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Dosso Dossi's Allegory at Florence about Music

By H. COLIN SLIM

FOR HOWARD MAYER BROWN ON HIS 60TH BIRTHDAY

IN HIS *LIVES OF THE PAINTERS* OF 1568, Giorgio Vasari (1511–1574), a music lover himself, identified among others as artists who were doubly gifted as performing musicians Leonardo da Vinci, Giorgione, Titian, Sebastiano del Piombo, Girolamo da Carpi, Puligo, Rosso Fiorentino, and Tintoretto.¹ Vasari's essay about the Ferrarese painter Dosso Dossi (ca. 1490–1542) says nothing about any musical skills Dosso might have possessed, perhaps because Vasari had no information about Dosso as a performer. When the first edition of his *Lives* appeared in 1550, he had already twice visited Ferrara in 1542, just prior to Dosso's death. Unlike some sources of information about artists in his *Lives*, Vasari's knowledge about Dosso may thus have been mostly second-hand. Be this as it may, a dozen or so of Dosso's extant paintings and several of his designs for woodcuts express considerable interest in music and in music-making. The most

¹ On these painters, see Emanuel Winternitz, *Leonardo da Vinci as a Musician* (New Haven and London, 1982); H. Colin Slim, "The Lutenist's Hand," *Achademia Leonardo Vinci, Journal of Leonardo Studies & Bibliography of Vinciana* 1 (1988): 32–34; Nino Pirrotta, "Musiche intorno a Giorgione," in *Giorgione, Atti del convegno internazionale di studio per il 5° centenario della nascita 29–31 Maggio 1978* (Castelfranco, 1979), 41–45; Pirrotta, "Musiche intorno a Tiziano," in *Tiziano e Venezia, Convegno internazionale di studi: Venezia, 1976* (Vicenza, 1980), 29–34; Edward E. Lowinsky, "Music in Titian's Bacchanal of the Andrians: Origin and History of the Canon per tonos," in *Titian, His World and His Legacy*, ed. David Rosand (New York, 1982), 191–282; Slim, *A Gift of Madrigals and Motets* (Chicago and London, 1972), vol. 1, 45–48; Lowinsky, *Cipriano de Rore's Venus Motet. Its Poetic and Pictorial Sources* (Salt Lake City), 1986, 36; Slim, "A Motet for Machiavelli's Mistress and a Chanson for a Courtesan," in *Essays Presented to Myron P. Gilmore*, ed. Sergio Bertelli and Gloria Ramakus (Florence, 1978), vol. 2, 457–72; Slim, "Arcadelt's 'Amor, tu sai' in an Anonymous Allegory," *I Tatti Studies in the Renaissance* 2 (1987): 91 and 101; Erasmus Weddigen, "Jacopo Tintoretto und die Musik," *Artibus et Historiae* 10 (1984): 67–119; and Slim, "Tintoretto's 'Music-Making Women' at Dresden," *Imago Musicae* 4 (1987): 45–76. For painters not named by Vasari, but who were probably also musicians, see notes 68–70 and 72, below.

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important of these is Dosso's *Allegory of Music* in the Horne Museum at Florence (Figure 1). If we are to assess the role music plays in this painting, then we must first examine briefly Dosso's use of music in his other paintings. Only in this way can we be assured that he had sufficient knowledge of music to use it as one of the elements of allegory in his Horne painting. The following discussion deals with Dosso's use of instruments and players, leaving the discussion of musical notation, real or imaginary, mainly to the last. We begin with bowed stringed instruments.

Dosso places the *lira da braccio* (an instrument often used by Renaissance artists as an equivalent of the classical lyre) in both mythological and human hands. Apollo in *Apollo and Daphne*,² Orpheus in *Aeneas in the Elysian Fields*,³ and a satyr in the *Bacchanal*⁴ all play it. Although one of his human performers is a shade in *Aeneas in the Elysian Fields*,⁵ several historical figures are named in a design attributed to Dosso of a musician playing a *lira da braccio* with five strings and a single drone (Figure 2). This design appears as the same crudely executed woodcut no less than nine times in Sigismondo Fanti's *Triumpho di fortuna*, printed in 1527. Fanti's book also contains another woodcut of a lutenist on a design attributed to Dosso, again presented nine times (Figure 3). The conjunction of painter "Dosso/-Pktor" [*sic*] and author-mathematician "Fanto/Fer[rarese]," hitherto unremarked in a third woodcut (*carte XXXIII*), should strengthen theories by art historians that Dosso designed many of Fanti's woodcuts (Figure 4). For each appearance of these two sets of woodcuts of a *lira da braccio* and of a lute, Dosso (or his editor) names contemporaries who were musicians. The first of these *lira da braccio* players and at least four of the lutenists (on them, see below) performed at Mantua and Ferrara where Dosso painted. Among the

² Rome, Galleria Borghese; see Leonello Puppi, ed., *Dosso Dossi*, in *I Maestri del Colore*, no. 78 (Milan, 1965), color plates XIV–XV and Felton Gibbons, *Dosso and Battista Dossi, Court Painters at Ferrara* (Princeton, N.J., 1968), 195–96, Cat. no. 55, and plate 47.

³ Ottawa, National Gallery of Canada; see Peter Humfrey, "Dosso Dossi (Giovanni di Niccolò de Lutero)," in *The Age of Correggio and the Carracci: Emilian Painting of the Sixteenth and Seventeenth Centuries* (Washington, D.C. and New York, 1986), 114, no. 36 (left figure), and Gibbons, *Dosso*, 193, Cat. no. 50, and plate 75.

⁴ London, National Gallery; see John Walker, *Bellini and Titian at Ferrara* (New York and London, 1956), 39, fig. 20; Eugenio Battisti, *Rinascimento e Barocco* ([Milan], 1960), color plate facing 64; and Gibbons, *Dosso*, 241–43, Cat. no. 127, and plate 19.

⁵ Ottawa, National Gallery of Canada; see Humfrey, "Dosso," 114, no. 36 (right figure), and Gibbons, *Dosso*, plate 75.

lira players so far identified are Augustino Ferrarese,⁶ an improviser who sang to the lira at Ferrara and at Mantua around 1525; Notturmo Napolitano,⁷ a poet-improviser around 1518 (Figure 2); and a certain Philomeno,⁸ probably Antonio Philoxeno (Filosseno, detto Marcel, Trivigiano), a poet, singer and improviser from Treviso around 1520.

Lira da braccio players that Dosso depicted, human and mythological alike, normally sang to their instrument. Nevertheless, in one Dosso painting, his *Aeneas in the Elysian Fields*, Orpheus merely accompanies dancing and singing by the shades (as in Vergil's *Aeneid*). Earlier in the *Aeneid*, Vergil calls this instrument a "cithara" of seven strings ("numeris septem discrimina vocum").⁹ The miniature size of Orpheus's instrument and that of another player's lira in this particular painting prevent any count of the numbers of their strings. But in Dosso's large *Apollo and Daphne*,¹⁰ Apollo rapturously sings to a lira da braccio having the canonical seven strings Vergil prescribed for Apollo's son, Orpheus. Vergil is probably heeding a fragment (often considered spurious) of Terpander (ca. 675), although somewhat later (sixth century B.C.) Hermes is said to have employed seven strings when he invented the lyre and there are indeed seven in its earliest preserved representation, ca. 700–650 B.C.¹¹ In this instance at least,

⁶ Sigismondo Fanti, *Triumpho di fortuna* (Venice, 1527), fol. [40], Carte XXI. The same woodcut, but naming "Tuballe" and "Philomeno," is reproduced in Hans Tietze and Elizabeth Tietze-Conrat, "Contributi critici allo studio organico dei disegni veneziani del cinquecento," *La Critica d'Arte* 2 (1937): 86–88, plate 65, figure 14 (cropped) and in Gibbons, *Dosso*, plate 232, respectively. To the literature on Fanti cited by Gibbons, *Dosso*, 264, no. 187 and 268, no. 197, should be added Christoph Luitpold Frommel, "Peruzzi als Maler und Zeichner," *Römisches Jahrbuch für Kunstgeschichte* supplement 11 (1967–1968): 137–138, no. 100. On Augustino, see Slim, "Musicians on Parnassus," *Studies in the Renaissance* 12 (1965): 145 (fol. 60) and 155. Professor William F. Prizer plausibly suggests that he is the same musician, "Agustino da la Viola," named with Willaert at Ferrara in 1525 in Modena, Archivio di Stato, Camera Ducale, Compustisteria, Bolletta de' Salariati No. 37 (1525), fols. 14v–22.

⁷ Fanti, *Triumpho*, fol. [45], Carte XXVI (for the same woodcut, differently named, see above, note 6). On Notturmo, see Slim, "Musicians," 143 (fol. 52 verso) and 160, and Slim, "An Iconographical Echo of the Unwritten Tradition in a Verdelot Madrigal," *Studi Musicali* 17 (1988): 35.

⁸ Fanti, *Triumpho*, fol. [54], Carte XXXV; see Gibbons, *Dosso*, plate 232. On Philoxeno, see Slim, "Musicians," 143 (fol. 52 verso) and 161.

⁹ See above, note 3, and *The Aeneid* 6: 119–20 and 644–47.

¹⁰ See above, note 2.

¹¹ Martha Maas and Jane McIntosh Snyder, *Stringed Instruments of Ancient Greece* (New Haven and London, 1989), 27, 36, 42, fig. 1, and 203, effectively challenge Terpander's reputation for introducing the seven-string lyre (in his fragment 5) as, for example, reported in Warren Anderson, "Terpander," *The New Grove Dictionary of Music and Musicians* (London, 1980), vol. 18, 696, with illustration.

Dosso observes classical precedent.

Were it not for X-ray photography, Dosso's mysterious depiction and subsequent change of mind would remain unknown regarding another bowed string instrument of his time, a large bass viola da gamba in the *Mythological Scene (Myth of Pan)*.¹² Two early attempts by Dosso at painting its scroll, its neck, and at least six pegs are clear in the X-ray photograph, only ultimately to have been overpainted by him.

Near the lower edge of this *Mythological Scene* an open book in oblong format rests on a similarly shaped but closed volume. These are two partbooks. Largely concealed by a purple robe, the upper volume displays on its recto the ends of five staves. Each staff bears a considerable amount of legible mensural notation, the top staff having below it a single, unidentifiable word. Although the robe hides virtually all of this same opening, its uppermost edge seems to have a heading, perhaps: "Tria . . . e," presumably the title of the mostly concealed musical work or possibly the name of its composer. The style of musical notation corresponds to what one would expect during the 1520s (the time period currently assigned to the *Mythological Scene*; further on this, see below, pp. 60–61). The subject matter of this painting is not yet well understood, although the presence of a sleeping nude woman, a satyr, musical instruments, and musical notation may relate it to similar scenes in paintings of 1505 and ca. 1530 by Lorenzo Lotto (ca. 1480–1556) and Pietro degli Ingannati (active 1529–1548), respectively, paintings which are said to be allegories of vice and virtue.¹³ Perhaps these comments will stimulate art historians to discover not only Dosso's reasons for including the bass viola da gamba and then overpainting it, but also the import of musical notation in this *Mythological Scene*.

As for the lute, Dosso entrusts it solely to human hands. One such lutenist is a woman (unmentioned in Genesis) who serenades the procession entering Noah's ark in the *Entry into the Ark*.¹⁴ Another (male) lutenist forms part of a musical trio entertaining an outdoor

¹² Malibu, J. Paul Getty Museum; see Humfrey, "Dosso," 118–21, no. 38 and Gibbons, *Dosso*, 170, Cat. no. 11, and plate 27. I wish to thank Andrea Rotta of the Getty Museum for his kind assistance in reading the X-ray photographs held by the Museum.

¹³ Washington, D. C., National Gallery of Art, nos. 267 and 1028, respectively. See Fern Rusk Shapley, *Catalogue of the Italian Paintings* (Washington, D.C., 1979), vol. 1, 277–79, 247–49, and 544; and vol. 2, plates 192, 168.

¹⁴ Providence, Rhode Island School of Design; see Gibbons, *Dosso*, 194–95, Cat. no. 54, and plates 14–15.

bathing party in Dosso's earlier *Bacchanal*.¹⁵ Dosso's third lutenist, represented playing a five-stringed instrument in a woodcut used nine times in Fanti's 1527 *Triumpho*, is identified therein with several historical figures. All of the lutenists named who worked at Mantua and at Ferrara seem to predate Dosso's activity at both places. Performers so far identified are Pietrobono (ca. 1417–1497),¹⁶ the famous virtuoso lutenist, singer, and gittern player at Ferrara (Figure 3); Serafino dall'Aquila (1466–1500),¹⁷ the poet and improviser active at Naples, Rome, Urbino, Milan, and Mantua; Todeschin, perhaps the Gioan Tedesco (Joannis Marie Alemano)¹⁸ whose lute book, printed at Venice in 1508, is lost, or perhaps a much earlier Niccolò Tedesco (from Basle): "cantor et pulsator excellentissimo" at the court of Ferrara, 1436–1466;¹⁹ and a certain Genovese, probably the "Zenovese tenorista" active 1491–1500 at the court of Ferrara.²⁰

Dosso understands well the reality of wind instruments and the mythology attached to them. Satyrs play syrinx in the *Mythological Scene* and shawm in the London *Bacchanal*, respectively.²¹ X-ray photography reveals that in the former painting Dosso altered the syrinx so as to convert its original rectangle into the present and correct gradated shape. He not only properly reserves the recorder to humans but he also rightly views it as a member of a "soft" ensemble. In the one (idealized) case found in the *Bacchanal* at Rome, two recorders join a lute to form a "soft" consort.²² In the other case—one

¹⁵ Rome, Castel S. Angelo; see Walker, *Bellini and Titian*, 37, figure 18; Amalia Mezzetti, *Il Dosso e Battista Ferraresi* (Milan, 1965), color plate I; and Gibbons, *Dosso*, 203–05, Cat. no. 64, and plate 6.

¹⁶ Fanti, *Triumpho*, fol. [22 verso], Carte III verso. The same woodcut, but naming "Serafino," is reproduced in Gibbons, *Dosso*, plate 230. On Pietrobono, see Slim, "Musicians," 146 (fol. 60 verso) and 161; Lewis Lockwood, *Music in Renaissance Ferrara*, 1400–1505 (Cambridge, Mass., 1984), 95–108; and observations by Howard M. Brown, "Recent Research in the Renaissance: Criticism and Patronage," *Renaissance Quarterly* 40 (1987): 5.

¹⁷ Fanti, *Triumpho*, fol. [34 verso], Carte XV verso; see Gibbons, *Dosso*, plate 230. On Serafino, see Slim, "Musicians," 143 (fol. 51) and 161.

¹⁸ Fanti, *Triumpho*, fol. [37 verso]; Carte XVIII verso (for the same woodcut, differently named, see above, note 16). On Gioan Tedesco, see Slim, "Musicians," 146 (fol. 61) and 158; Slim, "Gian and Gian Maria, Some Fifteenth- and Sixteenth-Century Namesakes," *The Musical Quarterly* 57 (1971): 563–68; and William F. Prizer, "The Frottola and the Unwritten Tradition," *Studi Musicali* 15 (1986): 17.

¹⁹ Lockwood, *Music in Renaissance Ferrara*, 47 and 95–97.

²⁰ Fanti, *Triumpho*, fol. [48 verso], Carte XXIX verso (for the same woodcut, differently named, see above, note 16). On Zenovese, see Lockwood, *Music in Renaissance Ferrara*, 324–27.

²¹ See above, notes 12 and 4, respectively.

²² See above, note 15.

closer to reality, perhaps—of the *Soldier and Girl with Flute* [sic], a young woman recorder player stands next to a soldier wearing armor.²³

We have already seen that identification of the music in Dosso's *Mythological Scene* offers a serious challenge because of the very small amount of notation present. To identify musical scores in Dosso's works that depict ensemble singing is also a frustrating task. On the one hand, Dosso shows the hero in his *Aeneas in the Elysian Fields* encountering four tiny, happy shades who sing from two books or sheets of music, far too small to read.²⁴ On the other hand, his *Allegory* (a different and more realistic picture at Modena in a rhomboidal shape) depicts three singers, one of whom holds an open music book. At first sight the book appears to contain real notation, although closer inspection shows that this notation is stylized.²⁵ With the exception of these three singers in the rhomboidal *Allegory*, Dosso's other representations of music and of music-making are solely adjuncts to pictorial themes not themselves centered on the art of music.

Although these dozen or so images so far discussed do not prove that Dosso was a performing musician himself, they suggest that he had considerable understanding about the various roles music could play in mythology and a good working knowledge about instruments and about performance practice during his own time. Their frequency in his paintings as compared to some other artists of his period suggests a strong interest in music.

* * *

Dosso's *Allegory of Music* at Florence (Figure 1) not only concentrates entirely on the theme of music, but its notation of two different canons is of major interest to musicologists. Like so many paintings by Dosso, the subject matter of this one, with its extraordinary fusion of biblical and classical elements, "is typically marked by a spirit of freely poetic, almost whimsical inventiveness, in a way that has posed

²³ Venice, Cini Collection; see Gibbons, *Dosso*, 211, Cat. no. 76, and plate 26.

