

# Geometries of the gaze and the invisibility

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## ABSTRACT:

This research lies between the visible and the latent structures of invisibility, and is supported by my theory of the Space-Limit. It integrates a set of original geometric analysis carried out on a well-known work of an Italian Renaissance painting and several historical buildings, in Portugal and in Spain. The matrix identification of sacred geometry, and the systems of forces and vector fields between the visible and the invisible recognized by the Gestalt theory become fundamental for our research. These latent structures define the DNA of the works that crosses different architectural cultures. The specific theme of the *Geometry of the Gaze* is based on my geometric analysis of the famous Renaissance fresco "La Trinità" by Masaccio (1428), where "perspective as a symbolic form" (Panovsky, 1991) constitutes the device for representing the interior architectural space. Underlying the representation is a vector tracing based on the matrix principles *ad triangulum* and *ad quadratum* that unites the eyes of the various characters represented through the geometries of the gaze. Vector lines of forces construct the "frame of the visible". Geometry constructs the plot that deepens the gaze beyond the imagery of Christian iconology, allowing access to the symbolism of the Tree of Life of Jewish Kabbalah that reveals itself as the structure from the latent plane. The same matrix geometric principles are present in the successive phases of the construction of the Mosque-Cathedral in Cordoba. The "*ad triangulum*", "*ad quadratum*" and "*ad circulum*" principles are also recognized in other buildings of other religious cultures, which will illustrate the discourse. Similar principles of the geometries of the gaze and the invisibility are applied in my contemporary architectural and pictorial production, such as portraits and para-architectural works, between painting, architecture and installation, developed under the theme of *in praise of emptiness*.

## KEYWORDS:

Space-Limit Theory, Sacred Geometry and *Gestalt*, Trinity by Masaccio, Mosque-Cathedral of Cordoba, Jeronimos's Monastery.

## 1. Limit, Space and Geometry

The present research on the "geometries of the gaze and the invisibility" is based on the theoretical model about the "Space-Limit" of production and reception in the architecture and of its categories - "Appearance", "Emergence" and "Latency", which puts in evidence the transition between the visible and the invisible, (Author, 2007). Architecture can be defined as the art of delimiting and shaping space, adapting it to the purposes of habitability and aesthetic intentions. Therefore, every architecture is a "Space-Limit". All the action of delimiting implies the geometric operation, which simultaneously separates topologically one spatial territory from another, configures them and gives them form, which qualifies space. The geometries of architectural and urban forms define tracings, fields of force, that subtly magnetize the geometries of the user's gaze and are inscribed in the perception and reception of the subject, affecting and manipulating, to a certain extent, his behavior, beyond the functional and aesthetic intentions. Thus, architecture and urbanism have been, throughout history, the preferred symbolic forms of religious, political and economic powers.

The case of studies of this article are analysed based on a philosophical interpretation of the concept of boundary between the visible, the whole of the apparent and physical dimension, the phenomenological, and the invisible, the metaphysical, imaginary and latent dimension. It is from the concept of "Space-Limit" that we propose to accede to the various phases in which the architectonic artefacts are formed, at the production level, and to the successive strata in which they appear to reception, implying a joint interaction between work, perception and interpretation of the subject. The ontology of E. Trías (*Logic of Limit*, 1995), in Merleau-Ponty's phenomenology (*The Visible and the Invisible*, 1964) and in the metaphenomenology of J. Gil (*The Naked Image and the small perceptions*, 1996), are part of the supporting concepts that I transpose into the Space-Limit theory. Trías thinks the limit as: "being and habitable frontier space... from which opens the possibility of meaning and sense" (the sensible world); the "border fence" (hermeneutic and symbolic space); and the "hermetic encirclement" (the enigma, the secret and the sacred attainable through the secret dimension of symbol). Merleau-Ponty also establish a stratification between a sensible and visible dimension, and a deep and latent dimension:

The carnal being, as being from the depths has several leaves or has several faces, the being of latency and the presence of a certain absence, is the prototype of the Being" (*The Visible and the Invisible*, 1964, 179).

