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A MULTIDISCIPLINARY STUDY OF THE TONGERLO *LAST SUPPER* AND ITS ATTRIBUTION TO LEONARDO DA VINCI'S SECOND MILANESE STUDIO

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1. Introduction

For the last 450 years, a remarkably accurate copy of Leonardo da Vinci's *Last Supper* has been quietly slumbering in the Premonstratensian Abbey of Tongerlo near Westerlo, less than an hour's drive from the Belgian city of Antwerp (Figure 1). Its relatively remote location may explain why up to this time, the work has largely escaped broad scholarly attention. In his extensive 2001 monograph *Leonardo's Incessant Last Supper*, which analyzes some fifty 16th century copies of the *Last Supper*, Leo Steinberg only devotes a single page to the work, arguing that "there is no further reason to date the Tongerlo copy in Leonardo's lifetime." However, in the following paragraph, the author admits that this work, together with the Certosa copy at London's Royal Academy of Arts, "are now said to be our most accurate copies." In sum, Steinberg concludes, "given its size, its high quality, and general accuracy, the Tongerlo copy ranks with the finest surviving testimonies to the near-lost Leonardo (original)" [1].

This highly ambivalent judgment is typical for the way modern critics have approached the Tongerlo painting. While very few historians have actually seen the work and praised its remarkable quality, none have dared to associate its verisimilitude with Leonardo's Milanese workshop. The reason, we believe, is that the work is not on display in a major public museum, where it would inevitably have been subjected to intense curatorial inquiry.

Furthermore, Leonardo da Vinci is today, 500 years after his passing, at the zenith of his fame. A painting entitled *Salvator Mundi*, which may have begun as a Leonardo autograph but then suffered from intense overpainting and restoration, made headlines when it sold in 2017 for $450 billion at auction – the highest sum ever paid for a work of art. As a result, hardly a month goes by without someone announcing an "undiscovered da Vinci" in the public press. This has made art professionals understandably reluctant to make any attributions involving the great master.

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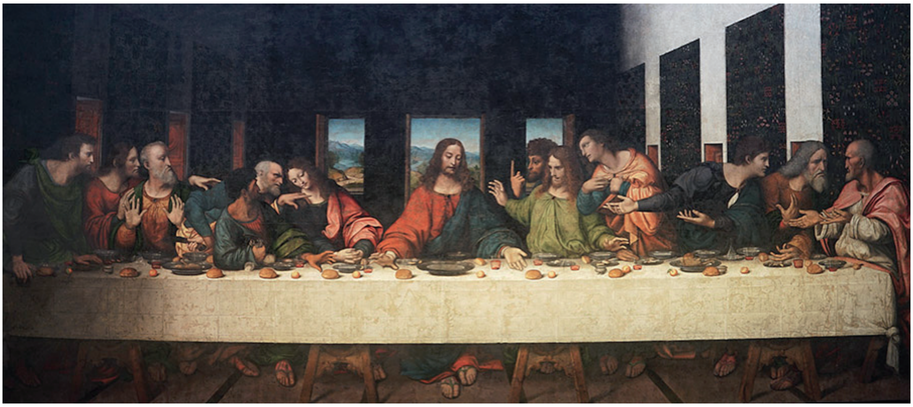

Figure 1. Studio of Leonardo da Vinci, Last Supper (after Leonardo), known as the Tongerlo copy, 1507-1509.

In the case of the Tongerlo *Last Supper*, however, the evidence for an attribution to Leonardo's second Milanese workshop is compelling. The work is executed in oil on canvas and sized 418 by 794 cm, which closely matches the scale of the original mural. The support consists of five strips of hemp, which further points to an Italian origin; in Northern Europe, artists generally preferred linen [2]. The seams of these strips are visible on the painted ceiling, under the hands of the figures, and along the painted tablecloth. The base ground consists of a grey prime layer of lead white and calcium carbonate, mixed with oil.

What's more, unlike most other copies of Leonardo's Last Supper, its provenance reaches back to 1545, when it came into the possession of the abbey, and has been there ever since (except for several periods of evacuation). In this article, we will provide credible evidence that the work was the result of a French royal commission in the early 1500's, which would undoubtedly have compelled Leonardo to personally supervise the work.

1.1. The Original Cenacolo

The history of Leonardo's original mural of the *Last Supper* is well known. Around 1495, the artist was commissioned by Ludovico Sforza, the duke of Milan, and/or the abbot of the Dominican convent of Santa Maria delle Grazie, to execute a fresco of the *Last Supper* in the newly built refectory of the monastery complex (Figure 2). As a depiction of the last meal shared by Christ with his Apostles, it was an appropriate motif for a hall where the friars intended to take their meals. The commissioned work was to cover the entire north wall, measuring 460 by 880 cm (180 by 350 in.).

At the time, there was ample precedent for decorating a refectory with this sacred theme. In Florence, both Andrea del Castagno and Domenico Ghirlandaio had painted a *Last Supper* in the refectory of their monastic patrons, following the established program of traditional Christian iconography: a *Last Supper* on one side, marking the institution of the Eucharist; and a *Crucifixion* on the other, illustrating the redemption of humankind through Christ's sacrifice on the cross. The same arrangement was commissioned in Milan: whereas Leonardo was charged with painting a *Last Supper*, it was one of Sforza's favored artists, Giovanni Donato di Montorfano (c. 1460 - c. 1503), who was given the quintessential task of depicting the *Crucifixion*.

