

# PIERO THE PAINTER BLENDED GEOMETRY WITH RELIGIOUS ART

By Marilyn Aronberg Lavin, *Smithsonian*,  
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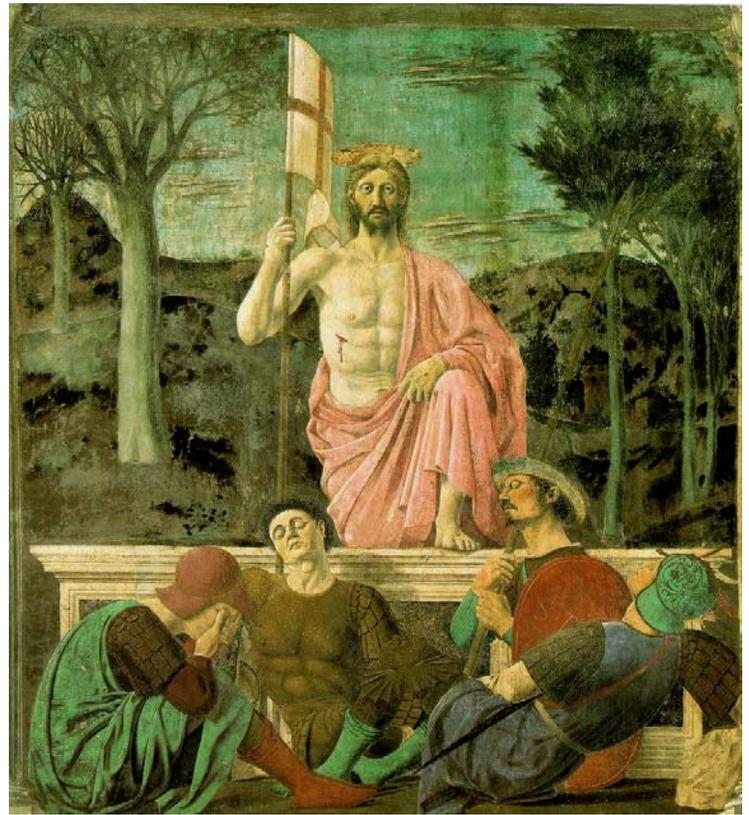
**A half-millennium after his death, Piero della Francesca's works continue to thrill and fascinate both tourists and scholars**

Whenever he moved to a new home, American artist Philip Guston would pin two postcards onto his kitchen wall. Both were reproductions of panel paintings by Piero della Francesca— *The Baptism of Christ* and *The Flagellation of Christ*. "He is so remote from other masters..... Guston wrote in *Art News* in 1965. "A different fervor, grave and delicate, moves in the daylight of his pictures. Without our familiar passions, he is like a visitor to the earth . . ."

Guston was not alone in his admiration for Piero della Francesca, who by odd coincidence died on the same day, a half-millennium ago, that Columbus set foot in the New World. People more often name Piero as their favorite than any other artist of the 15th century. Former college students with no more than a survey course in the history of art smile with pleasure at the very mention of his name. Travelers to Italy, from academic heavyweights to ordinary tourists, describe their "Piero pilgrimage" with pride, taking pains to track down the few remaining works in Tuscany, Umbria and the Marches. Trained by the Bauhaus, challenged by the Postimpressionists and Cubists, bombarded by the Abstract Expressionists, jolted by Postmodernism and deconstruction, our "modernist" eyes readily absorb Piero's soothing sense of seriousness. We see his plain and haughty figures as somehow better than normal; his open spaces and colors, washed in light, as perfect as can be. His clear and readable subjects are typical of human experience, yet deeply moving and strangely portentous. His paintings are like acts of charity, and more: they contribute to the general good, yet they are really enjoyable.

## **Not one remark of a personal nature**

One reason Piero remains intriguing to us is that so little is known about his life. In the hundreds of pages of his own writings there is not one remark of a personal nature. We know that he was born in the town of Sansepolcro (about 70 miles southeast of Florence) and that his father was an apothecary, but there is no record of his birth. Since he was supposed to have been nearly 80 when he died in 1492, he was probably born around 1415. He had two brothers who, along with his father, often acted as his agents.



