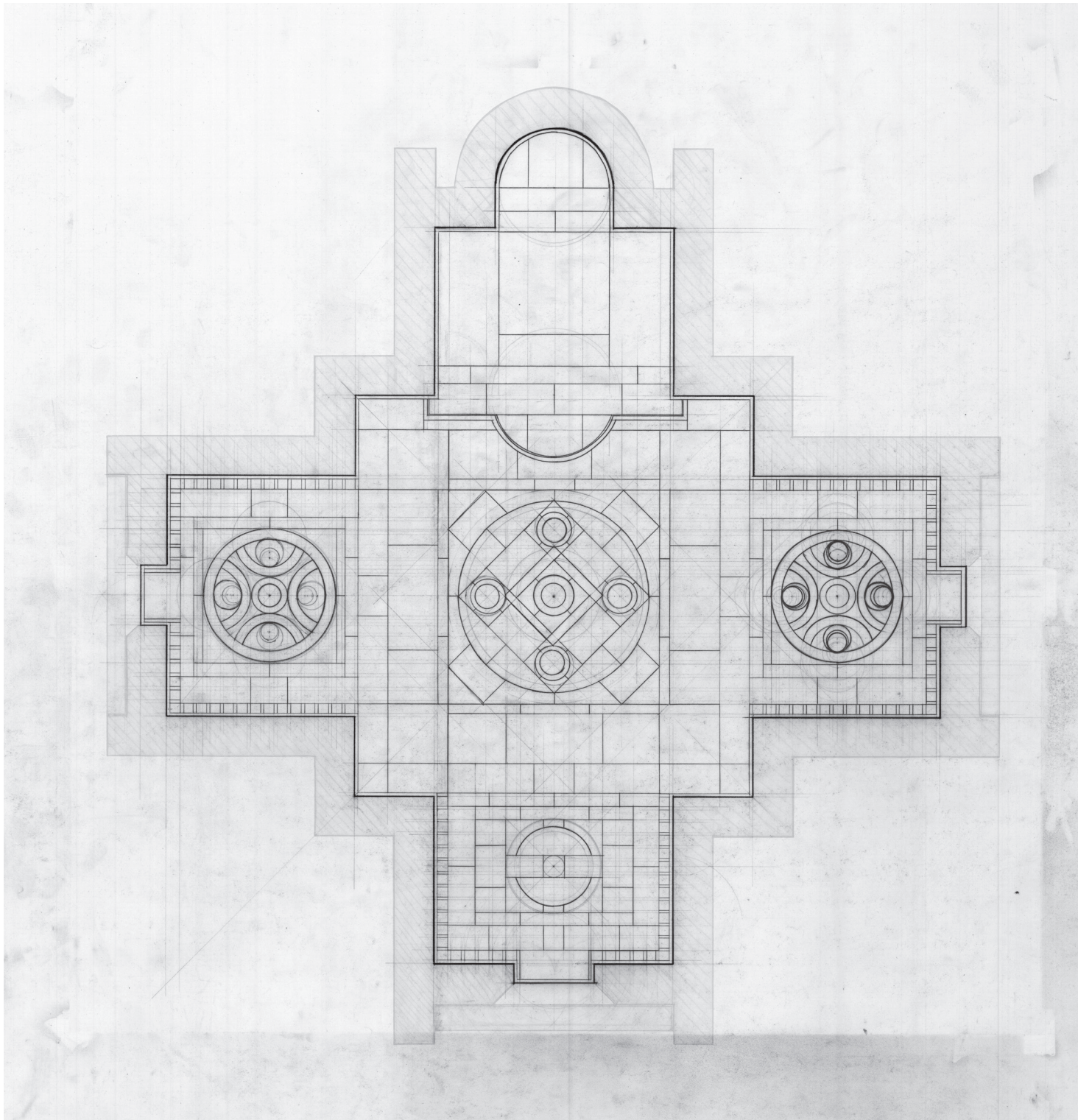


Material Patterning

The necessary pattern of the load-bearing brick wall seen in the weaving of the brick wythes. A two foot thick wall, consisting of 6 wythes, creates a pattern of material in the floor plan itself.



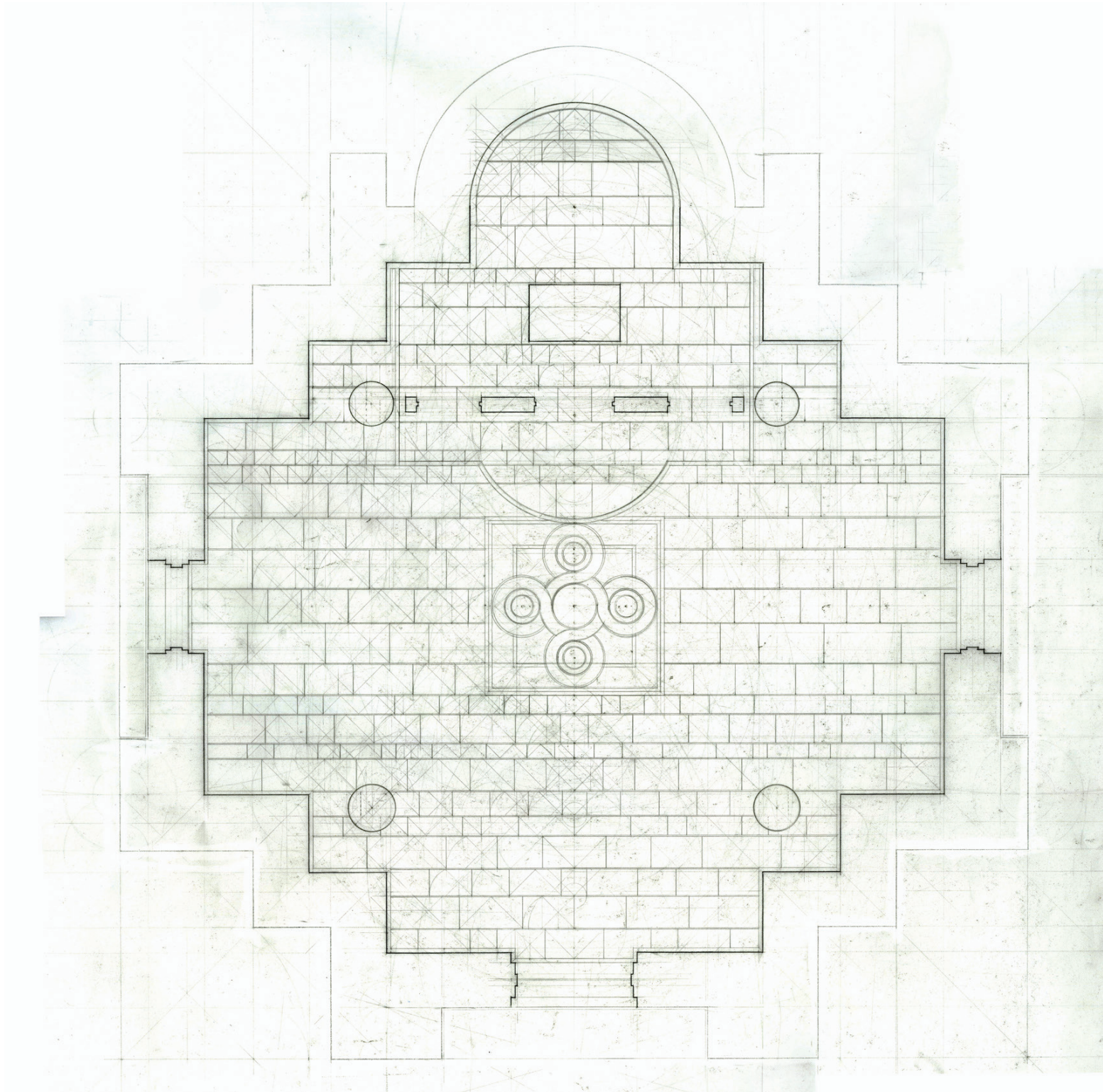
Courtyard Paving. Coursed stone creates a pattern with a horizontal order.



Towards a Simpler Patterning

The ornamentation of the floor is simplified in an effort to integrate the floor into the whole of the building. The lines are subdued, more rectilinear, compared to the geometric patterns before.

The controlling lines of the pattern are taken from the corners and the existing division of space directed by the plan.



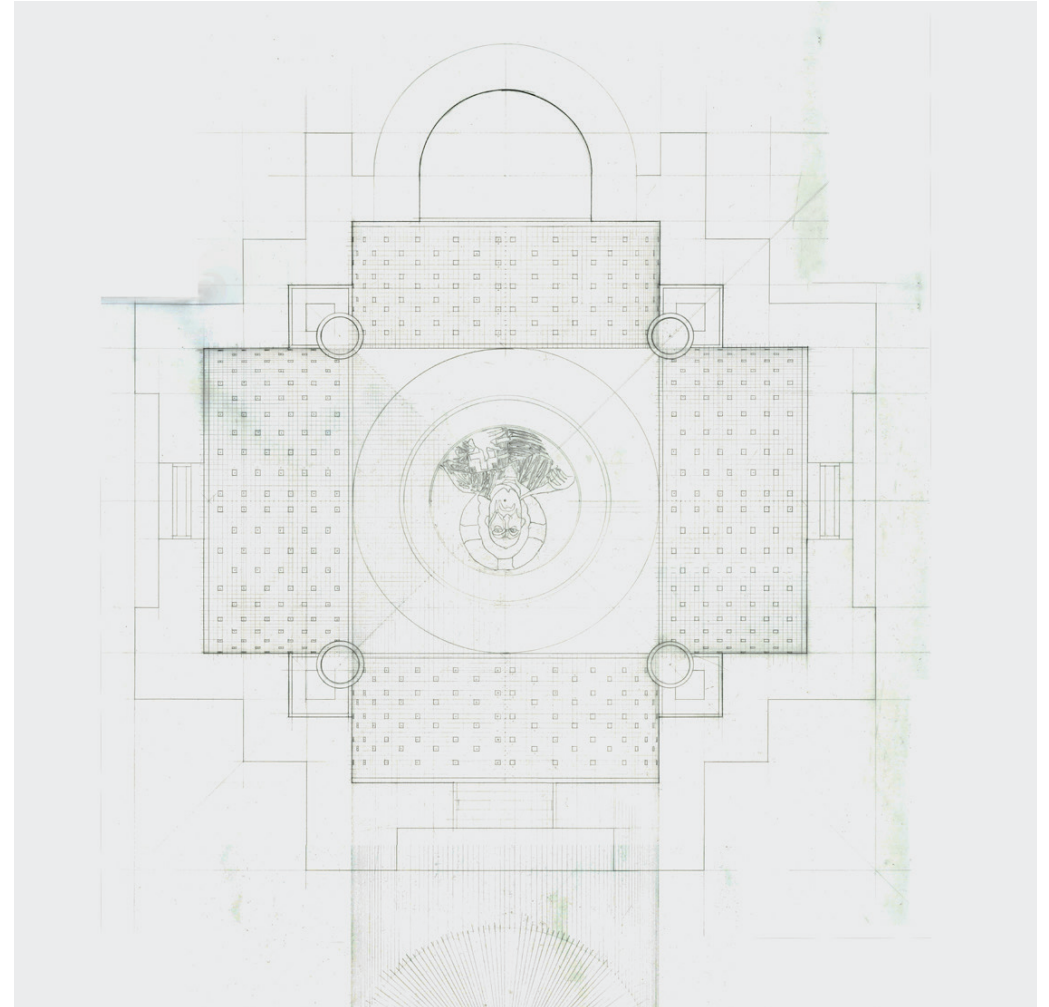
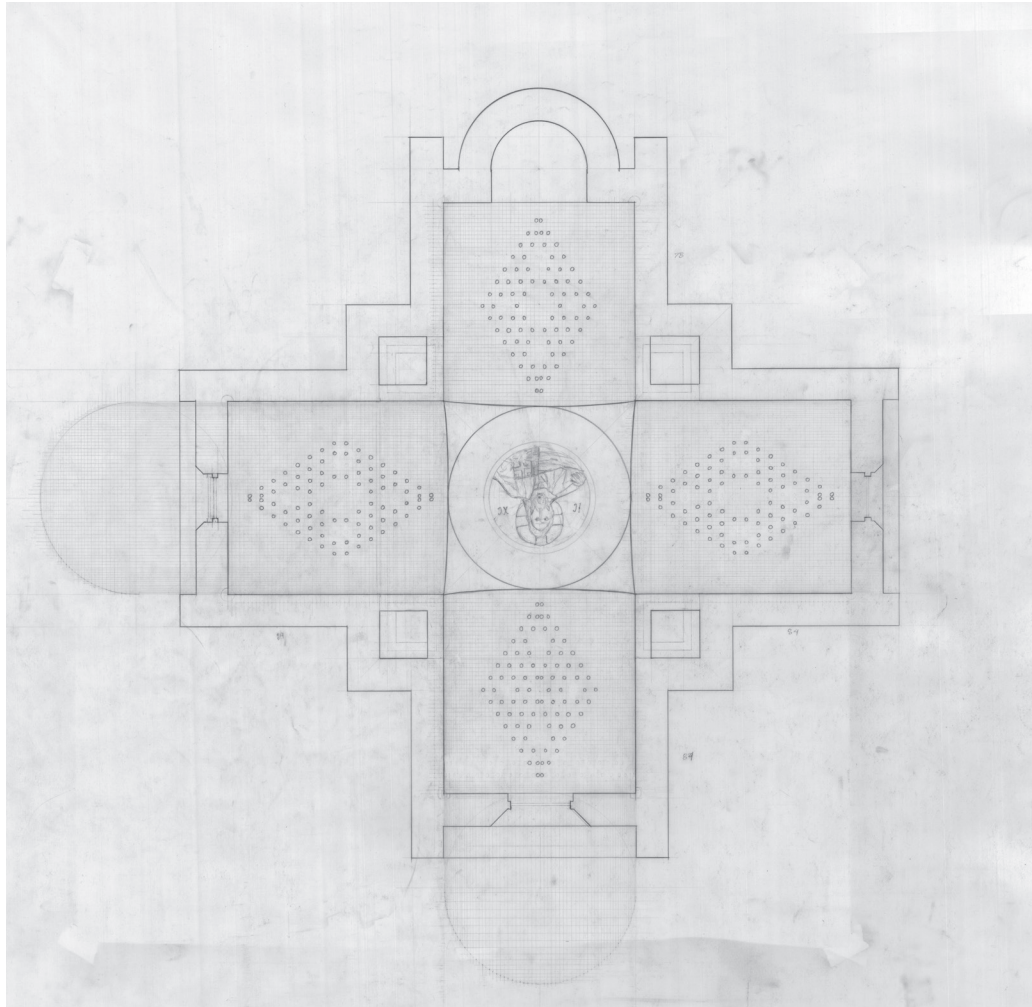
A Horizontal Order

