

Eleonora M. Beck

## Marchetto da Padova and Giotto's Scrovegni Chapel frescoes

*To the memory of Naomi Cumming*

**M**ARCHETTO da Padova's *Pomerium* (1318/19), a widely read treatise that laid the groundwork for notational practice in Italy, contains a passage suggesting the author's knowledge of the latest developments in Trecento painting. He writes:

Art imitates nature as far as it can (as Aristotle said in Book II of the *Physics*). I shall prove this with an example: he who paints a lily or a horse strives as far as he can to paint it so as to resemble a horse or a lily in nature.<sup>1</sup>

Marchetto's use of the phrase 'in nature' is significant because it epitomizes the 'new' painting style that flourished during the first decades of the 14th century. Painters began to depict real objects from nature as opposed to stylized versions. Trees, birds and animals were rendered with a freshness as if seen in the countryside. The Florentine Giotto, who decorated the Scrovegni Chapel in Padua, was the greatest practitioner of this style.<sup>2</sup> Giotto's widespread fame in this regard is attested to by an excerpt from Day VI, story 5 of Boccaccio's *Decameron* (1348–50):

Giotto was a man of such outstanding genius that there was nothing in the whole of creation that he could not depict with his stylus, pen, or brush. And so faithful did he remain to Nature (who is the mother and the motive force of all created things, via the constant rotation of the heavens), that whatever he depicted had the appearance, not of a reproduction, but of the thing itself, so that one very often finds, with the works of Giotto, that people's eyes are deceived and they mistake the picture for the real thing.<sup>3</sup>

In explaining the Italian notational system Marchetto makes a notable comparison between the

artist's ability to capture nature in painting and the use of specific notational devices, such as the addition of 'tails to the notes'. He writes:

Since, therefore, the written notes pertain to the art of music, although music is in itself an accepted science, it was right that the tails added to the notes, which were written because of the need to hand down the music, should be added to them in accordance with the perfections found in man himself, who instituted this art; for in man is found, in origin, the right and the left. [...] Therefore the tails added to the written notes are rightly added to them on the right and the left, as with respect to man.<sup>4</sup>

Marchetto argues that the written notes capture the intentions of the composer as closely as possible 'because of the need to hand down the music' and for that reason tails be added to the notes. For Marchetto the expression of musical time *via naturae* refers to semibreves without stems, while *via artis* designates those with stems, since the addition of a stem to a semibreve changes its natural value within the tempus.<sup>5</sup> As with painting, musical notation must faithfully reproduce the sounds of the music that are 'in nature'.

My purpose in this article is to explain and account for the complex relationship between the composition and musical theories of Marchetto and the representation of music in Giotto's frescoes of the Scrovegni Chapel. For example, Marchetto's motet *Ave regina celorum / Mater innocencie* displays compositional links—in both text and music—to Giotto's *Wedding procession* and *Annunciation*.<sup>6</sup> Furthermore, I shall demonstrate that Giotto

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1 The interior of the Scrovegni Chapel, looking towards the east wall

repainted musical instruments in these paintings. Perhaps after a suggestion from Marchetto, Giotto changed louder instruments to softer ones by shortening their lengths and generally toning down the 'musical' sound in his pictures. The exploration of connections between artist and composer will further illuminate the rich cultural legacy of Padua in the early Trecento.

Yet to be considered in the musicological literature, Bernardino Scardeone's authoritative *De antiquitate urbis Patavii* contains a comprehensive history of Paduan music and composers from ancient times until the medieval and Renaissance periods.<sup>7</sup> In a chapter entitled 'De claris musicis Patavini' Scardeone begins with a general account of the power of music and its rudiments in Greek and Roman society. He then skips to a biography of Marchetto—whom he calls the first great musician of Padua—which is followed by biographies of Prodocimo Beldomando, Antonio Lydio, Antonio Martorello, Antonio Rota, Francesco Portinario and Annibale Patavino. Scardeone's section on Marchetto is remarkably rich and divulges new information about the composer's life and activities within Italian cultural circles. He states that Marchetto was known first as a philosopher and second as a great practitioner of music in Padua.

