

Symbolic Iconography of Leonardo da Vinci in Relation to Nature

Yuheng Wang *

Steinhardt School of Culture, Education, and Human Development, New York University, New York, 10003, United States

* Corresponding Author Email: yw2444@nyu.edu

Abstract. The field of Leonardo da Vinci Studies has seen rapid advancement in recent years. Multiple research projects have been conducted on Leonardo's observation of the natural world in relation to his inventions and painting techniques. Nonetheless, there lacks a consensus on how *nature* has impacted Leonardo's interpretation of religious icons, such as the Virgin and the Christ Child. Therefore, this paper emphasizes Leonardo's recreation of visual narrative using symbolism and natural setting within his series of icon paintings. The study opens with an inspection of the preceding Byzantine style and late-Medieval icon painting as a comparative reference, then discusses early experimentations that introduce symbolic themes in conjunction with natural elements. This is followed by visual analyses of the Paris *Virgin of the Rocks* and *The Virgin and Child with Saint Anne*. Evaluations will be performed on the two paintings' intentions in remodeling theological narratives with compositional symbolism, technical enrichment, and geological presentations. The study reveals Leonardo's use of a recreated natural environment as a manifestation of divinity, which functions in concert with his humanized divinity to realize a personalized view of sacred iconography. This aesthetic privatization ultimately transforms icon painting from a collectivized liturgical tool to an individualized interpretation of godhood.

Keywords: Leonardo da Vinci; Religious Iconography in Renaissance art; Symbolism; Divinity; Nature.

1. Introduction

Paintings in the style of landscape portraiture by Leonardo da Vinci have long been a center of scholarly fascination. As a high point for Leonardo Studies, the 2010s saw the implementation of numerous restoration works and educational exhibitions. In 2012, the two versions of *Virgin of the Rocks* were first exhibited together in the London National Gallery, and the Louvre celebrated its restoration efforts on *The Virgin and Child with Saint Anne* with a landmark exhibition. In 2018-19, the Codex Leicester, whose research records influenced Leonardo's creative process significantly, was loaned to the Uffizi and the London National Library for two interactive exhibitions on the themes of water and motion respectively. Continued interest led to a proliferation of studies on Leonardo's interpretation of natural elements: Art historians such as Martin Kemp, Carmen Bambach and François Quiviger presented comprehensive overview in their biographic works, while Estelle Alma Maré explored the Leonardesque display of Mother-Son relationship through psychological lenses; Joseph F. Gregory accomplished an in-depth examination of the Paris *Virgin of the Rocks*; Claire Farago has also used Leonardo's nature studies as an access point for her study on Ingenuity, which is included in the book *Renaissance Futurities*.

Previous examinations on Leonardo's understanding of nature are fruitful in terms of comparative analyses between manuscripts and painted works. However, there is an insufficiency of research on Leonardo's transformation of the genre of icon painting through his depiction of nature. The lack of written source focusing specifically on the link between religious icon and painted *nature* prompted this investigation into the relationship between iconographic and landscape representations within several of Leonardo's signature portraiture. The polymath's ingenuity in painting primarily lies in the fact that he is able to take one of the deep-rooted themes, namely the icon of the Virgin and the Christ Child, and meticulously transform it into a personalized genre. To comprehend said genre, Byzantine style and late-Medieval icons will be introduced first for their referential value, followed by a case-

by-case study of paintings that are representational to Leonardo's iconographic treatment, with main emphases placed on the Paris *Virgin of the Rocks* and *The Virgin and Child with Saint Anne*.