The axis is a line of direction leading to an end.⁵

Le Corbusier

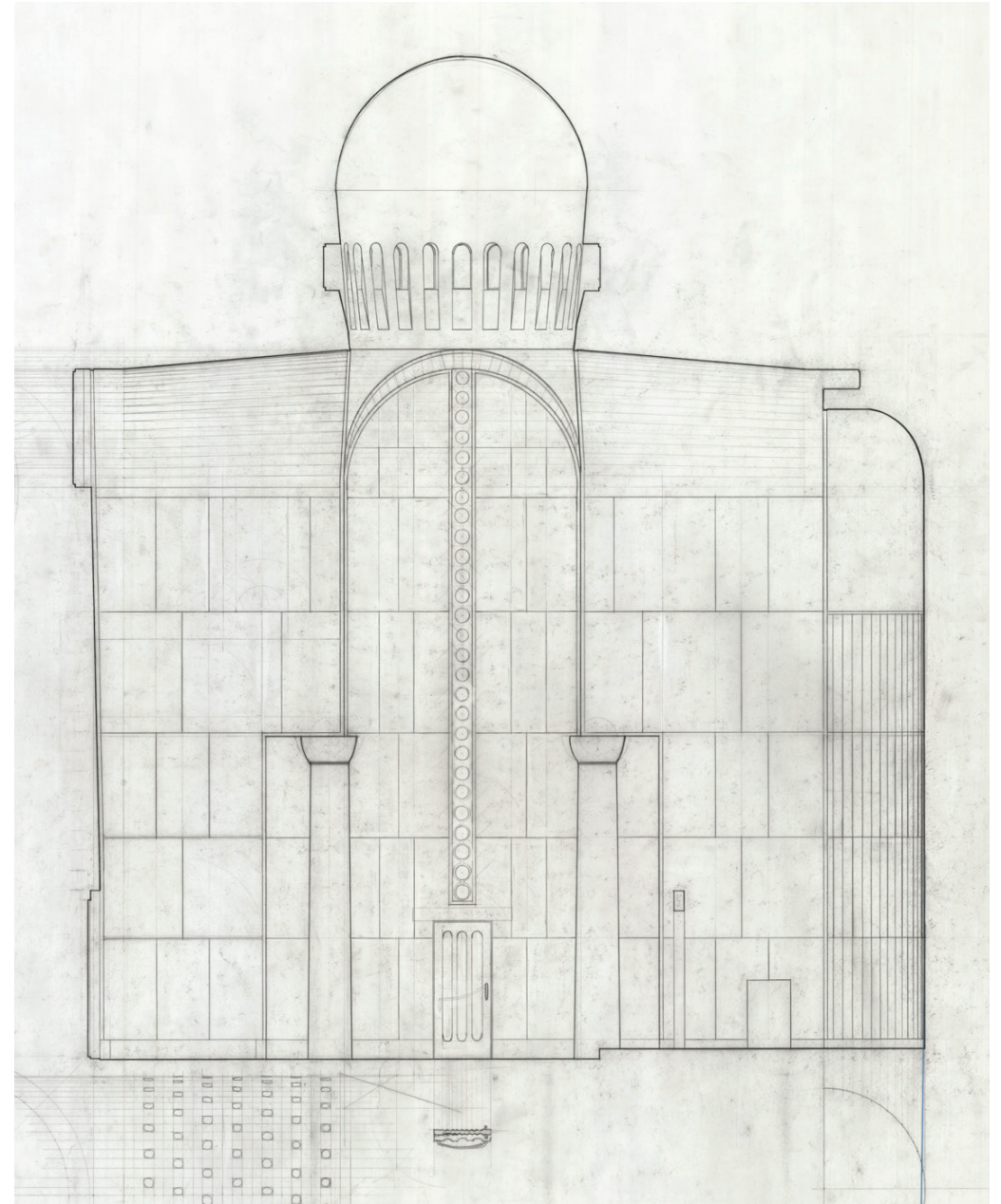
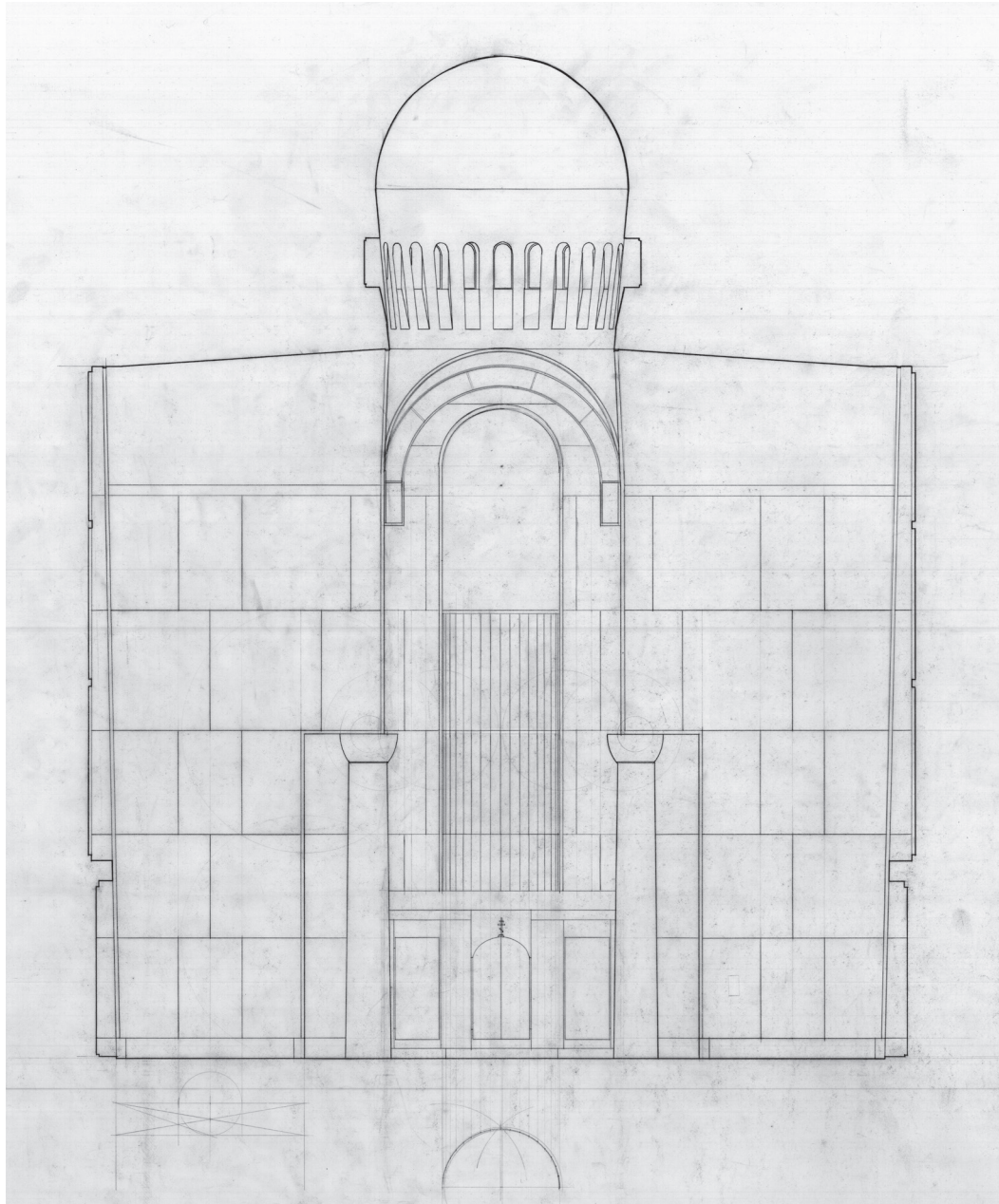
Emphasis on line and the rhythm of the pattern.

The rows give an axial directionality to the space, drawing the focus towards the iconostasis, altar, and apse. Symmetry is across one axis as in the overall plan. This design stresses unification of parts, the overall composition takes precedence.



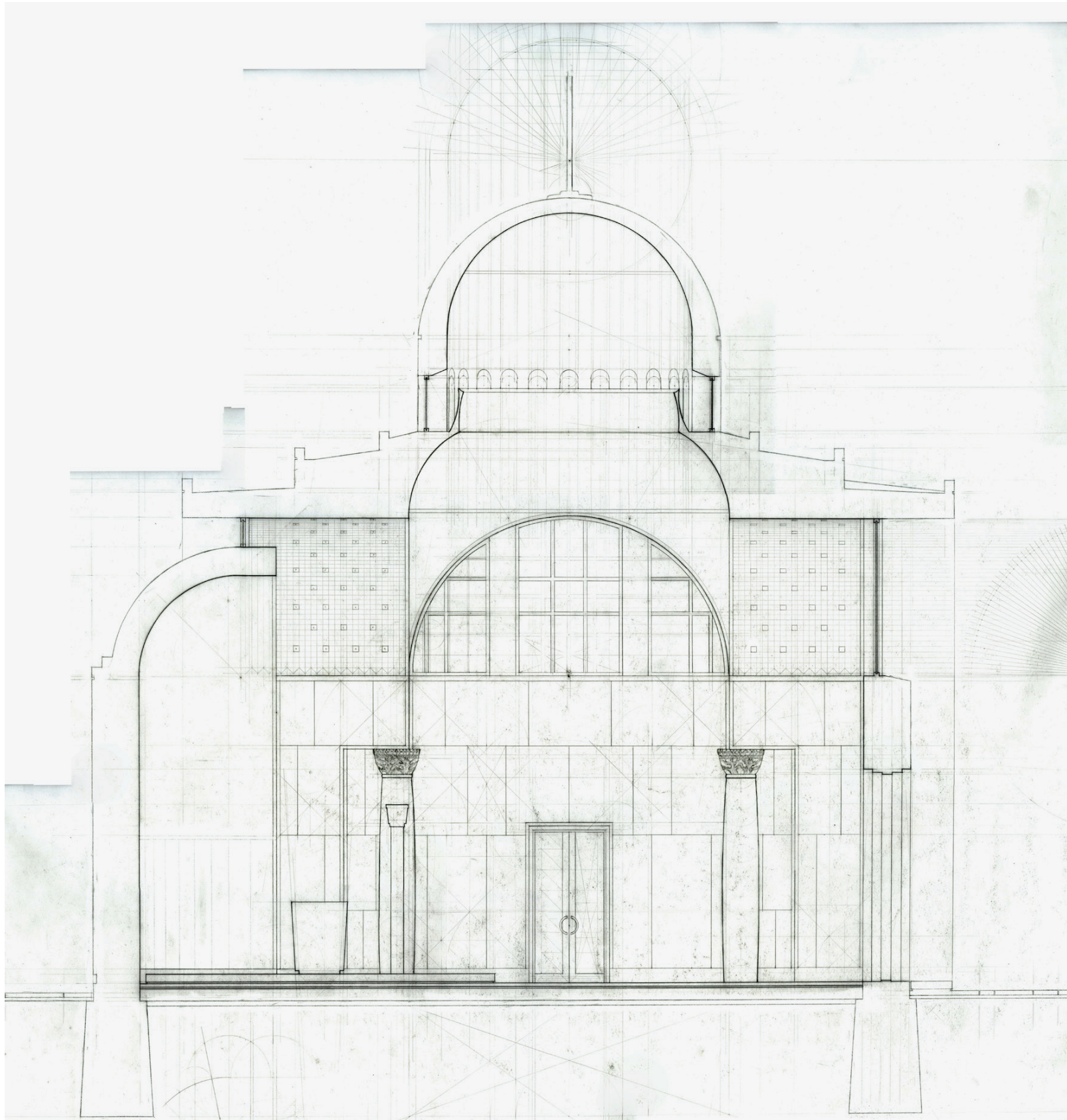
Allusive Patterns

Reflected ceiling plans. The patterns allude to the stars, and the Cross.