The phenomenology of Merleau-Ponty, supports the legitimation of Space-Limit categories. The Philosopher refers to a "first visibility", which corresponds to an apparent presence of things, and to a "second visibility", concerning the dimensions of "massive flesh" and "lines of force" corresponding to the known and phenomenological or "outer horizon", confronting is vaguely identified with an ontological and intelligible dimension. However, the "Metaphenomenology" proposed by José Gil tries to go beyond the phenomenological indetermination, exploring the borders of aesthetic perception that confer an ontological autonomous status to an invisible non-subsidiary of the retinal. Metaphenomenology is oriented to the phenomena of the phenomenon acting from the "boundary phenomena" that occur in the irreversible territory that separates and superimposes the conscious and unconscious, identifying the latter with the invisible. This invisible is total, unmanifested, but has an effect on the visible in terms of "bundles of forces", "forms of forces" and intensities revealed by the "naked image" devoid of concept that opens to the aesthetic perception through "small perceptions" (Gil, 1996). In interpreting the three philosophical theories, in a transposition to the field of architecture, I recognize three layers of phenomena that can be identified with the boundary categories: "Appearance", "Emergence", and "Latency". In architectural terms, "Appearance" is understood as the epidermal layer that corresponds to the figurative and the superficial decorative and stylistic aspect that so much fulfill the role of environmental background gradients influencing the totality of the architectural framework, as they can act as "transfiguration operators". "Emergence" corresponds to the external and three-dimensional, "flesh and bone" of architectural form; it is the perceptual truth, allied to the sense of constructive thickness, stereotomic materiality and tectonic structure, related to the way of making. In this sense "Emergency" is related to the technique which, in the context of production, allows the passage from the latent, the inner and pre-formal state, when it appears and emerges in the established form. "Latency" at the level of production constitutes the "black box" of the architectural conception, through the production of sketches that are graphic-configurational schemes of mental schemes, of approach to design and construction under the various architectural senses. "Latency", at the level of reception or interpretation, is related to the invisibility and indicia of the deeper contents, through the decoding of the inscribed symbols and hidden geometries and "forms of force" that serve as a framework for the emergent form during the conception of the works. It seeks to decode its deeper meanings.

## 2. Latent Structures

*The Geometry of the Gaze and the Invisibility* refer to the perceptual, heuristic and symbolic processes, in the production and reception of the works of architecture and other works of art. Geometry, in some of its meanings, constitutes a mediation that unfolds in different ways of gazing, of matrix, of structure and morphology, of proportion, of construction, of measurement, of irradiation, of rhythm, of intention and meaning ... The first of these geometries is the visual ray. The geometry of the gaze is the founding geometry of the visual perception of the subject as producer and receiver. The visual radius corresponds simultaneously to the radius or beam of light emitted, which in the opposite direction projects in the retina, and to the line from the interior projecting in to the exterior, as projection of the interior "point-body" that reaches and moves jumping from object in object, measuring distances close to distances, limits, goals and infinite indeterminations, tracing contours and fixing precise planes and points, in a shuttle between observer and observed. The radius projecting like a laser joining an inner point with an outer point is the first element of what we call geometries of the gaze and this is the first of the geometries that we can recognize, just as the pragmatic origin of geometry is associated with the practical reason for measuring earth and the instrumental and transcendent reasons for measuring the space of the firmament. The "Geometry of the Gaze", is the first instrument of measurement of visual perception, corresponds to the most primitive geometry that examines the world, which measures distances in an instinctive and intuitive way that projects, knows and recognizes reality, being one of the main cognitive instruments. Therefore, meaning translates the intention and sense of force, whatever it may be, in the field of ballistics of the eye, and the hermeneutic interpretation. It is the same geometry of the gaze that, observing the firmament "as a system of knowledge", that topologically grouped the stars by joining them with lines, in order to identify and name constellations, giving rise to astronomy and projecting from the mythical imaginary symbolic schemes, to try to know oneself through astrology. It is this gaze that, when moving from the scheme of the linear vector between the observer and the observed, to the transcendent triangulation based on the divine and the myth, that introduces the symbolic mediation between physics and metaphysics. Therefore, as Michel Serres states:

Geometric thought penetrates the myth; reciprocally the discourse of myth invades geometry (...) are mixed astronomy and optics, metric, architecture and stone cuts, solar devotion, to liberate the objects from their black obstacles" (*The Origins of Geometry*, 1997, 114 and 182)

And referring to the Platonic cosmogony and triangulation systems that structure the creation of the world, he says:

The aurora of the first Greek geometry considers the triangle as the simplest figure of space, after point, segment and angle ... so the Timae triangles the elements of the Earth - this is a new sense of the term geometry, when Earth passes from the piece to the world, (*Ibid.*, 179).