Seen straight on in emphatic confrontation, Christ rises from His tomb in *The Resurrection* (1463-65). (Pinacoteca, Sansepolcro)

By the mid-1430s, Piero had studied painting with a provincial master, Antonio d'Anghiari, and was absorbing all he could from the great artistic traditions in Assisi, Siena and



In the *Legend of the True Cross* fresco, the Queen of Sheba kneels to worship the sacred wood. (San Francisco.)

Florence. In 1439, in

Florence, he worked with Domenico Veneziano, who was exploring perspective construction, solidity of form and sparkling coloristic effects. But unlike many of his contemporaries—Veneziano, Fra Angelico, Paolo Uccello, Andrea Castagno—Piero did not remain in Florence. Although he traveled to Rimini, Arezzo, Urbino and elsewhere to fulfill commissions, he always returned to Sansepolcro. Throughout his life, he held various public offices and was a leader in the Confraternity of San Bartolomeo, the most important lay religious organization in his hometown.

Piero's patrons were never the Medici or other wealthy Florentine merchants. Instead, they were monasteries, confraternities and citizens of his home territory, in addition to a few of the courtly lords in the nearby provinces. When he painted the cycle *The Legend of the True Cross*—ten monumental frescoes on the walls of the church of San Francesco in Arezzo—a well-to-do family of bankers was the sponsor, but the Franciscan friars who ran the church had the final say.

After a long and sedentary life, Piero made his will in 1487 and, since he had never married, he left most of his property to his brothers and their heirs. He gave instructions for his own burial, which was to be in the family tomb in the tower of Sansepolcro's Camaldolite Abbey Church (later the cathedral). Five years later, he died.

It may come as something of a surprise that in the centuries after his death, Piero was remembered less as a painter than as a mathematician. In his time, painting was still considered a craft because it was done with the hands. Piero, however, had studied Latin, the classics and, in particular, the work of Euclid. From the 16th to the early 19th century, his fame rested almost exclusively on his authorship of three theoretical treatises: the *Trattato del abaco*, on arithmetic; the *Libellus de quinque corporibus regularibus*, on solid geometry; and the *De prospectiva pingendi*, on the theory of perspective for use in painting. When these texts were finally published in modern times, historians of science confirmed their importance. Piero is now ranked among the greatest mathematicians of his day, on a par with Toscanelli, who may have made Columbus' journey possible. His treatise on perspective, after being passed to his colleague Fra Luca Pacioli, and then on to Leonardo da Vinci and Albrecht Durer, guided the representation of three dimensions on a two-dimensional surface right up to the time of Impressionism.

It wasn't, however, until late in the 19th century that Piero came to be seen as a major artist of the Italian Renaissance. He was identified, in fact, with modern art, particularly with Cezanne, who seemed visually to be his soul mate. Piero's style, it was said, had forecast the values of Postimpressionist art. And indeed, many stylistic elements seem to bring these two artists together: suppression of emotion, emphasis on geometric shapes, and an overriding concern for the flatness of the picture plane.

Yet, by a strange twist of irony, Piero's rise to prominence began not with the avant-garde but from within the heart of the academy. In Europe in the 19th century, the Impressionists' break with tradition, based on their apparent rejection of strict formal structure in pictorial space, seemed a serious threat to the dominance of academic art. And it was precisely fear of losing power that then led, quite directly, to the rediscovery of Piero as an artist and the bringing of him to world attention.



Piero della Francesca, *The Senigallia Madonna*, 1478-80

Here is how it happened: the academy in Paris—the Ecole des Beaux-Arts—was struggling against the influence of upstarts like Courbet and Manet, who were dispensing with academic conventions in order to go out into nature and paint what they saw. One method of combating what was considered laxity in the structure of painting was introduced in 1872 by Charles Blanc, the newly elected director of the Ecole. It was time, he said, for young artists to be trained more strictly than they had been in recent decades. To ensure a return to traditional values, he reintroduced copying as a method of teaching—not just from casts after classical and Renaissance sculpture but also from copies of famous historical paintings.