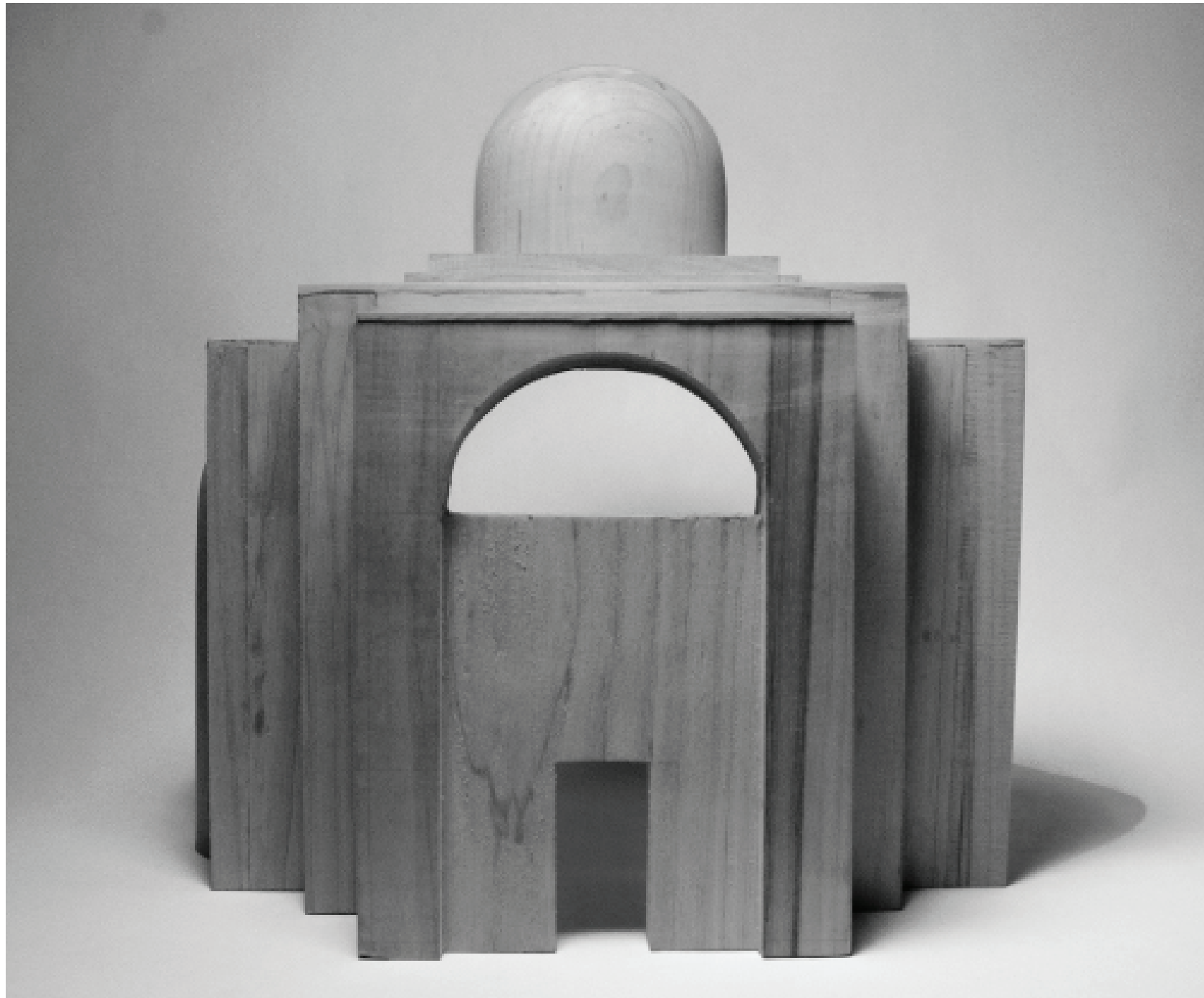


Revetment Patterning

Emphasis on the line, balance, rhythm, of revetments.



Section and interior elevation showing the confluence of the wall and ceiling patterning.



RELATIONSHIP OF
INTERIOR AND
EXTERIOR

Model of the elevation as
the consequence of decisions
about the interior.

The cascading of the
horizontal line that begins
under the dome results from
the transitional pieces found
in the interior.

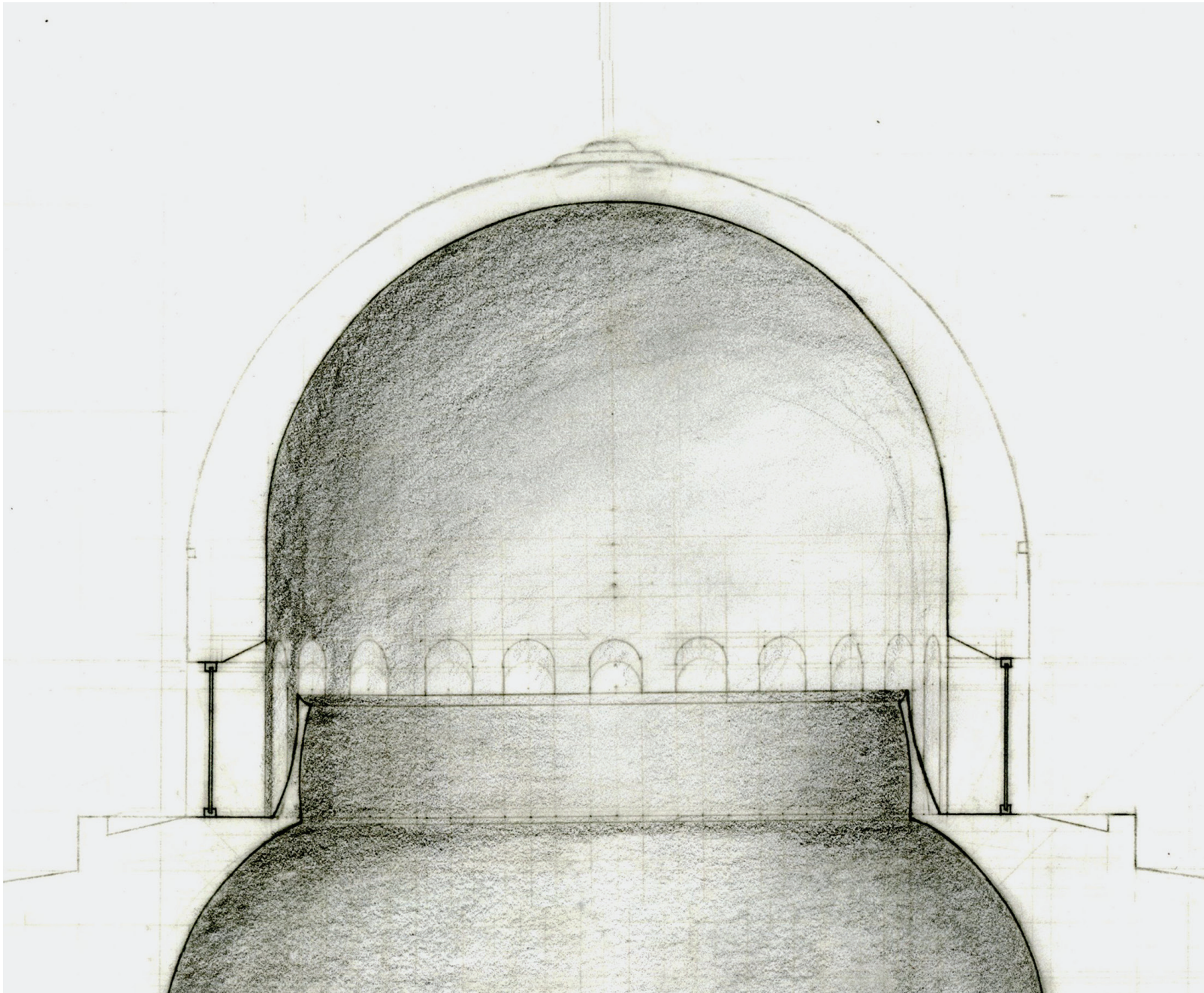


Model study in chipboard

The intersection of spatial solids. The external form is the result of the crossing and interlocking of internal spaces.

The vertical lines rises tall.

RELATIONSHIP OF INTERIOR
AND EXTERIOR



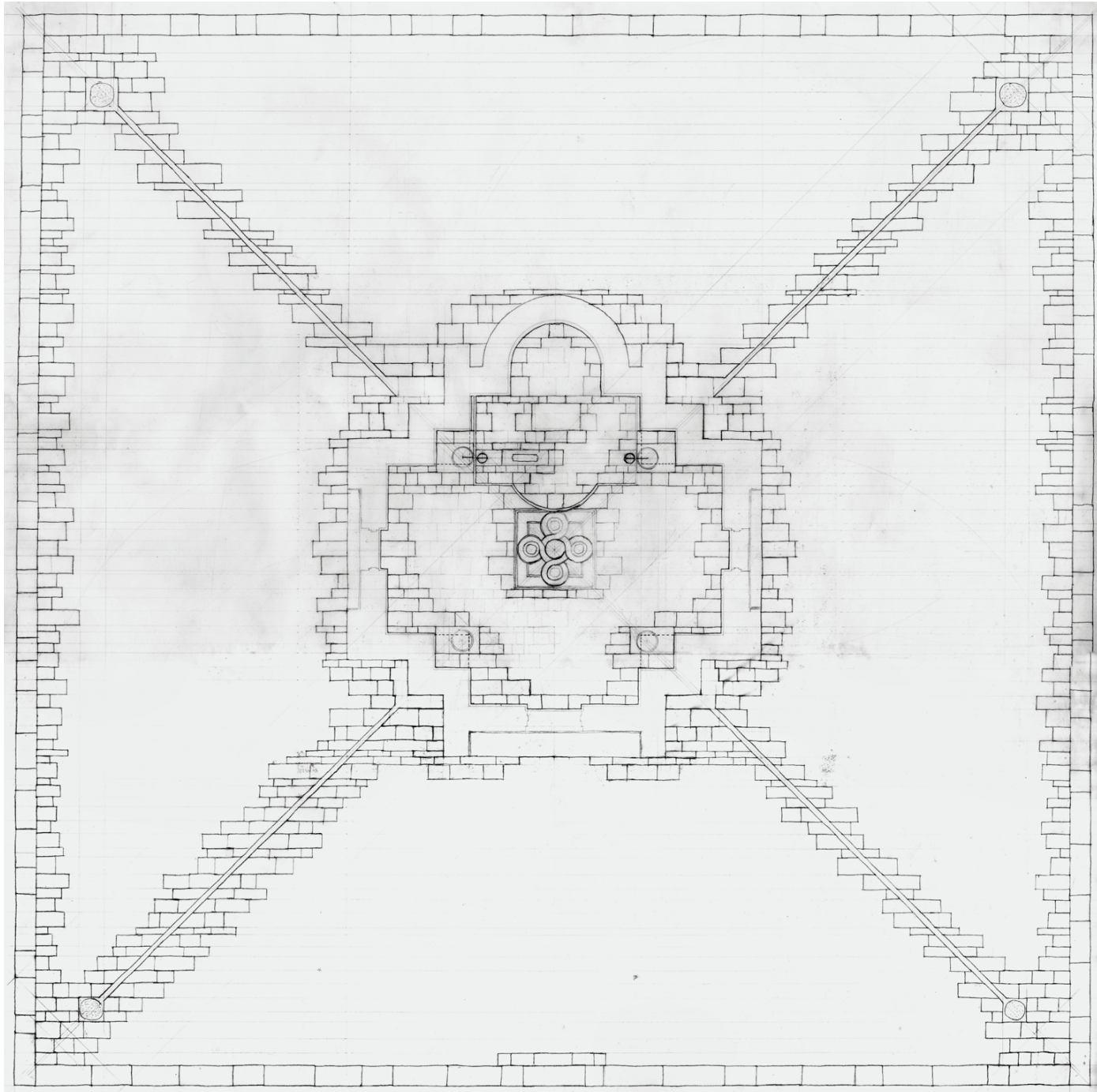
Detail of section showing the light reflector. This piece diffuses the light onto the golden mosaic tiles, emphasizing the shimmering surface.

All of the natural light comes from above and the view to the exterior world is blocked. This move prevents distractions and provides a visual separation between the sacred and profane spaces.



