Dating Velázquez’s *The Supper at Emmaus*

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John Brealey’s life and work were bound up inextricably with Spanish art, and, in particular, with the paintings of Velázquez. As the foreigner selected to restore the totemic *Las Meninas* (Museo Nacional del Prado, Madrid), he was initially attacked by the Spanish press, although his work on the picture was later so celebrated that he was awarded the Gold Medal for Artistic Achievement by King Juan Carlos I. The restoration of *Las Meninas* (Museo Nacional del Prado, Madrid) was the beginning of a deep involvement with the Prado and the work of its conservation department. The catalogue for the Velázquez exhibition arranged jointly by the Prado and the Metropolitan Museum and held at the Metropolitan in 1989 is dedicated to John.1 And it turned out that one of the last paintings he worked on prior to his stroke was a Velázquez, the Museum’s *The Supper at Emmaus*, which we restored in preparation for the impending exhibition (Figure 1, Colorplate 7).

The dating of this painting, first published by Aureliano de Beruete in 1898, has proved surprisingly elusive.2 Though the majority of scholars have placed *The Supper at Emmaus* in the artist’s early period in Seville (1618–23), it has been dated variously up to 1629—the first trip to Italy—and even as late as 1632. Until now, the arguments presented have been primarily stylistic, with minimal consideration for technique and none for the materials used to create the painting. This essay presents technical findings that place *The Supper at Emmaus* squarely in Seville and also addresses the issues of attribution that have been raised with respect to this work.

In 1610, the eleven-year-old Velázquez was apprenticed to Francisco Pacheco (1564–1644), one of the most respected painters in Seville. Though modest in his artistic abilities, Pacheco, a humanist and scholar of artistic theory, spent much of his life compiling a major treatise on the theory and practice of painting, published posthumously in 1649.3 Velázquez’s precocious talent was recognized and fostered by Pacheco, who mentioned the artist by name several times in his treatise.4 At the end of a standard six-year apprenticeship Velázquez married the master’s daughter and set up his own studio. The prevailing artistic style in Seville—a derivative blend of Flemish and Italian influences—reflected the orthodoxy demanded by the Catholic Church, the principal patron of artists in Spain’s ecclesiastical center. Within this conservative climate, the extraordinary skill and originality of the young Velázquez are seen in his earliest extant works: religious subjects, portraits, and scenes from everyday life, painted from careful observation of his models, both animate and inanimate, including *The Adoration of the Magi* (Museo Nacional del Prado, Madrid) (Figure 2) and *The Waterseller of Seville* (Wellington Museum, Apsley House, London).

In April 1622, he made a trip to Madrid to seek royal patronage from the new king, Philip IV (r. 1621–65). Though this initial attempt was unsuccessful, friends of Pacheco’s at court managed to bring the young artist to the attention of Gaspar de Guzmán de Olivares, the king’s powerful first minister. After a period of nine months back in Seville, on October 6, 1623, Velázquez moved to Madrid to assume a position as a court painter. Over the next six years his principal role was to paint portraits of Philip IV and the royal family. Exposure to the art of the royal collections and the ambassadorial visit of Peter Paul Rubens to the court from September 1628 to April 1629 had a significant impact on Velázquez’s work, both stylistically and technically. Near the end of or shortly after Rubens’s visit, he painted the *Feast of Bacchus* (Museo Nacional del Prado, Madrid), a mythological piece presented in a contemporary setting that continues to surprise viewers with the direct treatment of this unexpected combination. Velázquez traveled to Italy in the summer of 1629 to immerse himself in the artistic culture of such centers as Venice, Ferrara, Rome, and Naples, returning to Madrid early in 1631. In Rome he painted two imposing pictures that demonstrate the impact of his encounters thus far: *Joseph’s Coat Presented to Jacob* (Monastery of San Lorenzo el Real de El Escorial, Madrid) and *The Forge of Vulcan* (Museo Nacional del Prado, Madrid).