Montorfano duly produced a *Crucifixion* that was entirely in line with Lombard convention, under influence of the International Gothic style, tempered by a somewhat casual concern for linear perspective. The artist appears to have executed the work in record time. At the foot of the cross, he proudly added an inscription that proclaims: Gio. Donatus Montorfanus, with the year 1495, meaning that Montorfano finished the work in less than a year. The same, however, could not be said about the artist laboring on the opposite wall – much to the chagrin of the duke, whose relationship with Leonardo was rarely a happy one. Exasperated, the duke wrote to his secretary, Marchesino Stanga, on June 29, 1497, instructing him to ask Leonardo why he had still not finished his "principal work in the refectory of the delle Gratie (sic)" – meaning, the *Last Supper*. [1]

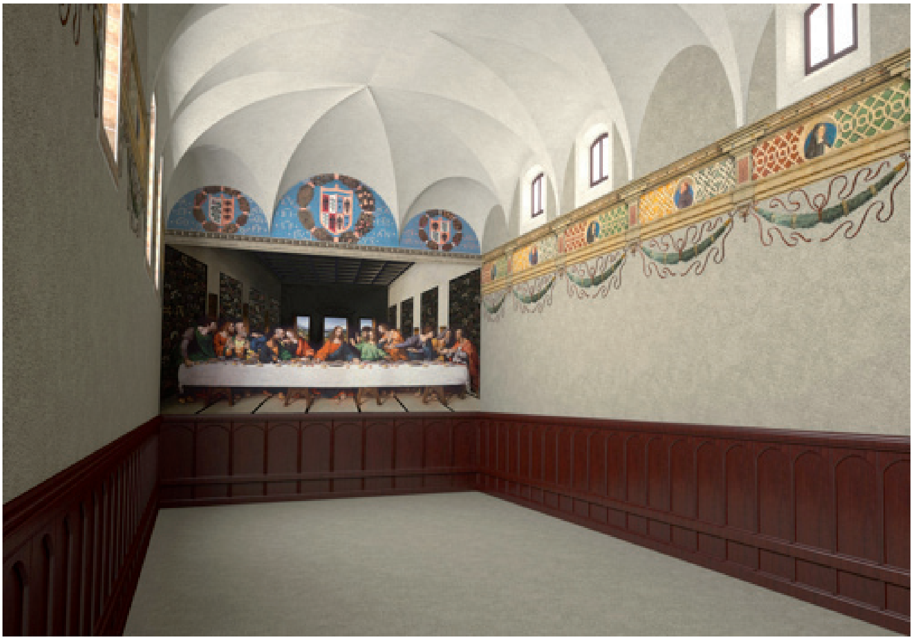

Figure 2. A digital reconstruction of the Cenacolo or refectory of the Santa Maria delle Grazie. As it appeared in the early 16th century (Courtesy, Pantheon Studios).

Of course, today we know why Leonardo took several years to complete his mural. His art was always informed by his empirical study of light and atmospheric effects, as well as his observations of both nature and human psychology. What's more, Leonardo decided to ignore the traditional Italian iconography of the *Last Supper* established during the Byzantine era – depicting the institution of the Eucharist – and instead chose a different moment in John's Gospel, when Jesus announces that one of the twelve Apostles will betray him. This allowed him to exploit the emotional shock of Jesus' declaration: how it explodes outwards from the center and provokes the men around Christ into indignant denials and debate (Figure 3).

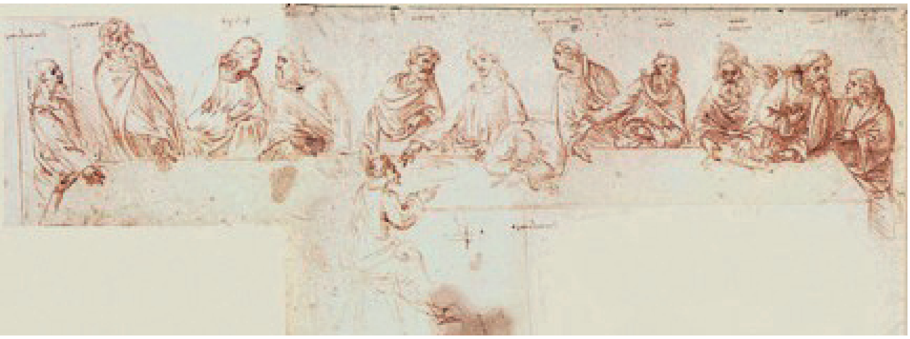

Figure 3. Leonardo da Vinci, Study for the Last Supper, ca. 1495. In this image, the two superimposed scenes have been combined.

Leonardo's notebooks of this time carefully record how "Emotions move the face of man in different ways, for as one laughs, another weeps; as one is cheerful, another turns sad; others show anger and pity, while others still are amazed, afraid, distracted, thoughtful or reflective. The hands and indeed the whole person should follow the expression of the face" [3]. All of these sentiments are performed right in front of us, as if we were witnessing a play on stage with live actors.

To depict a *Last Supper* in this manner was a magnificent idea, but the problem was that such a range of emotional expressions could not be conveyed in quick-drying tempera paint, the standard process for painting murals. In response, Leonardo embarked on an experiment: to try to create a new process that would enable him to use the same effects of his oil technique, while still producing a strong bond between pigment and plaster.[2] But the attempt failed; the pigments refused to bind with the surface and, as early as 1517, the painting began to flake. Part of the reason is that the northern wall faced the kitchen, and therefore absorbed much condensation.

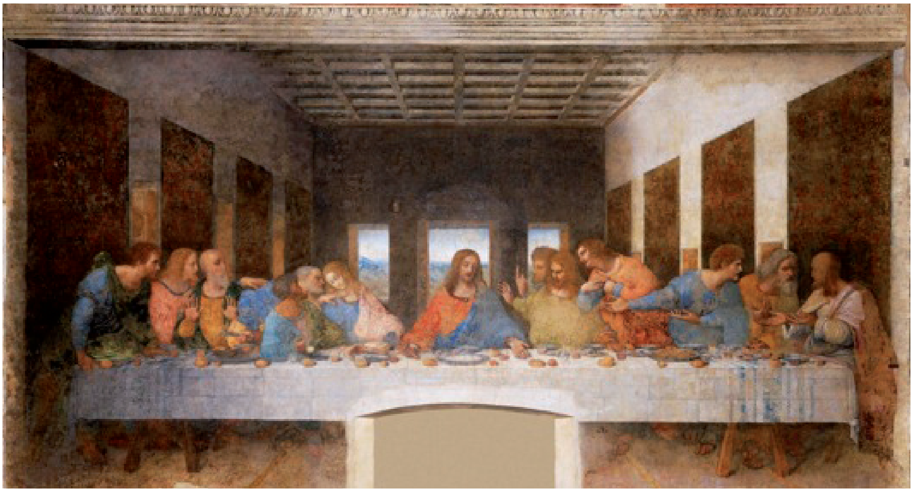

Figure 4. Leonardo da Vinci, The Last Supper, 1494-1499. Santa Maria delle Grazie, Milan.