Marchetto da Padova, the first and most learned philosopher and man of music, honoured his *patria* and Italy greatly with his celebrated art.<sup>8</sup>

Scardeone then divulges that Marchetto was so well known and conversant in music during his time that he became the great friend of Robert of Anjou, King of Sicily. In the following passage we learn about Marchetto's journey to Robert's court in Naples—a new detail in Marchetto's obscure biography:<sup>9</sup>

it was said that he [Marchetto] was the first to provide the general principles concerning how to use tones in modulation which I understand are called enharmonics. Since he was considered learned by everyone in this field, he was invited by Robert, famous King of Sicily, who patronized all the most learned men of the time. Marchetto went to the court of Naples and there was given many praises.<sup>10</sup>

Furthermore, Scardeone provides an approximate time for this visit.

In the meantime he wrote the book 'On the precepts of the art of measured music', which he named the *Pomerium*.<sup>11</sup>

This places Marchetto's trip to Naples before 1319, the latest year the *Pomerium* is believed to have been completed.<sup>12</sup> In addition, it illuminates the reason—which had previously been a mystery—for the subsequent dedication of the *Pomerium* to Robert. Scardeone notes the dedication as follows:

at the outset of the *Pomerium* we read: to the Prince, Lord Robert by the grace of God, King of Jerusalem and of Sicily, Marchetto of Padua dedicates this humble work.<sup>13</sup>

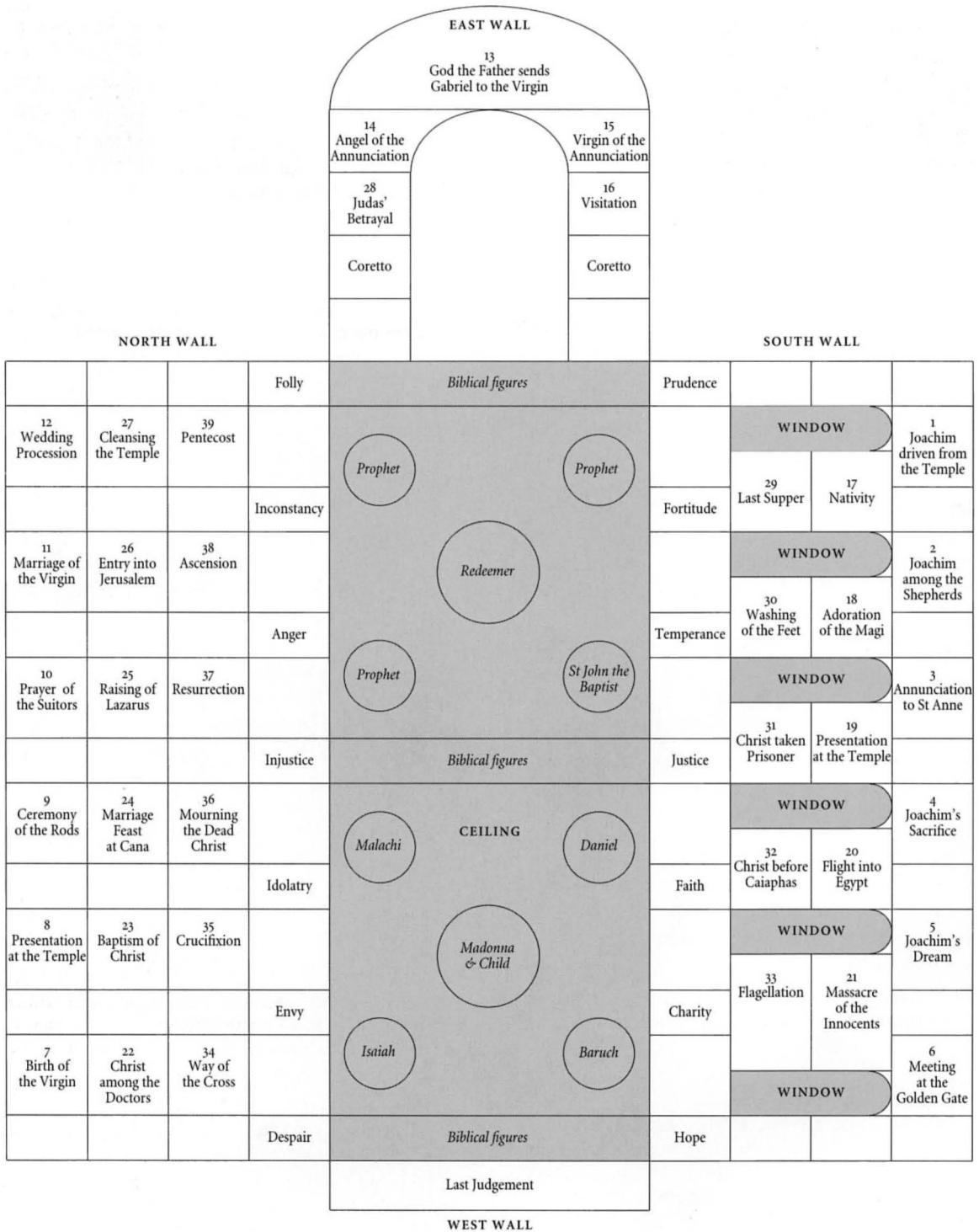
To conclude his section on Marchetto, Scardeone stresses that Robert and Marchetto enjoyed close ties.