²⁴ See above, notes 3 and 5.

²⁵ Modena, Pinacoteca Estense; see Gibbons, *Dosso*, 243–44, Cat. no. 129, and plate 92. This music, mentioned as real by Mezzetti, *Il Dosso e Battista Ferraresi*, 99, no. 109 and by Volker Scherliess, *Musikalische Noten auf Kunstwerken der italienischen Renaissance bis zum Anfang des 17. Jahrhunderts* (Hamburg, 1972), 35 and 152, is merely four staves of stylized mensural notation.

almost insuperable problems to present-day iconographers."²⁶ As we shall see, similar problems plague the would-be transcriber of the music Dosso inscribed.

The *Allegory of Music*, Dosso's one picture with music both readable and identifiable,²⁷ has been located for many years in the Museo Horne at Florence.²⁸ It is approached with some diffidence because considerable attention has already been paid to it. Art historians like Carlo Gamba,²⁹ Amalie Mezzetti,³⁰ Felton Gibbons,³¹ Filippo Rossi,³² Maurizio Calvesi,³³ and Peter Humfrey³⁴ and music historians like Luigi Parigi,³⁵ Robert Erich Wolf, Lewis Lockwood, Anthony Newcomb,³⁶ Albert Pomme de Mirimonde,³⁷ Volker Scherliess,³⁸ and Edward E. Lowinsky³⁹ have studied it to varying degrees. Curiously enough, music historians have overlooked one of the two musical compositions in the painting, which, as it happens, is a work by the major composer of the period.⁴⁰ Diffidence further

²⁶ Humfrey, "Dosso," 111.

²⁷ For what has hitherto been considered an exception, see the *Allegory* above, note 25.

²⁸ *Allegory of Music* (or *Tubaalcain*) No. 80; on canvas, 162cm × 170cm. See Carlo Gamba, "Il palazzo e la raccolta Horne a Firenze," *Dedalo* 1 (1920): 177–81 with plate, and idem, *Il Museo Horne a Firenze* (Florence, 1961), 25, no. 4, with plate. Gamba's description also occurs in the anonymous *Illustrated Catalogue of the Horne Museum* (Florence, 1926), 22, no. 80, with plate.

²⁹ See note 28.

³⁰ *Il Dosso e Battista Ferraresi*, 25–26 and 85, no. 54, and color plate VI.

³¹ *Dosso*, 92–98, 178–79, Cat. no. 23, and plates 108 and 110.

³² *Il Museo Horne a Firenze* (Milan, 1967), 148, and plate 75 (in color).

³³ "Dosso" (review of Gibbons), *Storia dell'arte* 1–2 (1969): especially 171–74.

³⁴ Humfrey, "Dosso," 123, with plate on 122.

³⁵ "L'allegoria della musica di Dosso Dossi al Museo Horne," *Rivista d'arte* 22 (1940): 272–78 with figure 1 on 273.

³⁶ Gibbons, *Dosso*, 96, note 45, credits Wolf, Lockwood, and Newcomb.

³⁷ "Les Allégories de la Musique," *Gazette des Beaux-Arts* 72 (1968): 305–07, and 313 with figure 29.

³⁸ *Musikalische Noten*, 35, 71, 96–97; no. XII, with plates 35 and 36.

³⁹ "Music in Titian's *Bacchanal*," 282, notes 132, 136, and 137. Lowinsky, who owned detail photographs of both canons in Dosso's painting and had consulted Edgar Sparks about the circular one, apparently failed to recognize Josquin's music in the triangular canon (information kindly supplied by Bonnie Blackburn).

⁴⁰ I am obliged to Professor Peter Meller who, by providing a clear detail photograph of the triangular canon (Florence, Gabinetto fotografico degli Uffizi, no. 356311), provoked me into discovering its source. The majority of reproductions available—mentioned above in notes 28, 31, 34, 35, and 37, and one in Bernard Berenson, *Italian Pictures of the Renaissance: A List of the Principal Artists and Their Works With an Index of Places. Central Italian and North Italian Schools* (London, 1968), vol. 3, plate 1751—hardly even show the tablet, let alone the triangular canon. Scherliess, *Musikalische Noten*, whose plate 36 crops the top of the canon, dismisses it on p. 35 as "nicht mehr übertragbar."

stems from an inability to discover the composer of the other work or even any other source for it, notwithstanding the attention the painting has received.

At present, the standard interpretation of the painting derives from descriptions by the above-mentioned art historians and by Parigi. They interpret the picture as an allegory of music, depicting on the left the biblical blacksmith, Tubalcain. Because Genesis 4:21–22 states Tubalcain's half-brother Jubal "was the ancestor of those who play the harp and pipe," a string instrument at the bottom of the painting (either a viola da braccio or a lira da braccio) probably refers to Jubal's invention. By assigning Roman numerals XII and VIII to two of the three hammers of the blacksmith, Dosso fuses Tubalcain with Pythagoras. This Greek philosopher is said to have first discovered numerical relationships among musical consonances by hearing a blacksmith strike hammers of varying weights and then weighing the hammers. Dosso even fancifully scatters a few stylized notes on the anvil of his Hebraic-Greco blacksmith. A spirit figure at the extreme left holding a torch further testifies to Hellenic aspects in Dosso's conception of the discovery of consonances. Two women on the right leaning on tablets inscribed with puzzle canons in the shapes of a circle and a triangle are at once the women (mother and sister) of Tubalcain's and Jubal's family in Genesis as well as sacred and profane Venuses, Dosso having modelled the seated one on an ancient statue of Venus disrobing. The key to the triangular canon (and perhaps to both canons) is said to lie in the phrase "trinitas in u[num]" (actually "un[um]" or perhaps "un[itate]") written above the triangular one. The most recent overview of the art historical literature on this painting rejects as "unnecessarily complicated" a previous attempt at seeing in these symbols (and others) a relationship between music and alchemy.⁴¹

Neither the date of origin of Dosso's painting nor its provenance before 1598 are yet well established. Dosso's painting apparently came to Rome in 1598 from the Este castle at Ferrara where in the 1530s it likely belonged to some member of the Este family. In view of the painting's subject matter, it is probably not by coincidence that two late sixteenth-century owners were also passionate music lovers. The first of these, Lucrezia d'Este, Duchess of Urbino (1533–1598), the sister of Alfonso II, lived at Ferrara from 1576 until her death. She left the painting as part of her family's "quadreria di valore inestima-

⁴¹ Humfrey, "Dosso," 123, referring to Calvesi, "Dosso," 171–74.

bile" to Cardinal Pietro Aldobrandini (1571–1621) then at Ferrara in 1598, who took it to Rome, where it later appears cited in Albobrandini inventories of 1603 and 1682.⁴² Late in the seventeenth century it entered the Borghese collection, remaining there until at least 1891. Soon thereafter Herbert Percy Horne (1864–1916) purchased it and brought it to Florence.⁴³ He bequeathed it to the city, which subsequently created the Horne Museum in the early fifteenth-century palazzo he had occupied.

Not only the date of the picture but its original ownership pose problems. If the period of ca. 1524–1534 currently assigned holds true, then a recent theory that the music-loving Cardinal Ippolito I d'Este (1479–1520) commissioned it must be abandoned.⁴⁴ More likely it originated with the Cardinal's brother, Duke Alfonso I d'Este (1476–1534) for his camerino, or with another family member. Even with his extraordinary interest in music, Sigismondo d'Este (1480–1524)⁴⁵ presumably died too soon to have commissioned it.

Among scholars studying musical aspects of the painting, Luigi Parigi made the most substantial contribution. Relying on his explanations now half a century old, art historians seem unaware of theories and observations made in newer studies by Mirimonde and by Scherliess. Stating that two figures or two objects in allegories do not normally transmit the same idea, Mirimonde suggests that each woman corresponds to a particular category of music, although

⁴² Gamba, "Il palazzo," 181 and his *Il Museo Horne*, 25, and Rossi, *Il Museo Horne*, 148, state incorrectly that Cardinal Cinzio Aldobrandini was Lucrezia's heir. On her musical interests, see Anthony Newcomb, *The Madrigal at Ferrara 1579–1597* (Princeton, 1980), vol. 1, 296 (index), s.v., and on Aldobrandini's, see Claudio Annibaldi, "Il mecenate 'politico': ancora sul patronato musicale del cardinale Pietro Aldobrandini (1571–1621)," *Studi Musicali* 16 (1987): 33–93 and 17 (1988): 101–78; the quotation about Lucrezia's art collection is in *ibid.*, 69, note 149. For the 1603 inventory, see Cesare D'Onofrio, "Inventario dei dipinti del cardinal Pietro Aldobrandini compilato da G. B. Agucchi nel 1603," *Palatino, Rivista Romana di Cultura* 8 (1964): 162, no. 153; for the one of 1682, see Paola Della Pergola, "Gli inventari Aldobrandini III," *Arte antica e moderna* 22 (1963): 73, and quoted in Mezzetti, *Il Dosso e Battista Ferraresi*, 85. These (slightly differing) descriptions of the painting do not appear in Della Pergola, "L'inventario del 1592 di Lucrezia d'Este," *Arte antica e moderna* 7 (1959): 342–51, listing mostly devotional paintings.

⁴³ Adolfo Venturi, "Le gallerie di Roma," *Nuova antologia di scienze, lettere ed arti* 118 (1891): 427, cites it as still at Rome in the Borghese collection.

⁴⁴ Humfrey, "Dosso," 123. On Ippolito, see now Lockwood, "Adrian Willaert and Cardinal Ippolito I d'Este: New Light on Willaert's Early Career in Italy, 1515–21," *Early Music History* 5 (1985): 85–112.

⁴⁵ See Lockwood, "Jean Mouton and Jean Michel: New Evidence on French Music and Musicians in Italy, 1505–1520," this JOURNAL 32 (1979): 197–208 and 224–33.

apparently not with the music of the canons specifically in mind since Mirimonde had transcribed neither one. Nor does Mirimonde really inform us, except vaguely as “some sort of transposition of Titian’s *Sacred and Profane Love*,” why the woman who holds the circular canon would personify worldly music and her companion, sacred music. He explained the latter’s nudity by noting motives appropriate to sacred love, following Panofsky’s discussion of Titian’s *Sacred and Profane Love*.⁴⁶ Scherliess interprets the far left figure as Amor (Cupid),⁴⁷ perhaps unaware of Panofsky’s reminder that the typical Renaissance Cupid appears “less frequently with a torch.” With the young spirit figure gazing so intently at the blacksmith, the torch more likely symbolizes knowledge, a device used by Cesare Ripa late in the century.⁴⁸ Scherliess’s transcription of the circular canon published in 1972 unfortunately contains errors and is incomplete.⁴⁹

The following problems about music in this picture still require investigation: (a) What are the two compositions and why are they present? (b) Why are they inscribed in the shape of a circle and of a triangle? (c) Why is the music written on two tablets? (d) What is the partly-hidden string instrument and might its presence be significant? (e) Did the hammer wielded by the blacksmith once also bear a number and might it and numbers on his other two hammers relate to the music written on the tablets? (f) Is the painting correctly titled? (g) To what extent, if any, might Dosso have been influenced by philosophical speculation then current about the nature of music?

* * *

We begin by discussing sources for the canons and for their formats. As noted earlier, no source other than this painting is known for the circular canon (see detail, Figure 1a). It does not occur in any of the surviving works by composers who visited or worked at Ferrara or by composers represented in manuscripts or in prints of

⁴⁶ “Les Allégories,” 306–07; the painting is at Rome, Borghese Museum.

⁴⁷ *Musikalische Noten*, 35 and 71, note 77.

⁴⁸ Erwin Panofsky, *Studies in Iconology, Humanistic Themes in the Art of the Renaissance* (New York and Evanston, 1962), 121. On Ripa’s identification in 1593, see Ilya M. Veldman, *Maarten van Heemskerck and Dutch Humanism in the Sixteenth Century*, trans. Michael Hoyle (Amsterdam, 1977), 59, note 19.

⁴⁹ As Lowinsky correctly pointed out (see above, note 39), Scherliess’s transcription and resolution, *Musikalische Noten*, 96–97, is an octave too high and requires some *musica ficta*. It also pays no heed to a fourth *signum* in the painting at breve 16. Scherliess, 35, characterizes this circular canon as “schlicht,” stating that it adds nothing further to Gibbons’s interpretation in his *Dosso*.

Ferrarese provenance;⁵⁰ nor is it any of the several well-known canons notated in a circular format.⁵¹ Unlike some of the latter canons,⁵² it admits of only a single solution—at the unison or octave (see Example 1).

Scherliess described this canon as “schlicht.” Although it is not quite as simple as he believed, doubtless this quality accounts for the lack of any written instruction in the painting such as the far more complex triangular canon requires and indeed appears above it. If we compare the canon in circular format to unison (single) canons composed during the sixty years or so before Dosso painted the picture⁵³ and also compare it to unison canons inscribed in other

⁵⁰ See Lockwood's listings of relevant composers and sources in “Jean Mouton,” 198–245; in *Music in Renaissance Ferrara*, 213–77 and 323–28; in “Adrian Willaert and Cardinal Ippolito I d'Este,” 109–12; and in “Musicisti a Ferrara all'epoca dell'Ariosto,” in Maria Antonella Balsano, ed., *L'Ariosto La Musica I Musicisti*, Quaderni della Rivista Italiana di Musicologia 5 (Florence, 1981): 7–25.

⁵¹ See the anonymous ballade, “En la maison Dedalus,” (late 14th century) in Richard L. Crocker, “A New Source for Medieval Music Theory,” *Acta Musicologica* 39 (1967): 165 and plate 2; Baude Cordier, “Tout par compas,” (early 15th century) in Carl Parrish, *The Notation of Medieval Music* (New York, 1957), plate LXII; the textless canon (ca. 1491) probably by Bartolomé Ramos de Pareja in Howard Mayer Brown, *A Florentine Chansonnier from the Time of Lorenzo the Magnificent*, Florence, Biblioteca Nazionale Centrale MS Banco Rari 229 (Chicago and London, 1983), text volume, plate II; the anonymous “Salve, radix,” written for Henry VIII (1516) in London, British Museum, MS Royal II.E.XI, fols. 2 verso–3, illustrated in *Larousse de la Musique*, ed. Norbert Dufourcq (Paris, 1957), vol. 1, 154; an anonymous, textless canon (1517), probably by Andrea Antico in Knud Jeppesen, *La Frottola. I Bemerkungen zur Bibliographie der ältesten weltlichen Notendrucke in Italien* (Copenhagen, 1968), plate XVII and transcribed in Francesco Luisi, *La musica vocale nel rinascimento* (Turin, 1977), plate facing 208 (see also below, note 54, re “Vivat Leo Decimus Pontifex”); four canons (one by Jean Mouton) copied ca. 1525 in Claudio Gallico, *Un canzoniere musicale italiano del cinquecento* (Florence, 1961), plate facing 69; Ludwig Senfl, “Was ist die Welt?” (1534) in Senfl, *Sämtliche Werke*, vol. 4, ed. Arnold Geering and Wilhelm Altwegg (Wolfenbüttel and Zurich, 1962): XIII, upper plate; an anonymous, textless canon (1549) in Walter Blankenburg, “Kanon,” *Die Musik in Geschichte und Gegenwart* vol. 7, col. 527, fig. 2; and (Clement?) Morel, “Honi soit” (middle of the 16th century), opening London, British Museum, MS Royal 8.G.VII. Attribution of a five-voiced “Canon A Ronde” to Jacob Clemens non Papa in London, British Museum, MS Royal 24, fol. 25, copied in the eighteenth century, is regarded as doubtful by Willem Elders, “Clemens (non Papa),” *The New Grove Dictionary of Music and Musicians*, vol. 4, 477 and 480. See Clemens non Papa, *Opera Omnia*, ed. K. Ph. Bernet Kempers, vol. 11 (American Institute of Musicology, 1964), 114–115 and facsimile.

⁵² See Brown, *A Florentine Chansonnier*, text volume, 18–21, exs. IV.1–IV.5.

⁵³ For example, see such unison canons as: Antoine Busnois, “Ha, que ville et habominable,” a3 (ca. 1475) in Brown, *A Florentine Chansonnier*, music volume, 459, no. 197a, and the textless canon a4 (ca. 1491) in Brown, text volume: 18, Ex. IV.2; Pampphilus, “Cucucucu,” a3 (ca. 1500) in Knud Jeppesen, *La Frottola*, 2 (Copenhagen, 1969), 300–02, no. 2; rounds a3 by Henry VIII and his court composers (ca.

Example 1 (*continued*)

The musical score is presented in three systems, each containing four staves. The notation is in G major (one sharp) and 4/4 time. The first system begins at measure 18, the second at measure 24, and the third at measure 29. The score concludes with a double bar line at the end of the third system.