As a result, we can no longer see what Leonardo's masterpiece once looked like. By the judgment of its most recent restorer, Pinin Brambilla, only some 20% of the original fresco is still visible (Figure 4). Therefore, the need for a faithful copy that can show us Leonardo's original vision is quite urgent. But does such a copy exist? More specifically, of the three copies that were executed during Leonardo's lifetime by his followers, which version comes closest to the original?

2. A king arrives in Milan

The starting point for our inquiry is an anecdote described in the book *Lives of the Artists* by Giorgio Vasari, originally published in Florence in 1550.[3] Vasari's comment is framed by a traumatic event in the history of Milan: the 1499 conquest of this city-state by the French King Louis XII. Soon after he invested the city, the king decided to see the much-admired fresco of the *Last Supper* for himself. When he saw it, he was so impressed that he ordered his engineers to "carry it into his kingdom… safely, and without any regards for expense" [4]. When his engineers found that this couldn't be done, the king "tried by any possible means to discover whether there were architects who, with cross-stays of wood and iron, might have been able to make it so secure that it might be transported safely; but the fact that it was painted on a wall robbed his Majesty of his desire, and so the picture remained with the Milanese."

King Louis had good reasons to want the painting in France. Though it is difficult to imagine today, early 16th century France – and particularly the royal court at Amboise – had become a cultural backwater. France had experienced its greatest artistic flowering during the 14th and early 15th century when the court of Burgundy was a leading center of the High Gothic style with painters such as Jean Fouquet, Enguerrand Quarton and the Limbourg Brothers. But the sudden onset of the Florentine Renaissance, which took Europe by storm in the latter part of the 15th century, combined with the devastating effects of the Black Plague and the Thirty Years War, had toppled France from its artistic pedestal. Leonardo's signature masterpiece, then, could serve as a key model for French artists to learn the vernacular of Italian Renaissance art.

Vasari's anecdote left an important question: what did the king do next? Did he accept the verdict of his engineers and abandon the idea? Or did he do what most autocratic rulers did in the Renaissance: refuse to take "no" for an answer, and search for an alternate solution?

As it happened, the late 15th century had seen the development of a new form of support for paintings, as an alternative to a wall or a wood panel. That medium was canvas. Originally introduced in Northern Europe, canvas was quickly adopted by Venetian painters, given that Venice was the leading shipbuilding center of Europe – canvas, used to make sails, was therefore in ample supply. Canvas had many advantages over wood panels. It was less expensive; it didn't split or crack as oak or walnut panels sometimes did; it would allow for any size, by stitching sheets together; and most importantly, it could be rolled up and easily transported over long distances. As it happened, Leonardo had witnessed the use of canvas during his stay in the lagoon city in either 1499 or early 1500, after the French investment of the duchy of Milan.

We therefore developed the hypothesis that the French king may have opted for another way to satisfy his desire: to commission Leonardo to produce a faithful copy of the *Last Supper* fresco on canvas to scale, so that it could be rolled up and brought back to France. The evidence for such a claim is compelling. After Louis made a triumphant entry into Milan on October 6, the king appointed a man named Georges d'Amboise to serve as the governor of Milan. D'Amboise was a French cardinal whose family had served in several prominent positions in the previous government of King Charles VIII. [4] King Louis' patronage of Leonardo must have begun very soon after that date. Leonardo's painting of the *Madonna of the Yarnwinder*, begun around 1500, was commissioned by Florimond Robertet, a senior advisor to Louis XII who undoubtedly acted on the king's instructions. This suggests that Robertet probably charged Leonardo with the *Yarnwinder* project while the artist was still in Milan, and that Leonardo then completed the painting after his subsequent return to Florence.

In the meantime, Leonardo's partner in Milan, Ambrogio de Predis, continued to labor on the second version of the *Virgin of the Rocks* (now in the National Gallery in London) that he and Leonardo had previously collaborated on. But when the client, the Confraternity of the Immaculate Conception, refused to pay, de Predis lodged an official complaint with the Milanese government in 1502, which at this time happened to be ruled by France. The judge's ruling went against the artists and sided with the Confraternity, which claimed that the painting was still "unfinished". Translated properly, this meant that the Confraternity believed the painting was more Ambrogio than Leonardo; the magic touch of the *real* master, or so it was felt, was clearly missing. As a result, in 1506 Leonardo was invited to return to Milan and do whatever it took to see the client satisfied and get himself and his partner paid.

The problem was that at the time, Leonardo was under contract to paint a massive fresco, the *Battle of Anghiari*, in the Great Council Hall of the Palazzo della Signoria (today called Palazzo Vecchio). And that project was not going very well. Leonardo was once again experimenting with various pigments that would allow him to create the optical effects of oils on a plaster wall. Much against its better judgment, Florence grudgingly issued Leonardo an exit permit on May 30, 1506, with the understanding that the furlough would not exceed three months, and that Leonardo would have to leave a deposit of 150 florins to guarantee his return.But as we know, that is not what happened. At the end of the agreed three-month period, the new governor of Milan, George d'Amboise's nephew Charles d'Amboise, wrote a courteous letter to the president of the Signoria, the *gonfaloniere* Soderini, asking for an extension of Leonardo's furlough until September. Soderini replied with a thunderous volley on October 9, all but accusing Leonardo of bad faith, and ordering his return.

Shockingly, the king himself then intervened. He first summoned the Florentine ambassador at the French court, Francesco Pandolfini, and made a formal, royal request to retain Leonardo's services in Milan – perhaps the first instance in modern history that a king intervened with a fellow head of state for the services of an artist. [5]

This has prompted most historians to believe that the king wanted Leonardo in Milan to paint the *Madonna of the Yarnwinder*. There are two problems with that assertion. One, as we saw, was that the painting had already been commissioned by the king's advisor, Florimond Robertet, some six years earlier. And two, there was no compelling reason for Leonardo to come to Milan in order to paint a picture of the Madonna; he could do that anywhere, and certainly in Florence, where he by now had set up a large studio.