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The notes for this article begin on page 77.
This brief outline of the time frame within which The Supper at Emmaus has been situated covers a broad swath of Velázquez's stylistic and technical development. The difficulty in dating The Supper at Emmaus was demonstrated by Beruete, who published the painting in 1898 as “undoubtedly authentic, and dating from the early days of Velázquez,” even though he had expressed the opinion in a letter, seven years earlier, that it was painted in 1626–29. The entry in the catalogue of the 1989 exhibition in New York lists the following opinions: “Lafuente Ferrari proposes 1619; Bardi and Pantorba, 1620; Soria, 1622; Gudiol, 1622 or 1623; Brown, after 1623; Wehle and Trapier, 1625–27; Lopez-Rey, 1628 or 1629, on the eve of Velázquez’s first trip to Italy.” To this partial list may be added Fernando Marias who dates the work as late as 1628–32. How is such a range of opinion to be explained? While the painting shares features of paintings dating from the Seville period—the dark overall tonality, strong tenebrism, and, though ostensibly a religious scene, its treatment as a bodegón—it is something of a hybrid. Its more colorful appearance, carefully orchestrated composition, and dramatic treatment of the subject, when compared to the strange stasis pervading the Sevillian works, have suggested to some scholars that Velázquez must have encountered Italian paintings in the royal collection,
Figure 2. Velázquez. *The Adoration of the Magi*, 1619. Oil on canvas, 204 x 126.5 cm. Museo Nacional del Prado, Madrid (1166)
thus dating the painting to the first Madrid period (1623–29) or to the nine months in Seville that followed his visit to the city in 1622.8

While most Velázquez scholars have accepted The Supper at Emmaus as autograph, a few have questioned its attribution. Elizabeth du Gué Trapier, apparently accepting Henry Wehle’s dating of 1625–27, expressed doubts based, in part, on a comparison with The Feast of Bacchus; the handling of these two works indeed differs considerably.9 Leo Steinberg elaborated on Trapier’s comments in a more barbed attack on the attribution, citing the picture’s “trick effects,” “inorganic” modeling, and “empty rhetoric.”10 José Camón Aznar put forward, and then stepped back from, an attribution to the Sicilian painter Alonso Rodríguez (1578–1648).11 The painting was not featured in either of two recent catalogues of exhibitions about Velázquez’s Sevillian period.12

Velázquez’s painting technique changed to an extraordinary degree during the course of his working life, from the opaque, subdued, closed-contour forms of the bodegones of the Seville period to the luminous and impressionistic handling seen in such late works as the Metropolitan Museum’s Juan de Pareja (MMA 1971.86). The technical examination of the artist’s paintings undertaken in the last twenty years at the Prado and elsewhere has elucidated the chronology of materials and techniques that is closely linked to the artist’s location and patronage and can provide a framework for the dating of uncertain works.13 The Seville paintings fall into a distinct group, reflecting both the prevailing artistic practice—notably, that of his teacher, Pacheco—and the beginnings of Velázquez’s own remarkable technical trajectory.

The Supper at Emmaus is painted on a canvas woven with a pattern of intermittent clusters of small dia-
monds (Figure 3). Patterned cloths of this type, called mantelillo or mantel as opposed to the plainly woven lienzo, are found in seventeenth-century paintings by artists working in Naples, Toledo, and Seville. Zurbarán’s Battle between the Christians and Moors at El Sotillo (MMA 20.104) and El Greco’s The Vision of Saint John (MMA 56.48) are two examples in the Metropolitan’s collection. In Velázquez’s oeuvre, patterned canvases have been identified in The Adoration of the Magi, Mother Jerónima de la Fuente (both Museo Nacional del Prado, Madrid) and Saint Ildefonso Receiving the Chasuble (Excmo. Ayuntamiento de Sevilla). These works are all from the Seville period and all have in common religious subject matter. In her study of Velázquez’s early technique, Zahira Veliz notes a 1623 contract for an altarpiece signed by both Pacheco and Velázquez that specifies the central image, The Immaculate Conception, be painted on mantel and the peripheral images on lienzo; Veliz suggests the mantel may have been considered more attractive or precious, and thus more appropriate for the subject. Beyond Seville, Velázquez painted on plainly woven canvas, initially of a rather coarse weave, and, subsequently—starting with The Forge of Vulcan—more finely woven; he returned to the use of coarser fabric late in his life. It seems that he never used patterned canvas again.

