

Special Session on Art: Perception and Cognition

AI Identifies Michelangelo's Covert Self-Portraiture in the Sistine Chapel

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Abstract

Three of the faces in Michelangelo's Sistine Chapel frescoes are recognized as portraits: his own sardonic self-portrait in the flayed skin held by St Bartholomew, itself a portrait of the scathing satirist Pietro Agostino, and the depiction of Mary as a portrait of his spiritual soulmate Vittoria Colonna. The first analysis was of the faces of the depictions of God and of the patriarch Jacob, which were rated by AI-based facial ratings as highly similar to each other and to a portrait of Michelangelo. A second set of young faces: Jesus, Adam and Sebastian, were also rated as highly similar to God and to each other. These ratings suggest that Michelangelo depicted himself as all these central figures in the Sistine Chapel frescoes. Similar ratings of several young women across the ceiling suggested that they were further portraits of Vittoria Colonna, and that she had posed for Michelangelo as a model for the Sistine Chapel personages in her younger years.

Introduction

In the field of image processing, a common goal is establishing the identity of face images relative to a particular target face. While this may be performed by two-dimensional pattern matching for similar postures, it requires matching to a three-dimensional face model when the postures are very different, which is a much more challenging proposition.



Fig. 1. Detail of Michelangelo's 'Last Judgement' (1546)

In the application to historical works of art, the issue arises in the context of the covert self-portraits included by artists in many of their works, which are often in unusual poses. Thus, determining their similarity to established portraits requires a three-dimensional transformation to match the features. This approach was taken to resolve the question of Leonardo da Vinci's youthful appearance by Tyler, Smith & Stork [1].

In the case of Michelangelo, there are a substantial number of painted and sculptural portraits of him in later life, providing adequate information about his three-dimensional face configuration, but no information about his appearance at younger ages. Three of the faces in his Sistine Chapel frescoes are recognized as portraits: his own sardonic self-portrait in the flayed skin held by St Bartholomew, itself a portrait of the scathing satirist Pietro Agostino, and the depiction of Mary as a portrait of his spiritual soulmate Vittoria Colonna.



Fig. 2. Five depictions of God in Michelangelo's Sistine Chapel.

Methods and Results

The current investigation concerns other faces in the Sistine Chapel, starting with the five depictions of God that can be found in the ceiling (Fig. 2).

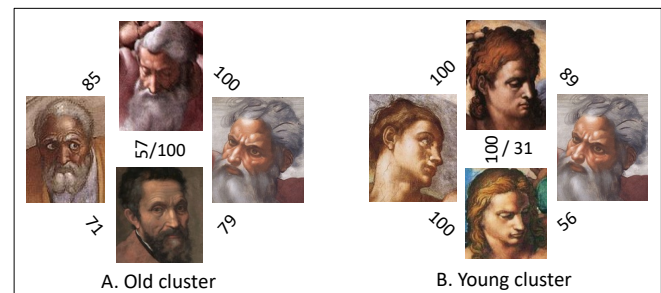


Fig. 3. FaceShape similarity ratings for two clusters of male faces from Michelangelo's Sistine Chapel frescoes (max = 100).

Only two of these depictions had faces in a pose amenable to assessment by available AI (artificial-intelligence-based) face recognition software (FaceShape, San Francisco, Ca, USA; <https://www.faceshape.com/face-compare>), together with a third plausible candidate, the face of the patriot

Jacob, father of the twelve tribes of Israel (far left head in Fig. 3). These faces were compared with a typical portrait of Michelangelo by one of his closest pupils, Daniele di Volterra (1541) (lower left head in Fig. 3). The pairwise FaceShape ratings for these four ratable old faces are provided in the left quartet of Fig. 3. Out of a maximum of 100, all are above 50, validating this as a meaningful cluster of similar faces.

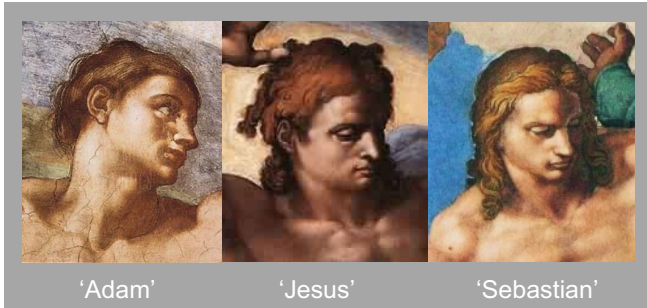


Fig. 4. Three key young protagonists from Michelangelo's Sistine Chapel.