Thus the Forum was an interior, in the sense that the outside world was excluded and, of nature, only the sky could be seen. One's senses, once one had passed through the portals of the towering enclosure wall, could react only to what was there.⁶

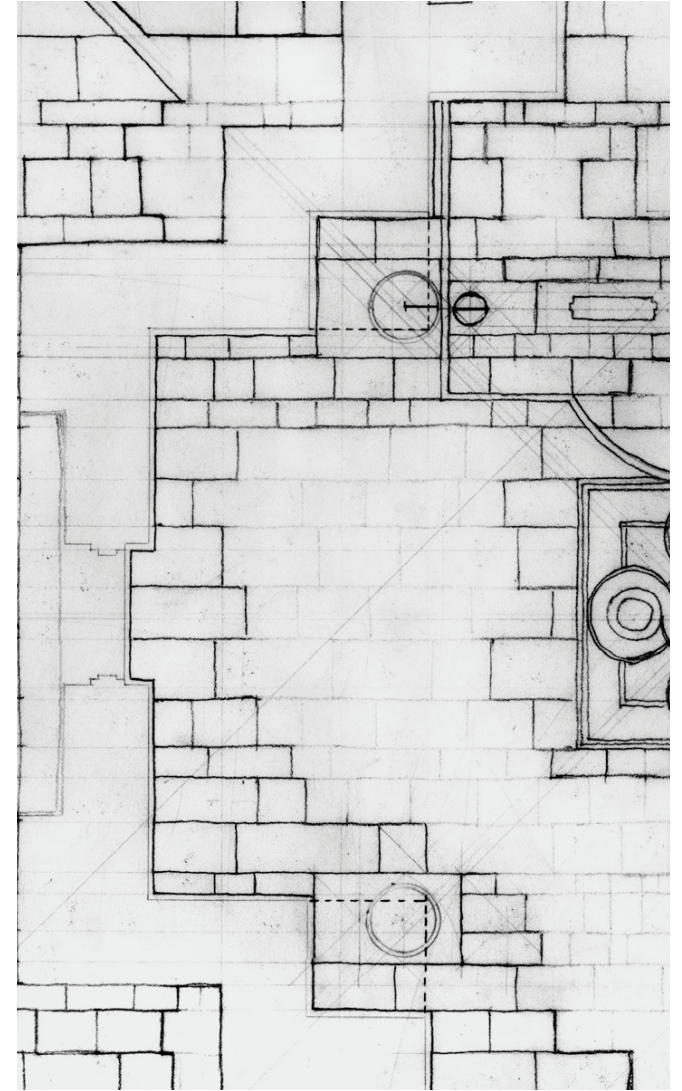
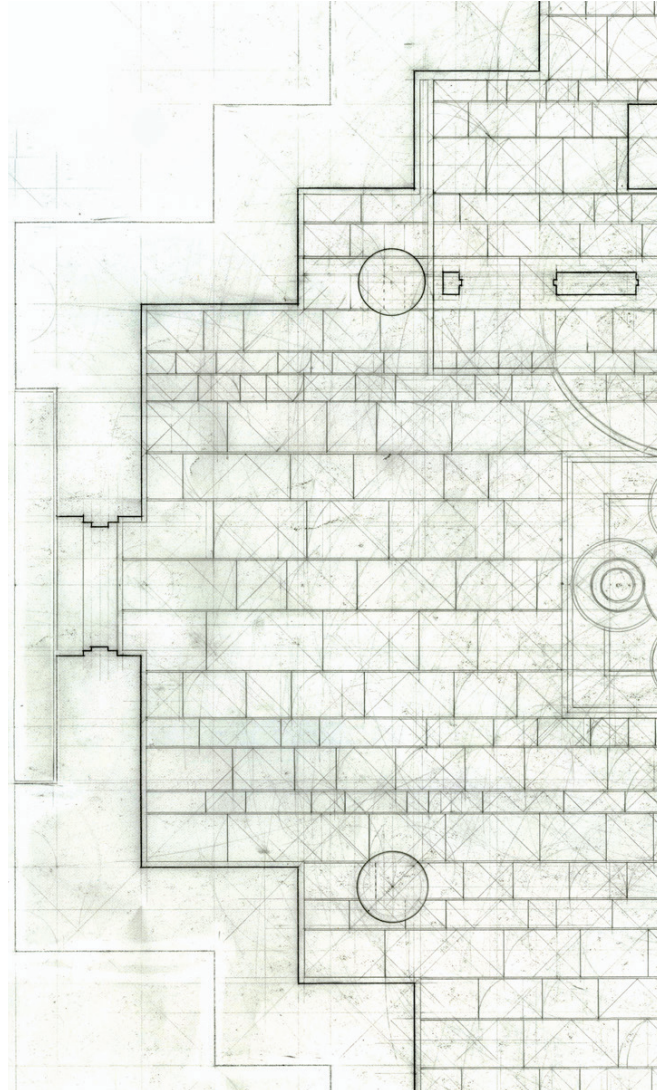
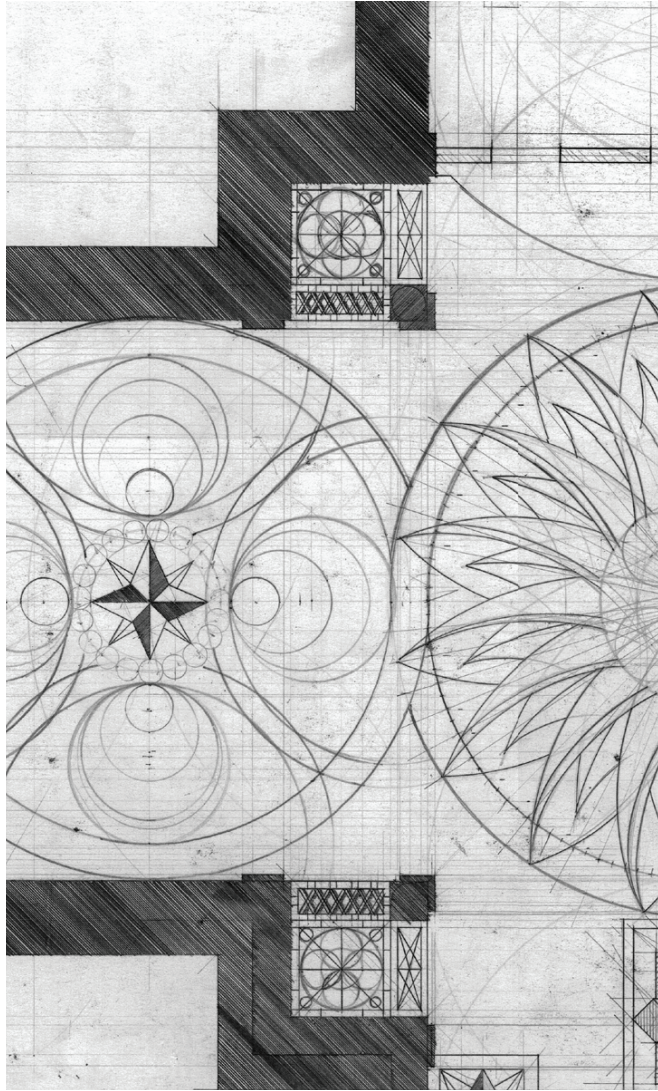
W.L. MacDonald



The Plan proceeds from within to without; the exterior is the result of an interior.⁷

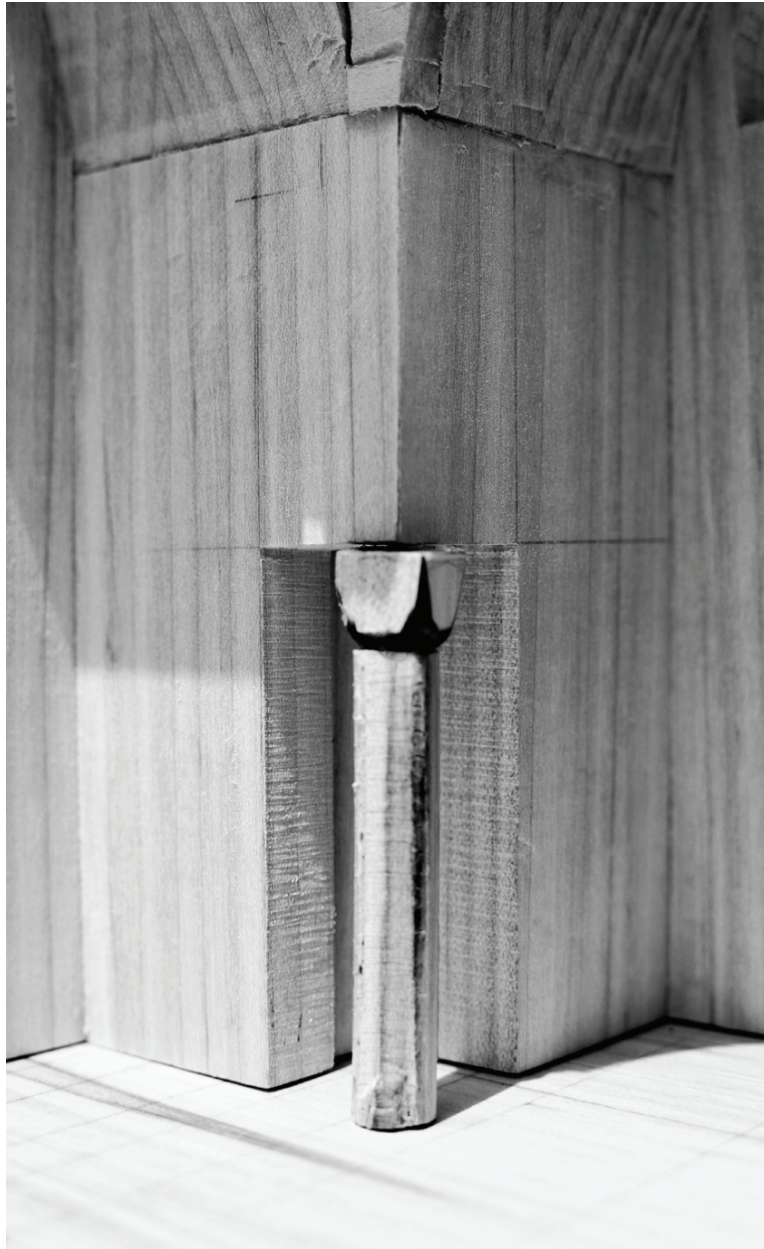
Le Corbusier

Drawing showing the pattern extending outside of the interior. The Church walls captures but a portion of the paving.



THE RELATIONSHIP OF ELEMENTS

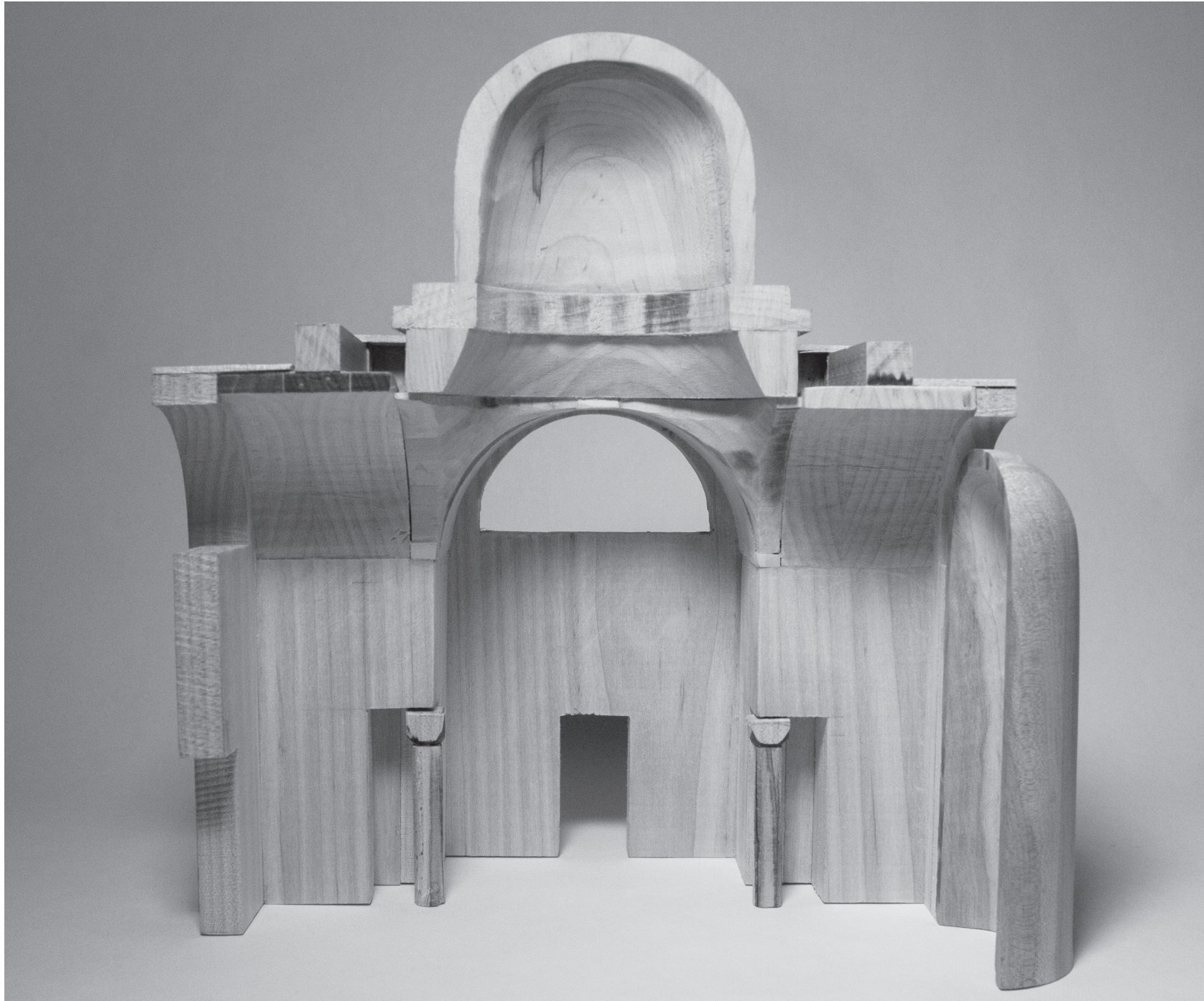
Three studies of how the placement of the column affects the pattern of the floor tiles.



Model studies of the column and its relationship to the wall.



There must be a coherent communication of parts, as the dome meets the drum, drum the ring, ring the pendentive and vault, those meeting the wall, the wall meeting the column, and the wall and column meeting the floor. There are many transitions and the joining of elements requires careful study.

