

Lighting Paint



Above: The Calling of St Matthew
Caravaggio. 1599-1600
Oil on canvas. 322 cm x 340 cm
San Luigi dei Francesi, Rome

Right: Francesca Storaro

Left: A different kind of light meter: more
like a parking meter. One Euro for five
minutes of glaring illumination.



duced to his talented daughter, Francesca Storaro, AILD, AIDI, PLDA, IALD. (She may have more honorific abbreviations after her name than her cinematographer father.)

Francesca is a prominent Lighting Designer, recently recognized by “Mondo Arc” among the top 50 lighting designers in the world. In 1996, she graduated from the Faculty of Architecture in Rome, and in 2000 received an Advanced Master Degree in Illumination Science from the University of Florence’s Faculty of Mathematical, Physical and Natural Sciences. Since 2007, she has been a lecturer at the Academy of Light (Accademia della Luce) and a member of many distinguished professional associations, including the AILD (the Italian Association of Lighting Designers). In 2009 she was awarded a teaching position in architectural and artistic lighting at the Faculty of Architecture, Venice.

Francesca Storaro’s current and recent architectural projects include: The Flatiron Building in New York City; the Piazza del Campidoglio, Rome; Palazzo D’Arnolfo, San Giovanni Valdarno; I Villini delle Fate, Rome; Castello Visconteo, Locarno, Switzerland; Augustus Room, National Museum, Rome; Pavilion B2, 2010 Shanghai Expo, Shanghai, China; and Correggio’s Domes in Parma. www.francescastoraro.com

On the next page is Francesca’s success story about lighting frescoes. It should be a model not only for cinematographers, but also for all museum directors, curators, churches, and wherever art is poorly lit, fading away or vanishing forever.

Squinting and squirming, I tried to get a good glare-free view of Caravaggio’s “Calling of Saint Matthew” in the church of San Luigi dei Francesi in Rome. Suddenly, the electric spotlights above turned off—it was time to feed the meter for another five minutes of marginal illumination. There might be a certain logic to this: if left on all the time, the UV bathing the masterpiece would probably fade it irreparably.

“With all the talented masters of light in Rome, couldn’t they do better?” I thought. It was a scorchingly bright day in Rome. My thoughts wandered worldwide to other museums where good, safe, UV-free lighting is equally elusive, and then on to the Getty Museum which is so dim you should bring night-vision goggles. Suddenly remembering that Caravaggio’s “Calling of Saint Matthew” is one of the seminal inspirations of Vittorio Storaro, AIC, ASC, I fired off a message to him. And that’s how I was intro-

Francesca Storaro: Lighting Correggio



The Vision of St. John the Evangelist on Patmos
Antonio Allegri da Correggio. 1520-1522. Fresco.
Basilica of St. John the Evangelist (San Giovanni Evangelista) Parma, Italy

By Francesca Storaro

“The Vision of St. John the Evangelist at Patmos” (1520-1522) is a series of frescoes by the Italian Renaissance artist Antonio Allegri da Correggio in the dome of the Basilica of St. John the Evangelist (San Giovanni Evangelista) in Parma, Italy. Three years later he painted “The Assumption of the Virgin” in another dome—the dome of the Cathedral of Parma.

We wanted to interpret the language of Correggio’s 16th century paintings through the language of Light. Scientific studies of the domes confirmed that the dome of San Giovanni, with Christ at its center, is dominated by warm, “solar” colors. The Cathedral dome, depicting the Assumption of the Virgin Mary, is dominated by cool, “lunar” colors. To illuminate both domes, we respected the original works of art with the appropriate implementation of lighting design and lighting instruments.

“Correggio’s Dome” at Basilica of St. John the Evangelist

Correggio created the fresco for the Basilica of St. John the Evangelist in 1520. In the dome, Christ is shown at the center, surrounded by 11 apostles, including Peter, holding the keys, and John as an old man at the base of the dome. When he was 90 years old, John had a vision of Christ and the other disciples, who told him to prepare himself to be united with them in joy. The predominant colors of the fresco are warm tones of yellow and orange. Although St. John is a powerful figure, he crouches at the edge of the dome with his hands open, in an expressive gesture of wonder and acceptance, accompanied by an eagle.

Around the year 1000, churches began placing the dome in the center of the transept, despite the tradition of reserving the apse for the depiction of God. To represent the divine, Correggio used St. John’s vision, which allowed him to place divinity, Christ, at the center of the dome and at the same time depict an episode in the life of the saint to whom the church is dedicated.