In our opinion, the king knew very well what he was going to commission from Leonardo as soon as the artist was back in Milan: a life-size copy of his *Last Supper* fresco, on canvas, for shipment to France. That is the only plausible reason why Leonardo *needed* to be in Milan for an extended period of time, not only to work from the original, but also to recruit some of the same Milanese assistants who had collaborated on the fresco in the latter part of the 1490's. Of course, such an enterprise would take many months, even years. This is why, we believe, the king chose not to make his intentions known to the Signoria, because such would undoubtedly have unleashed another storm of protests.

As an indication of the great importance that Louis attached to the project, the king then took the unprecedented step of writing to the Signoria *himself*. [6] It is doubtful that the king would have brought such intense diplomatic pressure on a state with which France was on friendly terms, simply to enable Leonardo to paint a portrait of a Madonna, which he could do anywhere. In our view, this is clear evidence that the king wanted Leonardo released for a major project, to be executed "with his own hand" and "for such a time" as it may require, and that this could only pertain to an endeavor as ambitious as creating a faithful copy of the *Last Supper*.

What's more, there is other substantial evidence that this copy was indeed executed at Leonardo's second Milanese workshop between 1506 and 1509, and that it marshalled the talents of some of his finest collaborators, including Giampietrino (active 1495-1549), Andrea Solario (1460-1524), and Marco d'Oggiono (c. 1470- c. 1549), working under his direct supervision.[7] Significantly, all three artists would in future years be retained by other patrons to produce their own copy of the *Last Supper*, arguably on the strength of their experience of a royal commission for Louis XII. That Leonardo himself agreed to undertake the project is attested by the fact that in the next communication from the royal French government of Milan to the Signoria, the artist was now referred to as "Master Leonardo da Vinci, painter to his most Christian Majesty." Louis himself would call Leonardo *nostre peintre,* "*our* painter." All of a sudden, Leonardo had become the court painter of the French King.

2.1. The Last Supper on canvas is taken to France

At some point in late 1508 or early 1509, after the copy was finished, it was transported to Gaillon in France under the direct supervision of one of the artists on the project, Andrea Solario. By this time, Solario had established an excellent relationship with Charles d'Amboise, the Milanese governor, as well as with Charles' uncle, Georges d' Amboise, whom Louis XII had elevated to the position of First Minister. The French king himself had become embroiled in other conflicts, notably with Naples and Venice during the period known as the "Italian Wars" (1494-1556), so Georges now effectively ruled France while Louis himself was fighting in Italy. Thus, the *Last Supper* copy was dispatched to Charles' chateau in Gaillon. What's more, d'Amboise used the opportunity to also ask Solario to decorate a number of murals in the chapel of the Château de Gaillon, which unfortunately were lost when the chapel was destroyed during the French Revolution. A Gaillon accounting statement, dated January 20, 1509, lists the remittance of 129 *livres* and 10 *soldi* (around $1,500) *à Milan au peintre maistre André de Solario.*

Six years later, Louis XII succumbed to a severe case of gout (or arthritis), a very common affliction in that era, and died on January 1, 1515. The *Last Supper* copy therefore remained in the d'Amboise chateau in Gaillon. It is documented in an inventory of 1542 as *La Cène faicte en toile en grands personnaiges que feu Monseigneur fist apporter de Milan* ("the Last Supper made on canvas with monumental figures, which Monsignor had transported from Milan") [5]. Here is clear evidence that the *Last Supper* copy had been commissioned by d'Amboise, arguably acting on the king's orders, and that it was brought directly from Milan to Gaillon.

By the time the 1542 inventory was taken, Georges d'Amboise himself had passed away and his estate was put up for sale. The painting was taken to Antwerp, which at that time was one of the most prosperous cities in Northern Europe. In 1545, it was acquired by a cleric named Abbot Streyters for 450 guilders for the choir of a new abbey church, which was then under construction near the Belgian village of Tongerlo.[8] Save for periods during times of war and political upheaval, it has been there ever since.

In the archives of the Tongerlo Abbey itself is a handwritten account in 16th century Dutch, dated 1547, which validates our initial hypothesis to a remarkable degree:

"It is said that the painting is made after an original, painted on a wall, that is now in bad repair. And that when a king of France, who conquered Milan, saw the painting, he was very disappointed that he could not take it with him since it was painted on a wall. And so he gave the order to have a copy made, and that is the copy that hangs in the choir today." [9]

2.2. The Leonardeschi produce other copies

At some point after 1509 Andrea Solario returned to Italy, where he was able to capitalize on his work as one of the lead artists on the royal copy of the *Last Supper*. By then, the fame of Leonardo's Milan fresco had radiated all through Northern Italy, and several wealthy convents clamored to have the same painting in their refectories. Consequently, Solario was soon at work in painting *another* copy, this time in fresco, for the monastery at Castellazzo.[10] Very few photographs exist of this remarkable work, which was destroyed during World War II. But the few black and white images that have survived reveal the extraordinary mastery of Solario in capturing both the form and spirit of Leonardo's original, based on his experience of collaborating on the Tongerlo copy.

Another prominent artist who had worked on the painting for the French king, Giovanni Pietro Rizzoli, who is referred to in Leonardo's notebooks as "Gian Pietro" or "Giampietrino," was also tapped to create another copy.

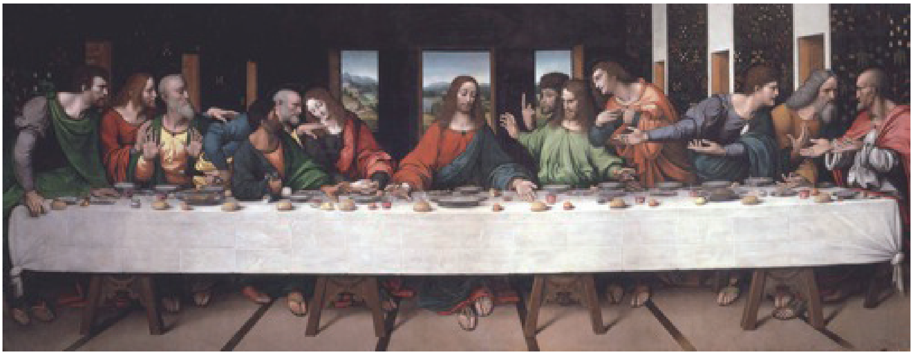

Figure 5. Giampietrino, The Last Supper after Leonardo, also known as the Certosa copy, ca. 1515.