2. Icon Painting from an Art Historical Lens

Byzantine iconographic painters boasted a structurally static, visually solemn and narratively illustrative style that is presented both as fresco works and panel paintings (see **Fig. 1**). Their liturgical functionalities outweigh notions of connotative inclinations or worldly aesthetic pleasure. According to the study by Dr. Pavlos Michaelides, unlike its later Renaissance counterpart, Byzantine icon paintings do not make symbolic allusions or take the human element into account, and the golden hue that fills the space around the frontal figures, which many would view as background coloration, is, in fact, one crucial component of a flat image, serving as a formless, aniconic element that unites with the sacred figural forms to reach a desired spiritual depth [1]. Aforementioned spatial arrangement is purely theological and liturgical, a direct interpretation of the divine which was adopted by Medieval Italian city-states through diplomatic and trading relations.



Fig 1. Attributed to Angelos Akotantos, *Icon of the Mother of God and Infant Christ (Virgin Eleousa)*, c. 1425–1450, tempera and gold on wood panel, 96×70cm, Cleveland Museum of Art, Ohio [2]

Stylistic imitations of the Byzantine aesthetic are presented in various Italian religious institutions, such as the interior frescoes and icon paintings of the Venetian Cathedral of St. Mark and the Roman Church of San Clemente. Moderate improvement began to occur in the late 13th century. With his series of frescoes at the Scrovegni Chapel in Padua, Giotto di Bondone becomes one of the pioneers in embedding natural landscape into theological artworks, while simultaneously adding a sense of depth to the scene. In his design works for the south door of the Florentine baptistery of San Giovanni (c. 1330-1336), Andrea Pisano takes one step further by transforming landscape into vivid reliefs that bring a fresh mythological tone to the composition. Nevertheless, despite their incremental accomplishments, they all maintain the illustrative, puppet-like, detached aura of their Byzantine prototype.

In a similar vein to fresco and relief works, the focus of Italian Medieval Marian icons emphasized separation, namely the representation of sanctity shown through the emotional separation between Mary and the Christ Child [3]. Late Medieval works such as Duccio's *Rucellai Madonna* (c. 1285) and Cimabue's *Virgin and Child Enthroned* (**Fig. 2**) (c. 1290-1300) present still expressions and rigid figural composition: they have presented the form of a mother-son relationship, yet there is no sign of the genuine mutual interaction that should come as natural to said relationship. The middle- and backgrounds are uniformly bright and illustrative, specifically stylized to reflect a sacred solemnity, one that is wholly isolated from the worldly realities of the masses.



Fig 2. Cimabue, *Virgin and Child Enthroned, and Prophets (Santa Trinita Maestà)*, c. 1290-1300, tempera on wood, 384×223 cm, Uffizi Gallery, Florence [4]

As Italy enters the early Renaissance period, the established antithesis between the sacred and the earthly began to visibly shift in the direction of the latter. Theological icons painted by artists such as Jan van Eyck and Piero della Francesca intermingle with a culturally appropriated surrounding. They expand the scope of storytelling by employing contemporaneous settings, symbolic objects and meaningful gestures (see **Fig. 3**). However, their approaches on humanized familial interplay remain subdued.

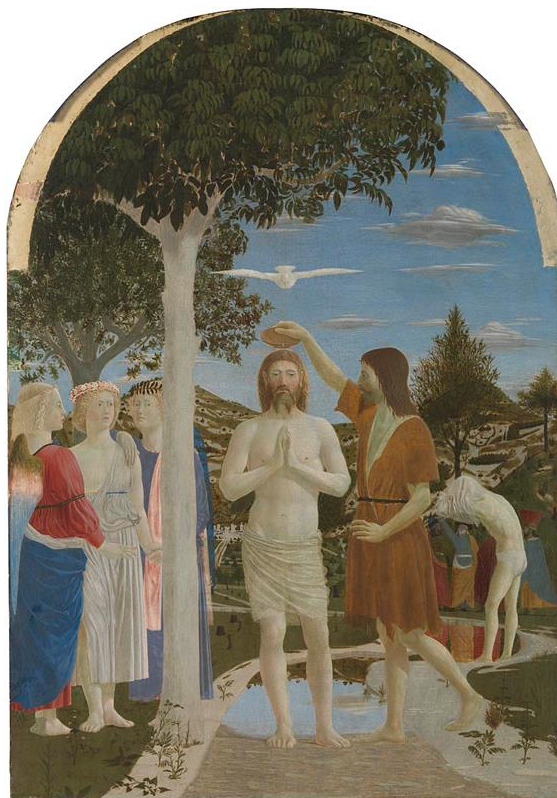


Fig 3. Piero della Francesca, *The Baptism of Christ*, c. 1437-1445, egg tempera on poplar, 167×116cm, National Gallery, London [5]