System 1 (Measures 18-23): The first staff features a melodic line starting with a half note G4, followed by eighth notes A4, B4, and C5, then a half note D5. The second staff has a half note G3, followed by eighth notes A3, B3, and C4, then a half note D4. The third staff contains a half note G3, followed by eighth notes A3, B3, and C4, then a half note D4. The fourth staff has a half note G3, followed by eighth notes A3, B3, and C4, then a half note D4.

System 2 (Measures 24-28): The first staff continues the melodic line with a half note D5, followed by eighth notes C5, B4, and A4, then a half note G4. The second staff has a half note D4, followed by eighth notes C4, B3, and A3, then a half note G3. The third staff contains a half note D4, followed by eighth notes C4, B3, and A3, then a half note G3. The fourth staff has a half note D4, followed by eighth notes C4, B3, and A3, then a half note G3.

System 3 (Measures 29-32): The first staff continues the melodic line with a half note G4, followed by eighth notes A4, B4, and C5, then a half note D5. The second staff has a half note G3, followed by eighth notes A3, B3, and C4, then a half note D4. The third staff contains a half note G3, followed by eighth notes A3, B3, and C4, then a half note D4. The fourth staff has a half note G3, followed by eighth notes A3, B3, and C4, then a half note D4.

works of art,⁵⁴ we note at least one way in which it differs from them. In resolving this one, parallel unisons and octaves will appear among the three voices at measure (= breve) 8 (and thereafter at mm. 11 and 14), parallel unisons between the second and fourth voices at m. 17, and parallel octaves between the first and second voices at m. 20. Scherliess observed that m. 8 has been overpainted. Something is certainly awry here, though whether it results from overpainting, improper restoration, or compositional ineptitude is unclear. Even supposing that the painter (or a restorer) inadvertently inscribed mm. 8–9 a third too high fails to eliminate parallel octaves later on, between the first and second voices at m. 11. Seeming errors at m. 21 and at m. 23 (fourth beat) are merely an ill-formed breve resembling a semibreve and a fragment now remaining of a stem for a minim, respectively.

Scherliess not only transcribed the work an octave too high, but he also paid no attention to a fourth *signum congruentiae* (m. 16), even though he included it in his diplomatic transcription. Presumably this *signum* should mean that the canon was at least five-voiced. Its significance is not immediately apparent because a fifth voice may not be added at m. 16 (or elsewhere) without quickly causing unacceptable dissonances. The real purpose of this sign is to begin the canon

1510–1520) in John Stevens, ed., *Music at the Court of Henry VIII* (London, 1962), passim; the textless one a4 (1517), probably by Antico cited above, note 51; two a3 by Pope Leo X (before 1521, though not copied until the 1550s) in Perugia, Biblioteca Comunale, MS Mus. 431 (G.20), fols. 46 and 165 verso, listed in Allan Atlas, “On the Neapolitan Provenance of the Manuscript Perugia, Biblioteca Comunale Augusta, 431 (G20),” *Musica Disciplina* 31 (1977): 80–81 and 102–03; and Francesco Layolle, “Ave Maria” a3 (1528) in Layolle, *Collected Motets for 2, 3, 4, 5 and 6 Voices*, ed. Frank A. D’Accone, *Music of the Florentine Renaissance*, vol. 5 (American Institute of Musicology, 1973), 1–2.

⁵⁴ After observing Lowinsky’s corrections in “Music in Titian’s *Bacchanal*,” there remain in Scherliess’s catalogue, *Musikalische Noten*, the following unison canons: 91, no. IX (1513); 92, no. X (ca. 1545–49), better transcribed in Gustave Reese, “Musical Compositions in Renaissance Intarsia,” *Medieval and Renaissance Studies* 2 (1968): 86; 108, no. XIX (ca. 1530); 111, no. XXI (ca. 1500), corrected by Lowinsky, 269, ex. 31; and 133, no. XXVIII (ca. 1500), better transcribed in Reese, 92, ex. 7. To these should be added the unison canon a4 “Vivat Leo Decimus Pontifex” (probably by Antico) on the title page of *Liber Quindecim Missarum* (Rome, 1516), showing Andrea Antico, its publisher, presenting the canon to Leo X, in Gottfried S. Fraenkel, *Decorative Music Title Pages* (New York, 1968), no. 4, the same work which appears notated in a circle in 1517 (see above, note 51), on which see *The Motet Books of Andrea Antico*, ed. Martin Picker, *Monuments of Renaissance Music*, no. 8 (Chicago and London, 1987), 2, note 9. An anonymous textless canon (ca. 1515) in Andrea del Sarto, *The Corsini Madonna* (Petworth version) in John Shearman, *Andrea del Sarto*, vol. 1 (Oxford, 1965), plate 35a, is not a3 as incorrectly reported in Slim, “Some Thoughts on Musical Inscriptions,” *RIDIM Newsletter* 2, no. 2 (1977): 25, but a2.

again at the moment the fourth voice reaches this point, thus turning the work into a perpetual canon at the unison. Moreover, because the intervals of the first voice at mm. 13–15 virtually equal those of mm. 1–3, and because these intervals are then sounded successively by voice two at mm. 16–18, voice three at mm. 19–21, and voice four at mm. 22–24, the ear is almost beguiled into hearing canonic entrances every three measures, long before the canon begins again at m. 25.

Although from what composer or source Dosso (or his patron?) obtained this canon remains unknown, there would have been little difficulty at Ferrara either in finding a composer to write one or in locating one already written. Lockwood has characterized the city at this period as “a hive of active music making and music copying.”⁵⁵ Yet, even for this fairly simple perpetual canon Dosso might have needed a non-Italian composer because, as Lowinsky noted, few Italian composers were competent in contrapuntal skills, although they respected these accomplishments in *oltramontani* composers.⁵⁶

On the face of it then, likely candidates for composers of the circular canon in a painting dating from the decade 1524–1534 would be the northerners Jean Mouton (ca. 1459–1522), Adrian Willaert (ca. 1490–1562), and Jacquet of Mantua (Jacques Colebault, 1483–1559). All three were masters of canonic techniques and resided in Ferrara, although for quite different lengths of time. Mouton, already highly esteemed in Ferrara, was in northern Italy and probably at Ferrara itself in November, 1515.⁵⁷ Willaert (Mouton's former student) served Cardinal Ippolito I at Ferrara the same year (1515) and after Ippolito's death in 1520 Duke Alfonso I employed him there until 1527. Even after his appointment that year as chapel master at St. Mark's in Venice, Willaert maintained close ties with Ferrara.⁵⁸ Moreover, as Lowinsky so persuasively argued, the “canon” [a4] (probably a canon per tonos) which Titian inscribed ca. 1523–1525 in his *Bacchanal of the Andrians* painted for Alfonso I was most likely supplied to Titian by Willaert, who early demonstrated mastery of the difficult double canon in the *Motetti novi e chanzoni franciose a quatro sopra duoi*, printed by Antico in 1520 at Venice.⁵⁹ Last, Jacquet of Mantua sang in 1525

⁵⁵ “Jean Mouton,” 224.

⁵⁶ “Music in Titian's *Bacchanal*,” 195 and 274, n.9.

⁵⁷ Lockwood, “Jean Mouton,” 213.

⁵⁸ Lockwood, “Adrian Willaert,” *The New Grove Dictionary of Music and Musicians*, vol. 20, 421.

⁵⁹ “Music in Titian's *Bacchanal*,” 194–204; the painting is at Madrid, Prado Museum.

at the Este court with Willaert, leaving for Mantua in 1526.⁶⁰

Yet to assign Dosso's circular canon to any of these composers is inappropriate, not only because of a certain dullness resulting from its construction at the unison, which "yields a static, undifferentiated sound,"⁶¹ but also because of the parallel unisons and octaves mentioned above, flaws for which one seeks in vain in unison (and in other) canons by Mouton, Willaert, and Jacquet. Presumably then, Dosso turned for his circular canon to a lesser master whose technique, though encompassing a few surprises (as outlined above), was not faultless. This composer likely worked ca. 1524–1534 at the court of Ferrara.

Far from being by a lesser master, the triangular canon is by a musician once also resident (1503–1504) in Ferrara but as *maestro di cappella* a decade before Dosso arrived there in 1514 and at least two decades before Dosso (or his patron) required the canon (see detail, Figure 1b). The composer of this canon, the celebrated Josquin Desprez (ca. 1440–1521), wrote it as part of a mass, probably not earlier than about 1485. Dosso inscribed in his painting a rather corrupt version of the second Agnus Dei from Josquin's *Missa L'homme armé super voces musicales*, first printed in 1502 by Petrucci at Venice.

Tracking down precisely where Dosso obtained the music is no easy matter because of the wide circulation Josquin's Mass enjoyed. Up to the time of Dosso's death in 1542, Agnus Dei II had appeared in nine prints, in seven manuscripts,⁶² and had served as part of an intarsia.⁶³ Doubtless even more sources, now unknown and destroyed, once preserved it. Josquin's proportional canon is not notated

⁶⁰ See George Nugent, "Jacquet of Mantua," *The New Grove Dictionary of Music and Musicians*, vol. 9, 456–58. The names of Jacquet, Willaert (and others) appear in the document at Modena cited above, note 6.

⁶¹ Lowinsky, "Canon Technique and Simultaneous Conception in Fifteenth-Century Music: A Comparison of North and South," in *Essays on the Music of J.S. Bach and Other Divers Subjects: A Tribute to Gerhard Herz*, ed. Robert L. Weaver (Louisville, Kentucky, 1981), 186.

⁶² See Josquin des Prés, *Werken*, ed. Albert Smijers (Amsterdam and Leipzig, 1926), series 1, vol. 10, VI–VIII; additional sources appear in Gustave Reese and Jeremy Noble, "Josquin Desprez," *The New Grove High Renaissance Masters*, ed. Stanley Sadie (New York and London, 1984), 66.

⁶³ See Jaap van Benthem, "Einige Musikintarsien des frühen 16. Jahrhunderts in Piacenza und Josquins Proportionskanon *Agnus Dei*," *Tijdschrift van de Vereniging voor Nederlandse Muziekgeschiedenis* 24 (1974): 97–111; Edward Stam, "Josquins Proportionskanon *Agnus dei* und dessen piacentiner Überlieferung," *Tijdschrift van de Vereniging voor Nederlandse Muziekgeschiedenis* 26 (1976): 1–8; and van Benthem, "Kompositorisches Verfahren in Josquins Proportionskanon *Agnus Dei*," *Tijdschrift van de Vereniging voor Nederlandse Muziekgeschiedenis* 26: 9–16.

Example 2

Josquin Desprez, *Agnus Dei* II, triangle canon in Dosso, *Allegory of Music*

trinitas in un[um]

side 1

side 2

side 3

- a) Bar lines are added where feasible.
- b) Dot of division.
- c) Space, followed by right (?) side of a breve.
- d) Left (?) side of a breve, followed by a space.

in the shape of a triangle in extant sources up to 1542 or, for that matter, in later ones. In many sources it bears a verbal phrase for aiding its resolution similar to the one, “trinitas in un[um]” (or “un[itate]”?), in the painting⁶⁴ (see the diplomatic transcription in Example 2).

Unlike the circular canon, which provides both a welcome localizing B $\flat$ and a mensuration sign, the triangular canon lacks the mezzosoprano clef, the three mensuration signs, and one of the pair of *signa congruentiae* found in the earliest print and in most other sources. Traces of some of these remain in the picture, several places hinting at notes and perhaps at a ligature.⁶⁵ The first side of the triangle is inscribed almost perfectly; the second one begins well (under faint outlines of the *signum congruentiae*), becomes corrupt for a few notes, then returns to Josquin’s music, and closes with a version of it; the third staff of the triangle also opens well (though lacking an initial two notes and *signum*), but soon slips into incoherency. Even though significant losses of paint in the lower right of the picture as reported

⁶⁴ See Josquin, *Werken*, series 1, vol. 10, critical notes, XIV, XIX–XXIV.

⁶⁵ These notes are at semibreves 25, 40, and 49 in the numbering adopted by van Benthem, “Einige Musikintarsien,” 109–10, Anhang III; the ligature, corrupt in the picture at semibreves 43–44, occurs in all sources according to van Benthem, “Kompositorisches Verfahren,” 12.

by Gibbons⁶⁶ might account for these missing signs and notes, they cannot explain the otherwise incorrect notes which remain. Improper restoration may have produced these. Although without guides of clef and mensuration signs it is not obvious on which side of the triangle the canon begins, one commences at the top (below “trinitas in un[um]”) and down the staff roughly parallel to the right edge of the painting, then continues upward towards the back of the knee of the far right woman, and finishes by reading up the third side towards the verbal inscription.

Scrutiny of the notation of both canons raises a question as to whether Dosso himself inscribed their music in his picture. Our present state of knowledge affords no certain answer because virtually no evidence one way or the other survives to document procedures followed by him or by other painters in respect to notating music. For Dosso and for other artists such as Puligo,⁶⁷ Savoldo,⁶⁸ Florigerio,⁶⁹ Jan van Hemessen,⁷⁰ Tintoretto,⁷¹ Caravaggio,⁷² and Grammatica,⁷³ who included two or more compositions in their paintings, in every instance (Tintoretto possibly excluded) the same hand obviously inscribed the music. But for Caravaggio, who included music in four different paintings, at least two, and possibly three, different hands appear.⁷⁴ The most that can be said in respect to Dosso is that the scribal practices of notating music in his picture at the Museo Horne are not incompatible with those found in his only other painting that

⁶⁶ Dosso, 178, no. 23.

⁶⁷ Slim, “A Motet for Machiavelli’s Mistress,” plate 2 and 462–63, figs. 1 and 2.

⁶⁸ Slim, “Giovanni Girolamo Savoldo’s *Portrait of a Man with a Recorder*,” *Early Music* 13 (1985): 399–402, plates 2 and 4.

⁶⁹ Slim, “Two paintings of ‘Concert Scenes’ from the Veneto and the Morgan Library’s Unique Music Print of 1520,” in *In Cantu et in Sermone: For Nino Pirrotta on his 80th Birthday*, ed. Fabrizio Della Seta and Franco Piperno (Florence, 1989), 168.

⁷⁰ Slim, “Mary Magdalene, *mondaine musicale*,” *Report of the Twelfth Congress, International Musicological Society, Berkeley 1977*, ed. Daniel Heartz and Bonnie Wade (Kassel, 1981), 821, fig. 3.

⁷¹ Slim, “Tintoretto’s ‘Music-Making Women’ at Dresden,” 50, fig. 3 and 52, fig. 6.

⁷² See Franca Trinchieri Camiz and Agostino Ziino, “Caravaggio: aspetti musicali e committenza,” *Studi Musicali* 12 (1983): 67–90; Slim, “Music in and out of Egypt: A Little Studied Iconographical Tradition,” *Musica Disciplina* 37 (1983): 303–08; and Slim, “Musical Inscriptions in Paintings by Caravaggio and his Followers,” in *Music and Context: Essays for John M. Ward*, ed. Anne Dhu Shapiro (Cambridge, Mass., 1985), 241–46.

⁷³ Slim, “Musical Inscriptions,” 253–56 and plate 1.

⁷⁴ Caravaggio’s *Rest on the Flight* (Rome), *Boy Lutenist* (Leningrad) and possibly even his ruined *Allegory of Music* (New York) employ similar scribal conventions; *Love the Conqueror* (Berlin) differs noticeably from them.

contains real music, the *Mythological Scene* discussed above. Both paintings feature a pronounced left slant on upward stems for minims and semiminims and a corresponding right slant on those with downward stems. Thus it seems likely that the same person inscribed the music in both pictures.

As a court painter, Dosso presumably would have had access to manuscripts and prints housed at Ferrara. Two Josquin sources there might have been available to him, though neither is corrupt. Perhaps closest at hand for *Agnus Dei II* is the present-day manuscript α M.1.2 in Modena at the Biblioteca Estense⁷⁵ because it was copied in Ferrara 1504-1505 for use by the ducal court just before Alfonso I began his reign.⁷⁶ Here, as in Dosso's version, *Agnus Dei II* is in the mezzosoprano clef; there is no certainty, however, that Dosso employed this particular manuscript because it provides only a single word of instruction, "Trinitas." Another possibility is Petrucci's first edition of Josquin's Mass from 1502, wherein *Agnus Dei II* (again in the mezzosoprano clef) bears at its close the phrase, "Tria in unum."⁷⁷ This edition might well have been among the volumes of Petrucci arriving at Ferrara in 1504.⁷⁸ Moreover, at the death of his brother Ippolito in 1520, Alfonso I d'Este inherited nine books of masses (including Josquin's "in tri libri") printed by Petrucci which Cardinal Ippolito I had bought in 1517.⁷⁹

The special shapes of the two canons in the painting attract the attention of the musicologist. Circle canons are numerous up through the death of Dosso.⁸⁰ Whether the circle canon in the picture was also thus formatted when Dosso received it cannot now be ascertained since the painting is its only source. In view of the widespread practice of notating such canons in a circular format, Dosso probably

⁷⁵ Table of contents in Josquin, *Werken*, series 1, vol. 10, VIII, no. 4. See Herbert Kellman and Charles Hamm, *Census-Catalogue of Manuscript Sources of Polyphonic Music 1400-1550*, vol. 2 (American Institute of Musicology, 1982), 165-66 and vol. 4 (1988), 441.