This painting, known as the "Certosa di Pavia copy," is likewise noteworthy since the width closely matches that of the original fresco (Figure 5). Pietro Marani dates this work to 1515, though other authors are inclined to give it an even later date [6].

Unfortunately, the upper third of this painting was cut away, for no reason that anyone has been able to establish. Over a century later, in 1626, it appears in the inventory of the Certosa di Pavia ("Charterhouse of Pavia"), the vast monastery complex established in 1395 by the first Duke of Milan, Gian Galeazzo Visconti. Though the literature refers to it as the "Certosa di Pavia" copy, this particular monastery did not list the work in its inventory until that year, so it is possible that it was originally ordered by a smaller Carthusian convent, and later claimed by the Certosa when Leonardo's original in Milan had become famous throughout Italy and beyond. The Certosa copy was then acquired in 1821 by the Royal Academy of Arts in London [7].

3. The IRR study of the Tongerlo *Last Supper*

To verify our hypotheses about the authorship of the Tongerlo *Last Supper*, our research project was organized in two phases. During the first, we obtained high-resolution digital images of the Tongerlo canvas and its nearest copy, the Giampietrino canvas now in the Royal Academy of Arts in London. Using the digital facilities of Pantheon Studios in Santa Monica, CA, we then superimposed each of the four principal groups from Tongerlo and London on Leonardo's original composition in the Milan fresco (Figure 6).

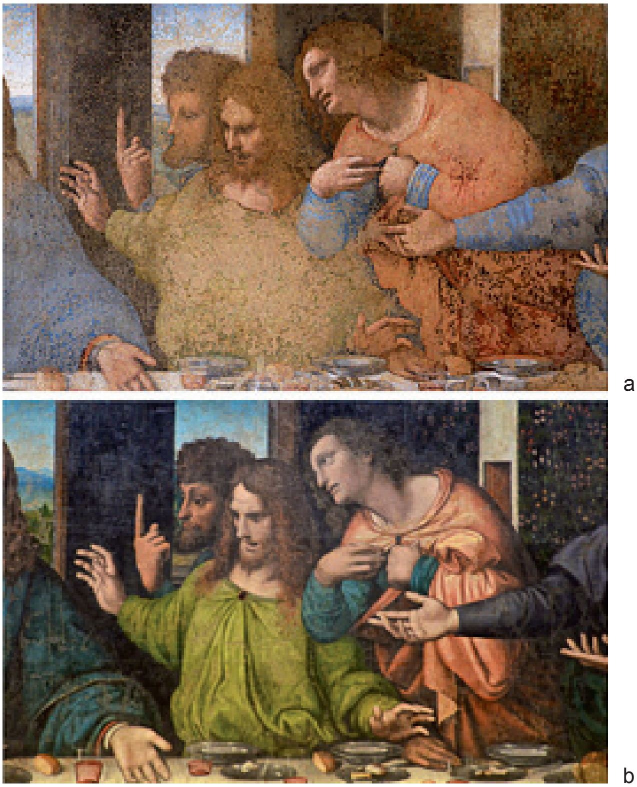

Figure 6. Thomas, James the Great and Philip, from a) Leonardo's original and; b) the Tongerlo copy.

The result was quite astonishing. In the case of the Tongerlo canvas, three of the four groups matched the composition of the original fresco to remarkable degree. While there were obvious differences in the execution of the figures, the positioning of the figures remained largely intact. Such a close match could not have been realized with a freehand drawing; it would have required some form of mechanical transfer. The most obvious conclusion, then, is that the artists used the same cartoons that had originally been used for the fresco. Only in this manner could they achieve an almost exact replica of the fresco, notwithstanding the fact that the original was painted high up on a wall. Significantly, Giampietrino's later London *Last Supper* did not match the original fresco. The spacing and dimension of the figures was markedly different.

The hypothesis that the artists of the Tongerlo canvas used the original cartoons of the Milan fresco was borne out by the IRR tests conducted by IPARC's chief expert, David Lainé. "All the faces show a very strict and sharp outline with no free hand application, executed with a dry medium," Mr. Lainé wrote in his analysis. "This is a strong indication of the use of cartoons for the tracing of the figures" (Figure 7).

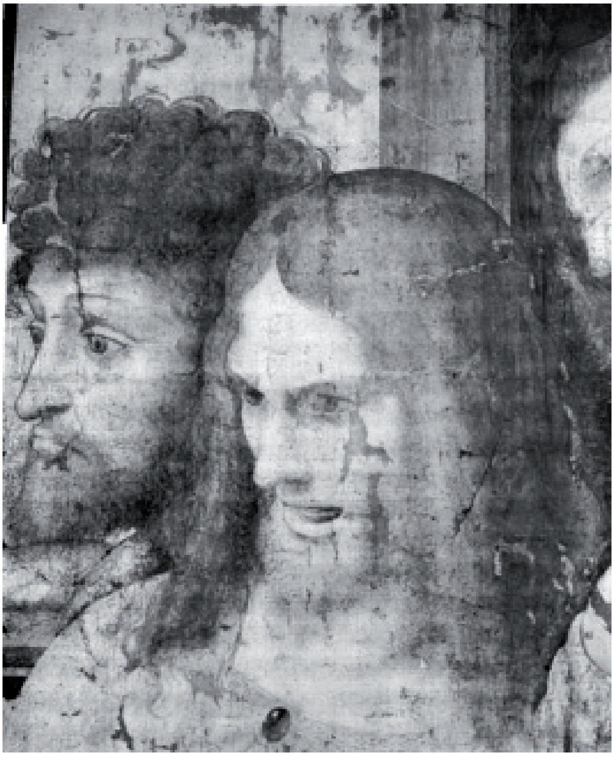

Figure 7. Infrared reflectogram of Thomas and James the Greater, showing the outline of the figures.