3. Early Works

Leonardo perceives the conceptualization of the divine in a new light. Spending much of his youth in rural Tuscany, he has long taken nature as his primary mentor. As an early pioneer of naturalism, he detaches himself from the worship of icons, which then leads him to assert creative control over his composition [6]. As the primeval creation of Genesis, nature's optical magnificence, innovative prowess and immaculate functionality led Leonardo to a new approach in understanding, presenting, and thus appreciating divinity, one that would transfigure stasis into action, rigidity into fluidity, and the liturgical into the symbolic.

3.1. The Madonna of the Carnation

In the *Madonna of the Carnation* (**Fig. 4**) (c. 1475), the carnation blossom—alluding to divine love—functions as the focal point, where both the narrative and the symmetrical composition converge. The blossom is especially critical as a conduit for the Virgin and Child's visual communication. Its liveliness evokes the excitement of the Child and the composure of the Virgin. As Estelle Alma Maré points out, the bloom's merit as recreated nature uniting the humanized divine outweighs its original Christian figuration [7].



Fig 4. Leonardo da Vinci, *Madonna of the Carnation*, c. 1475, oil on panel, 62×48,5cm, Alte Pinakothek, Munich [8]

Intentional insertion of natural objects, along with the skillful implementation of painting techniques, showcase an early mentality favoring natural symbolism. The techniques of *relievo* and *sfumato* are utilized fluently to enhance the naturalistic volume on both the foreground figures and the background mountainous terrain. The Virgin as the representation of maternity is solidified through a successfully visualized tender, caring demeanor, with her majesty and immaculate nature symbolically revealed through the primordial landscape symmetrized by two arched windows. A very similar arrangement is presented in the later work *Madonna Litta* (**Fig. 5**) (c. mid-1490s), where even more in-depth tonal contrast serves to deliver warmth and depth. In both works, previously

standardized depiction of halos is substituted by visibly portrayed motifs of nature and nurture, elevating empathy from the viewer whilst maintaining the figures' dignified presence.



Fig 5. Leonardo da Vinci, *Madonna Litta*, c. mid-1490s, tempera on canvas (transferred from panel), 42×33cm, Hermitage Museum, Saint Petersburg [9]

3.2. The Benois Madonna

The *Benois Madonna* (**Fig. 6**) (c. 1478-1480) is a work that breaks from various Medieval iconographic doctrines. In the same vein as Verrocchio's *Madonna and Child* (c. 1468), reciprocal actions became a manifestation for familial intimacy. The young Leonardo takes one step further by experimenting with a rather unprecedented open-mouth smile on the Virgin. This unique facial expression is directed at the Child's contemplation on the flower. The painting thematically focuses on two aspects: first, an emotional atmosphere that is decidedly human, and second, a symbolic object—the cruciform flower—derived from nature. The miniature flower takes center stage, serving as the source of all emotional reciprocation in the scene. It is the Child's full concentration on the flower that leads to the Virgin's joy, which can be interpreted in a number of ways, such as prescience, understanding or innocence [10].



Fig 6. Leonardo da Vinci, *Benois Madonna*, c. 1478-1480, oil on canvas (transferred from panel), 49.5×33cm, Hermitage Museum, Saint Petersburg [11]

This humanized, worldly imagery presents an aesthetic elevation from the liturgical. This is an icon that has taken a distinct approach to the formlessness of the divine through an open window depicted at the back of the scene. Previously, in the works of Duccio, Giotto and earlier Byzantine iconography, golden coloration was used consistently to represent said formlessness. In the *Benois Madonna*, however, the aniconic is represented by a window to the outside world and all the possibilities that come with it. This possibility is defined as a misty mountainscape in the carnation painting. In subsequent investigations, it will expand to unite with the entire image, developing into an integral part of the recreated narrative.