The widely ranging grounds used by Velázquez during his working life are, in many senses, the most fundamental aspect of his painting technique. The dull brown ground material of The Supper at Emmaus consists of a single layer of a finely divided material, essentially an iron earth or naturally occurring heterogeneous mixture of minerals colored by iron oxide. Within this fine matrix are much larger inclusions of calcite and silica. This ground appears close if not identical to the grounds of the Seville period The Adoration of the Magi, Mother Jerónima de la Fuente, Saint Ildefonso Receiving the Chasuble, and Kitchen Scene with Christ in the House of Martha and Mary (National Gallery, London) as well as the ground of a painting by Zurbarán. Such grounds may be characterized as the local “Seville clay” recommended by Pacheco: “The best and smoothest priming is the clay used here in Seville, which is ground to a powder and tempered on the losa with linseed oil. . . . one I would use without further modifications, because I see my six canvases in the cloister of the Mercedarians conserved without having cracked nor shown any sign of flaking since the year 1600 when they were begun. . . .” Though Velázquez generally covered the preparation with paint at this period, over time the color of the Seville grounds has contributed to the somber tonality of these works due to increased transparency and wear of the overlying paint layers. This effect is most pronounced where the paint layers are thinly applied, as with the figure drinking in the background of The Waterseller of Seville that now appears ghostlike. It has been noted that grounds of similar composition have been analyzed in seventeenth-century paintings from Naples and from Holland. In Velázquez’s oeuvre, however, these dull brown grounds are found only in pictures painted in Seville.

Moving to Madrid in 1623, Velázquez adopted the orangey red earth pigment known as “tierra de Esquivias” that was in common use by painters there as a ground material. In several works, including the full-length Philip IV (Museo Nacional del Prado, Madrid), this reddish ground is applied over an initial gray ground (calcium carbonate and organic black). The next major change in ground composition is seen in the 1630 Forge of Vulcan, a highly experimental painting from a technical standpoint. The ground is grayish in color, consisting principally lead white. Such a light ground has the potential to impart luminosity to the overlying paint layers, which, here, the artist had applied with tremendous virtuosity, varying his touch from thick impasto to thin and dilute washes of paint in depicting the different elements of the scene. Though Velázquez used a range of hues for his grounds from this time on—gray, beige, and reddish (as in Juan de Pareja)—they remained rich in lead white, a light, reflective surface for the overlying paint. Grounds played an increasingly important compositional role, as his brushwork became more open and the overlying paint was applied more thinly, sometimes diluted to the point that the paint dribbled down the canvas.

Velázquez’s early works are characterized by the containment of forms and clearly defined contours, a predisposition that stems from his cultural roots in Seville and, specifically, from his artistic training. Pacheco wrote, “The sure and good grace of the entire work lies in the proper delineation of the figure or history, because it is certain that all the difficulty of painting lies in achieving the contours.” Pacheco’s emphasis on contour is closely related to his stress on the making of careful preliminary drawings, of which a number survive.

Though there are no drawings securely attributed to Velázquez, we know from Pacheco’s comments that Velázquez made studies from life. The recurrence of motifs, models, poses, and compositional elements in both secular and religious works bespeaks the use and reuse of these drawings. Like pieces from intersecting puzzles, the same old woman appears in Old Woman Cooking Eggs (National Gallery of Scotland, Edinburgh) and Kitchen Scene with Christ in the House of
Martha and Mary; the same pile of plates stacked upside down in Two Young Men at a Table (Wellington Museum, Apsley House, London) is to be found in the Kitchen Maid with the Supper at Emmaus (National Gallery of Ireland, Dublin). The similarity of the older disciple’s appearance in The Supper at Emmaus to the head at the right of the man holding the cup in The Feast of Bacchus was one of the reasons that Beruete initially believed this to be a work of 1626–29. In its composition The Supper at Emmaus relates closely to The Three Men at Table (State Hermitage Museum, Saint Petersburg), a bodegón with three figures at a table covered with a white tablecloth, on which are various still-life elements, including the same conceit of a knife protruding from the table’s edge, casting a shadow on the cloth below.26 That features were studied individually and then arranged as part of a composition is evident in the collagelike quality of these early paintings. Each element is given equal weight, and figures in close proximity to one another remain to some degree disengaged and introspective, contributing to the strangely charged atmosphere.