⁷⁶ See Lockwood, *Music in Renaissance Ferrara*, 217, table 7, and 226-27.

⁷⁷ See Lowinsky, ed., *Josquin des Prez* (London, New York, Toronto, 1976), plate 44a, facing 245.

⁷⁸ See Lockwood, *Music in Renaissance Ferrara*, 206, note 29, and especially William F. Prizer, review of Lockwood, this JOURNAL 40 (1987): 104-05, reporting the arrival of Petrucci volumes.

⁷⁹ See Lockwood, "Josquin at Ferrara: New Documents and Letters," in Lowinsky, ed., *Josquin des Prez*, 121, note 56, and Lockwood, "Adrian Willaert and Cardinal Ippolito I d'Este," 99.

⁸⁰ See above, note 51.

received the canon already in this shape, rather than himself (or a musical adviser) disposing its music into a circle.

No other canons of his time are known, however, in a triangular format. Notwithstanding that the canon Dosso chose appears in every other extant source in a normal format rather than in the shape of a triangle, it seems possible that he obtained Josquin's piece already thus formatted, raising questions (not yet answerable) as to whether Josquin himself originally had notated the canon as a triangle or whether an intermediary took part in the transmission process. But what were Dosso's reason or reasons for choosing music thus formatted or for so disposing it in this particular shape?

Josquin's music itself and the accompanying inscription in the painting provide several clues. Though one *signum congruentiae* is certainly now absent in Dosso's painting, the two *signa* of Josquin's canon should appear at the beginning of the second and third sides of the triangle (traces of one remain at the beginning of the second side). Thus Dosso apparently planned to have each side receive about the same number of breves. Because the tablet which contains the triangle is slightly turned away from us and seen in perspective, the laws of perspective forced him to alter the triangle's shape by making one of its angles (the left one) obtuse. Viewed from a distance, however, the triangle appears equilateral. The triangle in the source Dosso or his patron had at hand was surely equilateral and Dosso, recording what was actually before him, intended us to perceive it thus. An equilateral triangle with simple relationships of 3:1 reflects not only the equal number of breves inscribed on each side, but also the rhythmic relationship between Josquin's top and middle voices. A proportional canon, it employs a triple mensuration sign for its uppermost voice and its lower two voices are also triply organized (in the largest sense); it commences its middle voice at the interval of a fifth (3:2) from the bottom voice; and, particularly, it bears "trinitas" as an inscription. Any one or all of these features could justify the choice of Josquin's composition by painter, adviser, or patron, above all if it were already available shaped as a triangle.

If musical notation appears at all in a painting, canons make excellent choices because they can present a considerable amount of music in the most compressed manner possible and thus conserve painterly space. Best of all, canons invite an attentive viewer to consider why they are present and perhaps even challenge him to solve them.

The canons in the picture continue the allegory about music begun by the blacksmith at the left side of the painting. Dosso's blacksmith

deals with the rawest materials of music, with the most basic of sounds and their combinations into various consonances. By means of their canons inscribed on tablets, the two women preserve for a while this raw material from time's destructive effects; they also refine it into sophisticated end-products of melody, harmony, rhythm, and counterpoint. Music is not the random sounds produced by a blacksmith or even the particular consonances indicated on two of his three hammers; rather, the women's message is that the art of music lies in the manner by which such sounds are organized.

Having discussed the formats of the two canons, we turn to possible symbolism of the circle and triangle. Aristotle asserted that "the circle is a perfect [i.e., a complete] thing."⁸¹ Accordingly, early in the fourteenth century Philippe de Vitry used the circle as a mensuration sign for *tempus perfectum* on grounds that: "forma rotunda perfecta est."⁸² The perfect nature of the interval of the octave enabled Renaissance music theorists also to link this interval, which they variously described as "perfectissima"⁸³ and "absolutissima,"⁸⁴ to the circle. In a letter of ca. 1484 Marsilio Ficino compared the sequence of eight tones of a scale through the octave to an oval figure.⁸⁵ While the full extent of Ficino's influence on music theory then or subsequently remains to be determined,⁸⁶ his statement seems to foreshadow Sebald Heyden's bolder descriptions (beginning in 1532) of the octave as embracing all the other intervals and "returning, as it were, to itself."⁸⁷ The following year Giovanni Maria Lanfranco

⁸¹ My discussion of the circle is indebted to Lowinsky, "The Concept of Physical and Musical Space in the Renaissance," *Papers of the American Musicological Society Annual Meeting, 1941* (1946), 57–84. The Aristotle quotation is from *De Caelo* 1:2.

⁸² Ernest H. Sanders, "Philippe de Vitry," *The New Grove Dictionary of Music and Musicians*, vol. 20, 25.

⁸³ Johannes Gallicus of Mantua (Legrense), *Ritus Canendi Vetustissimus et Novus*; see Lowinsky, "Concept," 75–76. For editions of Legrense's *Ritus*, see below, note 109.

⁸⁴ Pietro Aron, *De Institutione harmonica* (Bologna, 1516), book 1, 25; see Lowinsky, "Concept," 76.

⁸⁵ See Lowinsky, "Concept," 78–80 and Paul Oskar Kristeller, "Music and Learning in the Early Italian Renaissance," *Journal of Renaissance and Baroque Music* [= *Musica Disciplina*] 1 (1947): 270–71.

⁸⁶ See Gary Tomlinson, "Preliminary Thoughts on the Relations of Music and Magic in the Renaissance," In *In Cantu et in Sermone*, 129–31, citing works by Gaffurius, Agrippa, and Zarlino.

⁸⁷ *De Arte Canendi* (Nuremberg, 1540), book 1, 3: 17; facsimile ed. (New York, 1969), and trans. Clement A. Miller (American Institute of Musicology, 1972), 36. Miller, "Sebald Heyden's *De Arte Canendi*: Background and Contents," *Musica Disciplina* 24 (1970): 79, discusses the essential resemblances among the editions of 1532, 1537, and 1540. Lowinsky, "Concepts," 78, mistakenly refers to a 1511 edition. The first edition, *Musicae στοιχειωσις* (*stoicheiosis*) (Nuremberg, Peypus, 1532), fol. [B

implied a genuine circle of fifths by calling for octaves to be “perfectly united so their sounds appear as one” and by calling for adjusted fifths, fourths and thirds into what amounts to equal temperament.⁸⁸ Thus, in Lowinsky’s words, “the twelfth fifth circled back to the point of departure”⁸⁹ (i.e., seven octaves higher than it began).

The circle canon in Dosso’s painting is musically equivalent to the circle for both canon and circle are perpetual. Whatever other additional and varied artistic meanings a circle may have enjoyed,⁹⁰ Dosso articulated its musical ones of perfection and of the octave by employing a circle to notate the perpetual canon at the unison (octave). Moreover, the first three *signa congruentiae* placed above the staff at every three breves (and the fourth *signum* following six breves after the third one) show that though the circle canon bears a C sign at its beginning, in fact larger units of $\frac{3}{1}$ underlie its organization.⁹¹ Such a concept of triplicity within a circle appears elsewhere at this time. For example, Agrippa von Nettesheim lettered a diagram of a triangle within a circle as “Perfectio,” “Essentia,” and “Unites” in his *Commentaria in Artem Brevem Raymundi Lullii*, first published in 1533.⁹²

The figure of a triangle that Dosso chose for his picture and headed “trinitas in unum” has a long history in pagan and in Christian times. Aristotle stated: “as the Pythagoreans say, the world and all that is in it is determined by the number three.”⁹³ In his *De Trinitate*, St. Augustine expounded on the “vestigia Trinitatis” and how “the Holy Trinity had left its mark on every part of creation.”⁹⁴ By virtue of the Holy Trinity, theorists of music also vested the number three with

6-v]: “8. Diapason, quod hactenus tradita intervalla omnia complectatur, Graecis ita dictum est,” omits the second part of the definition as formulated in the 1537 and 1540 editions. The 1532 edition may incorporate materials from Heyden’s lost *Rudimenta [Institutiones musices]* (Nuremberg, 1529), about which see Victor H. Mattfeld, “Haiden, (1),” *The New Grove Dictionary of Music and Musicians*, vol. 8, 28.

⁸⁸ *Scintille di Musica* (Brescia, 1533); facsimile ed. (Bologna, 1970), 132–33. Further, see Claude Palisca, “Lanfranco,” *Die Musik in Geschichte und Gegenwart*, vol. 8, col. 174.

⁸⁹ “Concept,” 81.

⁹⁰ Playful visual aspects of canons inscribed in a circle are discussed by Helen Hewitt in Octaviano Petrucci, *Harmonice Musices Odhecaton A*, ed. Helen Hewitt and Isabel Pope (Cambridge, Mass., 1942; reprint, New York, 1978), 47.

⁹¹ As Scherliess’s transcription, *Musikalische Noten*, 96–97: no. XII, reveals.

⁹² See Heinrich Cornelius Agrippa von Nettesheim, *Opera* (Lyons, ca. 1600), facsimile edition (Hildesheim and New York, 1970), vol. 2, 450, fig. IV.

⁹³ My discussion of the triangle relies on Edgar Wind, *Pagan Mysteries in the Renaissance*, rev. ed., (London, 1968), especially his appendix 2: “Pagan Vestiges of the Trinity.” The Aristotle quotation is from *De Caelo*, 1: 1.

⁹⁴ Wind, *Pagan Mysteries*, 241.

perfection, for example, de Vitry's circular mensuration sign for perfect *tempus* indicating triple division.⁹⁵

In examining St. Augustine's text in *De Trinitate*, Edgar Wind shows the extent to which such Renaissance thinkers as Ficino, Pico della Mirandola, Lelio Giraldi, Agrippa, Francesco Giorgio, and others concerned themselves with the permeation of triplicity in their own culture and in pagan times. Among such writers is Francesco Colonna whose dream narrative, *Hypnerotomachia Poliphili* of 1499, is said to have influenced several Renaissance artists.⁹⁶ This first edition of Colonna's story presents a woodcut of a three-faceted obelisk, its three figures signifying "la coeleste harmonia," with an accompanying phrase "Divinae infinit aequae trinitati unius essentiae."⁹⁷ Although Colonna's work bears no relation to Dosso's painting, the passage cited nonetheless demonstrates once again in Renaissance thought the concurrence of music with the notion of three in one.

St. Augustine's "vestiges of the Trinity" must then include such expressions as "Trinitas," "Tria in unum," "Ex una voce tres," and "Fuga trium vocum ex unica," instructions found in prints and manuscripts preserving Josquin's canon.⁹⁸ "Vestiges of the Trinity" must also include similar headings that appear over three-voiced canons by other composers. Among the latter are a Busnois chanson inscribed ca. 1470–1475 as "Trinus in unitate" (and in two later fifteenth-century manuscripts as "Trinitas in unitate"); Layolle's motet printed in 1528 and headed "Tres in unum";⁹⁹ an anonymous motet printed in 1531 (and probably earlier, before 1524), headed "Trinitas in unitas";¹⁰⁰ and Vincenzo Ruffo's instrumental capriccio printed in 1564 and titled *Trinitas in unitate*.¹⁰¹

⁹⁵ See Sanders, "Vitry," 23–25 and his table 1.

⁹⁶ See Panofsky, *Meaning in the Visual Arts* (Garden City, N.Y., 1957), 148 (Titian) and 241 (Dürer), and Gibbons, *Dosso*, 20 (Giorgione). Dosso, however, seems not to have been influenced.

⁹⁷ (Venice, 1499); facsimile ed. (New York and London, 1976), fol. [h5], reproduced in Wind, *Pagan Mysteries*, plate 94. See also the English translation, *Hypnerotomachia: The Strife of Love in a Dreame* (London, 1592), facsimile ed. (Amsterdam and New York, 1969), fol. 71.

⁹⁸ See above, note 64.

⁹⁹ For these, see above, note 53.

¹⁰⁰ In RISM 1531⁴; see Iain Fenlon and James Haar, *The Italian Madrigal in the Early Sixteenth Century: Sources and Interpretation* (Cambridge, 1988), 217, no. 19.

¹⁰¹ See Brown, *Instrumental Music Printed Before 1600. A Bibliography* (Cambridge, Mass., 1965): 1564₈, no. 20. It has the same title in Oxford, Christ Church Library, MS 987, but the wrong composer, on which see Slim, "Francesco da Milano (1497–1543/44): A Bio-bibliographical Study," *Musica Disiplina* 19 (1965): 122, VII, no. 1.

In short, Dosso's circle and his triangle, each in its own way, are visual symbols for musical perfection. Although these signs may not enjoy the specific cabbalistic intent claimed for them, Calvesi was surely not wrong to see in them two symbols of the "unità."¹⁰² Thus, it can hardly be regarded as "unnecessarily complicated" to perceive musical symbolism in circular and triangular shapes in a painting which virtually all critics agree is an allegory about music.

Both canons are inscribed on what appear to be stone tablets belonging to the women on the right. Art historians did not seek much beyond the few theorists of music named by Parigi, writers who describe numbered hammers belonging to the blacksmith on the left. Had they looked further, they would have discovered in writings by other theorists several apt accounts of Dosso's two tablets.

The conceptions of these tablets elaborated by theorists result not only from a conflation of stories about Pythagoras and Tubalcain but from glosses on both. The tale of Pythagoras's discovery of musical consonances, first recounted by Nicomachus of Gerasa (first century A.D.) in his *Enchiridion harmonices*,¹⁰³ was transmitted through Boethius (480–524) in his *De institutione musica*¹⁰⁴ to the Middle Ages and to the Renaissance, the first printed edition of Boethius appearing in 1491. Flavius Josephus (37–ca. 95) in his *Antiquities of the Jews* (ca. 93) made an important commentary on the Tubalcain passage found in Genesis 4:21–22. Josephus added that in order to preserve the discoveries of celestial knowledge from destruction by fire and by water (as predicted by Adam) two pillars—one of brick and the other of stone—were inscribed with these discoveries by the descendants of Seth.¹⁰⁵ Mentioning neither Josephus nor his two pillars, Isidore of Seville gave equal credence in his *Etymologiarum Sive Originum* (622–633) to Pythagoras and to Tubalcain as the inventors of music.¹⁰⁶ When Peter Comestor commented on the Genesis passage in his *Historia scholastica* (ca. 1173), however, he mentioned not only

¹⁰² "Dosso," 172, in a review of Gibbons, *Dosso*.

¹⁰³ See Ruth Halle Rowen, *Music through Sources and Documents* (Englewood Cliffs, N.J., 1979), 13–14, and Piero Weiss and Richard Taruskin, *Music in the Western World: A History in Documents* (New York and London, 1984), 3–6.

¹⁰⁴ See the edition by G. Friedlein (Leipzig, 1867; reprint, Frankfurt, 1966), 196–98; and Boethius, *Fundamentals of Music*, trans. and intro. by Calvin M. Bower, ed. Claude V. Palisca (New Haven and London, 1989), 18–19.

¹⁰⁵ See Judith Cohen, "Jubal in the Middle Ages," *Yuval, Studies of The Jewish Music Research Center* 3 (1974): 86–87, who furnishes the Latin and an English translation.

¹⁰⁶ Cohen, "Jubal in the Middle Ages," 83–84, gives the Latin with an English translation by Oliver Strunk, *Source Readings in Music History* (New York, 1950), 94.

Tubalcain and Pythagoras, but also the story of the pillars, which he said were of marble, this time having Tubal inscribe them with his discoveries of music.¹⁰⁷

"More used by students in the Middle Ages than the Bible itself" is the way one scholar describes Comestor's *Historia Scholastica*.¹⁰⁸ Because of its popularity, Comestor's story about the dual inventors of music and its inscriptions on two marble pillars occurs in many manuscript treatises about music compiled between the thirteenth and fifteenth centuries.¹⁰⁹ With the advent of printing, this tale appears not only in editions (dating from 1470) of Comestor's *Historia Scholastica* itself, but also in books (from 1471) specifically on music theory, such as Vincent of Beauvais, *Speculum Doctrinale*.

Sometime between 1474 and 1487 Niccolò Burzio (ca. 1450–1518/28) copied the treatise *Ritus Canendi* by his teacher, Johannes Legrense (Gallicus, ca. 1415–1474),¹¹⁰ chapter ten of Legrense's treatise containing Comestor's tale about the inscribed tablets. Shortly thereafter in his *Musices Opusculum* (Bologna, 1487),¹¹¹ Burzio repeated the same three elements from Legrense's chapter about Tubalcain, Pythagoras, and the two pillars. Burzio's printed book, like Legrense's manuscript, includes a diagram of consonances inscribed from left to right with Roman numerals: XII, VIII, VIII, and VI. Dosso might more likely have used this kind of a diagram with Roman numerals rather than the one depicting Jubal and having

¹⁰⁷ Cohen, "Jubal in the Middle Ages," 84–86, with the Latin and an English translation.