He was, therefore, close to Robert—at one time—as Timothy was close to Alexander, who had learned how to calm and excite the sentiments of the King to the point that Robert liked to vary the sound and rhythm of songs.<sup>14</sup>

This association with the king of Sicily places Marchetto in the artistic milieu of the most famous artists and writers of Italy—among them Boccaccio and Petrarch.<sup>15</sup> Even Giotto was also known to have to have visited the Angevin court.<sup>16</sup>

Both Giotto and Marchetto flourished in what may be called the 'golden decade' for culture in Padua. Giotto probably resided in the city between 1303 and 1306. Documents provide evidence that Marchetto worked there as cathedral choirmaster between 1305 and 1308; F. Alberto Gallo suggests that during this time he probably composed for the cathedral polyphonic pieces for the dramatic offices of the Purification and Ascension.<sup>17</sup> Peter of Abano, a mathematician, music theorist and astronomer who taught at the university, was also in Padua at this time.<sup>18</sup> Crowning this glorious period of Paduan culture is the presence of Dante between March and September of 1306; according to Benevento of Imola, the poet went to the city with the sole purpose of seeing his friend Giotto.<sup>19</sup>

Dante immortalized several members of the Paduan citizenry, namely the infamous usurers Reginaldo Scrovegni and a member of the Vitaliani family, in the seventh canto of the *Inferno*.<sup>20</sup> Indeed, it is believed that Reginaldo was so corrupt and avaricious that, even on his death bed, he asked Enrico to hide the key to his safe. Witnesses to his



2 Diagram of Giotto's fresco panels in the Scrovegni Chapel

death say that when he breathed his last breath, a long, infernal laugh was heard, with the smell of sulphur, a sign that Beelzebub had come to take him to hell. In 1303 Enrico built a chapel in honour of the Virgin Mary, the Santa Maria Annunziata. He did this as a way of replacing the dark shadow cast by his treacherous family with the light of good deeds and his redeemer. This chapel is situated in the old arena or forum of Padua, next to what once was the Scrovegni palace. The church was also dedicated to Santa Maria della Carità, appropriate for a donor looking to atone for his family's sins. In March 1304 Pope Benedict XI granted indulgences to those who visited the Santa Maria del Carità de Arena in Padua.<sup>21</sup> The chapel was formally consecrated on 25 March 1305, the feast day of the Annunciation.

Giotto's frescoes represent the pinnacle of his achievements and are arguably the single most important series of paintings in the history of the pre-Renaissance.<sup>22</sup> They consist of scenes dedicated to the story of Joachim and Anna, the life of the Virgin, the life of Christ, the Passion, the Last Judgment, 14 personifications of Virtues and Vices in imitation, polished marble niches below the lowest register of frescoes on the side walls of the chapel, decorative medallions and border pictures. The layout of the scenes is shown schematically in *illus.2*. The principle narrative scenes concern the Virgin and are distributed in three rows on each side of the chapel. On the north wall there are three rows of six scenes; on the south wall there are two groups of five and one of six. Five scenes are placed on the east wall; among these is the *Annunciation*, the most prominent scene of all, and the namesake of the chapel. The total number of frescoes within the grid-like configuration designed by Giotto on the north, east and south walls is 39—these are easily counted because they are contained within a matrix of geometrically painted frames. The *Annunciation* on the east wall is the only scene that breaks this tightly knit compartmentalization because it covers the arched surface on the wall, and consists of an upper and lower half.<sup>23</sup>