How elements of the composition were initially laid down on canvas is well demonstrated in The Supper at Emmaus. Some contours were drawn in using a fine brush loaded with black paint, as may be seen with infrared reflectography, an analytical technique that uses infrared radiation to penetrate the upper layers of paint in order to show what lies beneath. Such contours are apparent around the head and the hands of Christ (the far hand is shown in two different positions); the hand of the older disciple; the underside of the outstretched hand of the younger disciple; and at the bottom of the latter’s coat where it meets the bench (Figure 4).

Slender ridges of paint that further delineate certain contours or folds of drapery are a hallmark of Velázquez’s early work. More easily seen in raking light, they may also appear prominently in X-radiographs because of the relative thickness of the paint application and the pigment composition. In The Supper at Emmaus, such ridges or “graphic lines” as they have been termed, are present both as a form of underdrawing and as a buildup of paint at the edge of a broader brushstroke in the composition layers. In a detail of the X-radiograph they can be seen outlining parts of the outstretched hand of the younger disciple and describing some of the folds of Christ’s robe (Figure 3). Graphic lines occur frequently in paintings of the Seville period and may be understood as part of a tradition of attention to contouring, both at the underdrawing and execution stages.27 They appear less often in the increasingly broadly painted Madrid pictures of the 1620s. The role that these distinctive graphic lines might play in matters of attribution is limited by the fact that Velázquez’s contemporaries have not been subjected to the same degree of technical scrutiny.28

Infrared reflectography of The Supper at Emmaus further reveals an interesting phase in the early stages of painting, where the outer contours of certain features are blocked in, rather broadly, with black paint. This is seen very clearly around the outstretched hand, the key feature of the painting (see Figure 4). At the junction between Christ’s sleeve and the tabletop, a black brushstroke overlies the red of the sleeve, showing that this line of definition was not restricted to the underdrawing phase but was, instead, part of the process of painting. Similar strokes—corrections made with brushstrokes loaded with black pigment—have been observed in the infrared analysis of The Adoration of the Magi.29 Similarly, as may be seen under magnification, the very painterly white highlight in the right background of The Supper at Emmaus, which defines the sinuous contour of the shadowed right sleeve of the younger disciple, was painted after the sleeve but before the application of the brown background. Other contours were further adjusted in the final strokes, as in the curve of the younger disciple’s collar, where it meets the background, and in the neckline of Christ’s robe. Thus, at all stages of painting, the artist defined and refined the contours of his forms. Though his brushwork became more variegated and his forms more interactive, Velázquez’s attention to contour was sustained throughout his life and is one of the most eloquent features of his painting technique. The dynamic contour of the figure in The Dwarf Diego de Acedo, Called “El Primo” (Museo Nacional del Prado, Madrid) is one remarkable example out of many. This aspect of the artist’s technique had a significant effect on later painters and, perhaps, finds its most brilliant reflection in the work of Manet.30