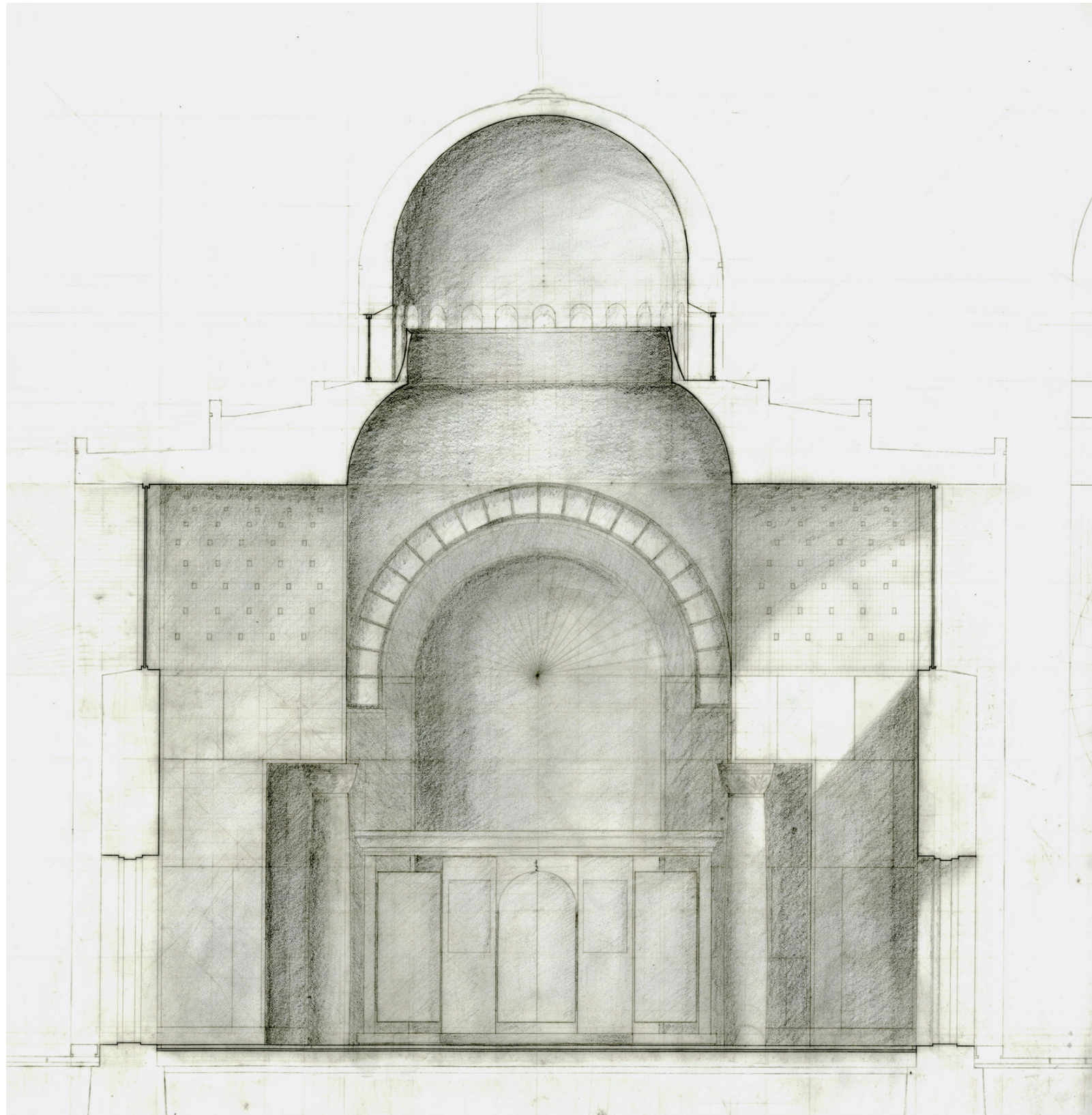


The critical sympathy of parts... Beauty is a form of sympathy and consonance of parts within a body.⁸

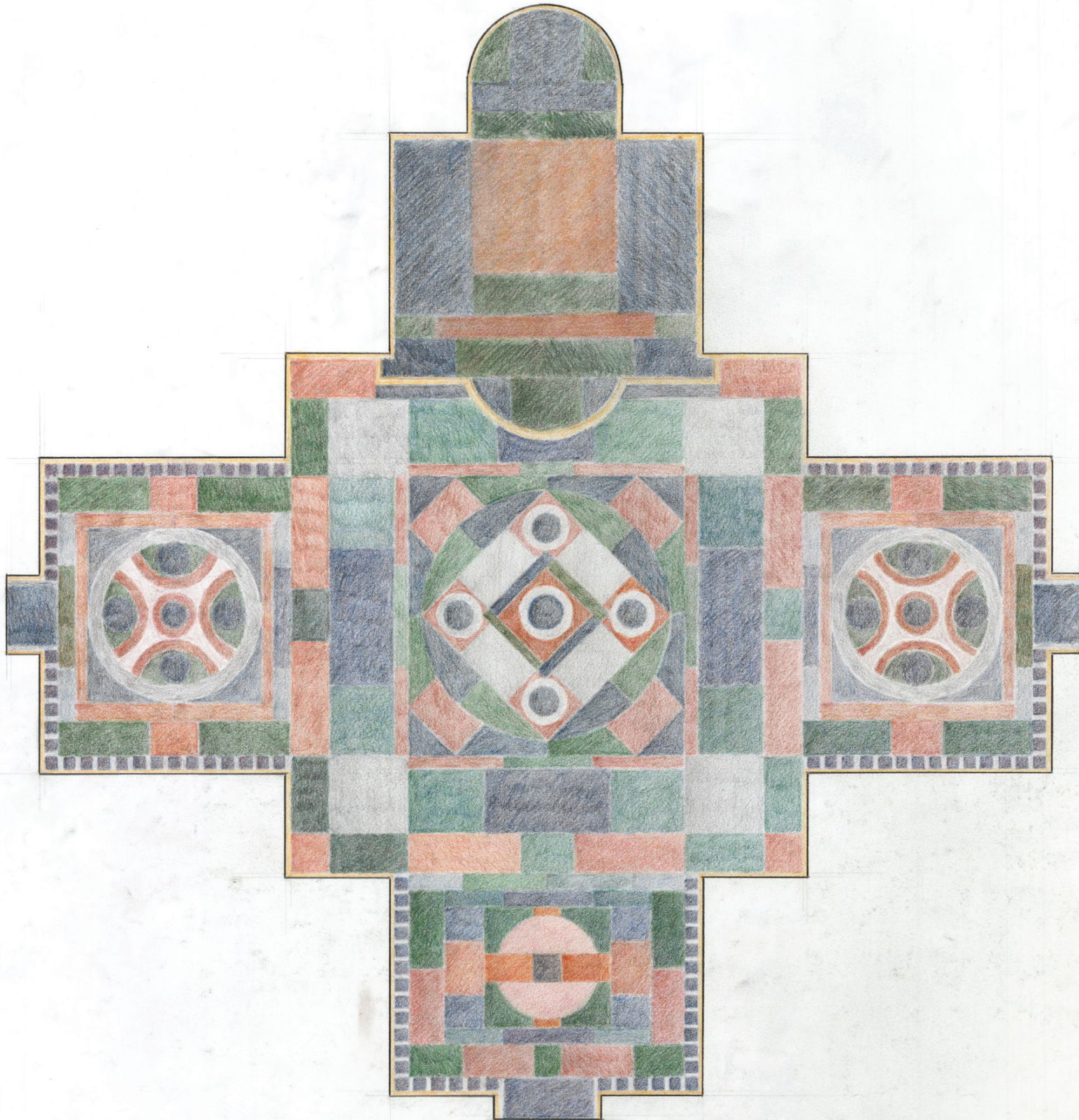
L. B. Alberti

The success of the interior relies on that “critical sympathy of parts” of the building, by which the parts relate to one another in a harmonious fashion.

In a section model, the interior becomes an exterior.



Section showing the relation of parts, including the placement of the iconostasis between the apse and the nave.



FINISHING

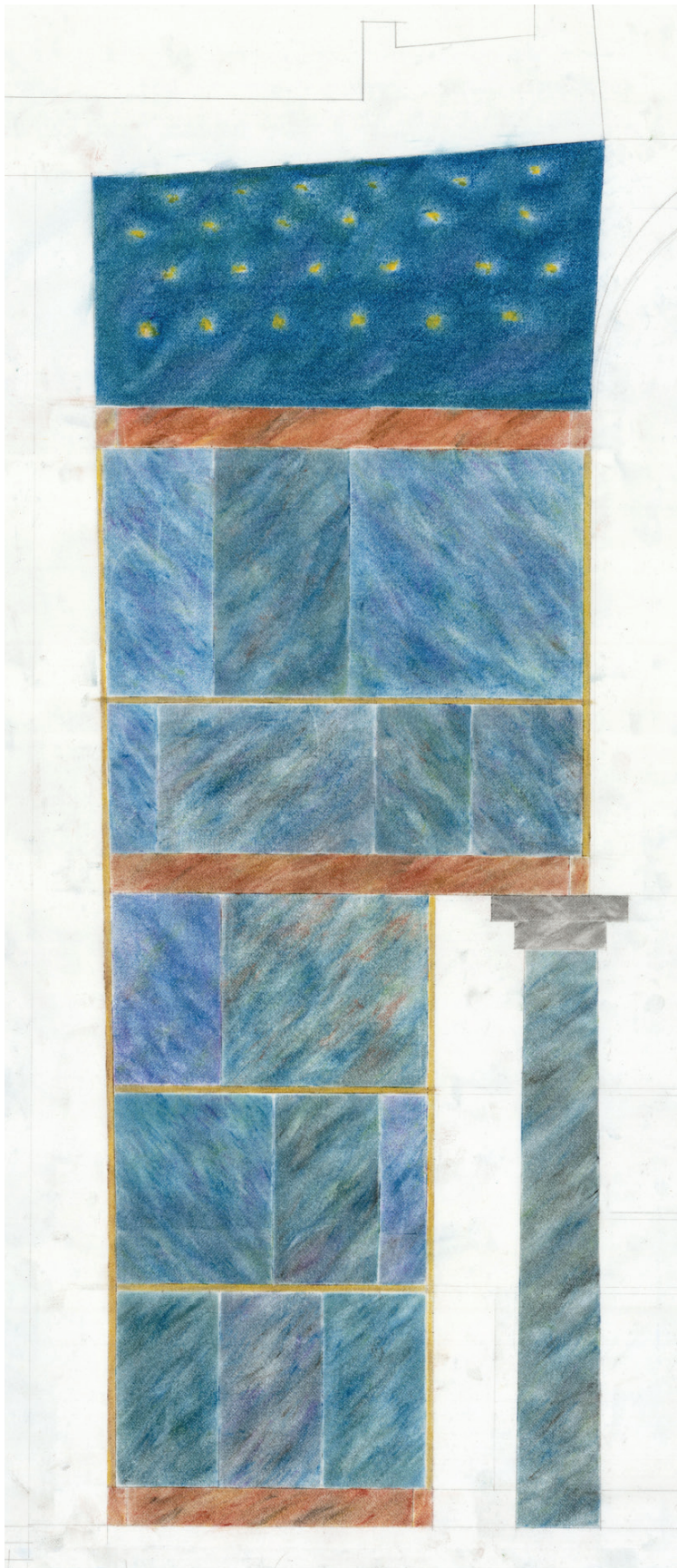
Choosing material, texture, surface, color, and line, with consideration of the relationships of the elements.

Material

Marble floor tiles meet brass strips around perimeter, mediating between wall and floor.

Color

A relationship of colors based on patterning, variation of hue, location and tradition. Cool and warm colors mix.



But, always excluding columns, the main ornament to a wall or roof (especially where vaulted) will be the revetment. This may take many forms: white stucco, plain or in relief, painted surfaces, paneling, mosaic work, glass work, or a mixture of all of these.⁹

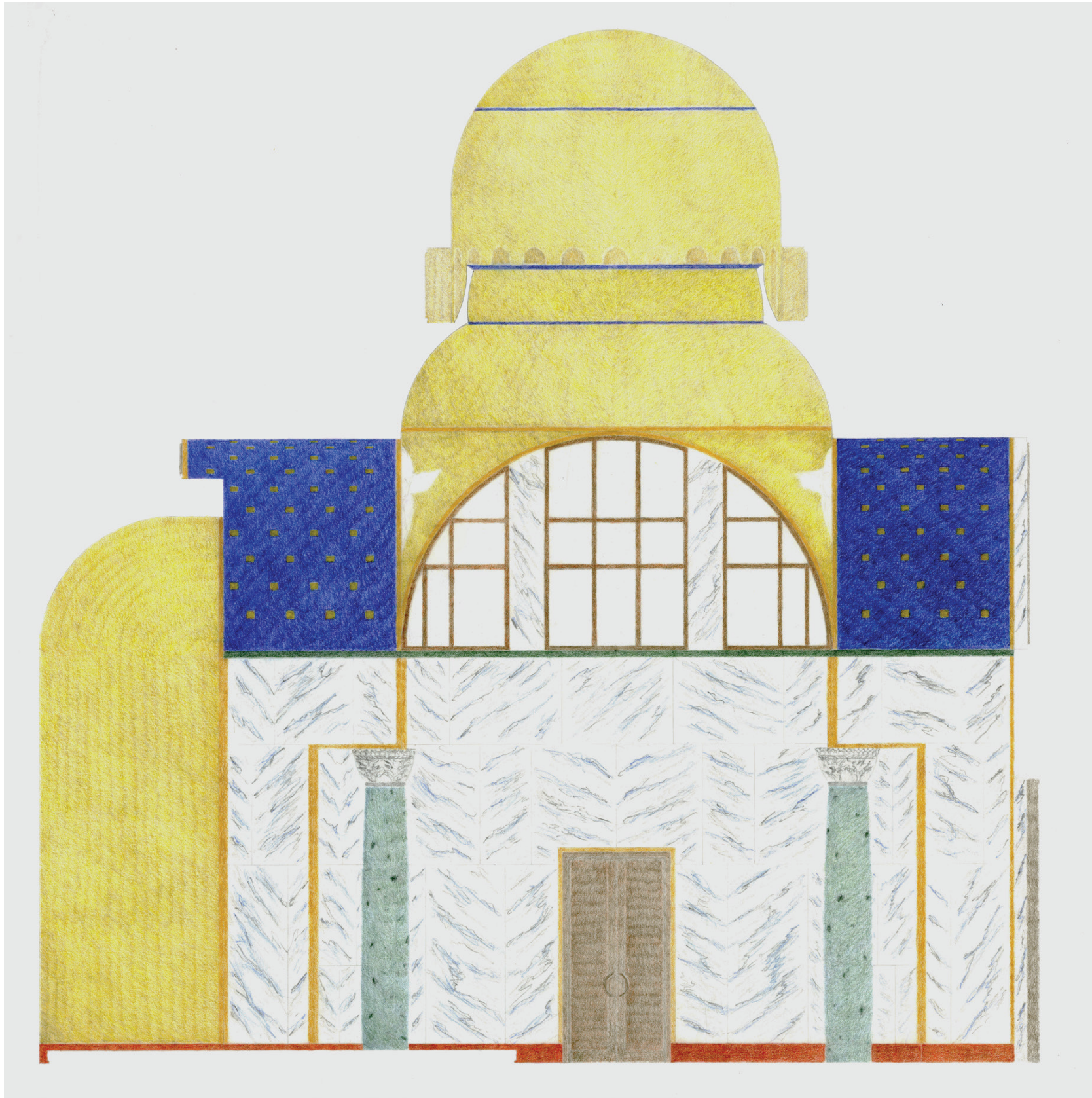
L. B. Alberti

Line

An arrangement of horizontal lines and vertical lines in the pattern of the revetment and wall sheathing.