¹⁰⁸ Cohen, "Jubal in the Middle Ages," 84; James W. McKinnon, "Jubal vel Pythagoras, quis sit inventor musicae?" *The Musical Quarterly* 64 (1978): 8, calls it a "required textbook."

¹⁰⁹ The following list is surely incomplete: Gottfried Göller, *Vincenz von Beauvais O.P. (um 1194–1264) und sein Musiktraktat im Speculum doctrinale* (Regensburg, 1959), 103–05; Johannes Aegidius of Zamora, *Ars Musica*, ed. Michel Robert-Tissot (American Institute of Musicology, 1974), 36–39 and translated in McKinnon, "Jubal vel Pythagoras," 3–4; pseudo-Johannes de Muris, *Summa Musicae*, in Martin Gerbert, *Scriptores Ecclesiastici de Musica*, vol. 3 (St. Blasien, 1784; reprint, Hildesheim, 1963): 193–94; Jacques of Liège, *Speculum Musicae*, ed. Roger Bragard, vol. 1 (American Institute of Musicology, 1955): 25–26; Johannes Legrense (Gallicus), *Ritus Canendi Vetustissimus et Novus*, ed. in Edmond de Coussemaker, *Scriptorum de Musica Medii Aevi* (Paris, 1876; reprint, Hildesheim, 1963), vol. 4, 299–301 and 310–11, and *Ritus Canendi*, ed. Albert Seay (Colorado Springs, 1981), vol. 1, 3–5, and 20–23, on which see Paul E. Beichner, *The Medieval Representative of Music, Jubal or Tubalcain?* (Notre Dame, Ind., 1954), 17–18; and Adam of Fulda, *Musica*, in Gerbert, *Scriptores*, vol. 3, 340–41 and 367.

¹¹⁰ See Clement A. Miller, "Nicolaus Burtius," *The New Grove Dictionary of Music and Musicians*, vol. 3, 494.

¹¹¹ Facsimile ed. (Bologna, 1969), fols. b[V]–b[VI]; see Giuseppe Massera, ed., *Nicolai Burtii Parmensis, Florum Libellus* (Florence, 1975), 75–77.

Arabic numbers on the hammers found in Franco Gaffurius's *Theorica Musicae* (Milan, 1492),¹¹² the source for Dosso suggested by Parigi and by several art historians.¹¹³

The same three components from Comestor's story continued to appear in music theory well into Dosso's lifetime, for example, in Martin Agricola, *Musica figuralis deudsch* (Wittenberg, 1532).¹¹⁴ Of course, Dosso need not have consulted a treatise primarily on music. He could have found the same tale in Hartmann Schedel, *Liber Chronicarum* (Nuremberg, 1493)¹¹⁵ or especially in one of the many editions beginning in 1503 of the very widely-read *Margarita Philosophica* by Gregor Reisch, the latter demoting Comestor's elegant "marmorea" (marble) to mere "lapidea" (stone).¹¹⁶

Reisch's small alteration may well reflect contemporary usage, variously attested by theoretical, literary, and physical evidence. For example, Auctor Lampadius, *Compendium Musice* (Berne, 1537), employs "tabulis . . . lapideis" to describe one kind of composition-table, "tabulam compositoriam," on which he says that Josquin and Heinrich Isaac (ca. 1450–1517) wrote.¹¹⁷ Indeed, several fragments of slates, some inscribed only with five-line staves, others inscribed with musical notation, survive from the fifteenth and the sixteenth centuries.¹¹⁸ In 1512 Johannes Prioris (ca. 1460–1514) was urged to "prenez l'ardoyse et de vostre faczon composez cy" (take up the slate and compose in your fashion).¹¹⁹ And although their tablets have not come down to us, two sixteenth-century composers, Francesco Cor-teccia (1502–1577) and Sigmund Hemmel (ca. 1500–1564), left composing tablets of stone in their wills.¹²⁰

Dosso's two slabs of light yellowish gray may well be late metamorphoses of Comestor's marble pillars into stone tablets. The musical inscriptions on them could also reflect compositional practice

¹¹² Facsimile ed. (Bologna, 1969), fols. B[iv verso-vi].

¹¹³ Parigi, "L'allegoria della musica," 277, note 2; and Gibbons, *Dosso*, plate 109.

¹¹⁴ Facsimile ed. (Wittenberg, 1969), fols. [B7v-B8].

¹¹⁵ See *The Nuremberg Chronicle, a Facsimile of Hartmann Schedel's Buch der Chroniken, Printed by Anton Koberger in 1493* (New York, 1979), fols. 9 v–10.

¹¹⁶ I have used the Strassburg edition of 1504, fol. O2; on its dissemination, see T. Herman Keahey, "Gregor Reisch," *The New Grove Dictionary of Music and Musicians*, vol. 15, 728.

¹¹⁷ See Edward E. Lowinsky, "On the Use of Scores by Sixteenth-Century Musicians," this JOURNAL 1 (1948): 18–19; for a slightly different translation, see Jessie Ann Owens, "The Milan Partbooks: Evidence of Cipriano de Rore's Compositional Process," this JOURNAL 37 (1984): 295.

¹¹⁸ Owens, "The Milan Partbooks," 281.

¹¹⁹ Owens, "The Milan Partbooks," 282.

¹²⁰ Owens, "The Milan Partbooks," 281.

of the late fifteenth century through the sixteenth century, perhaps even specifically the practice of Josquin Desprez, one of the composers on whom Dosso drew.

Dosso's painting contains a single musical instrument, which lies on the ground between the blacksmith's left foot and the woman's right foot. Art and music historians have variously called it a "viola,"¹²¹ a "viole de bras,"¹²² a "lira da braccio,"¹²³ or simply a "strumento."¹²⁴ At least a part of their difficulty results from sixteenth-century usage which sometimes employs "lira [da braccio]" interchangeably with "viola."¹²⁵ The other part stems from Dosso himself, for he hides some of the instrument from view. Although he shows at least three strings with room for one or two more, there is no indication of a drone string, perhaps because such a string or strings if present would appear on the upper, more concealed side of the instrument. The pegbox, which would afford secure differentiation between a viola da braccio and a lira da braccio, is entirely hidden by the woman's skirt, as is the instrument's neck. A more rounded than flat bridge and a tailpiece smaller and narrower than usually seen in a lira da braccio make an identification with that instrument uncertain, though by no means impossible.

Dosso does not give us many examples of bowed string instruments for purposes of comparison. In addition to the viola da gamba in his *Myth of Pan* of about 1530 which he subsequently overpainted,¹²⁶ he depicted only two other bowed instruments. One of these appears in the early *Bacchanal* (at Rome) of about 1515. Its quantity of strings (their number not precisely identifiable), its bow, and the nature of Dosso's subject matter suggest the instrument is probably a lira da braccio, although its pegbox (and part of its neck) is likewise hidden.¹²⁷ The other instrument is certainly a lira da braccio in Dosso's *Apollo and Daphne* (ca. 1525) whose player brandishes its

¹²¹ Parigi, "L'allegoria," 273, 274, 277, followed by Humfrey, "Dosso," 123.

¹²² Mirimonde, "Les Allégories," 306.

¹²³ Gibbons, *Dosso*, 95, and Scherliess, *Musikalische Noten*, 35.

¹²⁴ Rossi, *Il Museo Horne*, 148.

¹²⁵ See Emanuel Winternitz, *Musical Instruments and their Symbolism in Western Art* (New York, 1967), 87 and Cathy Ann Elias, "Musical Performance in 16th-century Italian Literature: Straparola's *Le piacevoli notti*," *Early Music* 17 (1989): 165.

¹²⁶ See above, note 12.

¹²⁷ See above, note 15. Curiously enough, the pegbox of a lira da braccio later added by Titian or perhaps even by Dosso himself to Giovanni Bellini's *The Feast of the Gods* (1514) for Alfonso I d'Este is also hidden (here under the tunic of Priapus). See Winternitz, *Musical Instruments*, 44 and Shapley, *Catalogue of the Italian Paintings, National Gallery of Art*, vol. 1, 41.

bow aloft.¹²⁸ Here only the size of the tailpiece remains unclear. Five strings on the fingerboard and two others run to a box of seven pegs. What little can be seen of this lira's bridge makes it appear flat.

Neither musicologists nor art historians provide a satisfactory explanation for the humble position in the Horne painting of the half-hidden instrument, lira da braccio or viola da braccio. Gibbons's notion that it alludes to one of Jubal's two inventions¹²⁹ raises the question why Dosso did not then also depict a wind instrument, Jubal's other invention. Parigi suggests that the instrument's position reflects instrumental music subordinated in Dosso's time to vocal music.¹³⁰ By first hypothesizing that Cardinal Ippolito I commissioned the painting and then that Alfonso I perhaps did so, Humfrey implies that Alfonso's overwhelming interest in vocal music explains the painting's emphases, whereas Cardinal Ippolito's fondness for secular and instrumental music would probably eliminate him as the commissioner.¹³¹ Parigi's and Humfrey's distinctions are overdrawn and require modification.

By the close of the fifteenth century Ferrara had already achieved a reputation as "one of the major centers for instrumental performance."¹³² After the death of Ercole I in 1505 Ferrara certainly enhanced this position through Cardinal Ippolito's ongoing efforts,¹³³ but also through initiatives by Alfonso I—a viol player himself¹³⁴—employing instrumentalists at his court, and to lesser degrees from efforts by his wife, Lucrezia,¹³⁵ and his brother Sigismondo.¹³⁶ That the deaths of Ippolito in 1520, Lucrezia in 1519, and Sigismondo in 1524 failed to diminish Ferrara's reputation in this respect is shown by the diversity and sheer number of court instrumentalists near the close of Alfonso's reign when they performed at the three famous banquets of 1529 and 1532.¹³⁷ Furthermore, Dosso

¹²⁸ See above, note 2, and Benvenuto Disertori, *La Musica nei quadri antichi* (Calliano [Trent], 1978), 119, with his schematic drawing on 120.

¹²⁹ Dosso, 95.

¹³⁰ "L'allegoria," 277–78.

¹³¹ "Dosso," 123.

¹³² Lockwood, "Musicisti a Ferrara," 17.

¹³³ See Lockwood, "Adrian Willaert and Cardinal Ippolito I d'Este," 97–98.

¹³⁴ See Prizer, "Isabella d'Este and Lorenzo da Pavia, 'Master Instrument-Maker,'" *Early Music History* 2 (1982): 104–5.

¹³⁵ On her several instrumentalists, see Prizer, "Isabella d'Este and Lucrezia Borgia as Patrons of Music: The Frottola at Mantua and Ferrara," this JOURNAL 38 (1985): 6–13.

¹³⁶ Two of his organists are cited in Lockwood, "Jean Mouton," 198, note 21.

¹³⁷ See Howard M. Brown, "A Cook's Tour of Ferrara in 1529," *Rivista Italiana di Musicologia* 10 (1975): 216–41. For Alfonso's instrumentalists there in 1533–1534,

would hardly have placed an unfashionable instrument in his picture. There are many reports of the lira being played in the long established quasi-improvisatory manner, "cantando al modo d'Orfeo," as it is described in the first 1529 banquet.¹³⁸

Scherliess hints at the most plausible reason for Dosso's subordinating the instrument's position. In identifying it as a lira da braccio, he calls it "das Instrument dichtend-singender Inspiration."¹³⁹ Indeed, Dosso alludes not to the instrument itself but to its function in improvising. Parigi's notion of the supremacy of vocal over instrumental music cannot be sustained, even within this painting. Since, for example, the circular canon lacks words, there is no proof that it is vocal. Moreover, in wondering whether Josquin originally wrote the proportional canon for his *L'Homme armé* Mass or whether he later added the Agnus Dei text to it, one scholar thus raises a question as to whether the canon originally had any words at all.¹⁴⁰ By inscribing these two canons on two tablets Dosso must allude to the endurance of notated, that is, composed music over improvised and hence transient music.¹⁴¹ In fact, the tablets have been so firmly embedded in the ground and for such a period of time that grasses grow around them. In this manner they bear connotations from Josephus and Comestor about permanence through flood and fire and strengthen the notion about preserving music. Dosso could have found no better visual metaphor for demonstrating how notation perpetuates composition.

Two hammers belonging to the blacksmith lie on the ground. The one on the left is numbered XII, the one at the right, VIII. Traces of a figure appear on the hammer that the blacksmith wields, Parigi describing it as "indecifrabile"¹⁴² and Gibbon contending that "if there was once a number . . . it is no longer visible today."¹⁴³ Near the middle of the hammer is something like "L°." This figure unlikely

see Walter Weyler, "Documenten betreffende de Muziekkapel aan het Hof van Ferrara," *Vlaamsch Jaarboek voor Muziekgeschiedenis* 1 (1939): 86–88.

¹³⁸ Brown, "A Cook's Tour," 238, item 15.

¹³⁹ *Musikalische Noten*, 35.

¹⁴⁰ van Benthem, "Kompositorisches Verfahren," 11; in 1514 the canon received two lines of Latin hexameters in praise of music, cited in van Benthem, "Einige Musikintarsien," 99.

¹⁴¹ Parigi, "L'allegoria," 277: "l'arte non è improvvisazione," though referring to the numbers on the hammers rather than to the string instrument, comes close to this idea.

¹⁴² "L'allegoria," 276.

¹⁴³ *Dosso*, 96.

indicates fifty, since fifty cannot be satisfactorily related to numbers on the other two hammers and thus to Pythagoras's discoveries. Nor is the figure on the blacksmith's hammer likely to be the Arabic numeral 20.¹⁴⁴ Had Dosso intended this figure to be a number, surely he would have employed Roman for it as he did for the other two hammers. It is probably not a numeral, Roman or Arabic. A sufficient amount of space for the preceding letters suggests that it could be the L either of TUBAL or of JUBAL. Dosso's hammer at the left, XII, and his right one, VIII, would then yield a harmonic ratio of 3:2, the interval of a fifth. If Dosso assigned the blacksmith's hammer a number at all and were he strictly following the series of Pythagorean numerical proportions described in Nicomachus and transmitted by Boethius to the Middle Ages, it would have been VIII. Such a (shortened) series by Dosso would yield the intervals of the fourth (12:9), the fifth (12:8), and the whole tone (9:8).

If the blacksmith's hammer really is numbered 20, then Dosso was dealing with two far more complex ratios. They are five to three (20:12), the major sixth; five to two (20:8), octave plus ditone; and the simpler one of the fifth (12:8). And although the first pair of ratios might suggest that Dosso was acquainted with writings in the *Musica Theorica* (Venice, 1529) by his neighbor from Modena, Lodovico Fogliano,¹⁴⁵ these ratios raise unanswerable questions as to why Dosso not only mixed Roman and Arabic numerals but also included the unusual compound ratio of the major tenth (5:2).

Dosso could have learned about Pythagoras's harmonic series in many different ways and from sources even closer to home. Boethius's standard series VI, VIII, XII, and XVI appears in Raphael's fresco *The School of Athens* (1510–1511), where a diagram on a tablet connects these Roman numerals to variously-named musical intervals.¹⁴⁶ Although Dosso may never have visited Rome himself, Raphael employed him as his representative at Ferrara in 1520 and Dosso's brother Battista was certainly in Rome until Raphael's death in that

¹⁴⁴ As kindly reported by Christopher Reynolds; William F. Prizer, who also inspected the painting in Florence, believes the figure is "L°."

¹⁴⁵ See the facsimile ed. (Bologna, 1970), fols. IV–V and XIII–XIV and Hugo Riemann, *History of Music Theory*, trans. Raymond H. Haggh (Lincoln, Neb., 1962), 286.

¹⁴⁶ See Stanislaw Mossakowski, "Raphael's 'St. Cecilia': An Iconographical Study," *Zeitschrift für Kunstgeschichte* 31 (1968): 11–12 and fig. 5 (a study kindly brought to my attention by Roy Sonnema) and Wolfgang Osthoff, "Raffael und die Musik," in Volker Hoffmann, ed., *Raffael in seiner Zeit* (Darmstadt, 1987), 162 (for which I thank Lewis Lockwood).

year.¹⁴⁷ Thus Dosso could have learned of Raphael's diagram either from correspondence with Raphael or from reports (oral or written) by Battista. Moreover, drawings by Dosso's colleague, Garofalo, and by other artists show that Raphael's work in the Vatican was known and admired in Ferrara by 1523.¹⁴⁸

Art historians suggest as a likely source for Dosso's blacksmith and for the numbers on his hammers the woodcut of Jubal in Gaffurius's revised *Theorica Musicae* of 1492. Its hammers are numbered (from the top) in a longer series of Arabic numerals 12, 4, 9 (on the left) and 8, 16, 6 (on the right). These scholars have overlooked the first edition of Gaffurius's treatise, the *Theoricum Opus Musicae Disciplinae* (Naples, 1480), which has a simpler diagram not portraying Jubal at all.¹⁴⁹ Rather, six blacksmiths around an anvil hold hammers above their heads, each hammer bearing a Roman numeral, from left to right IIII, VI, VIII, XII, and XVI. Even if "the education of an artist at that time required a knowledge of music theory"¹⁵⁰ and even if Dosso did learn these details of music theory from one or the other edition of Gaffurius, he did not necessarily do so from a printed copy. Three manuscript copies survive for Gaffurius's treatise, two made from the 1480 edition,¹⁵¹ and one copied from the 1492 edition.¹⁵² The third of

¹⁴⁷ Gibbons, *Dosso*, 26–29. However, Humfrey, "Dosso," 111 and 115, still argues that Dosso visited Rome at the beginning of the 1520s.