An illuminating discovery in recent analytical studies of Velázquez’s paintings is that the range of pigments used by the artist was extremely limited and varied very little throughout his life. This knowledge renders all the more remarkable the ways he manipulated his materials in the development of his increasingly economical mature technique. The number of pigments available to artists across Europe in the seventeenth century, in general, was rather small and fairly constant, with some regional differences due to local sources and trade routes. Even so, it seems that when Velázquez had access to a broader selection of pigments, as on his trips to Italy, he still made a deliberate choice to limit his palette. A further idiosyncrasy is Velázquez’s almost complete avoidance of the green
pigments available to artists at this period, using instead mixtures of blue and yellow. Within the artist’s restricted palette, there are, however, certain distinctions to be made between works painted in Seville and those painted in Madrid and beyond. Whether by choice or economic circumstance, the principal yellow pigment found in the Sevillian paintings is yellow ochre, an inexpensive and widely available earth color. In *The Supper at Emmaus*, this was the pigment used for the cloak lying over the lap of the younger disciple. The deep green tablecloth is a mixture of yellow ochre and poor quality azurite. Velázquez did not generally use the more costly lead tin yellow until he was working under royal patronage in Madrid. Similarly, the red of Christ’s robe in the Metropolitan’s painting is red iron oxide, another earth pigment, not the more costly vermillion he was to use more frequently from 1623 onward.

Despite the huge difference in the appearance of Velázquez’s early and late works, his attention to the handling properties of his paints is a constant. The artist’s sophisticated and increasingly experimental approach exploited the possibilities of such aspects of technique as the particle size of his pigments, the ratio of pigment to medium, and additives to improve optical and physical properties. The paint medium used by the artist in *The Supper at Emmaus* was found to be linseed oil, which is consistent with Richard Newman’s analysis of the medium of a number of paintings by Velázquez. Another intriguing discovery emerging from recent studies is the ubiquitous presence of the white pigment calcite as an admixture in Velázquez’s paints. Virtually transparent in oil, calcite would both act as an extender and would improve the handling properties, imparting a stiffer consistency while maintaining transparency. How commonly it was used as an additive by contemporary artists is an area for further study; however, it appears that it was an integral part of Velázquez’s technique early on—it has been identified in samples from almost all the works examined by Garrido Pérez and was found in all the paint samples tested in *The Supper at Emmaus*. The fluid, painterly touch that is the hallmark of Velázquez’s technique is present in early works like *The Adoration of
Figure 5. X-radiograph mosaic of The Adoration of the Magi.
of the Magi, apparent in the long, flowing brushstrokes describing folds in the Virgin’s skirt and in the agitated highlight on her fingernail (Figure 2). The handling of paint in these areas is more clearly seen in the X-radiographs, which map the distribution of the ubiquitous lead white (Figure 5). A very similar touch is seen in the clothing of the younger disciple and in the highlight of Christ’s halo in The Supper at Emmaus (Figures 6, 3).

The application of paint in the Metropolitan’s painting is consistent with Velázquez’s Sevillian paintings. The X-radiographs of the early paintings have a distinctive appearance and strong legibility because of the low X-ray opacity of the earth grounds. Individual forms are well defined and contained, and the paint is applied with enormous assurance and subtlety in the creation of coherent three-dimensional form. In The Supper at Emmaus this is seen very clearly in the outstretched hand of the younger disciple, a beautiful passage (Figure 3). Though the picture surface is abraded, the X-radiograph presents a strong image of the distribution of paint mixtures containing lead white that are used to depict the dramatically side-lit hand against the modulated background. The paint is handled with great economy of means and extraordinary facility. Such skill is extremely rare and has to be taken into account by those who would question the attribution to Velázquez. Another distinctive feature
of Velázquez’s early technique seen in this painting is the undulating, rather abstract quality of the draperies. Again, the modeling is seen with greater clarity in the X-radiograph due to the compromised condition of the picture surface; consider, for example, the shoulder of Christ’s robe (Figures 3, 6). The draperies of the foremost magus in *The Adoration of the Magi* compare quite closely (Figure 5), as does the treatment of the jacket of the young man on the right side of *The Three Men at Table* and that of the broad expanse of the cloak of Saint Thomas (Musée des Beaux-Arts, Orléans), among many examples. This abstract quality works in counterpoint to other parts of the painting—such as the hand of the younger disciple—that are depicted with greater specificity and demonstrate the artist’s close observation of nature. Velázquez’s use of highlights is likewise extremely strategic—only the minimum of what is needed to describe the turn of a cheek or light hitting the rim of a vessel. This is the technique of an artist of extraordinary abilities.