The idea that Leonardo would carefully preserve his designs and cartoons is attested by the fact that long after his death, his cartoons would remain in active circulation, eagerly sought after by the *Leonardeschi* and other artists. This explains why numerous paintings painted by Leonardo's followers appear to be closely inspired by the master's drawings, long after the master had passed away.[11] These and other reflectograms also revealed the damage and losses in the paint layer, which according to Mr. Lainé are extensive and spread over the entire surface.

The IRR tests also revealed another remarkable phenomenon that we had not anticipated. To understand this, we should remember that King Louis XII had seen the painting in fresco form (albeit executed in the curious blend of pigments with which Leonardo had tried to reproduce the striking realism of his Milanese portraits).

While analyzing the reflectogram of Judas, Peter and John, for example, Mr. Lainé was struck by the way that the preparatory layer consists of small parallel lines, with lines changing direction per zone. These zones were then lightly brushed over with a highly diluted paint film (Figure 8). This technique betrays a deliberate attempt to create the effect of a work *al fresco*. In sum, while creating this painting, the artists worked hard to mimic a fresco finish, so as to match the expectations of the client, the French king.

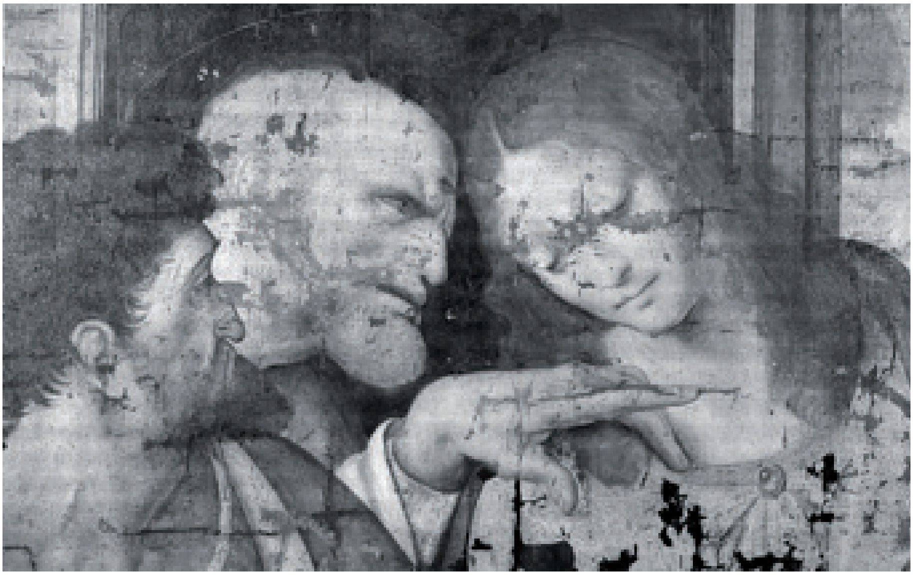

Figure 8. Infrared reflectogram of Judas, Peter and John in the Tongerlo Last Supper. The darker pigments were applied during a restoration in the 1930's.

4. Is the portrait of John a Leonardo autograph?

Even a casual observer of the Tongerlo *Last Supper* will recognize the contrast between the face of John the Apostle, traditionally painted at the right side of Jesus, and that of the other Apostles (Figure 9). The delicacy of its sfumato and the subtle reflection of light on the lower passages of the face closely resemble Leonardo's other portraits from this period, including the angel in the London *Virgin of the Rocks*.

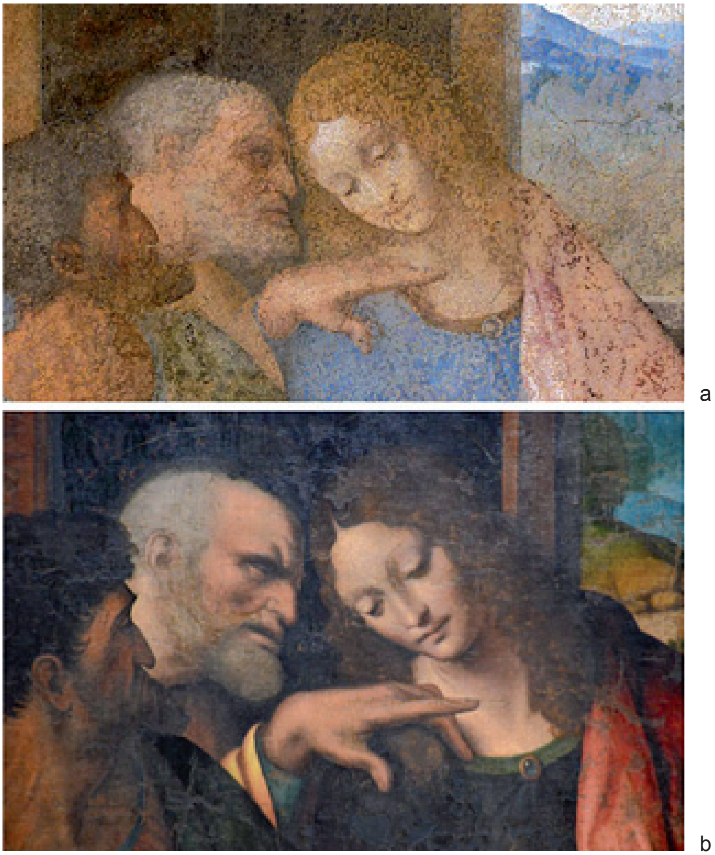

Figure 9. Judas, Peter, and John, from a) Leonardo's original; and b) the Tongerlo copy.

In our opinion, no other artist in the first half of the 1500's had yet mastered this technique of rendering a human face through such subtle nuances in light and shadow. The VNIR reflectance of John also shows that the soft sfumato of John's face is entirely the work of its master, rather than that of the 20th century restorer. Therefore, we believe that the face of John was indeed painted by Leonardo himself, which would make this the first instance of a Leonardo autograph on Belgian soil.

This hypothesis is further supported by a histographic analysis by Prof. Vadim Parfenov of the St. Petersburg Electrotechnical University. Histogram analysis involves extracting luminosity histogram statistics of certain details in a painting to identify the artist's unique brushwork technique. Prof. Parfenov found that the nose, eyes, and forehead of John are similar to the nose, eyes and forehead of the Louvre *Mona Lisa.* Furthermore, IPARC's reflectogram of John shows that unlike the other figures, the artist took the liberty of painting outside the outline contours. Finally, the face of John corresponds to the androgynous model of feminine masculinity that fascinated Leonardo throughout his career. It bears a striking resemblance to Leonardo's study of *Leda and the Swan*, for example (Figure 10).