Among latent structures, the regulating tracings of the so-called Sacred Geometry and, more recently, the "Fractal Geometry" (Mandelbrot, 1982) constitute geometric-mathematical forms of interpretation and matrices considered universal because they are believed to correspond to schemas of understanding and recognition in the formation and structure of the Cosmos, at its various macroscopic and microscopic scales (N. Pennick, 1980). The harmonic tracings of sacred geometry can be understood as ordering cosmograms that seek to have a symbolic, aesthetic and magical reach in the sense of "exorcizing" space and inscribing a harmonization of rhythms directed subliminally to human empathy. Hence, these canonical principles considered universal arise as symbolic forms intentionally applied by diverse cultures throughout history, not only applied to the religious architectural constructions (of the pyramids, temples and cathedrals), but also in other architectural constructions of profane character widening, urban planning, art works... As if Divine Creation were ruled by Divine Proportion, a latent transcendent and numerical geometric reason, such as the *Golden Section*, which structures and harmonizes visible forms of nature and architectural compositions. For this reason, we also call them geometries "Geometries of Invisibility", because they are not directly visible but they structure the visible, hiding in the phenomenological and metaphenomenological condition, through symbols, "forms of force", "outlines of absence", balance or tensions of *Gestaltheorie*'s, which give dynamism to architectural forms and have similar reflexes in the human mind (R. Arnheim, 1988, 163). Some of these *Gestalt* principles corresponding to the simple and pregnant configurations like the equilateral triangle, the square and the circle, and their homothetic repetitions, can be identified with the classical canonical geometric principles – "ad triangulum", "ad quadratum" and "ad circulum", and all the complex hidden structures that organize the visible, at the constitutive and perceptive levels. These structures exist between latency and emergency and in the perception of architectural appearance, where they act with the context looking for a principle of internal organization. The *Gestaltheorie* forms are schemes between formal emergence and latent invisibility. In the phenomenal reality we see neither fields nor forces in things, but we recognize structures and figurative schemes of constancy according to the laws of internal construction that convey them. The gestalt is a structural invisibility that is seen, in a state of particular attention, or perceptive transfiguration of the gaze. The gestalt is therefore in the hinge, or "pivot" between the visible and invisible, manifests itself in the configuration of the visible and reaches the interior, corresponding to a latent structure of forces directed in interaction, that support the visible, by the recognition of schematic configurations. As Merleau-Ponty says:

Gestalt is already transcendence: it makes one understand that a line is a vector, a point a centre of forces - there are no lines, no points or absolute colours in things (Op. Cit., 1964, 248)

And José Gil adds:

A Gestalt is a configuration of absence, which closes the arc of the incomplete view of the visible (Op. Cit., 1996, 43)

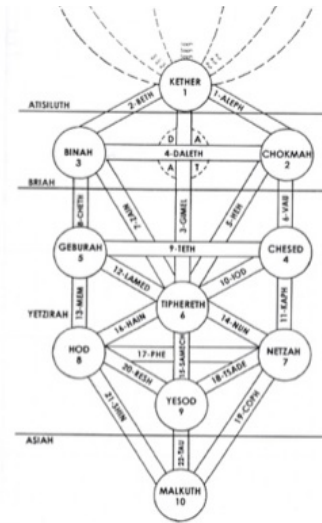
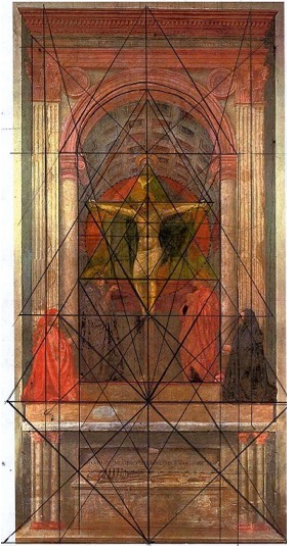
In interpreting the three philosophical theories in a transposition to the field of architecture we recognize three layers of phenomena that we identify with what we designate as boundary categories: "Appearance", "Emergence", and "Latency". In an anthropomorphic analogy, "Appearance" corresponds to skin of the architecture, the figurative and the superficial decorative and stylistic aspects, and other wall props, colors, textures... The environmental background gradients that influence the totality of the architectural framework, as they can act as "transfiguration operators". "Emergence" corresponds to "flesh and the bone", the three-dimensional architectural form, the constructive, the materiality and the tectonic structure; and "Latency" to inner and invisible space of the body (vital breath, soul, Being...) - the synergies that regulate the cohesion of the physical, metabolic, mental and spiritual systems of the Human Being. In an architectural transposition, these synergies surpass the idea of the classical composition, since they imply complex articulations of dynamic interaction, with intentions of perceptive attainment at the level of the related visual and haptic senses with the *Geometry of the Gaze* and the cognitive and aesthetical implication of the receiver. It is through the *Geometry of the Gaze* that we recognize the latent structures, by combining the canonical matrices of sacred geometry with the *Gestaltheorie* vector schemes, allowing us to access the deep meaning of pictorial and architectural works, as we shall see below.