4. Natural Symbolism in the Paris Virgin of the Rocks

The Paris *Virgin of the Rocks* (**Fig. 7**) (c. 1483-1494) presents Leonardo's iteration of the Holy Family's encounter with John the Baptist en-route to Egypt [12]. It is an icon painting that transcends its original function.



Fig 7. Leonardo da Vinci, *Virgin of the Rocks*, c.1483-1494, oil on canvas (transferred from wood), 199.5×122cm, Louvre, Paris [13]

The painting was originally part of a group commission issued by the Confraternity of the Immaculate Conception of the Virgin in 1483, shortly after Leonardo's arrival at Milan. It was supposed to be the central panel of a large wooden altarpiece in the chapel at San Francesco Grande. According to the contract, the work was to be finished before the Feast Day of the Immaculate Conception, so that it could presumably be shown to a large audience. Therefore, a notion of strong visual response was established even before the painting's completion.

Since the Classical period, scholars such as Cicero have clearly recognized the value of visual response [14]. Leonardo addresses in the Codex Urbinus that "Painting extends over all the ten functions of the eye; that is, darkness, light, body, color, shape, location, remoteness, nearness, motion, and rest [15]." These elements are not merely principles of the painter, but directions for the eye of the beholder as well. For the audience to make sense of the work while not fall into the bracket of the static Medieval illustration, a functional narrative is required. Leonardo translates the narrative basis into a series of visual and gestural interactions: the Virgin's right hand holds St. John's back firmly, as if pulling him into the center stage. Her left-hand hovers over the Christ Child in the form of a protective blessing. Christ provides John with a prescient blessing that simultaneously acknowledges his own mission, while the enigmatic pointing of the archangel invites the viewer to engage in this on-going visual conversation. The sum of these symbolic gestures serves to intrigue and mesmerize the beholder. However, they cannot form a continuously moving narrative on their own. A stylistically appropriated setting is required for these interactions to hold weight.

4.1. Divinity in a Natural Setting

The Confraternity that commissioned the painting focuses on the concept of Immaculate Conception, which terms the Virgin to be free from original sin. This definition separates her from the worldly and places her on a spiritual altitude unattainable by all other mortal humans, a unique circumstance that inspires artistic ingenuity. Leonardo thereby places the human who is sanctioned to reach divinity and the divine contained in a human body in an enclosed, exclusive space, whose mystifying aura serves to further blur the boundary between humanity and divinity. If the Virgin and Child in the *Madonna of the Carnation* were still caricatures in a detached environment, the Figures in the Paris *Virgin of the Rocks* are by comparison characters in a mythological tale, who are familiar, approachable, yet also elusive and allegorical. The rocky formation in the middle-ground and the pond at the bottom of the foreground together form an enclosure, which Walter Isaacson aptly coins “the womb of the earth” [16]. Compositionally, said “womb” centers on the bright golden fabric, which is meticulously and deliberately placed on the abdomen of the Virgin, who looks down pensively, as if contemplating on providence. If the womb is to contain the essence of divinity, then in this special setting, the essence of the human, the divine and nature are united through Leonardo’s symbolism.

In comparison to Leonardo’s symbolic iteration, late-Medieval icon paintings symbolizes by collectively visualizing the intangible for public worship. To Leonardo, presenting an icon is to individualize the elusive quality of godhood, otherwise the sacred remain personally distant. Therefore, nature becomes Leonardo’s personal angle. Painting is utilized to investigate nature’s various properties, in which the density of air, the disposition of plant life and the formation of rocks carry as much significance as religious iconography.