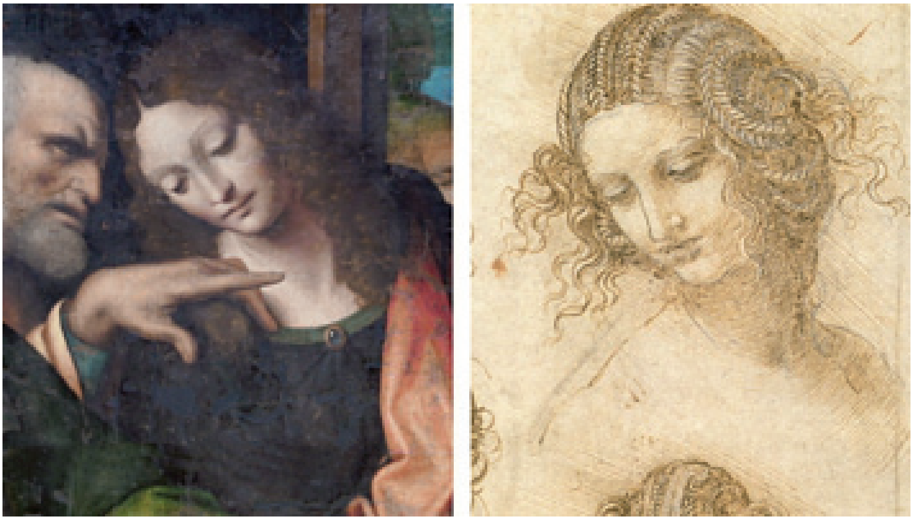
a b

Figure 10. a) Detail of Peter and John from the Tongerlo canvas; b) and Leonardo da Vinci, Study for Leda and the Swan, ca. 1505-6.

5. Conclusion

In sum, this study produced the following findings:

- The IRR tests support the thesis that the Tongerlo *Last Supper* was painted using some of the same cartoons that were used for the original fresco in Milan. This would place the origin of the Tongerlo canvas in Leonardo's second Milan studio (1507-1513).
- Correspondence, receipts, inventories and other documentation suggest that the painting was commissioned by King Louis XII of France, and that it was transported to the Château de Gaillon in France in January of 1509, where it was still present in 1542 according to an inventory drawn up at that time.
- After the death of Louis XII and George d'Amboise, it was sold to the abbot of the new Tongerlo Abbey in 1545.
- The infrared reflectogram of John shows that this portrait has suffered relatively little from the 1929 fire and the subsequent 20th century restoration. It is strikingly different from the other figures in the exceptional delicacy of its sfumato, and the freedom with which the artist went beyond the contour lines. Therefore, the face of John was very likely painted by Leonardo da Vinci.
- Other than the face of John, stylistic analysis suggests that the individual figures in the painting were executed by three leading associates of Leonardo's second Milanese studio (1507-1513), as follows:[12]
  - *Bartholomew - James Minor - Andrew*: Giampietrino
  - *Judas - Peter*: Giampietrino
  - *Thomas - James Major - Philip*: Andrea Solario
  - *Matthew - Thaddeus - Simon*: Marco d'Oggiono

- Significantly, each of these three artists then leveraged the experience of working on the Tongerlo canvas to create a full-size copy of their own:
  - *Andrea Solario: Castellazo copy (fresco), 1514; lost during World War II*
  - *Giampietrino: Certosa copy (canvas), 1520, now at the Royal Academies of Art, London (UK)*
  - *Marco d'Oggiono: Écouen copy (canvas), 1524-1530, now at the Château Écouen (France)*

Acknowledgments

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Notes

[1] The complete sentence reads: "Item de' solicitare Leonardo Fior. no perché finisca l'opera del Refettorio delle Gratie principiata, per attendere poi ad altra Fazada d'esso Refettorio et se faciamo con lui li capituli sottoscripti de mane sua che lo obligiano ad finirlo in quello tempo se convenera con lui." From L. Beltrami, Documenti e memorie riguardanti la vita e le opere di Leonardo da Vinci; doc. 61.

[2] Instead of using wet plaster al fresco, Leonardo prepared a dry wall surface, using a seal of pitch and gesso (a binding agent consisting of chalk, gypsum, and lead white pigment). He then applied a thick layer of egg tempera.

[3] We should remember that Vasari became a client of the new authoritarian Medici regime led by Duke Cosimo I. He wholeheartedly embraced the intense propaganda cult that Cosimo initiated to seek legitimacy for his rule. The purpose of this propaganda sought to sway a wary Florentine public that had long prided itself on being one of the few "democratic republics" on the Athenian model in Europe. This explains why Vasari's book largely focused on artists in the duchy of Florence while omitting many other talented artists, notably in Venice.

[4] Among others, George's father, Pierre d'Amboise, was a chamberlain to Charles VIII, while his brother, Charles d'Amboise, had been a governor of various regions for Louis XI. Georges himself became a bishop at age 14. This was not unusual in a time when such positions were prized for their political rather than spiritual value, and many bishoprics were bought or sold for the considerable influence that they could wield, regardless of the spiritual abilities of the individual involved.

[5] "His Majesty summoned me to Him," Pandolfini duly reported to his masters at the Signoria after the audience, and then quoted the king's words verbatim: "Tell them that I need your painter, Master Leonardo, who is living in Milan, because I wish him to make some things for me. See that your Signoria charge him with this task and command him to place himself immediately at my service, and that he does not leave Milan before my arrival. He is a good master, and I would like to have a number of things by his hand." What is so striking about this account is that Louis was remarkably circumspect about the "things by his hand" that he wanted Leonardo to execute. If the need for this artist was so urgent, why not tell the Signoria the reason? Pandolfini wondered the same thing, and so he boldly asked the king "what sort of works he wanted from

Leonardo." But the king had no intention of divulging his plans to the Florentine republic. "Oh," the king replied airily according to Pandolfini's letter, "A number of small pictures of our Lady, and other things, depending on what springs to mind."