The connection between Giotto's splendid images and Marchetto's composition is revealed through a consideration of Marchetto's motet *Ave regina celorum* (*illus.3*, opening transcribed as *ex.1*). F. Alberto

Gallo has suggested that the motet was written for the opening ceremonies of the Giotto's chapel on 25 March 1305.<sup>24</sup> He bases this on the presence of acrostics found in the texts. The *triplum* contains Gabriel's salutation to the Virgin Mary (Luke 1: 28) while the *duplum* contains Marchetto's name:

*Triplum*

AVE regina celorum,  
pia virgo tenella.  
MARIA candens flos florum,  
Christi[que] clausa cella  
GRACIA que peccatorum  
dira abstulit bella.  
PLENA odore unguentorum,  
stirpis David puella.  
DOMINUS, rex angelorum  
Te gignit, lucens stella.  
TECUM manens ut nostrorum  
tolleret seva tela.  
BENEDICTA mater morum,  
nostre mortis medela.  
TU signatus fons ortorum,  
manna [das dulcinella,  
IN te lucet] lux cunctorum  
quo promo de te mella.  
MULIERIBUS tu chorum  
regis dulci viella,  
ET vincula delictorum  
frangis nobis rebella.  
BENEDICTUS [futororum]  
ob nos potatus fella.  
FRUCTUS dulcis quo iustorum  
clare sonat cimella.  
VENTRIS sibi parat thorum  
nec in te corruptella.  
TUI zelo fabris horum  
languescat animella.<sup>25</sup>

*Duplum*

Mater innocencie,  
Aula venustatis,  
Rosa pudicie,  
Cella deitatis.  
Vera lux mundicie,  
Manna probatis.  
Porta obediencie,  
Arca pietatis.  
Datatrix indulgencie,  
Virga puritatis.  
Arbor fructus gracie,  
Nostre pravitatis.  
Virtus tue clementie  
Me solvat a peccatis.

*Triplum*: Hail, Queen of the Heavens, tender and pious Virgin Mary, white flower among flowers, sealed cell of Christ; grace that relieved the sinners of cruel struggles. Filled with the perfume of sweet smells, daughter of the line of David. The Lord, King of Angels, has made you a shining star and remains within you in order to remove the cruel arrows from us. Blessed Mother of virtue, medicine for our death. Chosen fountain of the garden, you sweetly have the manna. In you the light of everything is lit; from you I take the honey. For the women you lead the chorus with a suave *viella* [fiddle] and for us you break the rebellious chains of sins. Blessed is he who drinks the bile for us, sweet fruit for whom the *cimella* [chalumeau] of the just plays with clarity. In you he prepares the nuptial bed, and there is no immorality. The little soul of the creator of these objects should languish for the love of you.

*Duplum*: Mother of innocence, hall of beauty. Rose of

Ave regina celoz pia uirgo tenella maia carens flos floz

clausa cella gētia que peccatoz dūm abstulit bella plena

inguētoz shipis dāuid puella. dominus rex angloz te genuit

lucēs stella tecū manēs ut nostroz tollerēt seua tela benedicta

mater mox nrē mōtis metela tu signat' fons cōtoz man'

dulci uella 7 uincula dōlectoz siangis nobis re bella benedicta

3 Marchetto of Padua, *Ave regina celorum / Mater innocencie*: Oxford Bodleian Library, Ms. Canon. Class. Lat. 112, ff.61v (above), 62r (opposite, above), 62v (opposite, below). The triplum reads across the first four staves of 61v, then the bottom two staves of 61v and 62r combined, before finishing on the first staff of 62v. The duplum reads across the first three and a half staves of 62r then skips to the second staff of 62v. The tenor appears on the second half of the fourth staff on 62r.

44

A ter innocencie aula uenusta tis rosa pudicie cella  
 delictis. veni lux mitorie mana pbitatis pta dexterie aca  
 peta tis datur indulgenci e uga pu'ta tis. arbor fructus  
 gracie nostre pu'ta tis Tenor.  
 olā  
 pate sicut lux cunctoy quo pmore te uella. mulierib; tu choy regis  
 obtus potat fella fruct; quistoy clare sonat cumella uictis sibi parat

thoy n̄ in te cōruptella tu celo fabas hoy laqueat ammel  
 uē tue clemencie me soluat a peccato.