Color

Mostly cool colors contrasted with thin strips of warm hues.



In a church everything must be simple, virile, solemn, and serious, there must be nothing that could detract from devotion, nothing that does not sustain it and kindle its fervor.¹⁰

M. A. Laugier

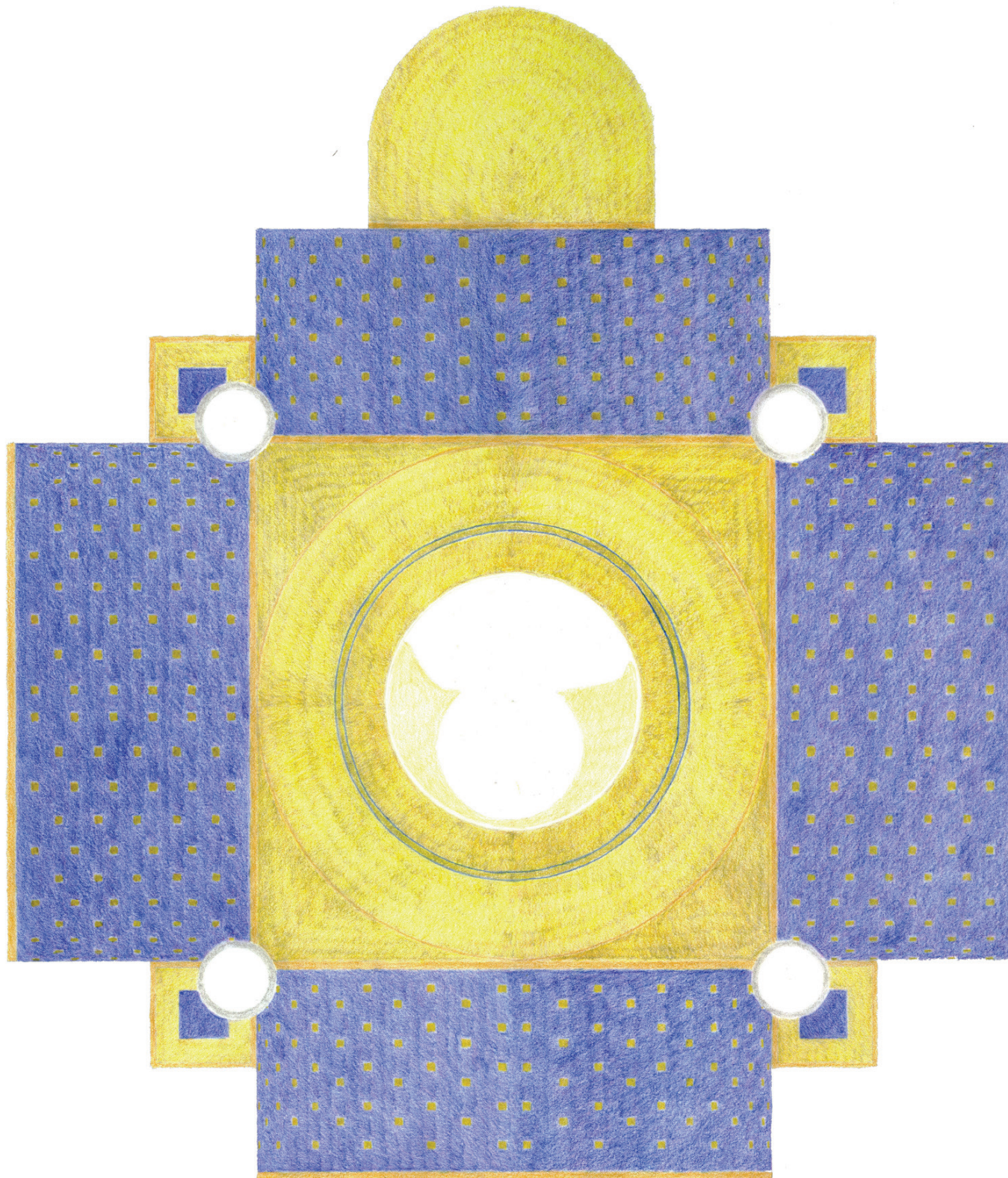
Line & Material

The brass strips which outline walls and ceilings, create legible lines which tie the various parts of the building together. The lineaments of the design are reinforced by the material.



The column belongs to the wall and the world of revetments.

Symmetry of colors, patterns, and elements make for a harmonious whole.



Ceilings Like The Sky¹¹

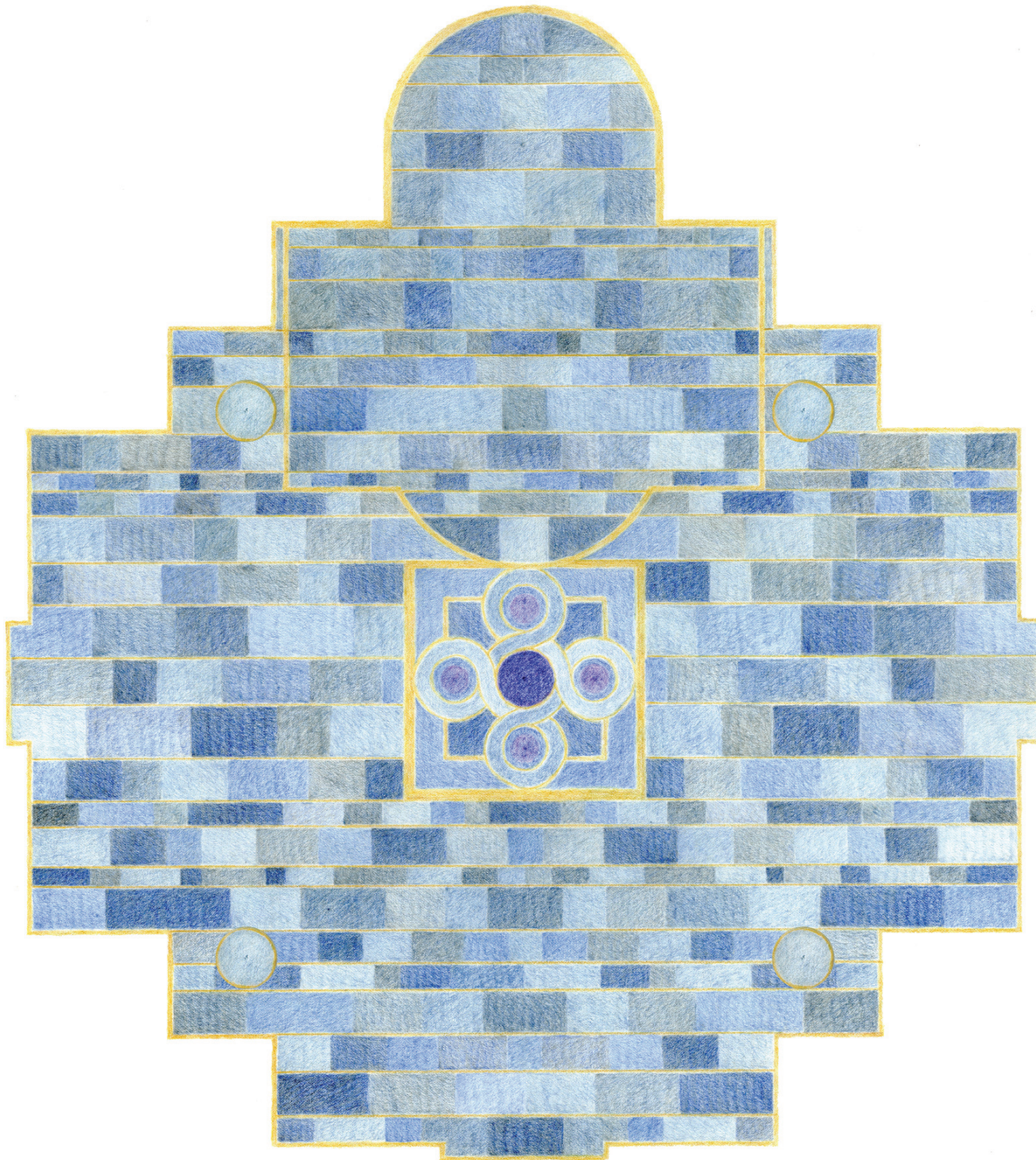
W.R. Lethaby

Material

Golden and blue mosaic tiles pattern the ceiling. The brass strips that mediate between wall and ceiling are present on the edges.

Color

The warm and cool colors are relatively balanced.



*Pavements Like The Sea*¹²

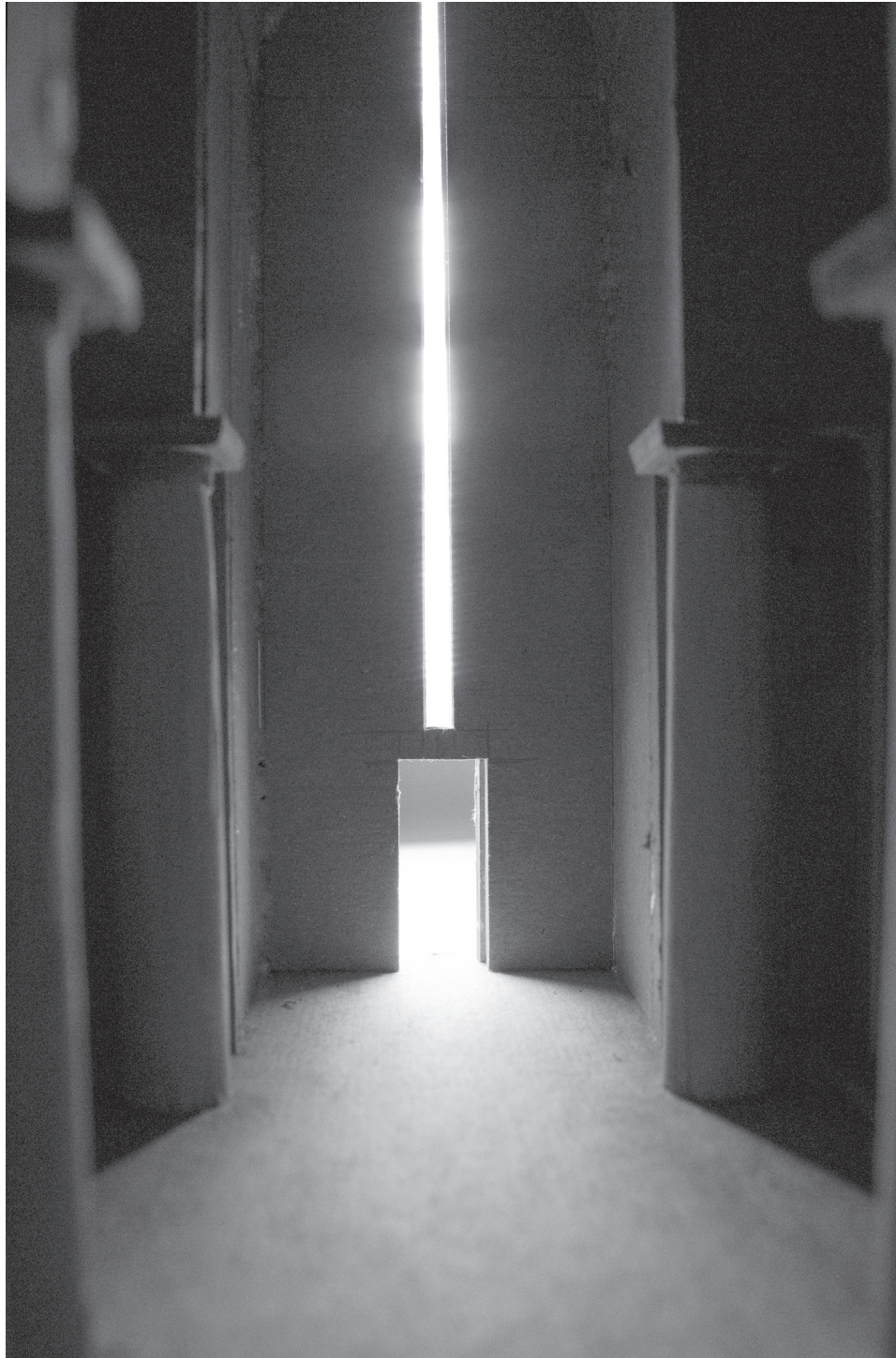
W.R. Lethaby

Material

The floor consists of horizontal rows of stone tiles separated by small strips of brass.