Turning now to depictions of young stalwarts, there are three other standout figures in the overall composition: the much-reproduced face of Adam being brought to life by God, the face of Jesus at the center of the Last Judgment, and the heroic figure of St Sebastian the same fresco. Though in very different poses, these three faces are rated by face-recognition software as much more similar to each other than to other faces in the frescos. Taken together with the sixteenth century tendency of artists to paint St Sebastian as their own self-portrait, this result leads to the suggestion that Michelangelo painted the three notable young stalwarts as his own self-portrait when young, providing an idea of his appearance at the time he sculpted the renowned 'David' and 'Pieta' sculptures.

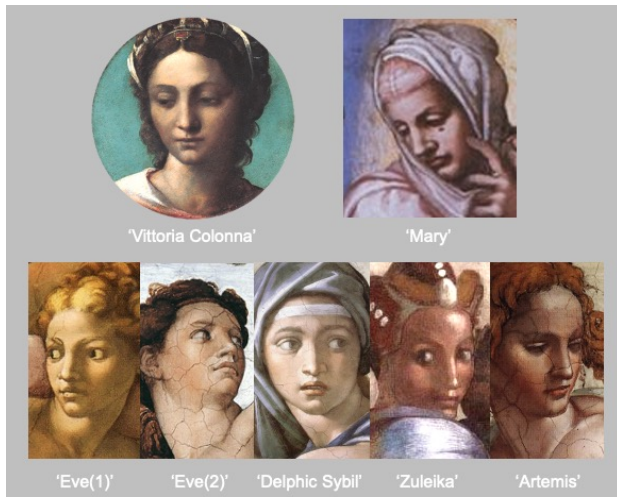


Fig. 5. A portrait of Vittoria Colonna and five heads from the Sistine Chapel identifiable as covert portraits of Vittoria (see text).

As mentioned, the figure of Mary seated demurely next to the admonitory figure of Jesus at the center of the Sistine

'Last Judgement' scene is generally identified as a covert portrait of the renowned poetess Vittoria Colonna, with whom Michelangelo had numerous passionate poetic exchanges around the late 1530s, at which time she had retired from her active social life as a society hostess based on the island of Ischia near Rome to the monastery of San Silvestro. Michelangelo also made drawings of her and spent long hours in her company during this period when he was painting his masterwork, the 'Last Judgment'. An example of his poetry to her is:

TO VITTORIA COLONNA

by: Michelangelo Buonarroti (1475-1564)

WHEN the prime mover of many sighs
 Heaven took through death from out her earthly place,
 Nature, that never made so fair a face,
 Remained ashamed, and tears were in all eyes.
 O fate, unheeding my impassioned cries!
 O hopes fallacious! O thou spirit of grace,
 Where art thou now? Earth holds in its embrace
 Thy lovely limbs, thy holy thoughts the skies.
 Vainly did cruel death attempt to stay
 The rumor of thy virtuous renown,
 That Lethe's waters could not wash away!
 A thousand leaves, since he hath stricken thee down,
 Speak of thee, not to thee could Heaven convey,
 Except through death, a refuge and a crown.

English translation by H.W. Longfellow (1807-1882).

It is noteworthy, however, that the ceiling of the Sistine Chapel, which he painted much earlier during the period of 1508-1512, contains images of several young women with a striking resemblance to Vittoria Colonna. We know her appearance from many explicit portraits, such as the upper left painting in Fig. 5 by Sebastiano del Piombo (1514). The upper right panel of this figure is the face of 'Mary' from the 'Last Judgment' (see Fig. 1), generally acknowledged as portraying the monastic Vittoria Colonna. Below are four further heads of young women from the Sistine Chapel ceiling that bear a striking resemblance to the face of Mary, though painted about 30 years earlier. These depictions are: Eve from the arm of God the Creator, Eve from the Temptation in the Garden, the prophetic Delphic Sybil, Potiphar's wife Zuleika - the temptress of young Joseph from the 'Jacob' panel, and the classical goddess Artemis from the Ezekiel panel (Fig. 6, lower row).

The FaceShape similarity ratings for these five young faces with each other and with the older depiction of the Virgin Mary from the 'Last Judgment' are provided in Fig. 6, many being at the maximum level of 100. This high level of similarity between the younger female faces and the older face of the Virgin Mary at center provide strong support for the idea that they are all covert portraits of the same person, that person being the celebrated poetess and youthful socialite Vittoria Colonna.