### **3. Geometries of the gaze in "The Trinity" by Masaccio**

The specific theme of the geometry of the gaze and the invisibility, started from my geometric analysis and hermeneutic interpretation of the Renaissance fresco "the Trinity" by Masaccio (1428), where "perspective as a symbolic form" (Panofsky, 1991) constitute the device for representing the interior architectural space and the religious iconography. The construction of perspective starts from the known vanishing point on the horizon line that divides the terrestrial plane from the celestial plane where the iconography of Christ's crucifixion takes place under the presence of God Father of the Holy Spirit (represented by the apparent visual ambiguity in the collar of God Father, as a white dove shape), the Virgin Mary, St. John and the couple of maecenas. Masaccio's pictorial-architectural composition propitiates the reading of different overlapping layers that go beyond visible appearance to the invisible field, through approaches to the latent

structure by the gestalt interpretation of vectors of force, coincident with the canonical forms of the sacred geometry, reaching the hidden part of symbolic forms.

In visual reading, figures and architectural elements define the symmetrical composition in the perspective and in the pyramidal hierarchical arrangement of figures. In latent reading, a network of bundles of vector forces, based on the “*ad triangulum*” matrix (1:√3) - symbol of the Trinity, main subject of this masterpiece - unites the eyes of the characters, starting from the central point between God's eyes; Christ is inscribed in the Star of David (union of the spirit triangle with the matter triangle), defining at the same time the structure of the central perspective and the interaction between the visible and the invisible.



**Fig. 1** – “The Trinity” by Masaccio (1428), “Geometry of the Gaze”, geometric and iconological interpretation with the Kabbalah - Tree of Life (Author, 2009)

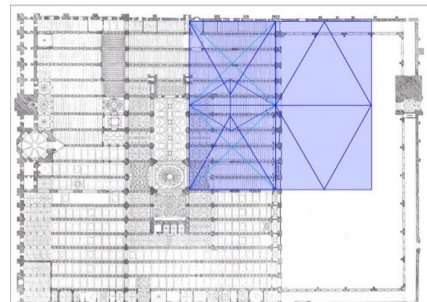
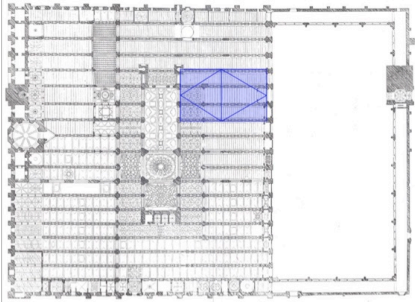
The geometrical complexity of the latent triangulations, formed by the vector forces of the gaze, constructs the “frame of the visible” where we found a correspondence to the iconology and the Kabbalah symbolism, in which transcending emptiness, *AYIN SOF OR*, identifies with God (Zev Ben Shimon Halevi, 1995). In our geometric-symbolic interpretation, the deepest matrix structure corresponds to the *Tree of Life* with its divine attributes represented by the *Sephiroths*. The architectural columns depicted, together with the axis corresponding to the cross, define the three pillars of the Kabbalah vertical structure. In an iconological reading from top to bottom, the *Sephiroths* are adapted to the Christian mysticism practiced in Florentine intellectual circles: the highest *Sephirot*, *Kether*, the crown, coincides with the head of God at the top of the pyramid; the *Sephiroths Binah* and *Hochmah* coincide with the two arms of the cross; *Daath*, the invisible *Sephirot*, corresponds to the heart of Christ; the *Sephiroths Geburah* and *Hesed* correspond respectively to St. John and the Virgin Mary; the *Sephirot Tiphereth* to the feet of Christ; the *Sephiroths Hod* and *Netzah* correspond to the maecenas; the *Sephirot Yesod* coincides with the vanishing point of the perspective, the aesthetic view of the sensible world, the point of view from the Ego; and finally *Malkhut*, the most material *Sephirot*, coincides with the place of absent sex of the skeleton of the *Adamic Man*, buried in the tomb inscribed in the double “*ad quadratum*”, which corresponds to the physical world, the earth. The fresco resorts at the same time to the hermetic universe of symbolism and to the ambiguity of gestalt in the figure-background relationship and the vector lines of forces, which shape the composition between the visible and the invisible, and in parallel with iconography and symbolism. The field formed by the grid of the vanishing point and the vector of forces of the geometric triangulation linking the characters' eyes, envelopes and directly magnetizes the observer's gaze, producing an aesthetic osmosis. Concerning the appearance of the inner interfacial sphere, through the gaze in Renaissance painting, Peter Sloterdijk says:

In the footsteps of Plato, Ficino presents the space between faces as a field of forces filled with turbulent rays. In this field, the facial surfaces turned towards each other work together in such a way that each time, they open to the human and historical visagity only by their being-for-the-other-face (Bulles, 2010, 22)

The geometry of and gaze and the latent Kabbalah structure, I found inside “The Trinity” by Masaccio (1428), precedes in the Florentine Renaissance context the principles of the Platonic gaze of the humanism of Marsilio Ficino (1433-1499) and the studies of the kabbalistic mysticism by Pico della Mirandola (1433-1499).

#### 4. The DNA of the Mosque-Cathedral of Cordoba

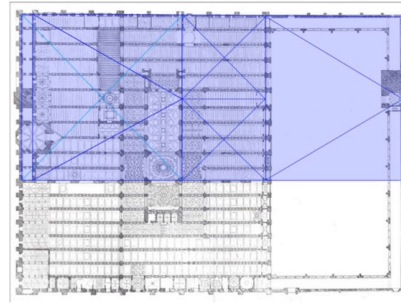
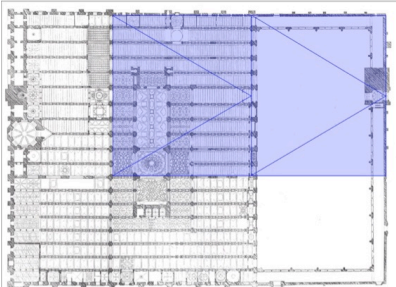
Built during eight centuries through successive extensions, the Mosque-Cathedral of Cordoba is a paradigm of "openwork" (A. Monaco, 2004), linked to a process of architectural transformation of temporal overlaps that defined the building: through distinct, visible stylistic forms, and latent canonical structures that constitute its DNA. This is what we intend to prove from our geometric analysis based on Félix Ruiz's archaeological survey (R. Moneo, 1985), which highlighted the different phases of construction and enlargement of the building. Its foundation plan, originated from the Christian Basilica of San Vicente Martyr (6th cent.), corresponded to a rectangle that inscribe a double "*ad triangulum*" ( $\sqrt{3}$ ).



**Fig. 2** – Basilica of San Vicente Martyr (6th century), geometric interpretation (Author with A. Monaco, 2007)

**Fig. 3** – Mosque of Cordoba Foundation, Abderramán 1<sup>st</sup>, geometric interpretation (Author with A. Monaco, 2007)

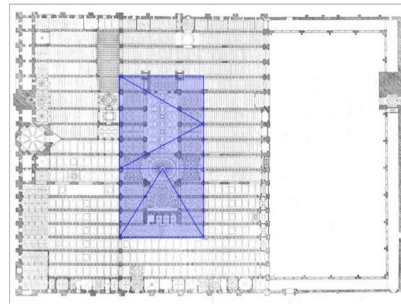
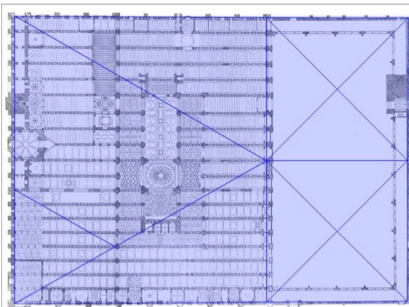
With Moslem occupation, caliph Abderramán 1<sup>st</sup> founded the Mosque in 786, built the prayer room in the proportion of double "*ad quadratum*" and the ablution patio in the proportion of double "*ad triangulum*" ( $\sqrt{3}$ ). Caliph Abderramán 2<sup>nd</sup> extended the prayer room of the Mosque in the direction of the *qiblah* wall, in the proportion "*ad triangulum*" ( $1: \sqrt{3}$ ) and enlarged the patio in the proportion  $1: \sqrt{3}$ , whose vertex determined the implantation of the minaret.



**Fig. 4** – Mosque plan, 1<sup>st</sup> enlargement, Abderramán 2<sup>nd</sup>, geometric interpretation (Author with A. Monaco, 2007).