In comparison with later works, few pentimenti are seen in the Sevillian paintings, no doubt because Velázquez’s working method at this time involved the use of studies. Such pentimenti as are found usually take the form of minor adjustments of contour. In *The Supper at Emmaus* there is a change in the position of the fingers of Christ’s right hand breaking the bread, the outstretched fingers of the younger disciple have been slightly shortened, and the contour of his wrist has been refined.

The constellation of paint trails showing through the overlying paint in the upper right background of *The Supper at Emmaus* are generally termed “brush wipings,” that is, places where the artist has wiped off excess paint or possibly tried out a color, thereby creating strokes that would have been painted over but that have become visible over time due to the increased transparency of the overlying oil paint. While they are seen in the work of other artists—El Greco is a notable example—they are usually confined to the edges or borders of the painting. The distinctive character of these marks in Velázquez’s paintings—and they are evident in a great many paintings from all periods of the artist’s work—is their relative prominence in the composition, as well the agitated and sometimes calligraphic quality of their application. While one needs to tread carefully here, before reading too much into an artist’s brush wipings, it cannot be ignored that they are wonder-fully unconscious expressions of an artist’s hand. The presence of these marks throughout much of the background of a painting like *The Dwarf Diego de Acero*, for example, has caused some scholars to speculate that they were meant to show, to some degree, as a way of adding atmospheric or textural effects. It is worth noting, however, that where these effects have been analyzed they are consistent with the paints found in the work, and some are so obscure that they have been revealed only through X-radiography. While they seem to me brush wipings only, their presence in the composition is one example of the ease and assuredness—the painterliness—evident in Velázquez’s technique even in his earliest works.

By a happy coincidence of sound technique and safekeeping, many of Velázquez’s paintings have traversed the centuries in remarkably unaltered state; a number, including *Juan de Pareja*, remain unlined, a rarity among paintings on canvas of the seventeenth century. Unfortunately, the paintings of the Seville period have fared less well, in part, because of the dull brown Seville clay grounds used by the artist at this time. The ground material appears to be overly sensitive to moisture, and its hue has contributed to the overall darkening of these paintings as the oil paints become more transparent over time. The condition of *The Supper at Emmaus* is severely compromised. The more densely painted flesh tones are the only parts of the painting that remain relatively unchanged: the ear and hand of the younger disciple, the ear and neck of Christ, and the furrowed brow of the older disciple. In addition to a number of large tears in the original canvas, over much of the painting’s surface the paint is cracked and cupped, and the high points of the cupped paint are abraded down to the ground, leaving islands of paint in between. The result of this type of abrasion is a generalized blurred look, far from the effect intended by the artist’s crisp contours and brushwork. Moreover, the colored glazes that would have modified and deepened the tones of Christ’s red and blue robes and the yellow robe in the foreground have all but disappeared, remaining only in the recesses of the underlying brushwork. The high chromatic key of these areas, in their current state, has contributed to some scholars’ placing the painting in Madrid, or at least after his first visit, when the artist would have seen Italian—especially Venetian—paintings unavailable to him in Seville. While condition certainly has been a factor in doubts about the attribution, it is a testament to the authority of the artist’s hand that the painting continues to read as well as it does and to have great presence despite its damaged state.

The entry for *The Supper at Emmaus* in the catalogue of the 1989 Velázquez exhibition at the Metropolitan Museum comments, as we noted above, on the broad range of dates that have been assigned to the painting. In the context of the recent technical studies of
Velázquez’s paintings, the material evidence for The Supper at Emmaus supports the majority of scholars who have placed the work in Seville and demonstrates, for those who have doubted it, that in its materials and technique The Supper at Emmaus is consistent with Velázquez’s Sevillian works. It is evident that the condition of the painting must also be factored into an assessment of its date and attribution. Within the Seville period, stylistically the painting seems to me to fall in the months following the artist’s initial visit to Madrid and thus may be dated with greater precision to 1622–23. John Brealey, following his stroke, was always eager to know how work on the picture was progressing. Though he never doubted when and where The Supper at Emmaus was painted, it is evident that some satisfaction to hear that the very substance of the work is a key to its times and origin.

