

# Darkness and Depth in Early Renaissance Painting

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Contrast has always been appreciated as a significant factor in image quality, but it is less widely recognized that it is a key factor in the representation of depth, solidity and three-dimensionality in images in general, and in paintings in particular. This aspect of contrast was a key factor in the introduction of oil paint as a painting medium at the beginning of the fifteenth century, as a practical means of contrast enhancement. However, recent conservatorship efforts have established that the first oil paintings were not, as commonly supposed, by van Eyck in Flanders in the 1430s, but by Masolino da Panicale in Italy in the 1420s. These developments led to the use of chiaroscuro technique in various forms, all of which are techniques for enhanced shadowing.

## 1. Tenebrists and the power of contrast

The ‘tenebrists’ is a term applied to the painters at the turn of the seventeenth century, spearheaded by Caravaggio and Rembrandt, who set their scenes in the darkness and gloom. Two examples of Rembrandt’s tenebrism are shown in Fig. 1, a self portrait in which seems to be specifically announcing the tenebrist credo by depicting his eyes peering out of the gloom. One of Rembrandt’s iconic images is that of the philosopher and his wife, in which the light spilling out of the small window throws the sage into high relief and also reveals the looming shape of the large spiral staircase shading the hardly-visible wife working hard to keep up the warmth in the philosopher’s studio. The spatial symbolism of the stairway as the philosopher’s ascending yet oppressive thoughts is enhanced by the profound sense of depth that is evoked by the combination of shading and perspective information defining its curvature.



Fig. 1. Self-portrait (1629, Alte Pinakothek, Munich) and ‘The Philosopher and his Wife’ (1631; Louvre, Paris) by Rembrandt van Rijn.

## 2. Van Eyck and oil paint as a high-contrast medium

However, the representation of depth through contrast did not begin in the seventeenth century, but was a key factor at the beginning of the Renaissance, two centuries earlier. The transition to high contrast was highlighted by David Hockney in his book 'Secret Knowledge', in which he identified the 1420s as the key decade of this transition. Typical examples of paintings before and after the transition are shown in Fig. 2, which contrasts Giotto's (1305) 'Lamentation' fresco with the paired panels of van Eyck's (1432) 'Annunciation'. Giotto's delicate composition gives a rather flat impression, despite the rather inappropriate cavorting of the angels, while the van Eyck gives such a strong depth impression that it is hard to believe that it is not a pair of sculptures rather than the panel paintings that they are. This is not a matter of the complexity of the draperies, which are roughly equivalent in the two works, but to the relative **contrast** of the two mediums. What gave van Eyck the edge was his use of oil paint, a major technological advance that he is often credited with having introduced into the craft of painting. The concept of oil paints is that they provide for both whiter whites and darker blacks, dramatically increasing the range of contrasts available to the painter. This increase of contrast is thus a major factor in the increase in perceived depth in oil paintings.