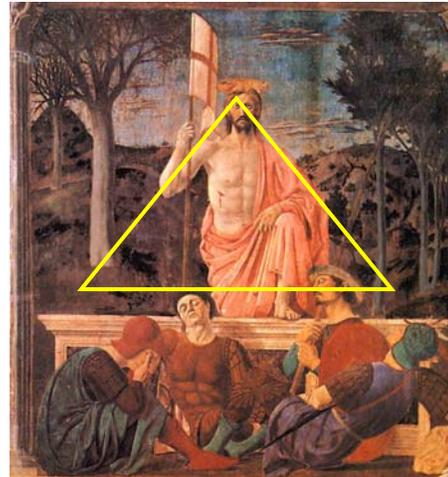
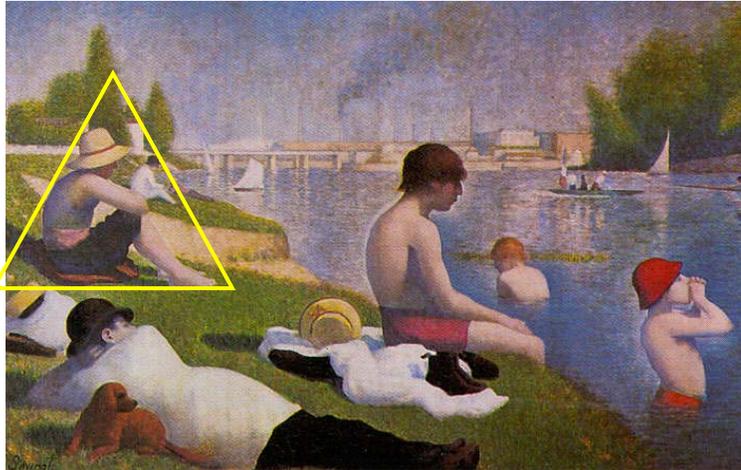
And so, in his fight against the avant-garde, Blanc commissioned 157 replicas of Italian Old Masters; they were to be used as study tools and as part of a planned Musée des Copies. They included easel paintings by Botticelli, Raphael and Titian; a reduced replica of the whole of Michelangelo's *Last Judgment*; and, surprisingly, full-scale copies of two tiers of Piero's fresco cycle in Arezzo, one displaying *The Finding of the Cross* and *The Proving of the Cross*, and the other *The Battle of Heraclius*, all done by a little-known painter named Charles Loyeux.

Blanc, however, ran into trouble at home: the idea of a copy museum met with disapproval from members of the committee of the Ecole, and he was dismissed from his post in a storm of controversy. By December 1873, when a new director was in place, the part of the copy museum already formed was dismantled. When Loyeux's Piero copies arrived in Paris the following year, they displeased the committee greatly. The paintings were not destroyed only because the enterprise had been quite expensive (and Loyeux had become a public hero in Arezzo). Instead, they were installed, along with a number of the other replicas, high on the walls of the school chapel, where they can still be seen—with some difficulty—behind the plaster casts and above various temporary exhibition installations.

Despite these internal controversies, both Blanc and the school librarian, Eugene Muntz, went on to write eloquently about the early Italian School, and Piero in particular. Muntz had photographs and drawings of other Piero works brought from Italy to serve as further models. While these copies may have fulfilled their intended purpose well, they also had an unintended impact. To the eyes of a number of the younger generation, particularly Cezanne and Seurat, they started a new revolution of their own, rather than quelling the dangers of anti-academic art.