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I will always be grateful to John Brealey for his eye, his wisdom, generosity, and wit.

NOTES

5. Aureliano de Beruete in a letter dated January 15, 1891, Department of European Paintings Archives, Metropolitan Museum.
8. Velázquez’s early exposure to the work of Caravaggio has been much discussed. Caravaggio’s version of the Supper at Emmaus in the National Gallery, London, treated as a bodegón, and employing dramatic gesture and radical foreshortening has strong echoes in the Metropolitan’s painting.
12. David Davies et al., Velázquez in Seville, exh. cat., National Galleries of Scotland, Edinburgh (Edinburgh, 1996); Velázquez y Sevilla, exh. cat., Centro Andaluz de Arte Contemporáneo, Monasterio de la Cartuja de Santa María de las Cuevas, Seville (Seville, 1999). By stipulation of its bequest, the painting cannot be loaned.
14. The weave count per square cm of The Supper at Emmaus is 13/15. The weave count of The Adoration of the Magi is 13/15, and that of Mother Penitente de la Fuente is 12/15, as tabulated in McKim-Smith and Newman, Velázquez en el Prado, pp. 114–15.
15. Veliz, “Velázquez’s Early Technique,” p. 79; see also McKim-Smith, Velázquez en el Prado, p. 111.
16. The range of canvas types used by the artist has been charted by Carmen Garrido Pérez: see Garrido Pérez, Velázquez: Técnica y evolución, pp. 53–61; see also McKim-Smith and Newman, Velázquez en el Prado, pp. 114–15.
17. I am grateful to Ashok Roy, head of the Scientific Department of the National Gallery, London, for his analysis in 1989 of the ground using scanning electron microscopy and energy dispersive X-ray spectrometry (SEM/EDS). In 2004, samples of the ground were analyzed by James Frantz and Mark T. Wypyski of the Department of Scientific Research at The Metropolitan Museum of Art, using X-ray diffraction (XRD) and SEM/EDS, respectively. In his report, Wypyski notes the overall elemental
composition as mainly silicon and calcium (identified with XRD),
along with relatively large amounts of aluminum and iron, small
amounts of magnesium and potassium, and traces of sodium, sul-
fur, chlorine, titanium, and lead. In the iron earth matrix, the
majority of the particles are in the range of about 1 to 5 microns.
The calcite inclusions range from about 10 to 20 microns and the
silica inclusions range from about 20 to 40 microns.

18. See Garrido Pérez, Velázquez: Técnica y evolución, pp. 76, 86,
108–9. My thanks to Ashok Roy for sharing analytical informa-
tion on Kitchen Scene with Christ in the House of Martha and Mary
and Zurbarán’s Saint Francis in Meditation (National Gallery,
London, nos. 1375 and 230). The X-ray diffraction spectra for
these paintings and the Metropolitan’s Supper at Emmaus are vir-
tually identical.


20. Veliz, “Velázquez’s Early Technique,” pp. 80, 95, n. 12; Ashok
Roy, personal communication, regarding the similarities of this
type of ground in seventeenth-century paintings from Spain,
Italy, and Holland.

21. Garrido Pérez, Velázquez: Técnica y evolución, pp. 15, 36, n. 2
(citing the treatise of Antonio Palomino de Castroy y Velasco).

22. Ibid., pp. 117, 124–25, 134, 142; Brown and Garrido, Velázquez:
The Technique of a Genius, pp. 16, 30.

23. On Juan de Pareja, see Hubert von Sonnenburg, “The Technique
and Conservation of the Portrait,” MMAB 29, no. 10, pt. 2 (June


25. In a section concerning preparatory drawings for portraits,
Pacheco writes, “My son-in-law, Diego Velázquez, was educated
in this doctrine as well; while still a boy he bribed a fellow
apprentice to serve as a model in various actions and postures:
sometimes crying, sometimes laughing, without excusing any
difficulty of drawing. He made many heads from this boy in
charcoal and highlight on blue paper, as well as many others
from life, with which he gained great assurance in portraiture”;
ibid., p. 103.