4.2. Metaphor in Geologic Representations

After entering the Milanese court, around the time-period of the *Virgin of the Rocks* commission, Leonardo has gathered sufficient geographical data to faithfully replicate groups of limestone, sandstone and igneous diabase: the last two are implemented into the grounds and natural archways of the Paris painting, while the first might have been incorporated into the later London version [16]. Prior to the commission, the practice of integrating geology with Holy Figures was implemented in the unfinished *St. Jerome* (c.1482), where the construct of muscle and bone works in symmetrical synergy with the rocky formations that serve as an additional pillar anchoring the composition. In the Paris painting, although similar formations serve to complete an enclosure, stratified massifs impede much of the natural lighting. Their precariously weathered layout heightens the sense of provocation. The resulting tonal change—though somewhat disquieting—facilitates the application of *relievo* (three-dimensionality achieved through shading), the aura of which is similar to the stereoscopic impression of the *Madonna Litta* (see **Fig. 5**). Both paintings share frontal figures in a spotlight against a relatively gloomy backdrop.

In conjunction with *relievo*, the use of aerial perspective and tonal adjustments with *sfumato* (the stylistic realization of atmospheric dynamism) render the scene with depth and humidity. This optical illusion creates a sense of motion that directs the viewer onto an exploratory journey, one that is enhanced by the *chiaroscuro* of not only humanized, but also earthly forms. This visual narrative is further dramatized by the foreboding nature of the cracked, threateningly shaped boulders on top of the Virgin’s right side, and the horizontally wedged rocks grouped with a peculiarly salient sword-like rock hanging above the Child: the portentous nature of both cannot be eluded. According to Professor Gregory, such perilous landscape alludes to a fallen world tainted by the aftermath of original sin, which the Holy Family must arduously navigate through and prevail [17]. Under these circumstances, the balancing forces of nature reveal their potency: the serene foliage, tranquil waters and nebulous natural lighting in the distance work in concert with the enveloping gesture of the Virgin to return a sense of harmony to the scene. The primrose under Christ’s raised arm, the yellow iris on the lower left corner and the cyclamen directly beneath the Virgin are specific choices of flora that symbolizes Mary’s maternal love and predestined suffering. They, along with all the other chosen

habitual plants, are scientifically proven to be able to seasonally grow together in a grotto as depicted in the painting [17]. This meticulous synthesis of scientific accuracy and symbolic motif is a defining milestone for the *Leonardesque nature*, whose mastery is on display in *The Virgin and Child with Saint Anne*.

5. The Leonardesque Nature in The Virgin and Child with Saint Anne

In their study on the later years of Leonardo's oeuvre, Martin Kemp and Theresa Wells used the term "dynamic symbolism" to characterize the artist's mastery in directing the natural integration of symbolic imagery into his painted worlds [18]. The Louvre painting *The Virgin and Child with Saint Anne* (Fig. 8) (c. 1503-1519) is a thorough manifestations of this stylistic achievement.



Fig 8. Leonardo da Vinci, *The Virgin and Child with Saint Anne*, c. 1503-1519, oil on wood (poplar), 168×113cm, Louvre, Paris [19]

5.1. The Question of Intent

There are several hypotheses as to who commissioned the Saint Anne painting, the most convincing of which is that an extraordinarily reputed Leonardo ultimately took up the composition of the Saint Anne Trinitarian theme out of his own volition as a tribute to the restoration of the Florentine Republic [19]. Said Trinity has been a popular iconographic presentation since the 13th century, but it was seldom rendered in a natural setting until the end of the 1490s [20]. Therefore, to do so would require skill, experience and a research-based ingenious approach. This suggests an inclination for Leonardo to add a definitive representation of his oeuvre in the form of painting, in which the themes of many previous studies would be explored. It is then plausible that the painting demonstrates the result of sophistication achieved through a lifetime of interdisciplinary endeavors.

