

INTERNATIONAL
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Painting, mathematics, and the work of Piero della Francesca

By Roderick Conway Morris

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AREZZO, Italy: Not long after his death in October 1492, Piero della Francesca was already better remembered as a mathematician than as a painter. Less than two decades had passed before Pope Julius II was ordering the demolition of his frescoes at the Vatican (along with those of other great painters of the previous century) to make way for Raphael's. The list of lost frescoes by Piero elsewhere, from Perugia, Florence and Ferrara, to Ancona, Loreto and Pesaro, makes for melancholy reading.

The only complete cycle to survive was the "Legend of the True Cross," here in the San Francesco Church in this little-visited town on the road between Florence and Rome. The narrative constitutes a kind of history of the world from the Garden of Eden, through the birth of Christ and the crucifixion, to the victory of Constantine over the pagans and the rediscovery of the True Cross, symbol of mankind's redemption.

Minutely analyzed over several years to avoid the kind of damage done to other such works by overzealous cleaning, the painstakingly restored "True Cross" was unveiled in 2000, attracting less attention during the event-filled year of the millennium than might otherwise have been the case.

Careful cleaning also brought to light, in the "Dream of Constantine" scene, the first known starry night sky in Western painting with scientifically accurate renderings of constellations.

The termination of this complex conservation program, and the fruits of the scholarly reassessment of Piero's life and times it helped stimulate, are being marked by "Piero della Francesca and the Italian Courts" at Arezzo's Museo Statale d'Arte Medievale e Moderna, with subsections at nearby Monterchi and Sansepolcro, which brings together the largest number of Piero's works we are ever likely to see in the same vicinity. The exhibition, which includes a fine lineup of other works from the same period, lasts until July 22.

Piero was born into a family of merchants in or around 1412 at Borgo San Sepolcro (as it was then called). Founded according to tradition by two pilgrims returning from the Holy Sepulcher in Jerusalem, the town today is a pleasant provincial backwater, but then occupied a strategic position in the upper Tiber valley on the trade routes linking central Italy with the Adriatic. Piero was to take part in the intellectual and artistic life of all the principal surrounding courts - at Ferrara, Rimini and Urbino - not to mention the papal court at Rome.

His first mathematical training, typical of a merchant's son, would have been thoroughly practical and directed at calculating varying weights and measures, assessing the volumes of barrels and bales, and keeping accounts. But Piero later became the leading reviver and elucidator of Euclid and other Greek scientists. His artistic gifts enabled him to produce precise and conceptually sophisticated drawings to illustrate these and his own texts. Although he never seems to have written in Latin, a recently discovered autograph manuscript on Archimedes with Piero's drawings (on show here) provides further proof that he could not only comprehend the most challenging Latin texts, but clarify them with geometrical drawings.

Yet Piero's first vocation was painting and he entered the studio of a local artist. A further revelation of the present exhibition is an early Madonna and Child, dated around 1435. This work, last seen more than 50 years ago, was thought lost, but resurfaced in a private American collection during preparations for the show. On the reverse of this panel is a depiction of a wine-cooling bowl on a window ledge, representing an early experiment in perspective and a playful trompe l'œil rendition of wooden inlay.

His first documented collaboration with an artist outside San Sepolcro was with Domenico Veneziano on a

cycle of frescoes in Florence in 1439. Domenico, as his name indicates, had Venetian origins. Hardly any of his paintings have come down to us. He was a pioneer in the field of perspective, but it was his pastel palette of blues, pinks and greens, and his unusual interest in the subtleties of light, which had the more lasting effect on Piero.

Both Domenico and Piero were fascinated by Netherlandish painting, which was also becoming sought-after in the courts Piero was to frequent. Piero manifested a determination to master the use of oil painting, a technique he may have learned directly from a Netherlandish artist, possibly in Ferrara. But in his easel paintings he never switched definitively to oil, more frequently using a mixture of tempera and oil as binders.

While Piero was in Florence one of a series of grand councils took place with the aim of reuniting the Eastern and Western churches. The artist had the opportunity to see for himself the exotic dress and headgear of the Eastern delegation, including the emperor himself. Byzantine apparel regularly appeared thereafter in Piero's works - prominently in the "Legend of the True Cross" and his celebrated "Flagellation" in Urbino - fueling debate among future generations of commentators as to the possible deeper significance of these figures.

For most of his career Piero pursued painting and mathematics with equal success. The usefulness of art to the latter was clear, but how much mathematics informed his paintings is a moot point. In his treatise "De prospectiva pingendi" (On Painting Perspective) he chided his fellow artists for not mastering the rules of scientific perspective. Nonetheless, his approach in his own works was far from rigid. Perhaps his acute geometrical sense informed the finely "measured" placing of every element in his compositions, contributing to their famous tranquility and mysterious stillness. But his works defy any kind of literal mathematical analysis.

Interestingly, his thesis on perspective was too complicated to be of use to most painters as a handbook, and did not make it into print until modern times. This manuscript was one of the products of the last 20 years of his life, when he retired to Borgo San Sepolcro and virtually gave up painting, perhaps primarily on account of his failing eyesight. But he had already left there the fresco that was to be described in the 1880s by John Addington Symonds as "by far the grandest, most poetic and most awe-inspiring picture of the Resurrection."

This masterpiece was not executed for a church, but for a council chamber in San Sepolcro's town hall. The international church council the young Piero had witnessed in Florence had had unforeseen consequences for the Borgo. The pope, his treasury denuded by this lavish summit, defrayed some of the costs by ceding the town to Florence.

After some years the burghers of San Sepolcro regained from their new masters a degree of self-government. This shortly preceded Piero painting his imposing image of the risen Christ stepping resolutely, banner in hand, from the tomb. Thus the Borgo's most renowned son celebrated not only the final mystery of the faith, but also the founding myth of San Sepolcro and the resurgence of the town's civic pride.

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