Color

Predominantly variations of blue, cool hues, interspersed between thin strips of warm colors.

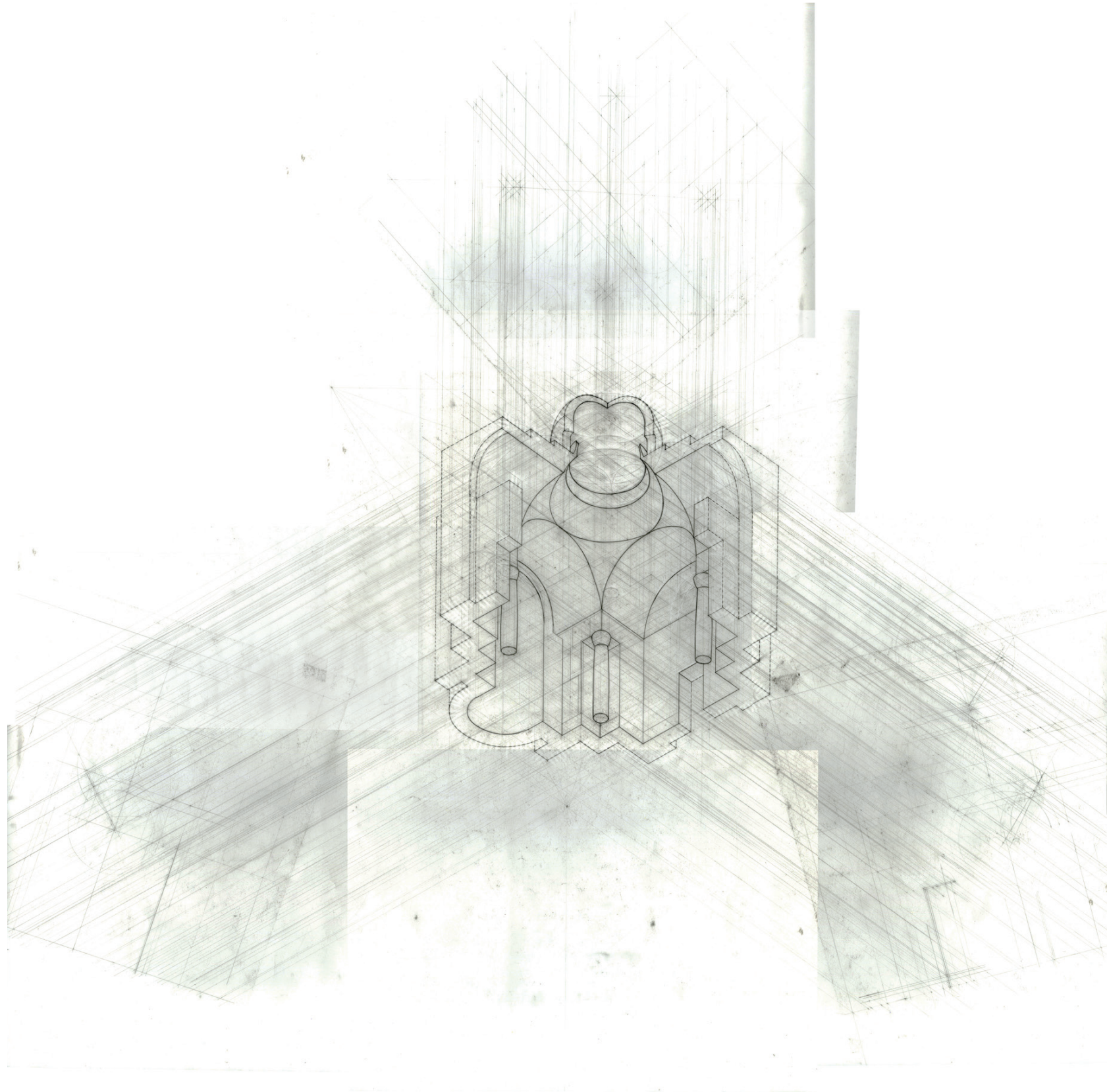


THE INTERIOR

Model study of the interior
and the way the light enters.

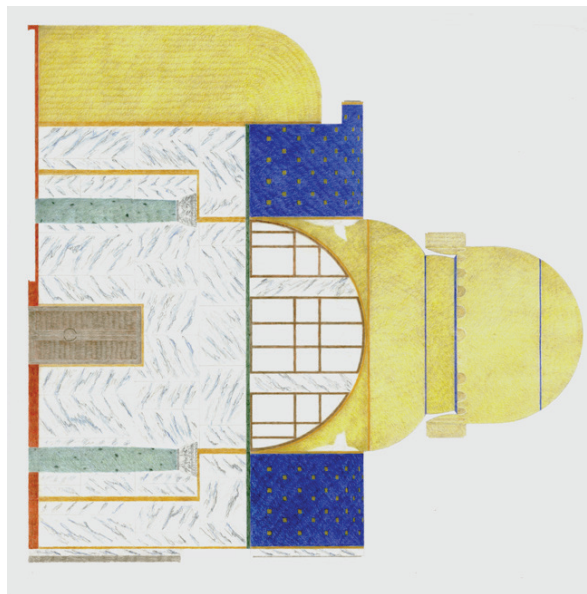
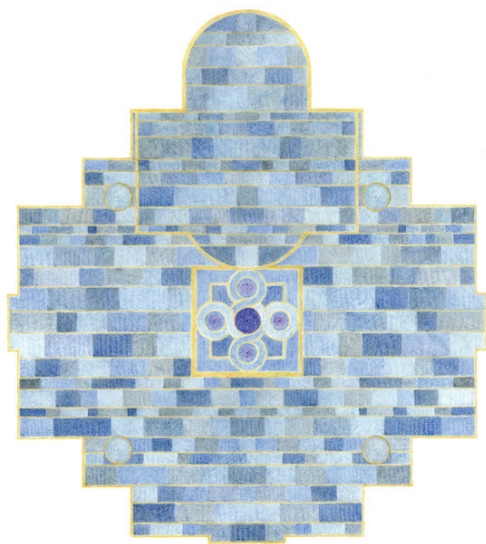
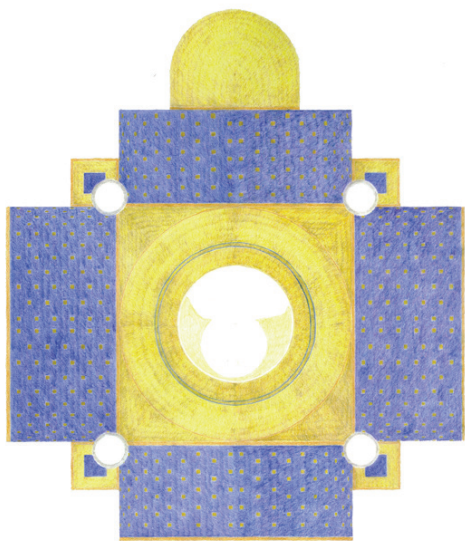
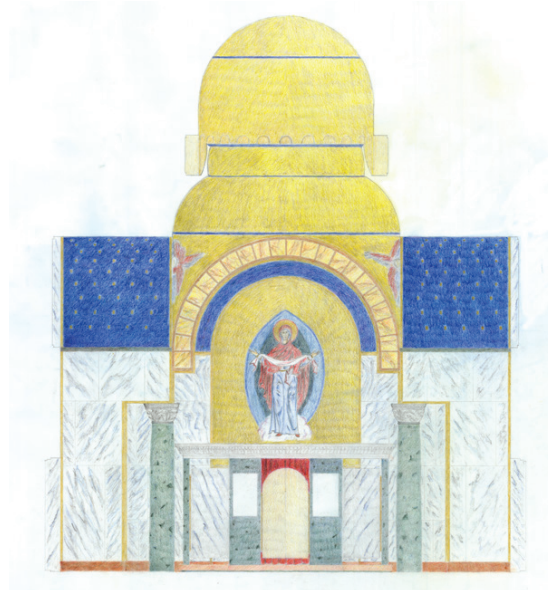


Model study of the interior

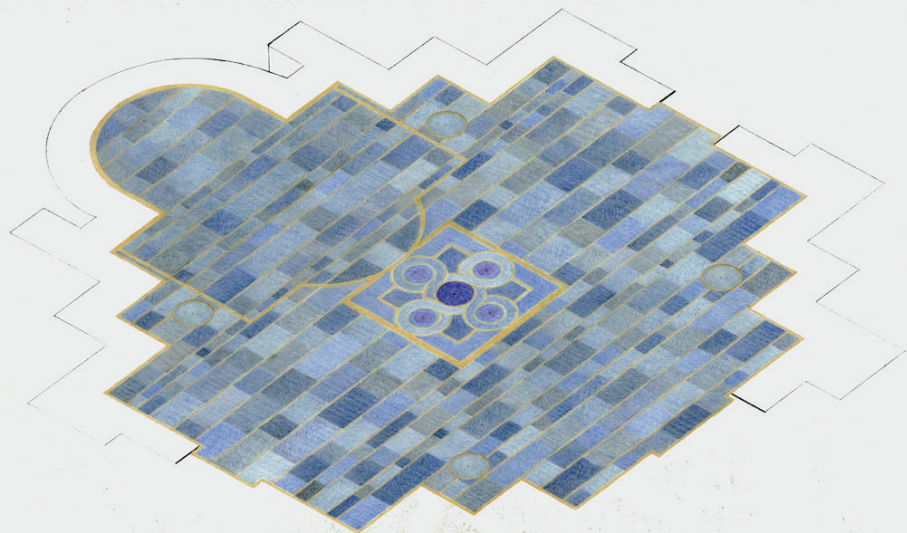
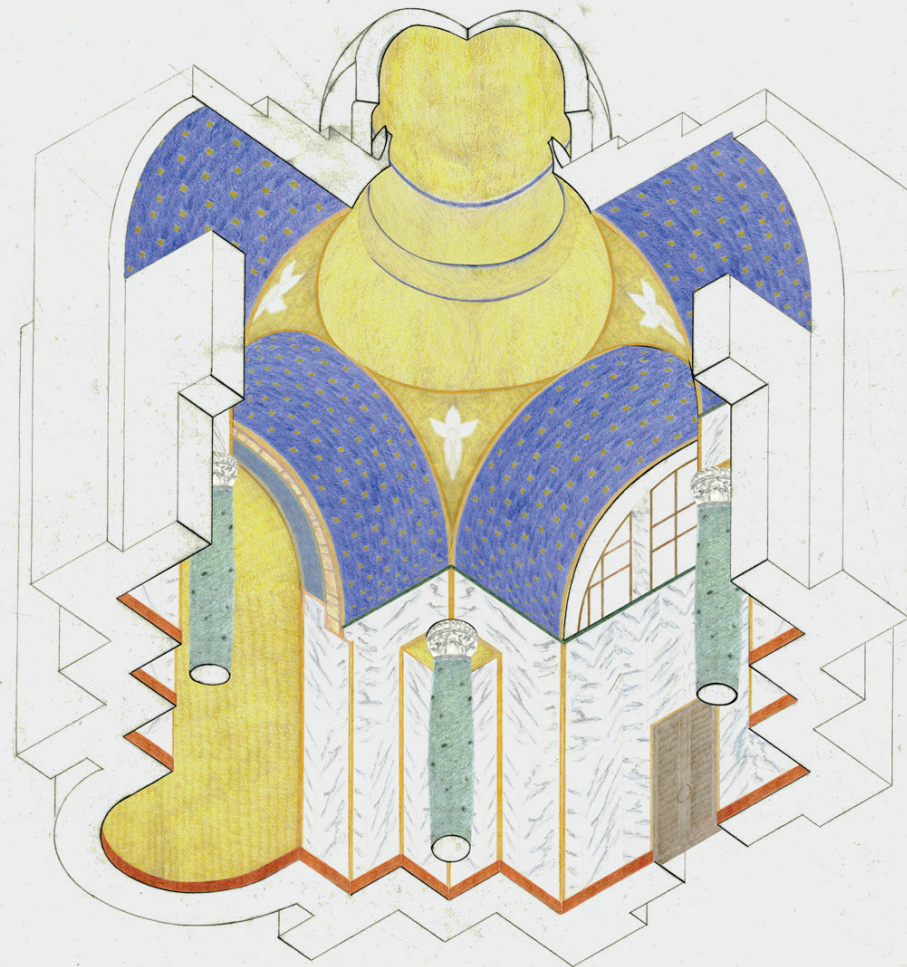


The geometric union of parts, the joining of pieces.

The constructed axonometric brings together the plans, sections, and elevations into a whole. It is a synthesis of parts, drawing types as well as formal ideas.



The plan, reflected ceiling plan, and sections, laid out to summarize the major parts of the building and their relationship to one another in the conventional forms of representation that flatten the work.