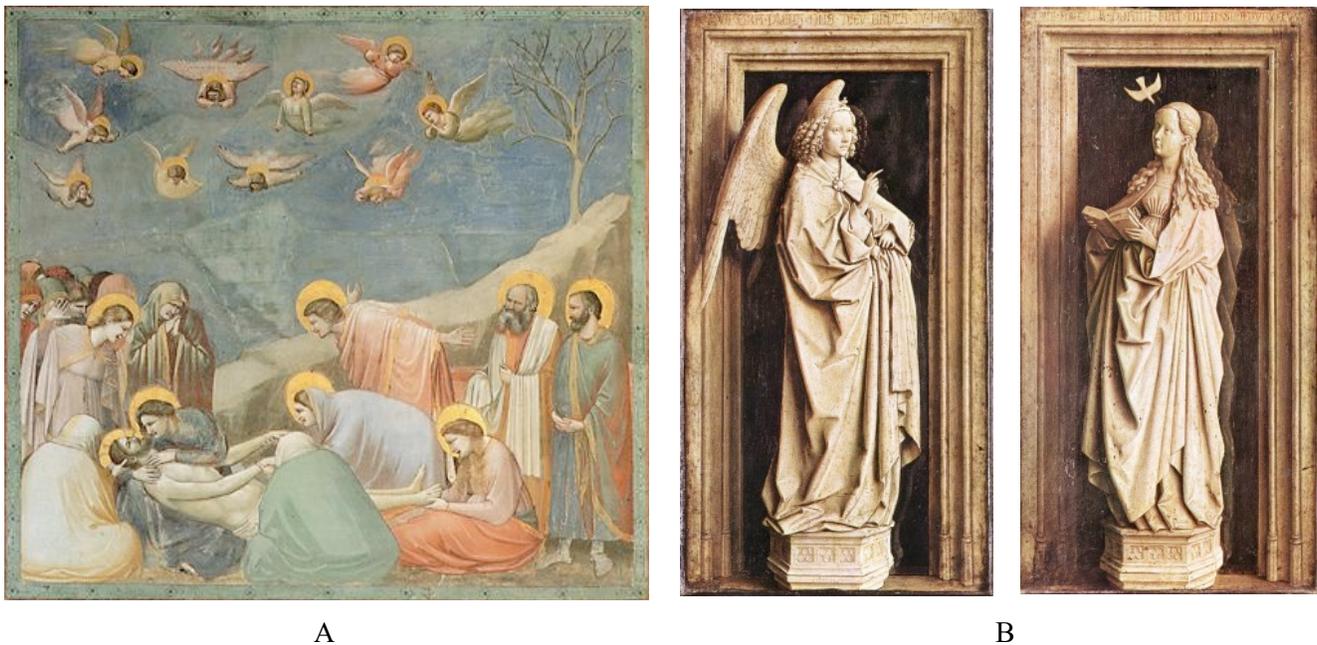


Fig. 2. A. 'The Lamentation' by Giotto (1305, Arena Chapel, Padua). B. 'The Annunciation' (diptych) by van Eyck (1436, Museo Thyssen-Bornemisza, Madrid).

Another Annunciation amplifies van Eyck's skills at illusionistic depth evocation (Fig. 3). This four-panel construction employs an array of techniques to convey the sense of a coherent space behind the frames of the four hinged panels. The compelling depth evocation is particularly appropriate because these panels form the hinged doors of the Ghent altarpiece, which can be opened to reveal the gathering of the hosts inside. The depth of the space is generated not only by the perspective recession of the floor and the ceiling rafters, but also by the dramatic shadowing of the frames around each panel that seems to convert them into the struts or mullions of window apertures through which we are viewing the space. Careful analysis of the perspective construction, however, reveals that it has three or four separate vanishing points, indicating that van Eyck constructed it with acute observation but a lack of the geometric knowledge of the principle of a central vanishing point.

Again, the richness of the oil paint medium contributes to the power of the depth impression from the shadowing and the folds of the voluminous garments of the Archangel and the Virgin. However, recent scholarship has

prompted a revision of the attribution of the oil paint technique to van Eyck. The story seems to be emerging piecemeal without clear recognition, but the man who seems to have been the true experimenter with oil paint as a medium is the now little-known Tuscan artist Masolino da Panicale. He was the principal artist for the papacy at the time that it returned to Rome in 1419 from its self-imposed exile to Avignon due to the Black Death, and he completed major commissions in Florence, Empoli and Olona (near Milan). He was overshadowed by his younger collaborator, Masaccio, who was soon credited with most of his work and became famous as the progenitor of the Renaissance style of pictorial realism. These attributions were solidified by Vasari's authoritative 'Lives of the Artists' (1550, 1568), and it was not until late in the twentieth century, including the major opus by Joannides (1993), that a progressive re-attribution revealed the extent of Masolino's work. It is now clear, for example, that Masolino had at least as sound a grasp of perspective as Masaccio, and that he had a much wider range of figuration than is generally appreciated (Tyler, 2000).