## Providing a bridge to modern art

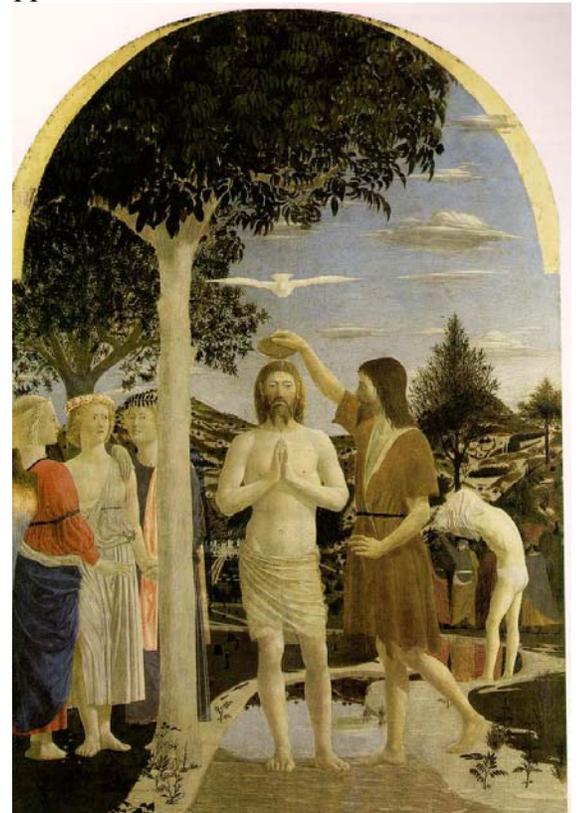
Although Cézanne lived in Aix-en-Provence, he participated in the first Impressionist exhibition in Paris in 1874 and was in and out of the city all that year and the following. It is possible, therefore, that he saw Loyeux's copies soon after they went on view. They clearly made a strong impression because, a few years later, Cézanne repeated a motif from one of the frescoes almost exactly. In his *View of Gardanne* (p. 125), he gave the townscape the same rising composition of geometric solids that make up Piero's view of Arezzo in the background of *The Finding of the Cross*. The particular bridge to modern art found here is unusually strong, since this very composition by Cézanne inspired the first true Cubist landscapes of Braque, Picasso and Derain in 1908-09.



Another link in the chain from Piero through the academy to modernism was forged by the young Seurat. As a student at the Ecole des Beaux-

Arts (he entered in 1878), he had access to both the Piero replicas and the photographs collected by Muntz. Clearly, he studied them quite closely, and many of Piero's motifs reappear in some of Seurat's most familiar paintings. For example, the seated boy on the left of *Bathing Place, Asnieres* (above left) recalls the guard seated at the far left in Piero's *Resurrection of Christ* (above right), and the compositional structure of *La Parade* is close to that of *The Proving of the Cross*. Thus, far from being the result of rebelliousness, many progressive steps toward the founding of an abstract art were stimulated by examples that were offered within the walls of the academy.

After initial evaluations as a mediocre talent (art historian Jacob Burckhardt had called his work "naive"), by the beginning of the 20th century Piero was firmly identified with the formalist trends then in vogue, and his artistic status among critics began its rise. Aldous Huxley called his paintings "strange and startlingly successful . . . experiments in composition." Roberto Longhi, who wrote the first monograph on the artist in 1927, eulogized his spatial intervals, poetic tonal organization, lack of emotion and the archaic quality of In collaboration with B.A.R. Carter, a professor of perspective, the author analyzed *The Baptism* to show the indivisibility of Piero's science and art. They discovered that the painting was organized according to geometrical principles replete with symbolic significance. The placement of major elements of the painting—including the hovering dove and Christ's hands and



*The Baptism of Christ, 1450s*

right foot—suggest that it was designed on the basis of Euclid's Proposition 16, a formula for constructing a 15-sided figure by superimposing a pentagon on an equilateral triangle. The triangle may well stand for the Trinity, the pentagon for Christ's five wounds. Each of the 15 chords (the straight lines connecting segments of the circle's arc) spans 24 degrees. The actual length of a chord and its various multiples determine the proportions of the painting's elements. For example, Christ's height is three times the length of one chord. Moreover, the number "24" has a special meaning—it represents the number of degrees by which the sun lies north of the Equator on the summer solstice and south of the Equator on the winter solstice. According to the medieval church, Christ's baptism took place on what was then thought to be the winter solstice—and therefore the beginning of the New Year and the moment of the Descent of Holy Light. Piero thus found a mathematical way to identify Christ with the sun, and hence with Divine Illumination.

Edging ever closer to the language of modernism, in 1929 the painter-critic Andre Lhote called Piero the "first Cubist," and his fate was sealed. He became the contemporary painter's historical alter ego, validating the notion of art for art's sake, and offering secular viewers "church painting" unencumbered by religious sentiment. In the 1920s and '30s this point of view was espoused mainly by cultured writers and connoisseurs like Huxley, Roger Fry and Adrian Stokes.

After World War II, and particularly after 1951 when Kenneth Clark published the first major English language monograph on Piero, praise for the artist was widely disseminated in classrooms. Even greater familiarity with his works came after an important restoration campaign of the Arezzo frescoes was carried out in the early '60s, and new color prints became available. In the next decade, the predisposition to see Piero's style in abstract terms caught the interest of New Wave literary theoreticians, who found his visual symmetry irresistible. His works then became the focus of repeated analyses by the structuralists, and still today they are the subject of examination.