The outside has no more meaning. And quite paradoxically, even cubic dimensions have no more meaning, for the reason that a new dimension- the dimension of intimacy- has just opened up...The infinite quality of the intimate dimension.¹³

Gaston Bachelard

Hinge Axonometric

ENDNOTES

1. (page 48) Jackson, Thomas Graham. *Byzantine and Romanesque Architecture*. Cambridge: Cambridge University Press, 1913.
2. (page 47) Ibid.
3. (page 3) Le Corbusier. *Towards a New Architecture*. New York: Dover Publications, 1986.
4. (page 72) Ibid.
5. (page 187) Ibid.
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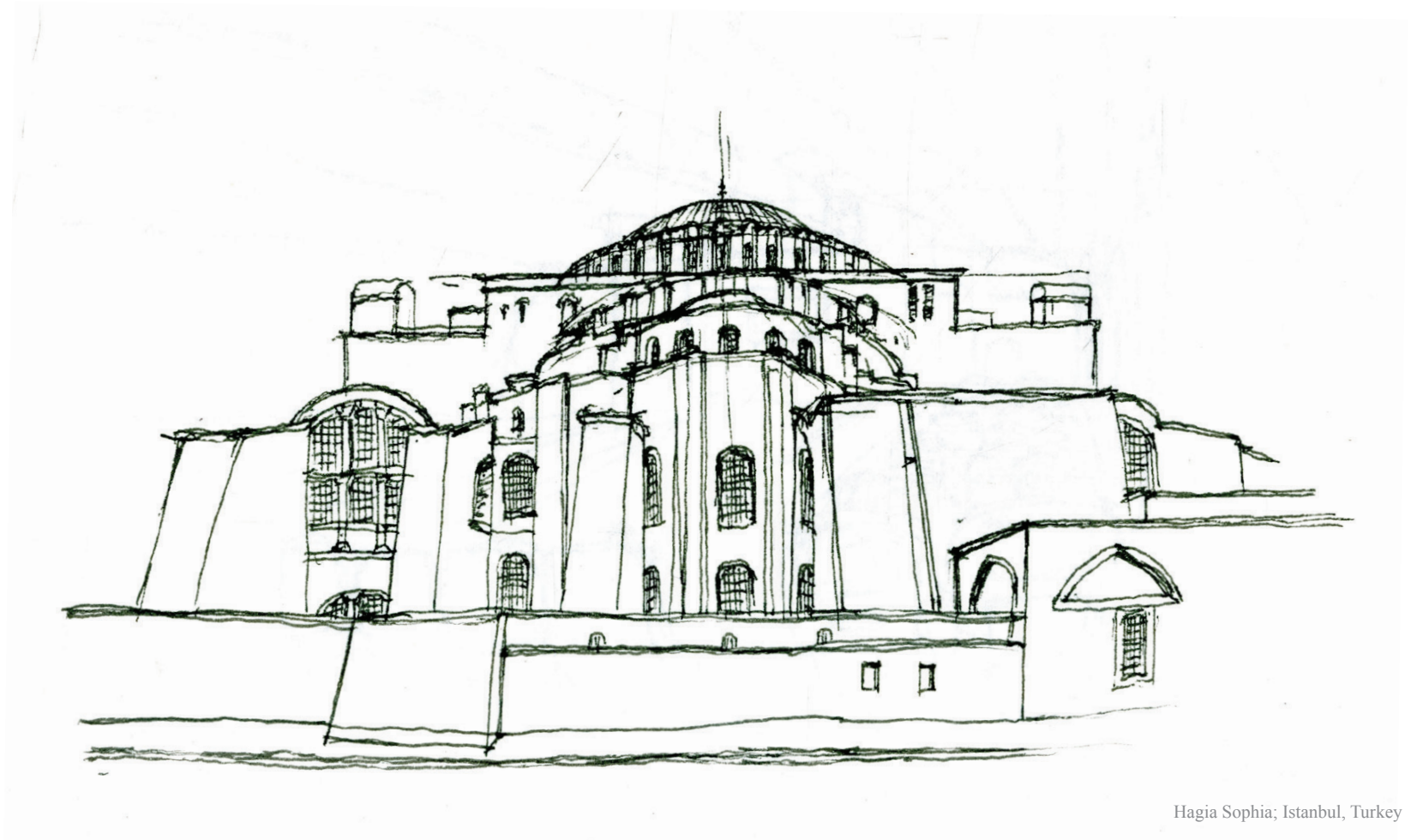
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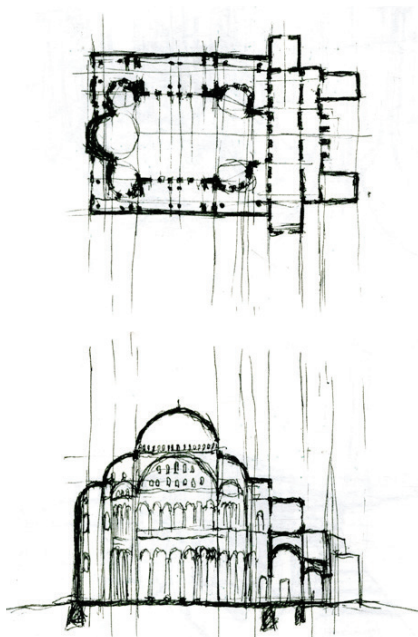
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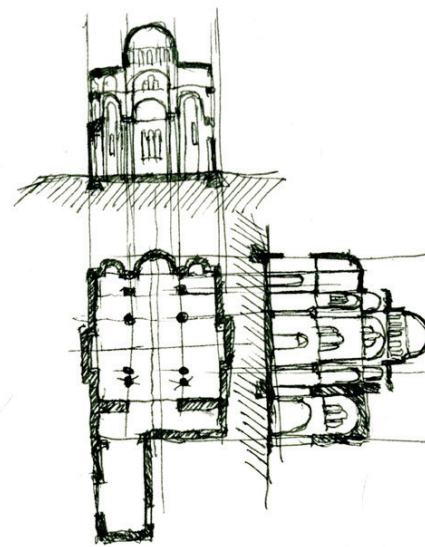
INQUIRIES AND SEARCHES



Hagia Sophia; Istanbul, Turkey



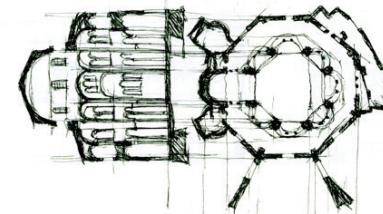
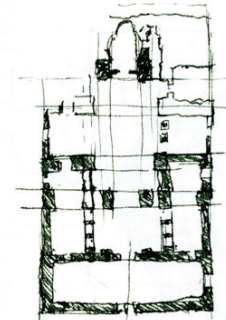
Hagia Sophia; Istanbul, Turkey



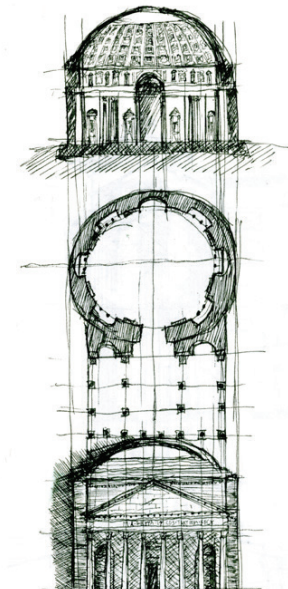
Pammakaristos Church; Istanbul, Turkey



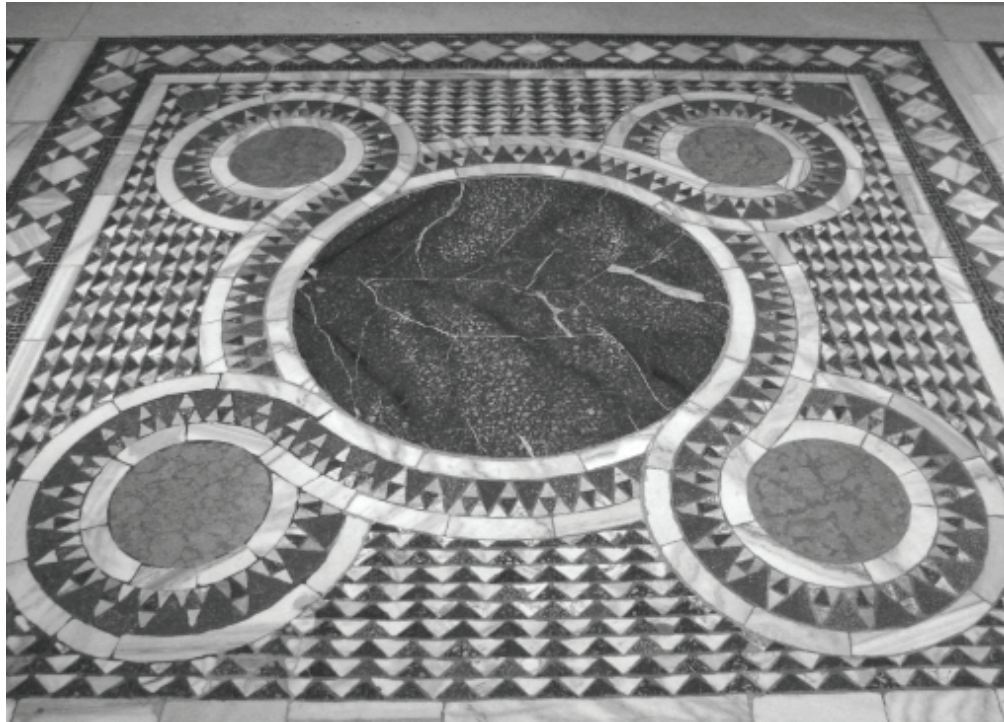
Top: Chora Church; Istanbul, Turkey.
Bottom: Hosios Loukas; Distomo, Greece

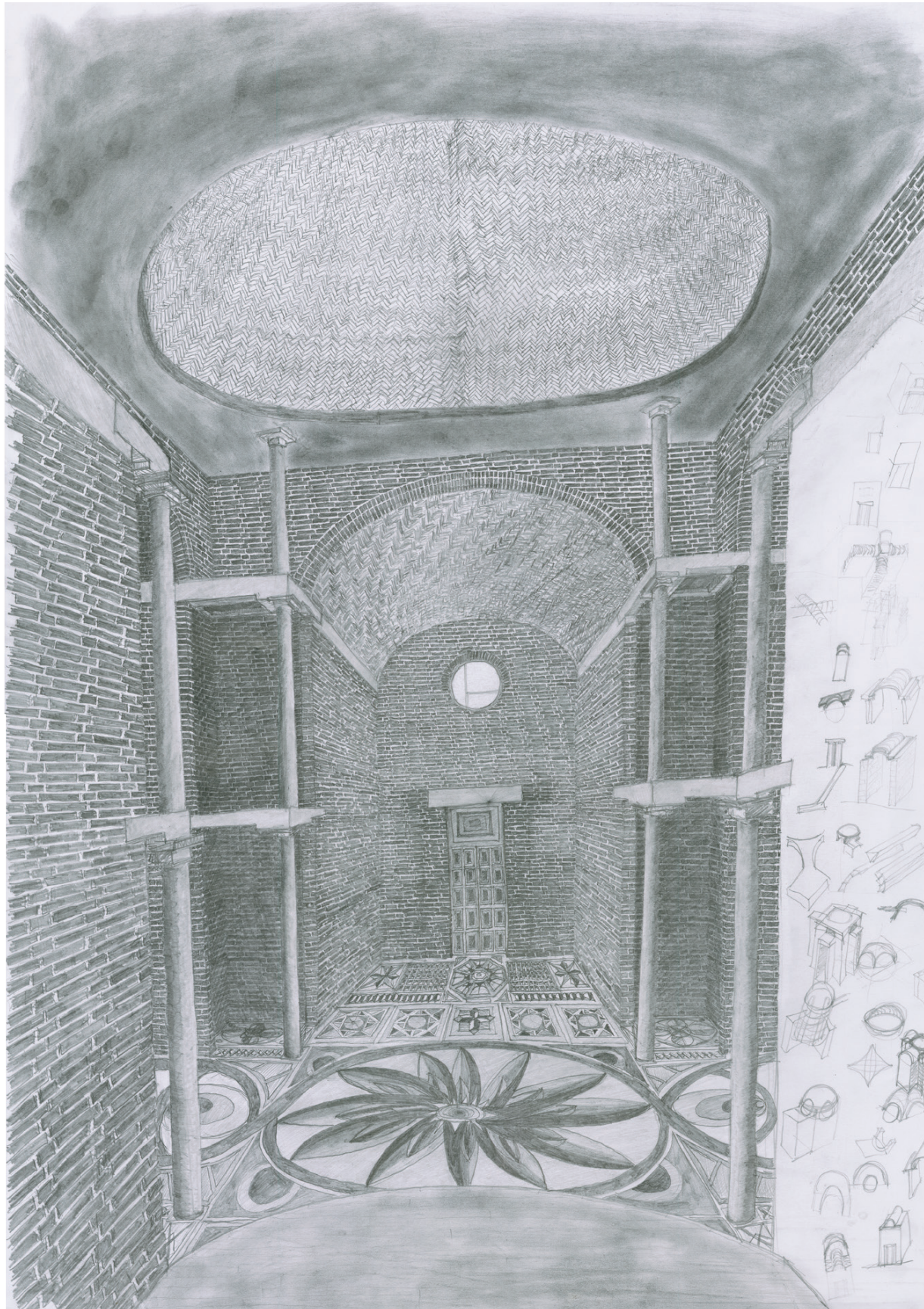


San Vitale; Ravenna, Italy



The Pantheon; Rome, Italy





AFTERWORD

Interior Sketch, patterning

The single element of the brick repeats and alters and the pattern is established, creating a field. The brick element becomes a part of the whole, the pattern of the particular allows the general form of the wall to exist.