Fig. 3. 'The Annunciation' by van Eyck (1432; Ghent Altarpiece, Ghent)

Of particular interest in the present context is the fact that it has recently emerged that Masolino used substantial amounts of oil paint in his works. The first analysis was performed by Strehlke & Frosinini (2008) on the panel of 'Pope Gregory and St Matthias' from the Colonna altarpiece (Fig. 3A), one of Masolino's early commissions in 1423 in Rome (on which he was assisted by the young Masaccio). Chemical analysis of the somber figures in this side panel by the Philadelphia Museum of Art has revealed that both the skin of the two figures and the powerfully-drawn draperies include substantial amounts of linseed oil, well before any of van Eyck's known paintings in the 1430s. The same is true of Masolino's large panel of the Annunciation at the National Gallery, Washington. Painted in about 1424, its rich brocades and delicate skin tones again were found to incorporate a substantial component of oil paint. Thus, it appears that, though perhaps perfected by van Eyck in Flanders in the 1430s, the credit should actually go to Masolino da Panicale in Italy in the 1420s for introducing oil paint as a technique for enhancing the blackness of blacks, and hence the contrast of panel paintings, beyond what was possible with the egg tempera and fresco techniques available at the time.

Masolino was also renowned for his interest in creating strong depth impressions. Vasari (1550), for example, gives Masolino considerable credit for his perspective skill, while withholding the ultimate accolade: "If he had been a perfect designer . . . he would have been numbered among the greatest, for his works are executed with grace, in a noble style, with beautiful and harmonious colouring and considerable power and relief in design, though this is not absolutely perfect." Vasari also found "his style very different from that of his predecessors, for he endowed his figures with majesty, and made the draperies soft, falling in elegant folds."

Another of Masolino's innovations was the placement of the saints in gold-lined alcoves, emphasizing the depth of their concavity. The examples of 'Saints Matthew and Ambrose' shown in Fig. 3B clearly indicate the subtlety with which Masolino crafted the shading and highlighting to evoke the hemicylindrical depth and lustrous surface of the alcoves. The innovative quality of this technique is evident by contrast with the earlier panel (Fig. 3A), which took the traditional gold-leaf approach to backgrounds for saints, even though an archway of sorts is indicated behind the haloes. The gold-lined alcove became a recurrent theme in subsequent Renaissance art, with notable examples from Bellini and Sebastiano del Piombo, and a compelling use in Titian's last painting that seems to be his depiction of his own tomb. Masolino made numerous other innovations in the depiction of depth and three-dimensionality, including the innovative depiction of landscape, and seems to deserve at least as much credit for many of these innovations as the later practitioners like van Eyck, Leonardo and Raphael.