26. Of note here is the similarity of the composition of The Supper at
Emmaus to the central group of Pacheco’s Christ Served by the
Angels (Musée Goya, Castres), dated 1616, illustrated in Velázquez y
Sevilla, pp. 64–65, no. 25. I am grateful to Zahira Veliz for this observation.


28. Such graphic lines have been observed in works of questioned
attribution: Veliz, “Velázquez’s Early Technique,” p. 95 n. 25, and
McKim-Smith, “La técnica sevillana de Velázquez,” p. 115, on the
Saint John in the Wilderness (Art Institute of Chicago). The tech-
nique of the latter painting is discussed in greater detail in Inge
Fiedler, Zahira Veliz Bomford, and Frank Zucchi, “Technique
and Style: Clues to Authorship in the Chicago Saint John in the


30. The influence of Velázquez on Manet has been explored most
recently in the exhibitions at the Musée d’Orsay, Paris, and The
Metropolitan Museum of Art, New York, accompanied by the
catalogue Manet/Velázquez: The French Taste for Spanish Painting
(New York, 2003).

31. Verdigris has been analyzed as a constituent of the foliage in
Saint John on Patmos (National Gallery, London, inv. no. 6264) and
as a constituent in the background of The Immaculate Con-
ception (National Gallery, London, inv. no. 6424); personal com-
munication, Ashok Roy, May 2004. Green earth was identified in
small quantities in two paint samples from The Forge of Vulcan
and The Surrender of Breda (Museo Nacional del Prado, Madrid);
McKim-Smith, Anderson-Bergdoll, and Newman, Examining
Velázquez, p. 85.

32. See Garrido Pérez, Velázquez: Técnica y evolución, pp. 34, 77.

33. Thanks to Ashok Roy for his 1989 analysis of pigments from
The Supper at Emmaus using SEM/EDS.

34. I thank Richard Newman, Research Scientist at the Museum of
Fine Arts, Boston, for his analysis, using gas chromatography-
mass spectrometry (GC-MS), of samples from The Supper at
Emmaus. For published analysis of the medium used in paintings
by Velázquez, see Newman in McKim-Smith and Newman,
Velázquez en el Prado, pp. 139–41: the only paint sample that
showed a medium other than linseed was the blue in The Coro-
nation of the Virgin (Museo Nacional del Prado, Madrid). See
also the results of medium analysis of The Immaculate Concep-
tion and Saint John on Patmos in the National Gallery Technical Bulletin

35. See Garrido Pérez, Velázquez: Técnica y evolución, p. 35, and
analyses of individual works.

36. Some examples are found in Saint John on Patmos, The Feast of
Bacchus, and Juan de Pareja.

37. McKim-Smith, Andersen-Bergdoll, and Newman, Examining
Velázquez, pp. 77–78; Brown and Garrido, Velázquez: The Tech-
nique of a Genius, p. 39, in relation to The Feast of Bacchus.

38. As in Saint John on Patmos; Ashok Roy, personal communication.

39. As in The Waterseller of Seville, described and illustrated in Veliz,
Velázquez’s Early Technique,” pp. 82–83.

40. Ibid., pp. 80, 95 n. 15.

41. This type of damage is very similar to that seen in Saint Ildefonso
Receiving the Chasuble; see Garrido Pérez, Velázquez: Técnica y
evolución, pp. 102–11.

42. In a presumed workshop copy of the painting, formerly in the
collection of Thomas George Breadalbane, sold at Sotheby’s,
New York, January 15, 1987, lot 64, the red robe of Christ is
deeper in color; the blue robe over his knee is darker, and the
folds in the other drapery have more definition. This copy may
reflect something closer to the original color of these areas in the
Metropolitan’s painting.
Plate 7. Diego Rodríguez de Silva y Velázquez (Spanish, 1599–1660). The Supper at Emmaus. Oil on canvas, 123.2 x 132.7 cm. The Metropolitan Museum of Art, Bequest of Benjamin Altman, 1915 (14.40.63). See pp. 67–78