Four pendentives (curved triangles of vaulting formed by the intersection of a dome with its supporting arches) form the corners of the four arches supporting the dome. The four stages in the life

of Christ were his birth, death, resurrection and ascension. This was the basis for the custom of placing on the four pendentives the four stages of his life. The lower portions of the arches under the dome form eight ovals that are dark gold in color. They are covered with Old Testament figures. Each pendentive represents a scene from the life of Christ: resting on two lower arches that symbolize Biblical imagery.

According to the painting principles already established by Correggio, the use of light in the dome of the Basilica of St. John the Evangelist conveys a sense of elevation from the earth toward the sun, from the material world to pure energy.

We illuminated the church’s naves using a cool light to highlight even more the warm tones of the dome. The dome was lit up by positioning at its base, on the cornice, linear asymmetrical projectors, providing a soft and completely uniform illumination of the dome, with a soft orange filter.

The pendentives were lit up by placing, at their base, crossed spotlights with Softec lenses (made of textured or frosted glass, Softec lenses are used to smooth out visible striations from reflector lamps). The intrados ovals (interior and lower line or curve of an arch), covered with Old Testament figures, were lit by placing small spotlights above the dome chains. These lights had sculpture lenses to emphasize the oval shape.

“Correggio’s Dome” At The Parma Cathedral

In the story of the Assumption, the apostles had taken Mary’s casket to a sepulcher, at which point Jesus appeared with a multitude of angels. The Archangel Gabriel uncovered the tomb, Mary’s soul was reunited with her body and the angels carried her to paradise.

The dome, created at the center of the Romanesque cathedral, sits on an octagonal drum and is dedicated to the theme of the Assumption of the Virgin. It shows the Madonna sitting on clouds, surrounded by a decorative design that winds through three separate bands, separated by a cloud-filled sky. The fresco depicts an image of unbroken movement, which continues to spiral until it disappears into the light of paradise.

Lighting Correggio's Domes



Gradually the gigantic figures become lighter, less corporeal, until they merge into the light at the cap of the dome.

Correggio did not identify the apostles individually, but emphasized their emotions through their physical expressions. The apostles closest to the Madonna are dazzled by the splendor of her passage, which, like a powerful wind, almost knocks them to the ground.

Correggio painted the dome by creating a circular composition and a free surface without architectural interruptions. This was a completely new use of space: form dissolves and space is abandoned to the magic of light.

With Correggio, light becomes almost ideological. He painted large areas with the buon fresco technique (pigment mixed with water on a thin layer of wet, fresh, lime mortar or plaster) using contrasting, but harmonious, background colors. He softened the edges in tempera (painted on dry plaster with a binding medium, such as egg to bind the pigment to the wall) blurring the reflections—the light.

Contrast evolves out of a soft, all-encompassing light that changes significantly throughout the planes of the painting—from silhouetted figures to those shrouded in distant clouds—using cool, bluish tones. In his depiction of the Virgin, he uses light to create a celestial illumination.

Correggio begins with a neutral light that radiates from the pendentives below to the top of the dome, the light from the dome of the Parma Cathedral follows the principle of rising from earth to sky, from the material world to the realm of the spirit. The cornice at the base of the dome is a pure illusion: in fact, it is painted.

Since there was no place to position the lights at the base of the dome, they were placed on four sides of the octagon, in the vicinity of windows providing easy access for the installation and maintenance of the fixtures. Asymmetrical projectors were used to illuminate the dome uniformly, using a soft daylight conversion blue filter. The pendentives were lit by positioning crossed spotlights in the same windows.

UV Radiation

Italian conservation regulations for frescoes restrict the maximum illumination to 150 lux and the UV component to 75 $\mu\text{W}/\text{lm}$.

The project tried to stay within these limits, even if in past centuries the two domes received, and continue to receive, a large quantity of natural light that is high in UV.

The San Giovanni dome was lit with high chromatic yield and low UV emission lamps, with protective glass that was diffused, among other things, in the emission area closest to the frescoes. The glass also had a selective filter to allow the passage of visible wavelengths: blue for the Cathedral and orange (from yellow to red) for the San Giovanni Basilica.

The effect of the filters, chosen by Vittorio and Francesca Storaro, gave an extraordinary chromatic interpretation, even though it reduced the amount of light onto the fresco. In other words, the fresco received only the part of the spectrum it was capable of reflecting. Conversely, the part that the fresco would have absorbed and would have been most harmful was greatly reduced due to the filter.

The optical wall washer, in which the lamp was completely covered, prevented unfiltered light from damaging the fresco.

On the other hand, the Cathedral dome was lit with incandescent light, halogen in particular, with a color temperature of 2800 K, whose UV emission is not above 75 $\mu\text{W}/\text{lm}$.

Taking into account the fresco colors, which don't harmonize well with the incandescent spectrum, a filter was used that produced a higher color temperature. Furthermore, the projectors were equipped with protective glass.

Credits.

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