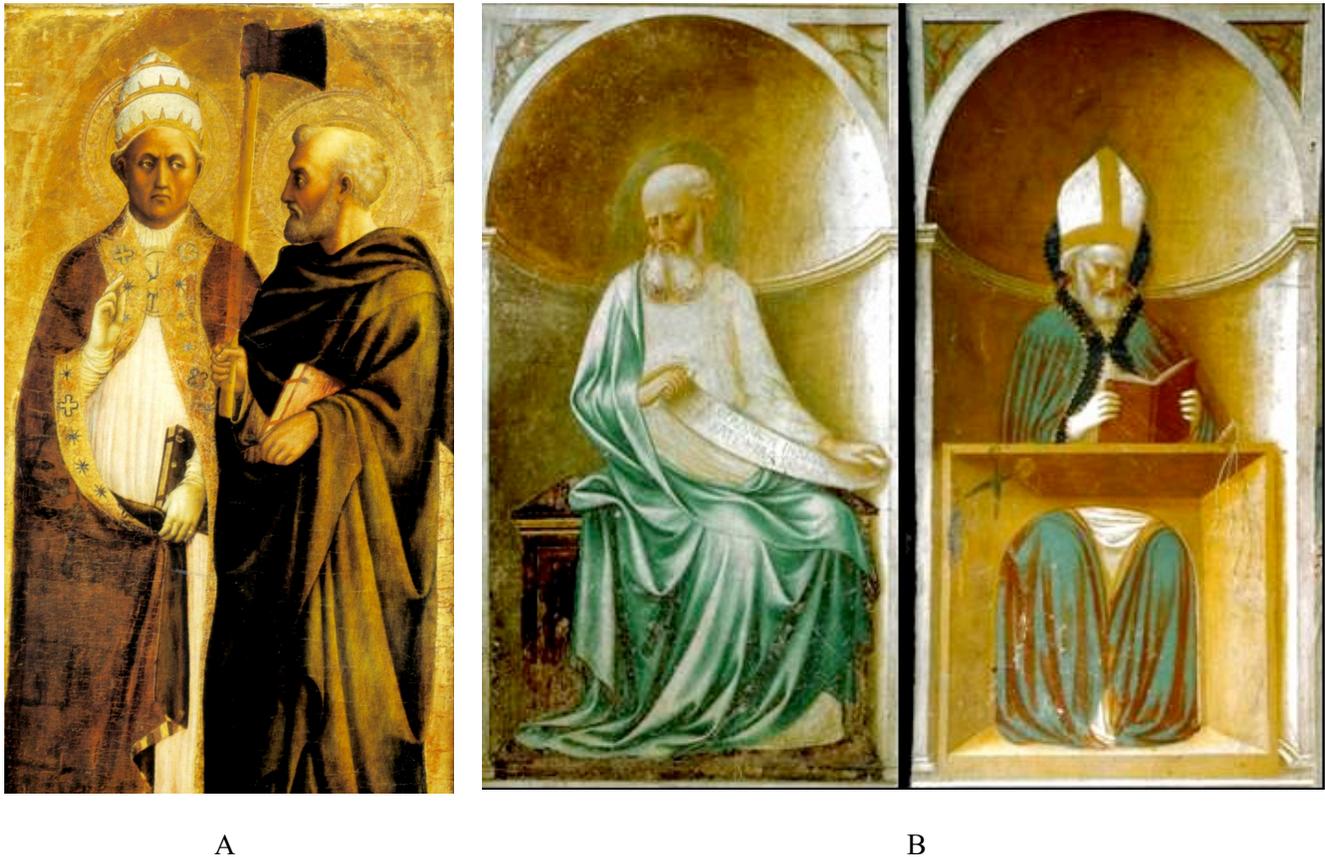


Fig. 3. A. 'Pope Gregory and St Matthias', side panel from the Colonna altarpiece by Masolino da Panicale (1423, Philadelphia Museum of Art). B. 'The Prophet Isaac' and 'St Ambrose' by Masolino da Panicale (1435, Castiglione Olona, near Milan).

Masolino was heavily involved in many revolutionary developments in the early part of the fifteenth century. The two figures at the center of his 'Healing of the Cripple' fresco form an iconic image of Renaissance style. The foreshortening of the cripple's leg was highlighted by Vasari as a focal achievement studied by the subsequent Renaissance masters. The perspective of this painting is impeccable, with dozens of converging orthogonals meeting accurately at a point behind the head of the rightmost of the figure pair (Tyler, 2000). The perspective is fully integrated for the left and right sides of the scene, both interior and exterior lines, their integration with the convergence of the streets on the left and right sides of the background, and the placement of the vanishing point at the eye height of the standing figures (where it must be if the viewer was standing in the same plaza). This degree of complete integration can be achieved only by an explicit implementation of the concept of a central vanishing point. It seems clear that Masolino had understood, for the first time, the power of the vanishing-point construction in depicting visual space (Tyler, 2000).

In fact, close examination of the fresco by the author revealed that there is a hole in the plaster at the exact location of vanishing point, implying that Masolino had constructed it by means of a nail in the wall, presumably

to hold a chalk-impregnated string that could be held taut and flicked to leave a trail of chalk dust to mark each perspective line. Why would Masolino leave the hole in the plaster, to be preserved over the period of nearly six hundred years? Perhaps he wished it to be seen as evidence that he was, in fact, the one to have first clearly understood the significance of the vanishing point for the construction of perspective. (His chief rivals in respect to the introduction of perspective geometry, Brunelleschi and Masaccio, both have clouded claims with respect to the central vanishing point.)