**Fig. 5** – Mosque plan, 2<sup>nd</sup> enlargement, Alhaken 2<sup>nd</sup> geometric interpretation (Author with A. Monaco, 2007)

Caliph Alhaken 2<sup>nd</sup> extended the prayer room towards the *qiblah* wall, creating at the bottom a new *qiblah* of niches, in the proportions of "*ad triangulum*" by the interior and "*ad quadratum*" by the exterior. The last great enlargement of the Mosque promoted by caliph Almanzor, extended the prayer room in the total proportion of "*ad triangulum*" and extended the patio in the proportion of double square ( $\sqrt{4}$ ).

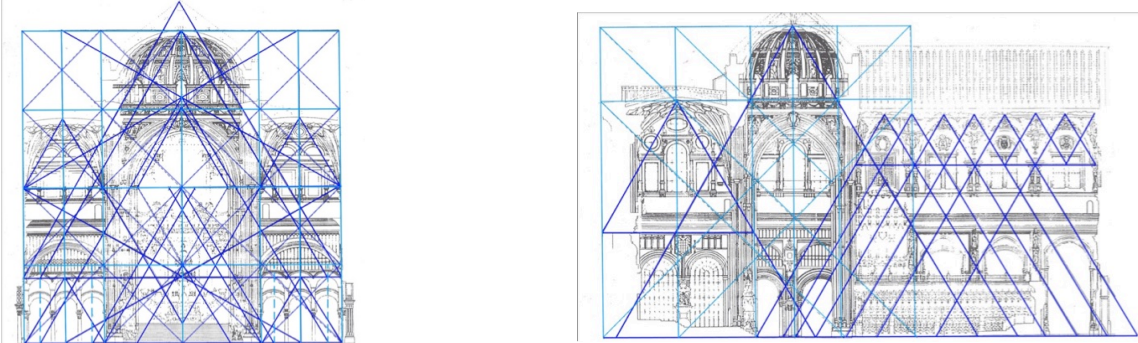


**Fig. 6** – Mosque of Cordoba 3<sup>rd</sup> enlargement, Almanzor 2<sup>nd</sup>, geometric interpretation (Author with A. Monaco, 2007).

**Fig. 7** – Cathedral, inclusion plan, Hernán Ruiz I, II, III's works, geometric interpretation

Finally, with the Christian reconquest in 1236, and the reconversion to the Christian cult, led to the volumetric of the Renaissance cathedral in 1523 by Hernán Ruiz I, II and III, who introduced a new orientation in the temple, but also governed by the principles "*ad triangulum*" and "*ad quadratum*". Likewise, the entire cross section of the Cathedral is inscribed on the "*ad quadratum*" principle from the base of the

building to the top of the dome and the vertical partitions of the building; while the matrix “*ad triangulum*” rule the addition of the work from the upper Muslim arches, to the apex of the outer covering of the dome. The articulation of “*ad triangulum*” and “*ad quadratum*” geometric principles with the “*ad circulum*” principle generates the various centres for the construction of arches and vaults.



**Fig. 8** – Cathedral sections, Hernán Ruiz I, II, III’s works, geometric interpretation (Author with A. Monaco, 2007)

The canonical structure determined the limits of the architectural form in the course of the compositional additions of the successive stages of growth, where each of the phases completed the unity of the tectonic and formal structure. Beyond religious differences and their apparent and emerging architectural stylistic differences, the "invisible structure" allowed geometric growth, founded on the matrices “*ad triangulum*”, “*ad quadratum*” and “*ad-circulum*”, constitutes the meta-religious and meta-historical DNA of this "open work". Beyond the geometries of invisibility, the architectural forms indicate geometries of the gaze: within the mosque the hypostyle space formed by 850 columns, analogous to palm tree oasis, generates rhythms of perspective *enfilade* and unusual visual crosses, reinforcing the vectors of horizontal vision, producing sensations of infinity, accentuated by the dark atmosphere that masks the walls boundaries. By contrast, in the Cathedral, the “geometries of the gaze” are driven by the “forces of shape” and “force of forms” of pointed vaults, pilasters and lantern tower that accentuate the ascetic verticality of space and light.