Ex.1 Marchetto of Padua, *Ave regina celorum / Mater innocencie*, opening; transcription from *Italian secular music*, ed. Kurt von Fischer and F. Alberto Gallo, *Polyphonic Music of the Fourteenth Century*, xii (Monaco: L'Oiseau-Lyre, 1976), no.37

Tripl A - VE re - gi -

Dupl [M]a - ter in - no - cen - ci -

T (Al) [Ite missa est]

5

na ce - lo - rum, Pi - a vir -

- e, Au -

10

15

- go te - nel - la. MA - RI - A can - dens flos flo - rum, [Chri - sti -

- la ve - nus - ta - tis. Ro - sa pu -

20

- que] clau - sa cel - la. GRA - CI - A que pec - ca - to - rum Di - ra ab - stu -

- di - ci - ci - e, Cel - la

(Al)



chastity, cell of divinity. True light of charity, manna of honesty. Door of obedience, tomb of mercy. Bestower of indulgence, rod of chastity. Fruit tree of grace [against] our wickedness. The strength of your mercifulness shall dissolve me from sins.

Both the triplum and duplum texts are deeply felt lauds of the Virgin Mary. The triplum is an amalgamation of two principal chant antiphons associated with the Annunciation, the *Ave regina gratia plena* and *Benedicta tu in mulieribus* and speaks directly of the nuptial bed and the Annunciation.<sup>26</sup>

Marked similarities arise from a comparison of the structure of Marchetto's motet *Ave regina celorum* and the numerical framework of Giotto's frescoes.<sup>27</sup> The motet makes allusions to the 39 scenes that directly concern the lives of the Virgin and Christ as represented in Giotto's narrative. Strikingly, Marchetto's motet has a duration of 39 *longae*. In addition, the tenor of the piece, which seems to be newly composed, displays a curious juxtaposition of the numbers 6 and 5. The *talea* of the tenor has a duration of six *longae* and consists of five pitches.<sup>28</sup> The facsimile shown in illus.3 shows the tenor consisting of groups of five pitches—three in ligature and two *longae*—between rests (transcribed as ex.2). This reflects the same grouping in the chapel since Giotto has painted three groups of six on the north wall. In the top row of the opposite wall we find six more scenes; beneath these are two groups of five images. This curious juxtaposition of numbers is necessitated by the windows on the right-hand side. The motet consists of 6 × 6 *longae* of the *talea* (the *color* has a length of 18 *longae*) arriving at the number 36. The piece then concludes with three *longae* whose tenor contains a kind of cadence and where the two other voices slow down in time, adopting the slower movement of the tenor. Perhaps the three extra scenes allude numerically to the *Annunciation* on the triumphal arch, consisting of the episodes: God the Father dispatching Gabriel and the *Annunciation* proper (The Angel Gabriel and the Virgin). The scenes included in our count (and Marchetto's 39) are those with which the viewer directly confronted when entering the small chapel.

The text of Marchetto's *Ave regina celorum* also contains several striking musical references which recall Giotto's images, most notably the fresco of

the *Wedding procession* (illus.4), which appears on the north wall, top tier, just to the left of the *Annunciation*. Art historians have extolled this scene as a masterpiece and have praised Giotto's representation of the calm and exquisite movements of the Virgin Mary.<sup>29</sup> The scene is multi-dimensional in time. One action consists of Mary and her attending ladies, coming upon a group of musicians. The second movement captures the musicians who play their instruments before the women's arrival. One man bows a fiddle while two blow into wind instruments. The musicians are clad in Classical garb, having short draping tunics and wearing wreaths. The upper part of the picture has been badly damaged; what remains is a balcony with a large leafy branch, a sign of the Virgin's forthcoming pregnancy.