Fig. 4. 'The Healing of the Cripple' (detail from the larger panel including the 'Raising of Tabitha' at right) by Masolino da Panicale (1425, Brancacci Chapel, Florence).

Brunelleschi's renowned perspective panels, which have been dated anywhere from 1415 to 1435 (Kemp, 1990), contained no features that could require a central vanishing point, and in any case were constructed by tracing the outlines of real scenes while looking through an Albertian muslin, which requires no knowledge of perspective geometry, just a sense that the 3D scene needs to be projected accurately to the 2D plane. Masaccio's best-known perspective piece, the 'Holy Trinity' (1428) does have a similar hole at the vanishing point location, but it is generally dated as his last work, painted after the collaboration with Masolino on the Brancacci Chapel commission in 1425. Moreover, the convergence to its vanishing point is notably inaccurate (Field, 1997), making it difficult to understand just how Masaccio had used the indentation forming a vanishing point. However, it should be recognized that all attempts to disentangle the relative contributions of the established Masolino and the precocious Masaccio have foundered into unresolvable ambiguities. In particular, it may be noted that the widespread efforts to bias the case in favor of Masaccio are not supported by either documentary or iconographic evidence, and seem to be the result of purely historical prejudice built up over the years.

### 3. Chiaroscuro and the optics of shadow

Both Masolino and van Eyck played early roles in the introduction of shadows to Renaissance painting. Van Eyck generally gets the credit, and indeed is a master at this craft. In the 'Annunciation' of Fig. 3, van Eyck judiciously

aligns the shadow of these struts with the light from the window the illuminates the piece in the chapel in which it is housed in the St Bavo Cathedral, Ghent. The same is true of the shadow of the archangel's wing. Since it is a large cathedral window, the shadows would be diffuse rather than sharp, just as van Eyck has painted them, speaking to the acuteness of his observation of the qualities of light. Indeed, he has become so involved with the optics of shadow that he has taken it to the level of mixing his metaphors. That is, in many Annunciations the Archangel and the Virgin are in separate architectural compartments to emphasize the separate heavenly versus earthly domains of their existence. In this context, it seems perverse to place such emphasis on the archangel's shadow, tying him firmly to the earthly domain.

However, Fig. 4 makes it evident that van Eyck's accomplishment was not without precedent. A decade earlier, Masolino is employing what appears to be an even more remarkable feat, not only introducing powerful shadowing, but doing so in a scale-consistent manner. The shadows of the people and large objects are represented as diffuse, just as are those of van Eyck, and are equally consistent with the direction of the light in the Brancacci Chapel. But perhaps more remarkable are the shadows of the small stones scattered across the floor of the piazza. These are sharp, befitting the short throw from the stones to the ground. Thus, Masolino did not simply apply the concept of a shadow, he observed the precise characteristics of natural shadows and built them into his exposition in a manner that is typically attributed to Leonardo da Vinci. The result is a sense of sparking depth, as though one could almost pick the pebbles off the surface of the wall (or page), so strong is the sense of depth that is evoked. Indeed, Vasari made that point that all the great masters of the High Renaissance, Leonardo, Botticelli, Raphael, Michelangelo, came to the Brancacci Chapel to study this fount of Renaissance innovation. Vasari attributed all the Brancacci works to Masaccio, so he is the one who has historically been given all the credit, but this painting is now generally conceded to Masolino, without however the corresponding transfer of credit for its remarkable innovations at the turn of the quarter century.