The composition of the piece shows Mary leaving her pensive state depicted in the *Virgin of the Rocks*; instead, she attentively reaches out to the Child, who is playing with a small lamb that symbolizes his Passion, all the while Saint Anne is watching the scene unfold in a precognitive manner. To grasp the meaning of the composition, it is necessary to continue exploring Leonardo's naturalism, within which humanity, divinity, and nature once again intertwine and bear fruit.

5.2. The Aim of Figuration

Many stages of trial and error are shown through a multitude of sketches and cartoons. Virginia Budny's comprehensive research on the preparatory sketches proves the point that small but detectable postural shifts throughout multiple experimental poses serve to solidify meaning for human interactions [21]. The clearly defined line of sight among the figures and their suggestive expressions lead to an emotional response which emanates a sense of motion. Evolved from the artist's early works, the narrative expands to a broader world, where *fantasia* and the *painted nature* unify. Akin to the *Virgin of the Rocks*, the Saint Anne Trinity are placed in a pyramidal shape. Individual characters commingle with one another to form a solid whole, as if mimicking a kind of mountainous grandeur. This establishes the portrayal of divine figures as a means to strive for nature's own ingenuity.

In his Codex Leicester, Leonardo vividly described the earth as a living body with soil as its flesh, water as its veins, and fire as its heart [22]. This analogy provides recorded evidence on the artist's visual enhancements of nature's beauty through the human form. As noted previously, Mary's golden sash in the Paris *Virgin of the Rocks* symbolizes the earth's womb; in a similar vein, the draperies of the two female figures from the Saint Anne painting resemble waves and whirlpools found in nature, with the Virgin's curled sleeve bearing special resemblance to a natural whirlpool found in Leonardo's *Deluge* studies. As Kemp suggested, the crags of the background mountainscape are also ingeniously replicated in the shaping of St. Anne's veil and the jagged right side of Mary's dress [22]. The juxtaposed colors of red and blue for the Virgin's draperies may also signify a connection between the earth and the celestial.

Celestial representations on the divine can be seen through several of Leonardo's early works such as the *Annunciation* (c. 1472), yet here, with minimal trace of civilization present, the divine is humanized to receive light from the natural world. As the line between nature and divinity continues to blur, *sfumato* and *chiaroscuro* techniques are again used in conjunction to reduce edges from the foreground composition, allowing the contour of the figures to integrate with the landscape. *The Virgin and Child with Saint Anne and the Infant Saint John the Baptist* ('The Burlington House Cartoon', c. 1499-1500) is believed to be a preliminary drawing for the Saint Anne painting [19]. The cartoon pushes the impact of natural lighting to new heights. Its idealized naturalist composition is manifested in the mountain-like stability that is reinforced in the Saint Anne painting, in which the frontal figures grow to become an extension of the natural setting. As the fore- and background interact to define each other's existence, they in turn enhance each other's value.

5.3. The Consummated Naturalist

In 1500, Leonardo experienced the Dolomites, whose numerous geological features served as scientific catalyst for his rapidly progressing geographical studies, inherently also as a basis for the subsequent St. Anne project [23]. In 1502, one year before the commencement of the *Mona Lisa*, he served as military engineer to Cesare Borgia in the Arno Valley region. Extensive studies on water and topographical features were conducted during this period. One of these influential research is discussed in detail by Leonardo, namely the rock sediments' property of "graded bedding", which is reflected directly in the layered rock and pebble layouts on the foreground beneath Saint Anne [16]. The deliberate structural design of rock ledges in the form of stair-steps is both a thematic construct of human-nature interaction and a renewal to similar techniques used in other works such as the *Adoration of the Magi* (c. 1482) and the *Madonna of the Yarnwinder* (c. 1501-1507). They demonstrate in progressing accuracy a form of fractured strata that was conceptualized to provide a

natural ledge for the Virgin to rest on. This technical evolution further substantiates the notion that studies of nature prompted Leonardo to continuously seek new artistic possibilities.