The aspect of Piero's art missed in such a theoretical approach is the relationship in his paintings between abstract form and religious content. An increasing number of recent studies show that the surfaces of most of his paintings are coordinated by geometrical schemes closely reflecting his own mathematical theories and confirming a level of abstract value. Yet at the time Piero was alive, there was no such thing as "abstract art." In fact, there was no art at all that wasn't commissioned by a paying patron. And in Italy of the 15th century, those commissions, both private and institutional, were for religious subjects, serving specific religious functions. A look at two of Piero's best known paintings, *The Baptism of Christ* and *The Flagellation of Christ* (above), helps explain how he used geometry to magnify religious themes.

At first glance, *The Baptism of Christ* (above) appears to be an unassuming landscape. Prolonged observation, however, reveals a haunting sense of portent that, in large measure, stems from an intricate geometric framework. Further analysis suggests that most of the painting's measurements are based on one of Euclid's propositions. Within this mathematical framework Piero used geometry to identify Christ with the sun and place Him in the center of the Universe; that is, he used mathematics to reinforce the concept of Christ as Divine Light.

In *The Flagellation of Christ*, perhaps Piero's most admired painting, the three figures in the foreground stand outdoors, while Christ and his tormentors, at the left, are inside a portico deep in space. Outside, the system of one-point perspective continues to an exceptional depth: the vanishing point can be calculated to be some 250 feet away.

Within this setting, Piero has used intersecting geometric planes to create two different sources of natural light—an impossibility in the real world. Light outside the buildings falls from the upper left, casting short shadows on the right side of the foreground figures. Inside the portico, the reverse is true: light comes from the right, creating strong highlights on the right side of all the figures and mysteriously illuminating the coffered square above Christ's head. By including these visual anomalies, Piero has set the scene of *The Flagellation* outside of time and place: the inner space becomes a divine sanctuary, and the biblical event taking place therefore becomes a miraculous apparition (Philip Guston called it a "disturbance ... placed in the rear as if in memory").



Painted on a small wooden panel less than two feet high by three feet wide, *The Flagellation of Christ* (1458-60) is considered one of Piero della Francesca's masterpieces. Within its deep space, there are two different sources of natural light—an impossibility in the real world. Light falls on the foreground figures from the left, but hits the flagellation scene from the right, setting it outside of time and place. (Galleria Nazionale della Marche, Urbino)

In *The Flagellation*, like *The Baptism*, Piero fulfilled his religious assignment with an abstract structure. Following the laws of solid geometry, he created a distant realm in which a mystical manifestation of Christ's triumph over physical suffering appears to console the three worldly gentlemen conversing in the foreground.

It is important to keep in mind that the austere beauty of Piero's paintings would not have been understood by his contemporaries on esthetic grounds alone. To the 15th-century viewer, his idealized forms and pure spaces were inseparable from the subjects represented. In other words, the very qualities that make his works so attractive to the 20th-century sensibility contributed to their meaning and value in their own time.

Today, 500 years after his death, the study of Piero della Francesca's art continues. To commemorate this quincentenary, there is a project at Princeton University to create an entirely new tool for the teaching of art and for historical research. A computer program is being developed that will allow a "walk-through" of Piero's cycle *The Legend of the True Cross* on the walls of the church of San Francesco. In this project, digitized images of the paintings are mapped into their proper positions in a graphic representation of three-dimensional space. Using either a hand-held mouse or space ball, the viewer can simulate the experience of walking or even floating through the church, looking at the paintings in full color—from any angle and in their spatial context.

This program will serve as a model for use with other works of art (painting, sculpture and architecture) in the teaching, writing and researching of art history. It is particularly appropriate that this new method, which will ultimately replace slides and still photography for the study of art, should be developed using paintings by Piero della Francesca, whose own work in science lies deep in the history of technology itself. While nothing can replace seeing the real thing, perhaps this electronic innovation will stimulate a new generation of Piero pilgrims.



By Marilyn Aronberg Lavin

Marilyn Aronberg Lavin, a scholar of Renaissance culture, is the author of *Piero della Francesca*, which has just been published by Harry N. Abrams.