Lines 19–20 of the triplum read 'Mulieribus tu chorum regis dulci viella' ('For the women you lead the chorus with a suave *viella*'). The mention of the *viella* is particularly significant since that is the instrument in the Giotto painting. The mention of the *viella* leading a chorus corresponds to Giotto's Mary leading her group of women. Though Mary does not actually do the playing (she is never directly portrayed as playing musical instruments in her iconography, though music accompanies her on

Ex.2 Marchetto of Padua, *Ave regina celorum* / *Mater innocencie*, tenor



4 Giotto, *Wedding procession* (Padua, Scrovegni Chapel; Bridgeman Art Library, London)

many occasions) Mary appears as a conduit for the harmony of the music played by the instrumentalists. Through Mary the virgins hear the music of the *viella* and are ruled by its strains. This interpretation is made clear by Mary's placement at the centre of the scene as an intermediary between the players and the chorus of virgins. She guides them by the metaphor of her implied music. This may account for her placid demeanour that has been traditionally viewed as extraordinarily musical by later commentators.

Music was allied with virginity in the Middle Ages.<sup>30</sup> Describing the Lamb on Mount Sion, Revela-

tions 14:1–5 provides the Christian source of this belief:

And I heard a voice from heaven like the sound of many waters and like the sound of loud thunder; the voice I heard was like the sound of harpers playing on their harps, and they sing a new song before the throne and before the four living creatures and before the elders. No one could learn that song except the hundred and forty thousand who had been redeemed from the earth. It is these who have not defiled themselves with women, for they are chaste; it is these who follow the Lamb wherever he goes.

Two pertinent images relating to Giotto's fresco appear in this passage. First, the chaste followers

who can hear the song of God are reminiscent of the group of virgins following Mary in the *Wedding procession*. Thomas Connolly has noted that the virgins sing a kind of 'inner' song, one that is not heard. Quoting the *Passio* of the Roman virgin St Cecilia we find that she 'sang in her heart to God alone'.<sup>31</sup> The 'new song' will help to clarify why it is not Mary who plays the *viella* in the picture and why she still leads the choir of virgins with the *viella* in Marchetto's poem.

The notion of the 'new song' versus the 'old song' originates in the Psalms. Numerous lines exhort believers to sing a new song. For example in Psalm 32 (i.e. the Hebrew/Reformed Psalm 33) we read 'Praise the Lord on the cithara, sing to him with the psaltery of ten strings! Sing to him a new song, sing to him well' (lines 2–3). Christian commentators on the Psalms, most notably Augustine, devised intricate allegorical interpretations of the music in these poems and have translated the singing and musical instruments into Christian doctrine. Therefore, we read Augustine's explanation of Psalm 33 as 'Divest yourself of what is old; you have learnt a new song. A new man, a new testament, a new song.'<sup>32</sup> The 'new song' becomes linked with celestial melody, the old with melodies of the flesh. In addition, illuminators of the Psalms included images of the difference between the old and new song in their texts. Raucous musicians in unsavoury demeanours with tumbling dancing figures were shown with the old; the calm, serious and pious with the new.<sup>33</sup> In Giotto's fresco, then, we have a reminder of the women's chastity and their keen connection to music in heaven. In their calm demeanour they represent the 'new song'. However, though Mary is often depicted as the leader of the virginal choir, the mention of the *viella* is unique and further solidifies the relationship between Marchetto's words and Giotto's picture.

A connection also exists between the fiddle-player and Christ. The string instrument has been linked to the lyre, the principal instrument of Apollo on Parnassus.<sup>34</sup> Apollo is subsequently aligned with Christ because he 'could well be employed [by Christians] as a personification of justice, both as god of music which, like justice, reduces strife and discord to harmony, and as the god of the sun' as Christ was the figure of light and healing.<sup>35</sup>

The notion of justice and music continues in the musical reference in lines 25–6, 'Fructus dulcis quo iustorum clare sonat cimella' ('Sweet fruit with which it plays with clarity, the *cimella* of the just'). Justice is a central theme in Giotto's frescoes, since its patron Enrico Scrovegni commissioned the chapel in the hope of renewing the citizenry's faith in himself and his family. In the *Last Judgement* on the west wall above the entrance trumpeting angels border the seated Christ.<sup>36</sup> Furthermore, in unprecedented iconography, Giotto painted the seated virtue of Justice above a marble-like predella containing three women: one plays a tambourine, one sings, a third dances.