“Dynamic symbolism” is also reflected in the tree on the right side of the painting, which not only enhances the natural setting but also provide structural balance to the work. In his study, El Baz makes comparison with the symbolic juniper tree and the genealogical Jesse tree, indicating the themes of Passion and purification [24]. The root of the tree points directly at the lamb, alluding to a predetermined path for the Child. With such configurations in mind, a further step can be taken on an equally subtle parallel shown through the mountainous glaciers. Numerous geologic formations, such as mountain pediments, massifs with crisscrossing ravines, hanging valleys and glacial canyons, are presented with diligent accuracy [23]. This serves to not only contemplate on visual records of the Dolomites, but also as a point of emphasis on nature’s eternal functionality. The misty mountainscape, though seemingly distant, act according to the laws of nature, whose vitality and functionality is a manifestation of divine will. In the foreground, the human—represented by the Virgin—attempts to restrain the course of nature, symbolized by the Christ Child and the Lamb, resulting in a perpetual futile pursuit under the watch of the divine, which is humanized through Saint Anne. This ultimate symbolic relationship cements a lifelong passion to interpret divinity through *humanization* and *naturalism*.

6. Conclusion

It can be inferred from the evolving iconographic symbolism of previously discussed paintings that a cognitive progression centered on nature takes place across Leonardo’s professional career. Through depiction of symbolic objects, the early works invite the viewer to explore visual possibilities of the image without relying on icons alone, blurring the border between humanity and divinity.

This intentional smudging of boundaries is more evidently conveyed through the Paris *Virgin of the Rocks*, where a more sophisticated approach establishes nature as the secondary conduit for the divine to reach the secular (the first is the human form). The *Leonardesque nature* is established as a timeless force that reveals the fortunes of Biblical characters through its own symbolic connotations. Contrary to certain arguments that claim “desacralization” as the core value of Leonardo’s work, the sacred property of the image is in fact enhanced through the *humanized* and *naturalized* forms of divinity, whose rich symbolism serves to develop a visual narrative. This narrative in turn creates an exploratory setting that mystifies and fascinates the viewer constantly, so that they are able to initiate a dialogue with the painting which transcends the original liturgical function of the Medieval icon.

If icon painting was reshaped by the explorative stages of Leonardo’s oeuvre, then it is revamped through the Saint Anne painting. The work no longer relies fully on Biblical anecdote, but rather borrows Biblical characters for allegorical purposes. The Virgin’s attempt to gain control of the Child mirrors humanity’s endeavor to battle with *fortune*, yet the imagery takes a brutal turn, as *fortune* is of divine providence, which is symbolized by *nature* enveloping the scene in the style of grand omniscience. The painting ultimately evolves into an extraordinarily individualistic perception on the role of nature and the significance of human destiny. The collectivistic function of the icon in service to regulated liturgy is remodeled into a profoundly *personalized* interpretation of the human condition.

As implied through Leonardo’s evolving treatment of the iconic, part of Renaissance Humanism focuses on the human experience prevailing over theological indoctrination. This essay is an examination of the natural element of said experience by examining the formation and maturation of the *Leonardesque nature* in close relation to Leonardo’s iconographic development. The polymath’s stylistic evolution in painting the iconic is a cognitive journey, which stems from introducing symbolism to the image, then expands toward establishing nature as delineation of the divine, followed by a gradual *personalization* of the narrative through humanization and naturalism.

Ultimately, from a macroscopic lens, this research not only serves to enhance the field of Leonardo Studies, but also promotes relevant studies on Renaissance symbology, naturalism, and empiricism.

To further assess Leonardo's implementation of landscape, more extensive analyses can be carried out on the integration of nature into painting in West Europe during the 1400s. To solidify the influence of Leonardo's approach, further studies are required on two fronts: the aesthetic perception of religious icons by West European painters post-1500, and the career evaluations of the followers of the Leonardesque.

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