[6] "Very dear and close friends," the king began, "As we have need of Master Leonardo da Vinci, painter to your city of Florence, and intend to make him do something for us with his own hand, and as we shall soon, God helping us, to be in Milan, we beg you, as affectionately as we can, to be good enough to allow the said Leonardo to work for us such a time as may enable him to carry out the work we intend him to do." Louis XII, Letter to the Signoria of Florence, January 14, 1507; Archivio di Stato di Firenze.

[7] For a detailed description of these artists and their collaboration with Leonardo, as well as their subsequent oeuvre, see Jean-Pierre Isbouts and Christopher H. Brown, The Da Vinci Legacy. New York: Apollo Publishers, 2019.

[8] R.H. Marijnissen, Het Da Vinci Doek van de Abdij van Tongerlo, 1959; p. 4. That the friars took the preservation of their valuable canvas seriously is attested by the fact that in 1594, special curtains were procured and dyed to serve as protection against the sun.

[9] The original text reads: "Men segt dat de patroon daer de selve schilderije near gemaect is in Milaan, nu zeer beschaedigt, tegen eene muer geschildert sijnde. En dat wanneer eenen coninck van vrankrijk Milanen gewonnen hadde, siende dese schilderij hem seer leet was da thy die niet mede mocht nemen overmits die tegen de muur geschildert was, maar order gegeven te hebben om dat the contrefeyten, wel conterfeijtself men segt t'selve te sijn dat in den coir hangt." We are grateful to Father Kees van Heijst, principal archivist at the Abbey of Tongerlo, for identifying this document in the abbey's archives.

[10] J. Murray, The Academy, 1882. The author also visited the abbey of Tongerlo, where he admired the canvas "in an excellent state of preservation."

[11] For a discussion of the use of Leonardo's cartoons, see Jean-Pierre Isbouts and Christopher H. Brown, The Da Vinci Legacy. New York: Apollo Publishers, 2019.

[12] For this attribution, see Jean-Pierre Isbouts and Christopher H. Brown, The Da Vinci Legacy. New York: Apollo Publishers, 2019.

References

[1] Steinberg, L. (2001) Leonardo's Incessant Last Supper. New York: Zone Books, 2001; p. 244.

[2] Lefeve, Rene, Het laatste avondmaal van Tongerlo: Materiele gegevens. Bulletin de l'institut royal du patrimoine artistique, X, 1967-1968, pp. 16-31.

[3] Martin Kemp (Ed.), Leonardo on Painting. New Haven: Yale University Press, 1989; p. 144.

[4] Giorgio Vasari, "Lionardo da Vinci," in: Le Vite de' più eccellenti pittori, scultori e architetti; 1568 Edition.

[5] E. Möller and J. Martin-Demezil, "L'art et la Pensée de Léonard de Vinci, Communications du Congrès International du Val de Loire," in Etudes d'Art, Paris-Algiers 1953-1954, p. 263.

[6] Barcilon, P. B. and Marani, P. (2001), Leonardo: The Last Supper. Chicago: University of Chicago Press.

[7] Isbouts, J.P. and Brown, C. H. (2017), Young Leonardo, The Evolution of a Revolutionary Artist. New York: St. Martin's Press.

Biographical notes

Jean-Pierre Isbouts is an art historian and a doctoral professor at Fielding Graduate University in Santa Barbara, CA. He is the author of nine National Geographic books, including *The Biblical World*, *In the Footsteps of Jesus*, and *The Story of Christianity* which have sold 2 million copies. Together with Christopher Heath Brown, he is the coauthor of three books on Leonardo da Vinci: *The Da Vinci Legacy, The Mona Lisa Myth*, and *Young Leonardo.* Dr. Isbouts has been on numerous radio and TV shows and is the host of the TV series *The Search of Masterpieces*. He has also directed several programs on history and art for Disney, ABC, Public Television and the History Channel. Dr. Isbouts lives in Santa Monica, CA.

Christopher Heath Brown is a practicing oral and maxillofacial surgeon who has presented and published to both national and international audiences. He is one of the most prominent collectors of works by Salvador Dalí in the United States, and serves as the director of Brown Discoveries, a research institute focused on Renaissance, Surrealist, and Contemporary art. Together with Dr. Isbouts, Dr. Brown produced *The Search for the Last Supper* and *The Search for the Mona Lisa* for Public Television. Dr. Brown lives in Cornelius, NC.

Summary

This article presents the findings from a two-year study of the *Last Supper* canvas in the Abbey of Tongerlo, Belgium, including a detailed review of its provenance as well as a multispectral study conducted by IMEC and IPARC. The study used a composite multidisciplinary approach, with traditional connoisseurship and literary research augmented by scientific examination, including IRR (Infrared Reflectography). The article argues that based on the available evidence, the Tongerlo *Last Supper* was produced in Leonardo's Milanese workshop between 1507 and 1509, as a collaborative project involving the *Leonardeschi* Giampietrino, Andrea Solario, and Marco d'Oggiono under Leonardo's supervision. Furthermore, the infrared spectography scans suggest that the face of John in the painting was painted by Leonardo himself.

Riassunto

Questo articolo presenta i risultati di uno studio durato due anni della tela raffigurante l'Ultima Cena nell'Abbazia di Tongerlo, in Belgio. Vi è cui una revisione dettagliata della sua provenienza e uno studio multispettrale condotto da IMEC e IPARC. Lo studio ha utilizzato un approccio multidisciplinare, in cui conoscenza tradizionale e ricerca letteraria sono integrate dall'esame scientifico, in particolare dall'IRR (Riflettografia a infrarossi). Nell'articolo si sostiene che, sulla base delle prove disponibili, l'Ultima Cena di Tongerlo fu prodotta nella bottega milanese di Leonardo tra il 1507 e il 1509, come progetto collaborativo che coinvolse Leonardeschi Giampietrino, Andrea Solario e Marco d'Oggiono sotto la supervisione di Leonardo. Le scansioni effettuate con spettrografia a infrarossi, inoltre, suggeriscono che il volto di Giovanni nel dipinto sia stato dipinto da Leonardo stesso.