The mention of the *cimella* in Marchetto's lines 25–6 makes a second interesting allusion to Giotto's *Wedding procession*. Howard Mayer Brown translates *cimella* as a chalumeau, or single-reed instrument.<sup>37</sup> The instruments in the Giotto fresco may be viewed as small single-reed instruments. However, their identity is difficult to ascertain from the fresco because Giotto changed his mind about the types of instruments he wished to represent. Indeed, a photograph taken after a restoration in the 1960s shows that what now appear to be short, recorder-like instruments were originally long-barrelled trumpets. These are the same kind of instruments that appear blown by angels in the figures surrounding God in the *Annunciation*, to which we will return. The position of the players' heads also betrays Giotto's *pentimento*, or change of heart. The two players' heads are tilted upward. This indicates that Giotto probably first intended them to play trumpets, since the positioning of long instruments in this scene requires that the head be tilted up just past horizontal. If he had originally intended to paint recorder- or shawm-players, he probably would have had their heads tilted downward. This is true of the famous recorder-player in a fresco by Simone Martini in the St Martin Chapel at Assisi.<sup>38</sup> At some point after the fresco had dried Giotto made a change to softer instruments. In fact, the secco painting (painting on the plaster after the fresco has dried) is done with water paints, which dissolve easily and accounts for the visible outlines of the trumpets after the cleaning.

Giotto did in fact make numerous changes to his

Scrovegni Chapel frescoes. Leonetto Tintori and Millard Meiss document alterations in, among others, the *Expulsion of Joachim from the Temple*, the *Nativity*, the *Expulsion*, and the *Wedding procession*.<sup>39</sup> These were done both with the application of new plaster (intonaco) or after the plaster was dried (secco). Tintori and Meiss record at least one change in the *Wedding procession* in the clothing of the figure seen walking in front of the Madonna. They note that Giotto wished to maintain a sense of movement by making the lower hem of the garments incline upward to the right. He achieved this motion by painting in the background colour below them, and then added a flowing red line from the bottom left up to the knee level. In this fashion he turned a heavy cape into a light mantle. The same change to a 'lighter', airier and more appropriate mood is achieved by the change to the representation of long trumpets to higher wind instruments. Giotto may have wanted to mirror Mary's supremely calm demeanour in his choice of instruments; trumpets are traditionally loud, outdoor instruments that play in processions, while the fiddle and short reed instruments are more intimate.

Giotto's initial decision to represent trumpets may have been influenced by the fact that he witnessed many Paduan festivities accompanied by loud instruments. Noisy wedding celebrations were typical in Padua and deemed public nuisances in the late 13th century. Gennaro Gennari recounts that a decree was made concerning the 'accompagnamento delle spose novelle'.<sup>40</sup> He cites the Paduan tradition in which parents and friends to accompany the bride to the house of her husband with great festivity of 'suoni e canti'. The citizenry believed that these processions created commotion, confusion and presented a hazard to the public. A law passed in 1277 ordained that no more than 20 people per side of the family were allowed to march in procession. Gennari writes, 'Wise decree, because these populous gatherings could be suspected to be machinations against the state.'<sup>41</sup>

It is possible that Giotto saw the famous Paduan ceremony dedicated to the Annunciation of the Virgin Mary.<sup>42</sup> The Annunciation fresco has a compositional structure that recalls the placement of the Virgin and the Angel Gabriel in compartments from