Moreover, there is a significant level of opinion that van Eyck may have visited Florence in about 1428 (Meiss, 1952; Phillip, 1971; Sterling, 1976; Salvini, 1984; Jolly, 1998), during which time he would almost certainly have seen the just-completed work that was attracting so much attention in the Brancacci Chapel. Such a visit would go a long way to accounting for the sudden emergence of so many features of the Renaissance exploration of light and space simultaneously in Northern and Southern Europe. Van Eyck's connections to the Florentine community are well-known, with commissions from Italians such as the merchant Arnolfini and Cardinal Albergati, and works of his being owned by the Medici. There was much inter-European travel at the time, on both ecclesiastic and diplomatic missions, and van Eyck is known to have traveled to Spain for King Phillip of Burgundy. He only had to lay eyes on the dramatic perspective Masolino's composition (Fig. 4) to appreciate the power of rigorous perspective, the expressive shadowing and the richness of the draperies. The fact that van Eyck himself never adhered to a strict focal vanishing point argues that he had understood the nature of perspective recession only by observing its effects in paintings such as those in the Brancacci Chapel, without being able to subject them to rigorous analysis or having the principle explained to him by a geometer. Thus, a visit to see Masolino's perspective construction would explain both the emergence and the character of van Eyck's perspective efforts.

#### 4. Conclusion

This paper has a dual theme of the emergence of chiaroscuro in the medium of oil paint as a means of conveying greater contrast and depth in the early Renaissance, and a reattribution of many of the techniques associated with two famous names of the period, Masaccio in Italy and van Eyck in Flanders, to their chronological, technical and stylistic precursor, Masolino da Panicale. Indeed, such is the power of fame that many of these technical advances are commonly associated with the greatest names of the High Renaissance, Leonardo da Vinci, Giovanni Bellini and Raphael. The use of the subtle shading of chiaroscuro to evoke positive and negative depth molding (Figs. 3A and 2B, respectively), the construction of rigorous perspective spaces (Fig. 4), the varied use of shadowing to enhance the sense of depth and drama (Figs. 2B and 4), all find their origin in the seminal insights of Masolino early in the fifteenth century. Moreover, Masolino was an intellectual force in this period of burgeoning humanism, being engaged by the Orsini to decorate their Sala di Teatri with depictions of no less than three hundred and thirty of the most famous figures (*uomini famosi*) throughout human history. This enormous task was not a religious commission but a central act of humanistic recognition that prefigured the integrative

efforts of Botticelli and Raphael to capture the figures of the past more than half a century later. (For comparison,

Raphael's iconic 'School of Athens', a tour de force painted at the height of the Renaissance, has about twenty-four famous philosophers, and perhaps five times that number in the full suite of the *Stanze di Raffaello*, a total effort of the combined resources of the papal library and Raphael's team of assistants only reaching about half the number of Masolino's *opus magnus*!). That Masolino was selected for the commission, the most extensive of its kind throughout the entire Renaissance, indicates that he was trusted with a deep knowledge of the scope of human history in the best tradition of Petrarch and Dante, and underlines the breadth of his influence at the inception of the Renaissance spirit. There is space only to touch on the impressive scope of this influence on his fellow artists and the wider community in the present work, but it has tendrils reaching forward a century or more. This emphasis is made not to imply that other artists did not make their respective contributions in their own times and places, but to redress the neglect and even willful dismissal that Masolino has suffered over the centuries, even by his supposed proponents.

Curiously enough, part of the rationale for this treatment of Masolino may be traced to the central theme of this essay, namely **contrast**. The work of many early muralists lacks visual vigor because it is painted in fresco, which has a limited contrast range to begin with and has a strong tendency to fade over time. Electronic reproduction has the major advantage that it allows the contrast to be adjusted to counter such tendencies. The electronic restoration of what may be judged to be the originally intended colors gives an entirely fresh impression of the original goals and capabilities of these early artists, as has been done particularly in the case of the Masolino fresco in Fig. 4. Indeed, it may be that the full impression of a fresco was only achieved when the plaster was still wet, and that it had already faded somewhat by the time it had dried, like a pebble taken home from the beach. This was the true contribution of the development of oil-based paints, to keep the fresh, wet impression for a far longer time. It is therefore particularly apposite to discover that Masolino had played significant role in the introduction of oil as a painting medium, again just before the indisputable perfection of this technical innovation by van Eyck in Flanders. Masolino's precise role remains a matter for full conservatorial investigation, but it is hoped that he is given adequate recognition for the level of involvement that has been established so far, and taken as a serious topic for future study.

## 5. References

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