### 5. The Latent Mandorlas of the Jeronimos Monastery in Lisbon

Another case study of latent geometry is the Jerónimos Monastery in Lisbon, a building from the beginning of the 16th c., built by Boytaca and Juan de Castillo. Our analysis reveals that the southern portal façade of the Church of Santa Maria is structured in a system based on the geometric principles “*ad triangulum*”, “*ad quadratum*” and “*ad circulum*”. The equilateral triangle is the matrix associated with the construction of successive “*Mandorlas*” or “*Vesica Piscis*” - a mystical figure resulting from the intersection of the Circle of Matter with the circle of the Spirit (L. Freitas, 1977) - that frame the main sculptural iconographic elements of the portal axis: The head of Santa Maria is the center of the circle of canonical layout that governs the iconographic, architectural and structural composition of the façade. The same geometric matrix forms are inscribed as latent structures in the emergent form of the church plan and the Jerónimos Monastery complex. The matrices of the triangle are repeated in successive dilatations in the plan of the church, in the compound of the Jerónimos Monastery, and are intersected defining the peculiar octagonal form of the cloister, also emerged by the circle squareness, as its “frame of the visible”, according to my interpretation.

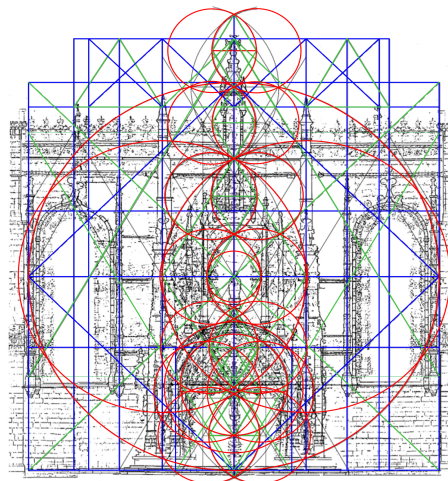


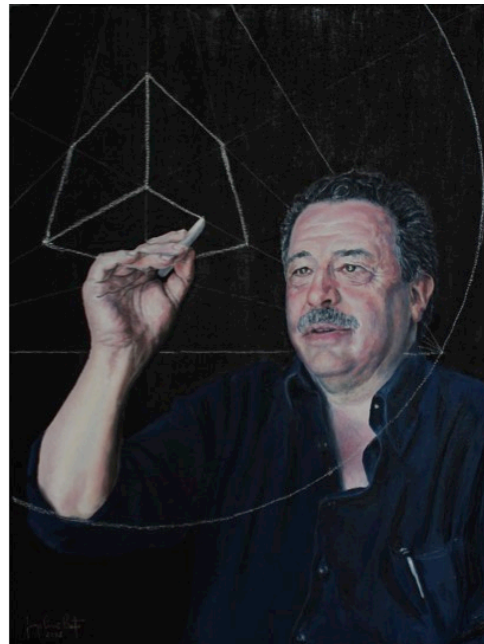
Fig. 9 Jerónimos's Monastery, Church of Santa Maria of Belen, Lisbon, geometric interpretation (Author 2007)

## 6. The compass and the rope

The compass is the prior and analogous instrument of the rope. Both compass and rope inscribe the infinite number " $\pi$ "=3,1415..., and in drawing the circle from a fixed point, they plot on the symbolic plan the incommensurable nature of the cosmos. Rotations and translations define the fundamental movements of cosmological mechanics and simultaneously the compass and the rope associated with the square, are a basis of the geometry of the tracings where measure, form and proportion are integrated in the same syntactic and semantic operations. The conceptual traces of the schemes (using the compass), anticipates the execution site plan (using the rope), by the masons during the building construction. Starting from the basic geometric principles "*ad triangulum*", "*ad quadratum*" and "*ad circulum*", the constructors developed geometric formulas and complex progressions, giving rise to constellations of forms (Ruiz de la Rosa, p.266, 1987). The geometric constructions of the various golden sections  $\Phi = 1.6180 \dots, \sqrt{2}, \sqrt{3}, \sqrt{4}, \sqrt{5}$  constitute derivations of the successive diagonal rotations of the square and rectangles (M. Gyka, 1968). In the same way that the construction of the *Mandorla* results from the intersection of two circles by its centres, it inscribes the double equilateral triangle, which is inscribed in the  $\sqrt{3}$  rectangle. Besides the explanations of symbolic character that are associated with this geometric figure, as referred above, there is also a pragmatic explanation of the use of "*fabrorum geometry*". The *Mandorla*, also named "The Mystic Vagina", pointed arches is also a basis for the construction of the equilateral triangle, a canonical matrix, also related to the Pythagorean "*Tetractys*". It is the first of the regular polygons and a harmonic and structurally stable form. Therefore,  $1: \sqrt{3}$ , underlies the emergence of the architectural form for the plan and section of the Milan Cathedral. Similarly, the known "12 or 13 knot rope" was one of the most used to draw an equilateral triangle of 4-4-4 sides or the known right triangle 3-4-5, and its multiples, and the base to draw the right angle and the construction of the Pythagorean Theorem (N. Pennick, 1980).