¹⁴⁸ See Maria Grazia Vaccari, ed., *Maestri Emiliani del Quattro e Cinquecento*, vol. 11 (Florence, 1980), 22–23, no. 28.

¹⁴⁹ See the edition by Gaetano Cesari (Rome, 1934), 50. I am much indebted to Bonnie J. Blackburn for her assistance.

¹⁵⁰ Mossakowski, "Raphael's 'St. Cecilia,'" 12, based on Rudolf Wittkower, *Architectural Principles in the Age of Humanism* (rev. ed., New York, 1971), 117: "A familiarity with musical theory became a *sine qua non* of artistic education." Celio Calcagnini, Raphael's friend, "remarked that it was Raphael's greatest pleasure in life 'to be taught and to teach,'" cited in Wind, *Pagan Mysteries*, 14. This contrasts with Sidney J. Freedberg, *Painting of the High Renaissance in Rome and Florence*, 2nd. ed., (New York and London, 1972) vol. 1, 114, apropos Raphael's *Stanze* frescos: "Raphael did not command a culture sufficient to invent his themes or to conceive their symbolic associations." John Pope-Hennessy, *Raphael* (New York, 1970), 139, citing Harry B. Gutmann, "Zur Ikonologie der Fresken Raffaels in der Stanza della Segnatura," *Zeitschrift für Kunstgeschichte* 21 (1958): 34–35, believes Raphael's program came from a Franciscan, based mainly on St. Bonaventura, *Reductio Artium ad Theologiam*, though this is denied by Luitpold Dussler, *Raphael* (London and New York, 1971), 70 and 72. Osthoff, "Raffael und die Musik," 178, note 24, demonstrates that Raphael well understood Greek musical terms.

¹⁵¹ Bologna, Civico Museo Bibliografico Musicale, MS A 71 (olim 159), 1–131 (ca. 1515–1520), on which see Bonnie J. Blackburn, "A Lost Guide to Tinctoris's Teachings Recovered," *Early Music History* 1 (1981): 46–53; and London, British Library, MS Hirsch IV.1441 (ca. 1479), on which see Kathi Meyer and Paul Hirsch, *Katalog der Musikbibliothek Paul Hirsch*, vol. 4 (Cambridge, 1947), 536–37, no. 1441.

these changes the order of the Arabic numerals in two of Gaffurius's four diagrams.¹⁵³ Such scribal changes in numerical order make it possible that if the hammer held by Dosso's blacksmith really did have a number, it was not VIII, but some other number in the Pythagorean series such as VI, or in Gaffurius's extended series: IV, or VI, or XVI. If the number was IV it would produce 3:1, 3:2, and 2:1; if VI, there would result 2:1, 3:2, and 4:3; and if XVI, 4:3, 3:2, and 2:1.

As suggested above, if Dosso's middle hammer bore a number at all, presumably it was in Roman (as in Boethius) like the 1480 edition of Gaffurius rather than in Arabic like the 1492 Gaffurius and its copy. This provides little enough to go on certainly, but is perhaps sufficient to raise the question as to whether Dosso consulted the 1492 Gaffurius, whether he used the 1480 edition, or neither of these.

Supposing that an artist might not even require an illustration, he might rely on a verbal description but still need the technical information conveyed in a diagram. Burzio's *Musices Opusculum* from 1487 contains just such a diagram. With Roman numerals XII, VIII, VIII, VI, from left to right, it joins them with ellipses and labels the resulting musical intervals and rhythmic proportions. Burzio's print is heavily indebted to the *Ritus Canendi* written by his teacher Gallicus (Legrense) during the pontificate of Pius II (1458–1464). Burzio had made himself a copy of the *Ritus Canendi* shortly after Legrense's death in 1474,¹⁵⁴ a copy now in the British Library, Additional 22315. It includes a diagram of an anvil on which rest four hammers marked in Roman numerals from left to right but in a slightly different order of VI, VIII, VIII, XII.¹⁵⁵ Still, to locate Burzio's manuscript copy of Legrense in Ferrara, let alone tie it to Dosso, is no easy task and requires some knowledge of the extent of interest in music theory at Ferrara.

¹⁵² London, British Library, MS Additional 4913; see Augustus Hughes-Hughes, *Catalogue of Manuscript Music in the British Museum*, (London, 1909; reprint, 1965), vol. 3, 309.

¹⁵³ See Joseph Smits van Waesberghe, *Musikerziehung: Lehre und Theorie der Musik im Mittelalter*, *Musikgeschichte in Bildern*, vol. 3, pt. 3 (Leipzig, 1969), 64–65 and plate 15. The numbers run on the left 8, 4, 12, and on the right 6, 9, 16. They are also in a different order in the lower right image of Pythagoras/Philolaus.

¹⁵⁴ London, British Library, Additional MS 22315; see Seay, ed., *Ritus Canendi*, vol. 1, v–vi. A second copy, in London, British Library, MS Harley 6525, on which see *ibid.*, v, together with MS 22315, formed the basis for Coussemaker's edition (cited above, note 109).

¹⁵⁵ Additional MS 22315, fol. 7 verso. Coussemaker, *Scriptorum*, vol. 4, 310, reproduces the (slightly different) diagram from MS Harley 6525, fol. 9, and also misnumbers a hammer on the anvil as VIII; it is correct in Seay, *Ritus*, vol. 1, 21.

As Lockwood observes, there was but one “major work of music theory produced at Ferrara throughout the Middle Ages and the Renaissance.”¹⁵⁶ This work was the *Declaratio Musice Discipline*, completed there about 1435 by Ugolino di Orvieto (ca. 1380–1457), archpriest at the Cathedral of Ferrara from 1431, church administrator and musical theorist. At least two copies were made in Ferrara of Ugolino’s treatise between the middle and the end of the fifteenth century. Lockwood further notes that “no important or even minor theorist of music was hired for the chapel [of Ercole I] or remained in residence for any length of time.”¹⁵⁷

Nevertheless, this is not to deny interest in music theory at Ferrara beyond the ducal chapel and the Cathedral. Several music-theoretical manuscripts which were once at Ferrara are now deposited elsewhere, for example, the work of Niccolò Leonicensi (1428–1524) who taught medicine at the University of Ferrara from 1464 until his death. He had there his own Latin translation of Ptolemy’s *Harmonics* made at the end of the fifteenth century for Gaffurius; it is now in the Vatican, Biblioteca Apostolica Vaticana, MS vat. lat. 4570.¹⁵⁸ Some “distillations” from Ugolino’s *Declaratio* are in Porto (Opporto) MS 714, a manuscript prepared in Ferrara between 1454 and 1460, probably for Rinaldo Maria d’Este.¹⁵⁹ And several theoretical treatises copied at Mantua and Reggio (Emilia) in 1473–1474 by the Carmelite friar Johannes Godendach (Bonadies), the teacher of Gaffurius, were in the Carmelite monastery of San Paolo at Ferrara; in 1753 they were removed to Bologna and are now at Faenza, Biblioteca Comunale, in MS 117.¹⁶⁰

Such may well also be the history of Burzio’s manuscript copy of Legrense’s *Ritus Canendi* in the British Library, Additional 22315, for it came to the British Museum from the sale in 1858 at Paris of the large library, rich in manuscripts and books of Ferrarese provenance, which had belonged to the Marchese Giovanni Battista Costabili (1756–1841).¹⁶¹ Although the earlier provenance of Additional MS

¹⁵⁶ *Music in Renaissance Ferrara*, 81.

¹⁵⁷ *Music in Renaissance Ferrara*, 229.

¹⁵⁸ Alberto Gallo, “Le traduzioni del greco per Franchino Gaffurio,” *Acta Musicologica* 35 (1963): 174.

¹⁵⁹ Lockwood, *Music in Renaissance Ferrara*, 109–18.

¹⁶⁰ See Pieter Fischer, ed., *The Theory of Music from the Carolingian Era up to 1400*, vol. 2 (Munich, 1968), 22–25.

¹⁶¹ Coussemaker, *Scriptorum*, vol. 4, xii. The MS, lot 56 in the sale, is numbered in an old hand “Codice LVII” in Costabili’s library. See Gianni Venturi, “Giovanni Battista Costabili Containi,” *Dizionario Biografico degli Italiani*, vol. 30 (Rome, 1984), 264–66.

22315 remains unknown, it may have long been in the Costabili family, one of the oldest and most notable of Ferrara.

At present, the only plausible way of connecting Dosso with music theory at Ferrara is through members of this family. Two Costabili in Dosso's lifetime were involved with music and one of them certainly knew him. Antonio Costabili (ca. 1450–1527),¹⁶² hosted a musical dinner-party in 1513 for Lucrezia Borgia, using bagpipe players, singers, lutenists, viol players, and cornettists in the employ of her husband, Alfonso I d'Este, to perform before and during dinner.¹⁶³ Costabili commissioned the Ferrarese painter, Garofalo (1481–1559), to decorate his family's palace around 1519.¹⁶⁴ This commission resulted in the well-known ceiling lantern over the balustrade from which musicians (perhaps members of Costabili's family?) look down.¹⁶⁵ Somewhat later Costabili had Dosso complete a polyptych he had commissioned from Garofalo.¹⁶⁶ The other Costabili ancestor was also involved with music. Antonio's brother, Beltrame Costabili (ca. 1456–1519),¹⁶⁷ the learned churchman and Este representative at Rome, labored long and hard for Ercole I and Alfonso I in order to obtain benefices for Este singers.¹⁶⁸ Either of these early sixteenth-century Costabili might have owned the present Additional MS 22315 and through them Dosso have learned of its Pythagorean diagram of anvil and hammers.

Such conjectures about how Dosso might have acquired musical knowledge for his picture should not be ended before mentioning the Ferrarese court humanist and friend of Raphael, Celio Calcagnini

¹⁶² See Franca Petrucci, "Antonio Costabili," *Dizionario Biografico degli Italiani*, vol. 30, 257–60.

¹⁶³ Prizer, "Isabella d'Este and Lucrezia Borgia," 3; Professor Prizer has kindly furnished me this document's date: 2 April 1513, referring to the banquet on 1 April.

¹⁶⁴ Gibbons, *Dosso*, 5–6.

¹⁶⁵ See Emanuele Mattaliano, "Garofalo (Benvenuto Tisi)," in *The Age of Correggio and the Carracci*, 141; for the Costabili fresco, see Berenson, *Central Italian and North Italian Schools*, vol. 3, plate 1779; a detail including the lute and viol is in Claudio Gallico, *Un libro di poesie per musica dell'epoca d'Isabella d'Este* (Mantua, 1961), plate facing 32 (who identifies for reasons unspecified the two women as Isabella and Beatrice d'Este), in Mary Remnant, *Musical Instruments of the West* (London, 1978), 31, plate 16, and in Patrick Matthiesen ed., *From Borso to Cesare d'Este, The School of Ferrara 1450–1628: An Exhibition in Aid of The Courtauld Institute of Art Trust Appeal, June 1–August 14, 1984* (London, 1984), 23. Remnant, *Musical Instruments*, 58, plate 45, reproduces another detail from the fresco of a three-stringed violin.

¹⁶⁶ Gibbons, *Dosso*, 173–74.

¹⁶⁷ See Albano Biondi, "Beltrando Costabili," *Dizionario Biografico degli Italiani*, vol. 30, 260–61.

¹⁶⁸ Lockwood, *Music in Renaissance Ferrara*, 167, note 5, 191–92, and Appendix IV, 311–13, with 46 letters.

(1479–1541).¹⁶⁹ At Antonio Costabili's request in 1517, Calcagnini acted as a consultant to Dosso's colleague Garofalo in decorating the Costabili palace. Following Calcagnini's advice, Garofalo depicted in one of the ceiling lunettes Apollo playing a lira da braccio.¹⁷⁰ Calcagnini also wrote a poem (after 1523) to Isabella d'Este extolling the fabulous organ made of alabaster purchased by her son Federico II Gonzaga.¹⁷¹ Such a learned humanist as Calcagnini with an intense interest in the classics, mathematics, science, and music and whose advice had been sought once before in the case of another painter could well have been the one to acquaint Dosso with the account of Tubalcain and the hammers as set forth by late fifteenth-century musical theorists.

The various sets of proportions which could result if the blacksmith's hammer was unnumbered and if it was numbered as IV, VI, VIII, or XVI have already been set out. Many of these proportions so closely reflect intervallic and metric procedures in the two canons on the right side of the painting that they are not likely to be fortuitous.

With the perfection of a circle expressed by the perfect number 3, and the three sides of a triangle expressed by 3:1, both canons also exhibit an intrinsic conflict between their duple tactus and their triple phrase structure. And as we have seen, the circular canon, even though notated in duple mensuration, $\mathbb{C}$, is organized into units of three breves by the locations of its *signa congruentiae*.

Formatted here as a triangle and bearing (as in several other sources) a shorthand phrase "Trinitas in unum" for its resolution, Josquin's canon also reflects the proportion 3:1. The sources present different groups of mensuration signs for resolving this canon: 3, C, $\mathbb{C}$ (in the earliest manuscript, ca. 1505); $\mathbb{C}$ 3, C, $\mathbb{C}$ (in the first print, 1502); and C3, C, $\mathbb{C}$ (in peripheral sources after 1539).¹⁷² The conflicting nature of the two lower voices of Josquin's canon expressed

¹⁶⁹ See Valerio Marchetti, "Celio Calcagnini," *Dizionario Biografico degli Italiani*, vol. 16 (Rome, 1973), 492–98. On Calcagnini's friendship with Raphael, see above, note 150.

¹⁷⁰ Gibbons, *Dosso*, 5–6, based on Erkingen Schwarzenberg, "Die Lünetten der 'stanza del tesoro' im Palast des Ludovico il Moro zu Ferrara," *Arte antica e moderna* 26–27 (1964): 131–50 and 297–307; for the lunette, see 304, no. XV and plate 92a.

¹⁷¹ See Alfred Einstein, *The Italian Madrigal* (Princeton, 1949), vol. 1, 93; on Federico's purchase in Rome and the organ's arrival at Mantua in January, 1523, see Antonio Bertolotti, *Musici alla corte dei Gonzaga in Mantova dal secolo XV al XVIII* (Milan, 1890; reprint, 1978), 32–34, and especially Mario Levri, *Gli organi di Mantova: ricerche d'archivio* (Trent, 1976), 55–83.

¹⁷² See van Benthem, "Kompositorisches Verfahren," 12.

through their binary meter and their ternary phrase structure, reflecting a 3:2 relationship, has often been noted.¹⁷³ The three mensuration signs in the canon produce rhythmic relationships of 2:1 between its bass and its tenor; of 2:3 between its bass and its cantus; and of 3:1 between its tenor and its cantus. Intervallic relationships are 2:1 from its bass to its cantus; 3:2 from its bass to its tenor; and 4:3 from its tenor to its cantus. Otto Gombosi put the case as succinctly as anyone who has written about this canon: "The three [voice] parts enter [simultaneously] at the octave and the fifth (ratios 1:2:3) in the temporal relationships 1:2:3."¹⁷⁴ Gombosi's transcription with reduced note values clarifies how, in spite of the imperfect time signatures of C and Φ , Josquin cast the canon not only in triple time but also into three long periods.

If one assumes that the Roman numerals inscribed on the hammers at one side of the painting relate to the music notated on the tablets at its other side, then it is possible to suggest which sets of intervals resulting from numerals on the blacksmith's hammer (if indeed there ever were any) would have been most appropriate. Probably least so would be VIII on the blacksmith's hammer, yielding the dissonant whole tone 9:8, for which there is no evidence in the music. Although IV on the blacksmith's hammer yields octave and fifth relations, the numerals VI or XVI are better because they provide, in addition, the interval of the fourth. No number whatever on the blacksmith's hammer would yield an entirely satisfactory proportion because 3:2 symbolizes primary conflict within the canons. Whatever that figure—letter or number—on the hammer held by the blacksmith once was, Dosso probably meant the Roman numerals on his hammers to mirror the mensural and intervallic techniques used in both canons.

As for images of Tubalcain himself, art historians and musicologists have formed useful anthologies of these found in paintings, drawings, and sculpture which predate Dosso's picture.¹⁷⁵ In the words of one of them, "by the end of the fifteenth century the

¹⁷³ See for example, Miller, "Sebald Heyden's *De Arte Canendi*," 92–93 and the remarks by Arthur Mendel, "The Performance and Interpretation of Josquin's Masses," in Lowinsky, ed., *Josquin des Prez*, 706–7.