Discussion

As such, this identification carries a novel implication about the relationship of Michelangelo and the young Vittoria. The Sistine Chapel ceiling was painted in the period of 1508-12, when she was in her late teens. She was married in 1509 to an avid military leader who soon left Rome for various military engagements in northern Italy, leaving her to become the toast of Renaissance Roman society and beyond. The extent of this admiration is attested by the fact that she was the subject of not one, but no less than five separate laudatory medals celebrating her fame (in an era when even the most famous men only garnered a single medal). In this context, Vittoria must also have been amenable to artistic posing, for she was painted by virtually every artist of this era, from Raphael to Titian [2].

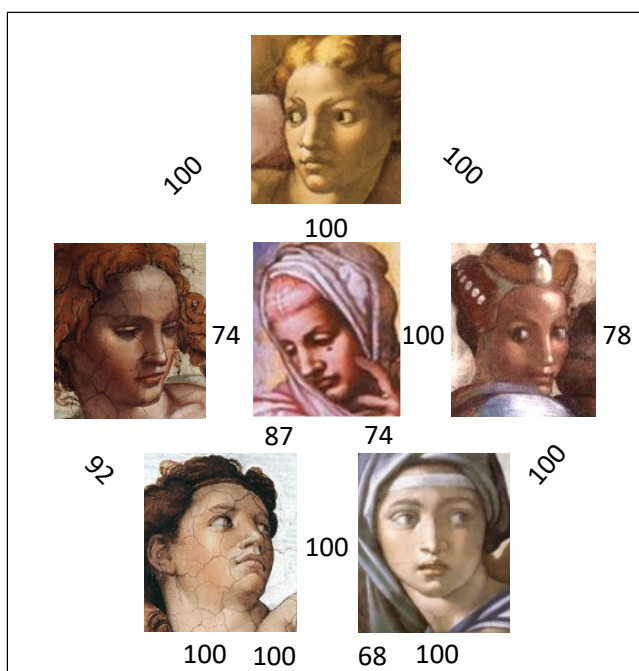


Fig. 6. FaceShape similarity ratings for the cluster of female faces from Michelangelo's Sistine Chapel frescos (max = 100). Outer values at right and at bottom refer to comparisons with the opposite extreme of the matrix.

The implication that Michelangelo included numerous portraits of her in this work from her early period of enforced marital separation suggests that his acquaintance with her began at a much younger age than has previously been recognized. In addition to her matronly appearance at the time of the 'Last Judgment', there is the striking youthful appeal of the four examples from her teenage years, including the two versions of 'Eve', the temptress 'Zuleika' and the virginal 'Delphic Sybil' (who seems to be the precursor of Vermeer's 'Girl with a Pearl Earring').

Conclusion

The confirmation of the subjective choices of similar old and young male faces matching Michelangelo's portrait and similar young female faces matching Vittoria Colonna's

portrait with the AI face matching software offers new insights into Michelangelo's figuration choices and female relationships. It suggests that he had no hesitation in including his somewhat idealized self-portrait as the face of God in the (second) holiest building in Christendom. And, moreover, to include an age-regressed version of himself as the face of Jesus, in the novel status of the judger of souls at the pinnacle of the Last Judgment composition.

Beyond this, we find a new view of his relationship with Vittoria Colonna, having a notably heterosexual appreciation of this celebrated poetess at the zenith of her adolescent fame. It seems evident that she must have sat for him for the many portrait drawings found among his papers, some of which are unclothed, although the depiction of the naked female body was still a rarity at this time.

Among the figures identified as the male and female portraits, two are depicted with a particularly curious interaction: Jacob and Zuleika in the 'Jacob' panel (Fig. 7). Jacob is hunched over in somewhat defensive, self-accusatory posture, while Zuleika looks brazen and defiant, as though something has happened between them that both wish had not taken place. In the context of their identifications as Michelangelo and Vittoria, respectively, it makes an interesting statement of an illicit or unrequited relationship between them.



Fig. 7. The center portion of Michelangelo's 'Jacob' panel, with a curious interplay between the key figures.

References

1. Tyler CW, Smith WA, Stork DG (2012). In search of Leonardo: computer-based facial image analysis of Renaissance artworks for identifying Leonardo as subject. In *Human Vision and Electronic Imaging XVII* 2012, 8291, 407-413.
2. Targoff R. *Renaissance Woman: The Life of Vittoria Colonna*. Farrar, Straus & Giroux: New York, NY, 2018.

Author Biography

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