## 7. Pictorial and Para-Architectural Production

This analytical research favors the direct and conscious application of theoretical and geometrical principles in the artistic praxis of painting and in the territory I call "*para-architecture*": *an almost and imaginatively habitable space between painting, sculpture, installation and metaphysics under "the praise of the emptiness"* (J. Cruz Pinto, 2010). In the *para-architectural* context — I created the "Matrix" piece, *Circumvolution of the Triangle* which constitutes a physical and metaphysical abstraction, from the three geometric principles "*ad-triangulum*", "*ad-quadratum*" and "*ad-circulum*", of intentional praise of the emptiness and the principles of gestalt, where the empty background becomes the dematerialized figure. The empty triangle is formed by three burned wooden panels in the proportion of double square ( $\sqrt{4}$ ) and is inscribed in a circle in stainless steel. Among the various possible readings: the burned wood alludes to the first phase of the alchemical process — *Nigredo*; the latent structure also corresponds to the old wooden structures that framed and supported the stone masonry during the construction of architectural works, which after being dismantled were certainly burnt and reduced to ashes ... they are reborn as the Phoenix in the present time, in the form of my *para-architectural* works.



**Fig. 10** – “*The Matrix*”, mix technic on wood (Author, 2016)      **Fig. 11** – “*The Geometer*”, oil on canvas (Author, 2013). “*The Geometer’s Gaze*”: The portrait of Manuel Couceiro, professor of descriptive geometry, which I painted for the chairmen’s gallery of the Scholl of Architecture of the Lisbon University, seeks to translate the question of *geometry of the gaze*, as I interpret it in the construction of “The Trinity” fresco by Masaccio, and from the three geometric principles “*ad triangulum*”, “*ad quadratum*” e “*ad circulum*” - pointed out on the slate represented on the famous portrait of Luca Pacioli. With his right hand raised, the professor draws, literally in the void of dark space, the layout of the construction of a cube in perspective, based on three vanishing points. The construction of the perspective cube, solid derived from the principle “*ad quadratum*”, is based on the “*ad circulum*” matrix, where it is inscribed the *principle* “*ad triangulum*”. Only one of the vanishing points is visible within the canvas, ambiguously placed in the foreground and behind the geometer’s nape. To this vanishing point converge part of the vector lines that construct four of the cube edges in perspective, where two of them cross the geometer’s eyes, like the luminous rays that define the geometry of the suspended gaze in the incomplete line of the cube he is drawing. Descriptive geometry, perceptual gestalt and sacred geometry overlap, converging literally in the demonstration of the cube construction and in the construction of the painting, from the *geometry of the gaze* of the represented geometer, who simultaneously observes it, draws it, and by my gaze that crosses it and paints him on canvas, making emergent invisible aspects.

## CONCLUSION

The theoretical “Space-Limit” model of categories of production and reception – “Appearance”, “Emergence” and “Latency” - through the transposition of philosophical concepts, for the domain of architecture, allowed to identify and to fund conceptually, the different layers of approach, and the internal structures between the visible and the invisible, made evident through experimental geometric analyzes in concrete artistic and architectural works. The experimental analysis of the “The Trinity” by Masaccio allowed to decode the latent contents, both at the level of the internal formative structures of the “Geometry of the Gaze” of the characters, combined with the Sacred Geometry, in convergence of the Renaissance conception of Ficino’s Gaze, and the contemporary reinterpretation in the light of the “*Gestalttheorie*” through the identification of the centers and vectors of force that supported the apparent figuration, as at the level of the symbolic inscription of the Kabbalah in the latent invisible depth. The analysis of the Church façade of Santa Maria de Belém highlighted the invisible canonical structure through the discovery of the inscription of the Mandorlas, ordering of the integrated composition of the sculptural iconography and the tectonic structure having as focal point the Virgin and the Child Jesus under the matrices “*ad triangulum*”, “*ad quadratum*” and “*ad circulum*”. It was found that the same matrices are at the origin of the latent construction rules and the homothetic successive phases of expansion of the Mosque-Cathedral of Cordoba, behind the apparent forms of different cultures and religions. The classical principles “*ad triangulum*”, “*ad quadratum*” and “*ad circulum*” constitute the invariant geometric matrices common to the analyzed works, reinforced by the “Geometry of the Gaze”, which deepens the vision with the experimental help of the compass and the square. Finally, we have tried to demonstrate that the intentional application of these universal matrices continues to be valid in the production of contemporary works, while simultaneously highlighting the “Geometries of the gaze and the invisibility”.

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