¹⁷⁴ Otto Gombosi, review of Curt Sachs, *Rhythm and Tempo*, this JOURNAL 7 (1954): 224, with transcription.

¹⁷⁵ See the literature cited in Gibbons, *Dosso*, 92–94; in Brown, *A Florentine Chansonier*, text volume, 23–24; and in Beichner, *The Medieval Representative*, 19–26.

Example 3

Anonymous, from the title page (1532) of Martin Kromer, *Musicae elementa* (Cracow, n. d.)



iconographical tradition that portrayed him [Tubalcain] in this way [with anvil and hammers] was already long established.”¹⁷⁶

This tradition continued well into the sixteenth century. Like Dosso's picture, in at least one instance such images included both stray breves and real music. Inscribed 1532, the woodcut title page to the otherwise undated *Musicae Elementa* (Cracow, H. Wietor) by Marcin Kromer (1512–1589) depicts four blacksmiths indoors striking an anvil on which several breves lie scattered. One blacksmith's hammer has a bass clef sign straddling a single staff line above and below which appear three breves. The verso of the title page identifies as “Tubal” a bearded old man wearing a hat (perhaps a keppah). He points to some untexted mensural monophony of fifteen breves in length inscribed on two successive staves, one of four lines, the other of five, a repetition sign appearing near the close of the latter.¹⁷⁷ In addition to its stray breves, the title page furnishes some polyphony (see Example 3).

The circular base of the anvil appropriately bears the bass part from the close of a brief three-voiced work without text; the tenor part appears on the wall below a window; and its top voice hangs in the

¹⁷⁶ Brown, *A Florentine Chansonnier*, text volume, 23. Idem, “St. Augustine, Lady Music, and the Gittern in Fourteenth-Century Italy,” *Musica Disciplina* 38 (1984): 53, plate 5, illustrates a late fourteenth-century manuscript depicting the base of “Tubal Caym's” anvil decorated with black longas, thus anticipating the notation in the 1532 woodcut described below.

¹⁷⁷ See the facsimile ed. in *Monumenta Musicae in Polonia*, ed. Jerzy Morawski, et al., vol. 2 (Cracow, 1975), fols. 1–1 v. (which edition inks over musical errors in the title page, bass part); and the discussion by Irène Mamczarz, “Iconographie musicale des gravures polonaises du XVI^e au XVIII^e siècle,” *Imago Musicae* 4 (1988): 80–83, and her plates 1–2, marred by misidentifying as “Jubal” the figure clearly labeled “Tubal.”

doorway like a curtain. Presumably intended for the blacksmiths, five measures (= breves) of music result. An awkward bass descent (m. 2) and parallel fifths by contrary motion in the outer voices (mm. 3–4) might suggest that the crude little composition is by the twenty-year old Kromer himself.¹⁷⁸

Italian artistic influences on Poland during this period have long been documented.¹⁷⁹ If Dosso's painting relates at all to the woodcut, one would expect that the influence came from Ferrara to Cracow and not the reverse, thus providing a *terminus ante quem* of 1532 for Dosso's work. Alternatively, the "influence" may merely be a common theme stemming from musical theory rather than any hard evidence that Dosso's picture was already known in Poland by 1532.

Further discussion of images of musical blacksmiths could be terminated were it not that one such Tubalcain—part of a fresco (not later than 1502) of the Liberal Arts in the Cathedral at Le Puy attributed to Jean Perréal (ca. 1455–1530)—has been said to portray Josquin Desprez.¹⁸⁰ Relying on a woodcut made before 1595 from a now lost sixteenth-century portrait of Josquin, Madeleine Huillet d'Istria has proposed that Perréal's fresco of Music depicts Josquin as Tubal. Two historians of music have enthusiastically welcomed her identification,¹⁸¹ two others, more guardedly.¹⁸²

Might then Dosso's picture also depict (posthumously) Josquin as Tubalcain, remembering that Josquin served at Ferrara in 1503–1504, some two to three decades before Dosso painted it? Dosso and Perréal portray Tubalcain in profile. Each figure has a long, predominant nose and generous sensual lips, though the nose of Dosso's blacksmith seems more aquiline than either Perréal's Tubalcain or the woodcut of Josquin. During Josquin's tenure as *maestro di cappella* in 1503–1504,

¹⁷⁸ See Elżbieta Witkowska-Zaremba, "Marcin Kromer," *The New Grove Dictionary of Music and Musicians*, vol. 10, 277 for his training and his subsequent career.

¹⁷⁹ See especially, Zdzisław Jachimecki, *Wpływy włoskie w muzyce polskiej* (Italian influences in Polish Music) (Cracow, 1911).

¹⁸⁰ Madeleine Huillet d'Istria, "Jean Perréal," *Gazette des Beaux-Arts* series 6, 35 (1949): 313–344 (translated on pp. 377–86), and figs. 12, 14–15, 18–19, and 21, the latter giving the detail of Music and identifying Tubal as Josquin. See also Dufourcq, ed., *Larousse de la Musique*, vol. 1, plate facing 97, and Beichner, *The Medieval Representative*, plate 2.

¹⁸¹ Lowinsky, "Scholarship in the Renaissance, Music," *Renaissance News* 16 (1963): 256–57, and Suzanne Clercx-Lejeune, "Fortuna Josquini: a proposito di un ritratto di Josquin des Prez," *Nuova Rivista Musicale Italiana* 6 (1972): 333–35, her footnote 51 showing she misunderstands Lowinsky's views. Her fig. 8 reproduces "Music and Tubal" [*sic*].

¹⁸² Reese and Noble, "Josquin," 717, and Brown, *A Florentine Chansonnier*, text volume, 23, note 3.

Dosso was not at Ferrara. Even had he been there, it is questionable whether he would have remembered Josquin's features some twenty or thirty years later, unless some younger portrait of the composer once existed or unless Dosso's blacksmith idealizes a much younger Josquin. General facial similarities between the profiles of Perréal's and Dosso's Tubalcains continue to provoke us. Still, the extremely fragile and circumstantial nature of any evidence that can be said to connect them should caution against too eager an identification of the Tubalcain in Dosso's picture as Josquin. Until some compelling evidence is uncovered to suggest a connection with Josquin, Dosso's painting seems correctly titled as Tubalcain within an allegory of music.

* * *

Since the time of Leon Battista Alberti (1404–1472) and even before, the position of music in respect to the other arts was receiving ever increasing attention.¹⁸³ The relationship of the two “sister arts” as well as aesthetic questions concerning their rivalries and hierarchies as painting/vision and music/hearing during the late fifteenth century and the whole of the sixteenth are too vast and complex for any but the most cursory examination here. In Dosso's period, for example, *Il Cortegiano* (1528) nicely juxtaposes music and painting. In first discussing the pleasures afforded the ears, Baldassare Castiglione compares the singing of Bidon (Antoine Colebault, 1480?–1528?), previously Alessandro Agricola II in the second redaction (1518–20), to the singing of Marchetto Cara (ca. 1465–1525). Immediately thereafter Castiglione turns to the pleasures afforded the eyes in paintings by Leonardo, Mantegna, Raphael, Michelangelo, and Giorgione.¹⁸⁴

¹⁸³ See Maria Luisa Perer, “Musica ed arti figurative nel Rinascimento,” *Humanitas: rivista mensile di cultura* 6 (1951): 895–908; Lowinsky, “Music of the Renaissance as Viewed by Renaissance Musicians,” in *The Renaissance Image of Man and the World*, ed. Bernard O'Kelly (Columbus, Ohio, 1966), especially 161–64; and Fabrizio Della Seta, “Proportio: vicende di un concetto tra Scolastica e Umanesimo,” in *In Cantu et in Sermone*, especially 90–98.

¹⁸⁴ See *The Book of the Courtier*, trans. Charles S. Singleton (Garden City, 1959), 60. Because Castiglione's comparison involves singers and not composers, Walter H. Kemp, “Some Notes on Music in Castiglione's *Il Libro del Cortegiano*,” in *Cultural Aspects of the Italian Renaissance: Essays in Honour of Paul Oskar Kristeller*, ed. Cecil H. Clough (Manchester, 1976), 365, note 10. James Haar, “The Courtier as Musician: Castiglione's View of the Science and Art of Music,” in *Castiglione: The Ideal and the Real in Renaissance Culture*, ed. Robert W. Hanning and David Rosand (New Haven and London, 1983), 178, and Iain Fenlon, *Music and Patronage in Sixteenth-Century Mantua*,

Without stipulating that Dosso necessarily knew Leonardo da Vinci's famous comparisons between painting and music as set forth in his *Paragone* and elsewhere (all but one date to ca. 1492), we observe that several of them help to establish a conceptual framework for Dosso's painting. Emanuel Winternitz probably mistakenly classifies as clichés all the comparisons mentioned below,¹⁸⁵ for we know too little about sources concerning music from which Leonardo might have derived his statements.¹⁸⁶ In all, Leonardo cites music's evanescence no less than four times. The sense of hearing is less noble than vision because as soon as sound is born it dies;¹⁸⁷ painting surpasses "unfortunate" music since it does not die instantly after creation;¹⁸⁸ music withers while it is born;¹⁸⁹ and ca. 1513–1514 Leonardo once again comments about music's mortality.¹⁹⁰ His corollary to these observations is that painting is superior: it can be studied¹⁹¹ because it stays on after its creation;¹⁹² and it is permanent for very many years,¹⁹³ varnish helping to render it eternal.¹⁹⁴

(Cambridge, 1980), 52, all err in identifying the Mantuan singer Agricola with the composer who died in 1506. I am indebted to William Prizer for clarification.

¹⁸⁵ Winternitz, *Leonardo*, 220.

¹⁸⁶ Carlo Pedretti, *The Literary Works of Leonardo da Vinci, Compiled and Edited from the Original Manuscripts by Jean Paul Richter: Commentary* (Berkeley and Los Angeles, 1977), vol. 1, 107 and vol. 2, 356 and 375, believes that Leonardo owned Gaffurius, *De Harmonia Musicorum Instrumentorum* (1508; recte 1518) and Giorgio Valla, *De Expetendis et Fugiendis Rebus* (1501), notwithstanding doubts by Winternitz, *Leonardo*, xviii, 5–6 and 138, note 1. Professor Pedretti has kindly reconfirmed the correctness of his reading of Leonardo's statement about the former against that of Winternitz. Although this treatise was not printed until 1518, Leonardo might have seen a manuscript copy of it, for three copies made in 1500, 1507, and ca. 1507–1514 survive, about which see Gaffurius, *De Harmonia Musicorum Instrumentorum Opus*, trans. Clement A. Miller (American Institute of Musicology, 1977), 11–15. No documentary evidence supports statements that Leonardo borrowed books from Gaffurius and that he was his friend, as reported by Claudio Sartori, "Gaffurius," *Die Musik in Geschichte und Gegenwart*, vol. 4, cols. 1239 and 1242 and repeated by Winternitz, *Leonardo*, 6. Nevertheless, since both were at Milan together for twenty-two years, Leonardo at court, Gaffurius at the cathedral, such an acquaintance seems plausible. Leonardo's "libro delli strumenti armonici" might also refer to Gaffurius' *Angelicum Opus Musicae* (Milan, 1508), which, like the 1518 treatise, has an identical opening woodcut lettered: "... harmoniam instrumentorum."

¹⁸⁷ Winternitz, *Leonardo*, 207: *Trattato* 23.

¹⁸⁸ Winternitz, *Leonardo*, 210–11: *Trattato* 29.

¹⁸⁹ Winternitz, *Leonardo*, 214–15: *Trattato* 31b.

¹⁹⁰ Winternitz, *Leonardo*, 220, footnote 12 (with incorrect folio number); see Pedretti, *Leonardo da Vinci Codex Atlanticus: A Catalogue of Its Newly Restored Sheets* (New York, 1978–1979), part 2, 262–63, item 10601 verso.

¹⁹¹ Winternitz, *Leonardo*, 207: *Trattato* 23.

¹⁹² Winternitz, *Leonardo*, 210–11: *Trattato* 29.

¹⁹³ Winternitz, *Leonardo*, 212: *Trattato* 30.

Twice venting his annoyance that it is music and not painting that is a member of the Liberal Arts,¹⁹⁵ the second time Leonardo elaborates slightly, stating that "Music becomes eternal when it is written down." Winternitz dismissed this last argument as "rhetorical rather than serious,"¹⁹⁶ not realizing that Leonardo was probably recalling an observation by Isidore of Seville: "Unless sounds are remembered by man, they perish, for they cannot be written down."¹⁹⁷ In any event, Leonardo's argument deserves a more thoughtful evaluation. He prefaces it with an elaborate summary (combining earlier and new arguments) of how painting is by its nature eternal, and he follows it with a passionate plea for installing painting among the Liberal Arts, implying that one of the reasons music already enjoys such status among the Arts is that it can be notated.

When emphasizing how music is inferior to painting because it so quickly fades, Leonardo surely also had in mind the art of musical improvisation to the *lira da braccio*, an art in which he himself excelled¹⁹⁸ and one which he therefore well knew is forever lost to the moment. His statement quoted above about music becoming eternal when it is written down in notation, thus preserved and deserving of its place among the Liberal Arts, implies that only then (when notated) does music cease to be a "younger and lesser sister" and rank equally with painting. I believe that Leonardo's subtle distinction on the one hand between an improvisatory art—one forever lost to the moment and symbolized in Dosso's painting by what is likely a *lira da braccio* as well as in Leonardo's own performing experience—and Leonardo's distinction on the other hand about a notated art—thus preserved against time and symbolized by the two canons—lies at the very heart of Dosso's complex allegory of music.

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ADDENDUM

A useful article by Franca Trinchieri Cadiz, "Due quadri 'musicali' del Dosso," in *Frescobaldi e il suo tempo nel quarto centenario della nascita* (Ferrara, 1983), 85–91, came to my attention too late to consider. She believes that the

¹⁹⁴ Winternitz, *Leonardo*, 214–15: *Trattato* 31b.

¹⁹⁵ Winternitz, *Leonardo*, 209–10 and 214–15: *Trattato* 27 and 31b.

¹⁹⁶ Winternitz, *Leonardo*, 215.

¹⁹⁷ *Etymologiarum sive Originum Libri XX* (622–33), vol. 3, 15; see Strunk, *Source Readings*, 93.

¹⁹⁸ Winternitz, *Leonardo*, xxii–xxiv. For new evidence about Leonardo's ability on and knowledge of the lute, see Slim, "The Lutenist's Hand," 32–34.

blacksmith represents Vulcan, "a kind of tutelary god of Alfonso's Ferrara." She does not identify or transcribe the two canons, nor does she relate them to the Roman numerals on the blacksmith's hammers.

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ABSTRACT

An examination of a dozen paintings and several woodcuts by the Ferrarese artist Dosso Dossi (ca. 1490–1542) suggests that he belongs to the select company of other doubly gifted painters of the sixteenth century who were also musicians. The evidence rests on the accuracy of Dosso's depictions of musical instruments, his knowledge of their symbolism, and above all, from his inclusion of two canons, one circular and the other triangular, in a painting (ca. 1524–1534) once at the Este castle in Ferrara, and now in the Museo Horne, Florence. Whereas the composer of the former canon remains unknown, that of the latter is Josquin Desprez. The work is Josquin's celebrated proportional canon from the *Agnus Dei* of his Mass, *L'homme armé super voces musicales*. Musical aspects of Dosso's complex allegory reside not only in the relationships of the two canons on the right side of the picture to three hammers belonging to a blacksmith on the left side, but also in the tablets of stone on which the canons are inscribed. A brief notice of the changing relationships between music and painting at this period sets the stage for a more thorough examination of statements by Leonardo da Vinci concerning both arts, statements that help provide a conceptual framework for Dosso's allegory of music.

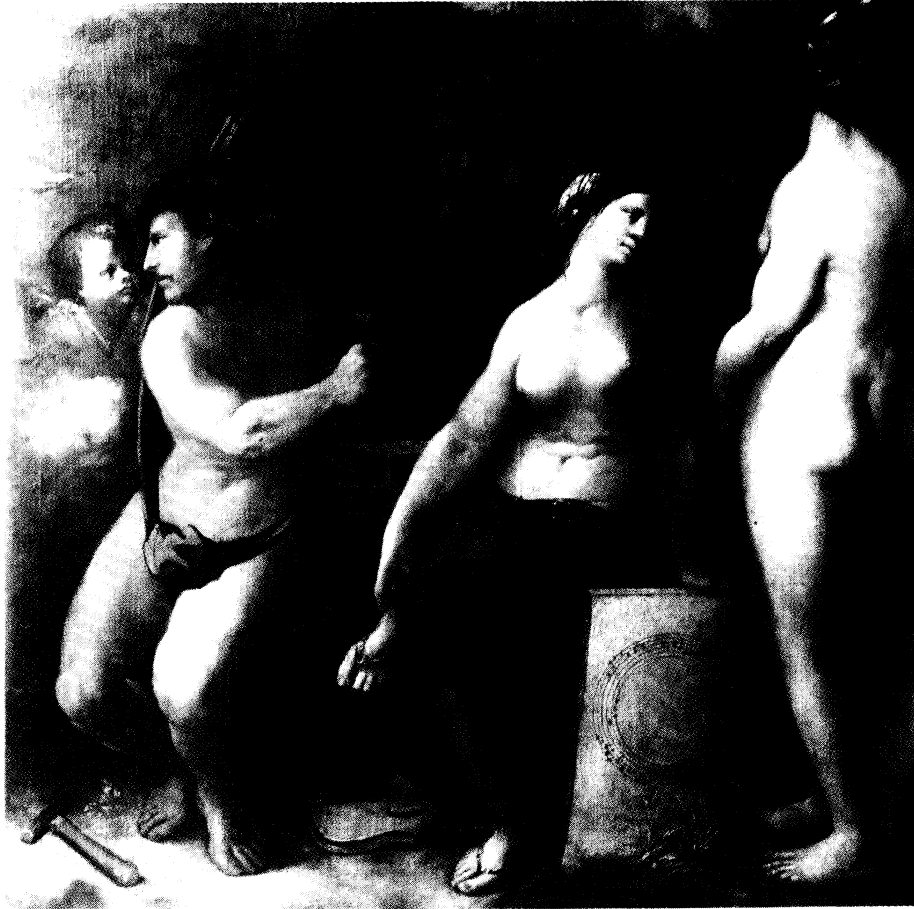


Figure 1. Dosso Dossi, *Allegory of Music* (ca. 1524–34), 162 cm × 170 cm. Florence, Museo Horne.

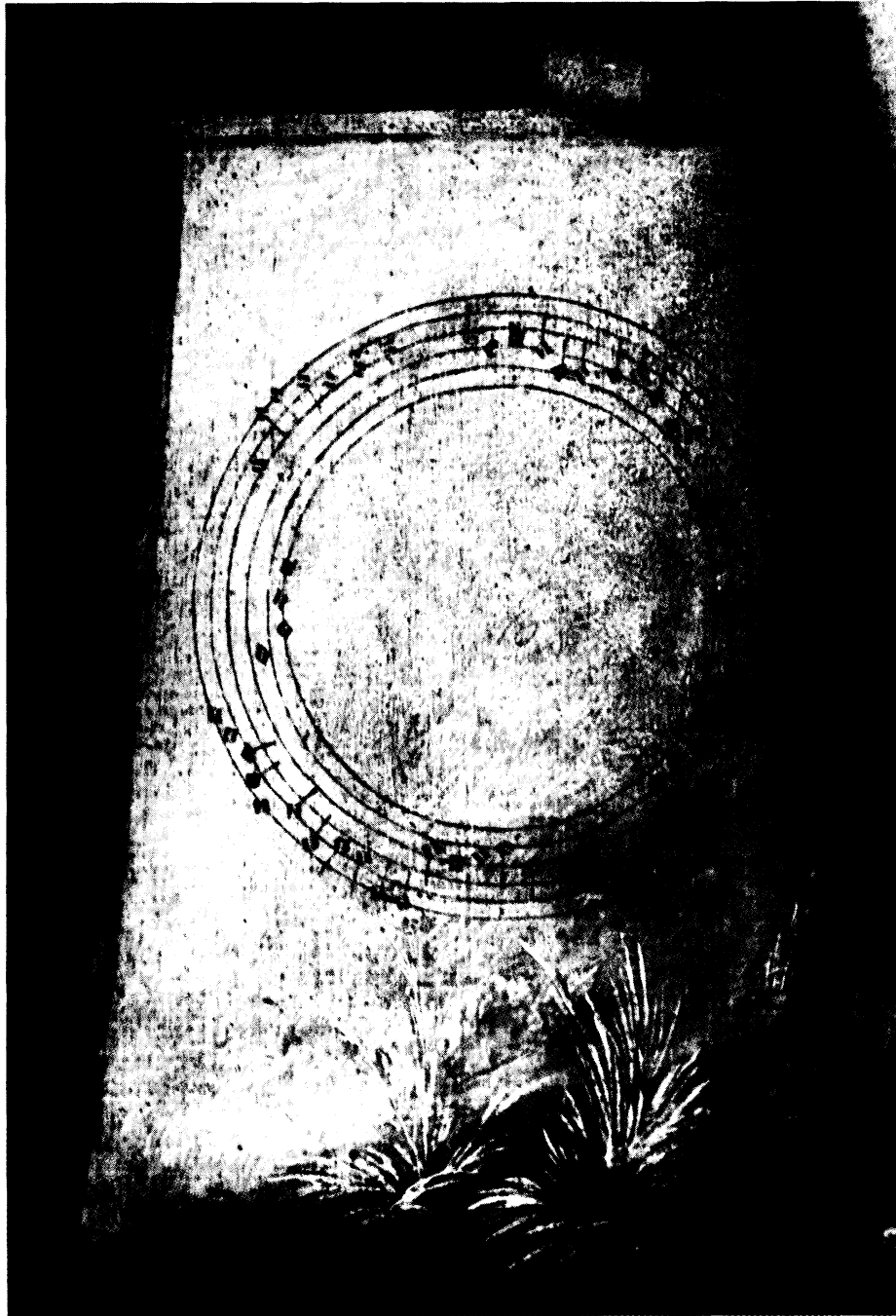


Figure 1a. Detail of Figure 1: circular canon.



Figure 1b. Detail of Figure 1: triangular canon.

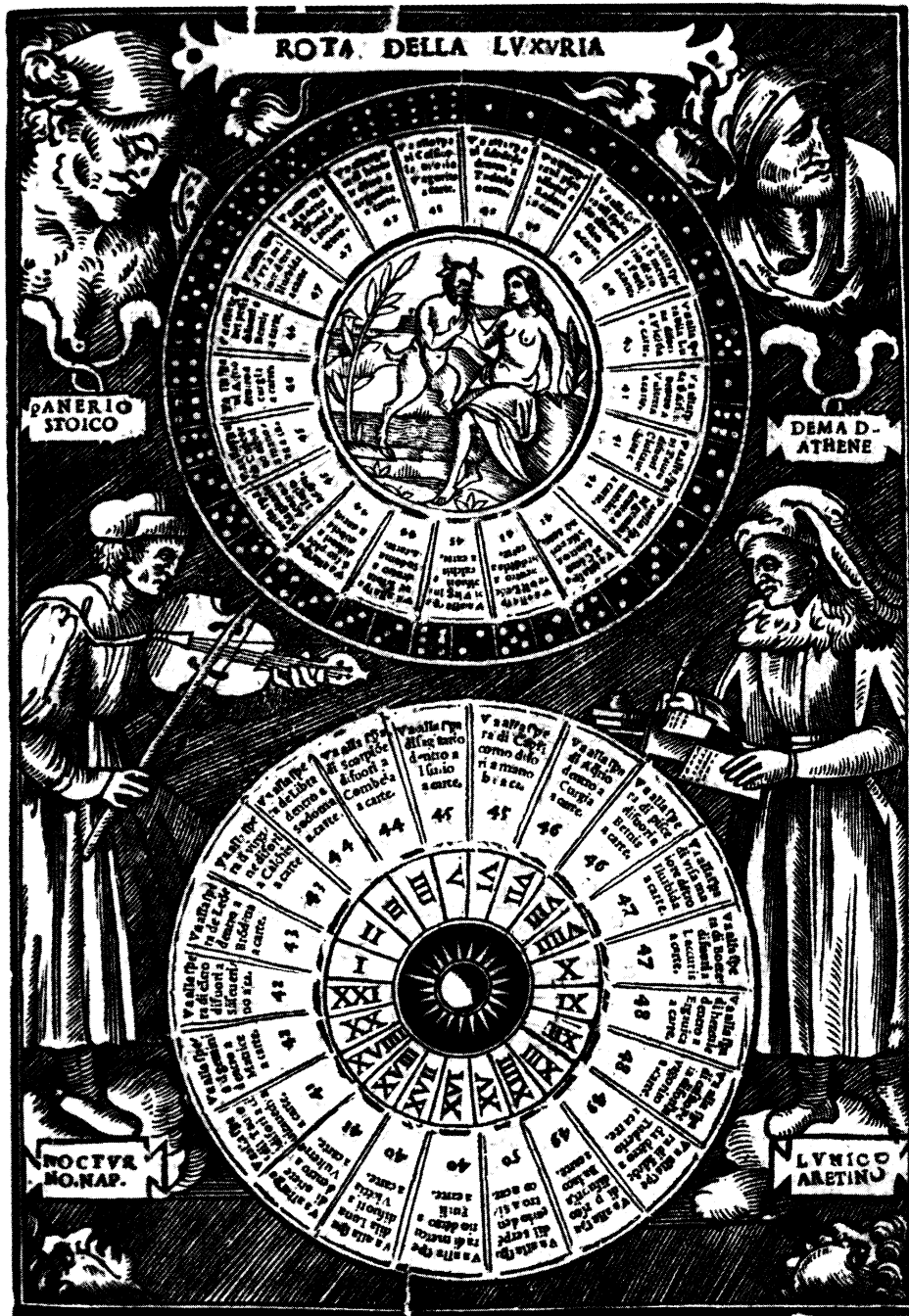


Figure 2. Sigismondo Fanti, *Triumpho di fortuna* (Venice: Agostino da Portese ad instantiam di Giacomo Giunta, 1527), carte XXVI.

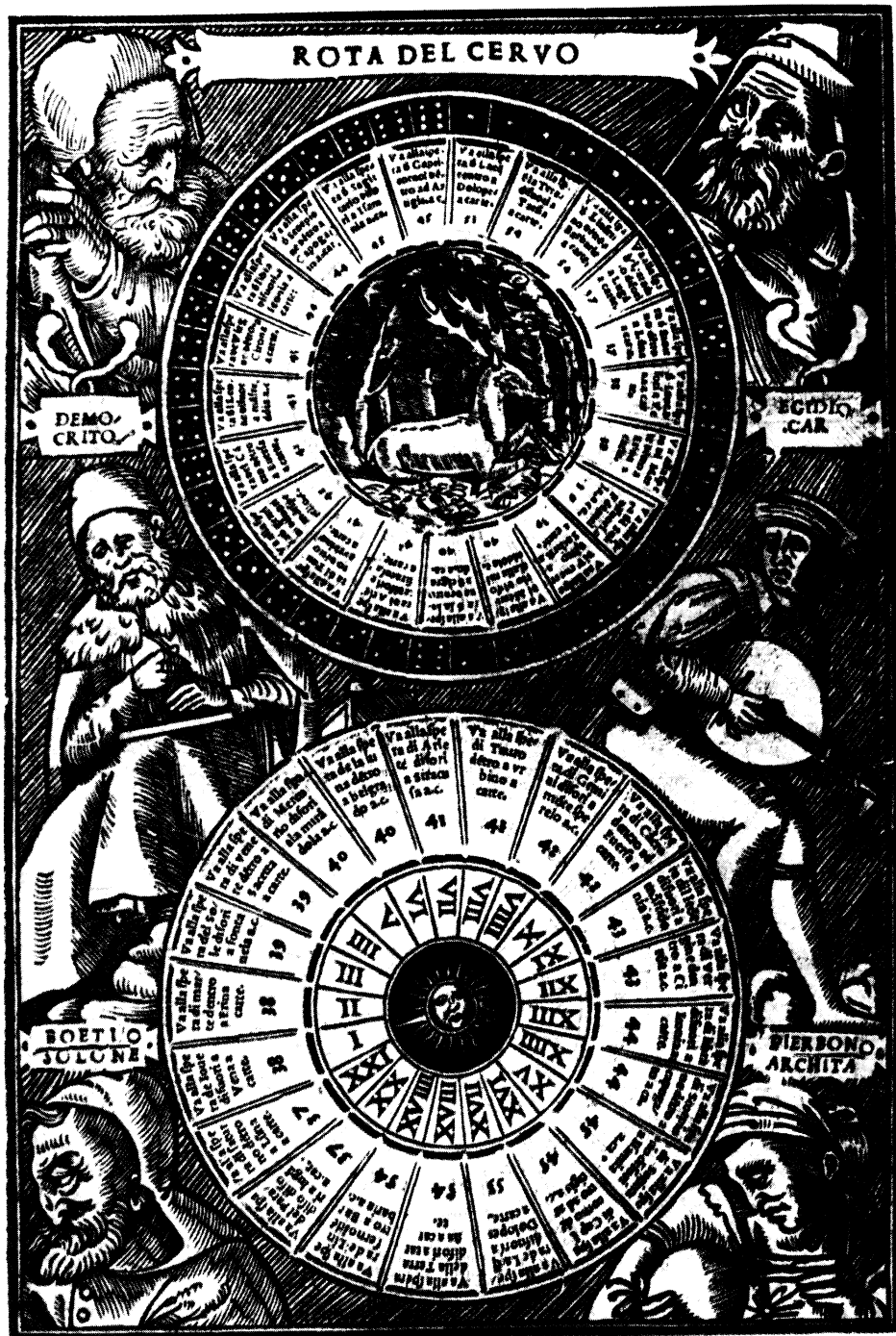


Figure 3. Fanti, *Triumpho*, carte III verso.

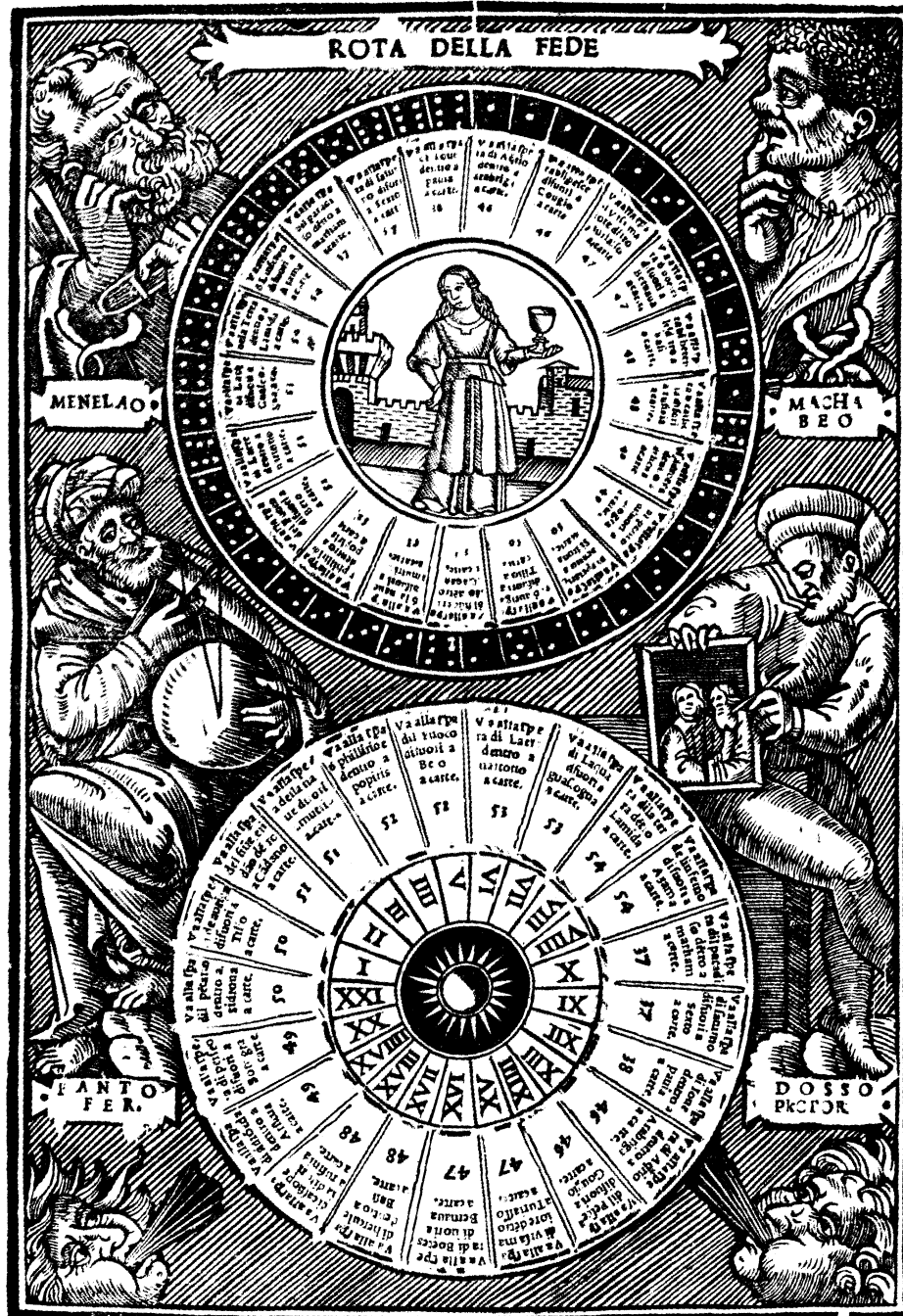


Figure 4. Fanti, *Triumpho*, carte XXXIII.