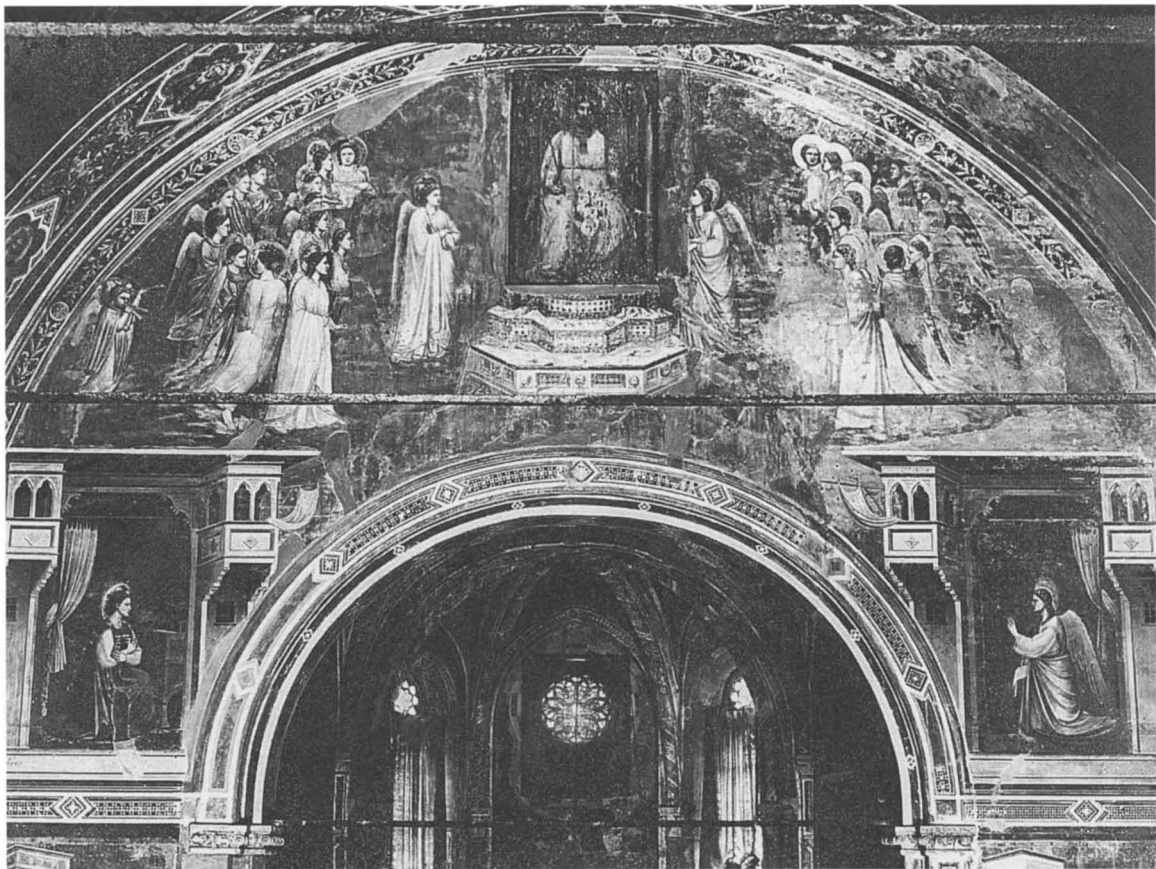
which they spoke the lines of the dramatic office. Trumpets were traditionally used in the processions in Padua that accompanied the characters as the following description indicates:

Mary and the angel were placed upon two platforms and carried to the Arena, preceded by trumpet players of the city and Paduan clerics. They were followed by the Podestà and all the citizens. The Angel was to salute Mary in the courtyard of the Arena. This was to be done without payment by the city or the clerics. The salaried trumpet players were to play their trumpets and playing accompany the angel and Mary to the palace of the Arena without additional funds.<sup>43</sup>

In addition to their visual signification, Giotto may have chosen the trumpets for a compositional reason: to maintain a recurring motive. The long lines of the trumpets echo the lines in architecture that permeate the entire fresco cycle. The trumpets also appear in the *Annunciation* (where interestingly several also seem truncated) and the *Last Judgement* played by angels. However, in choosing to truncate the trumpets, not only in the *Wedding procession* but in the *Annunciation*, Giotto has softened the tone of the scene to better fit the demeanour of the Virgin.

The third musician in the *Wedding procession* does not have the instruments at his lips, but seems poised to play while his companions are performing. This may account for the singular form *cimella* in the text. Marchetto does not mention trumpets at all, but rather the 'new' instruments painted by Giotto in the fresco. They seem to be an invention used specifically to fit the existing outlines created by the shortened trumpets. This has interesting implications. It is possible that Marchetto, enjoying the distinguished reputation of a philosopher and the greatest musician in Padua, may have inspected the frescoes or been asked about the suitability of the trumpets. Tintori and Meiss confirm that Giotto painted in the traditional manner from the top down, so the *Wedding procession* would have certainly been complete during the earliest phase of painting, early enough for Marchetto to suggest changes and write his motet text.<sup>44</sup>

Marchetto's motivation for reflecting the fresco in this motet is understood in the context of his concern for the reproduction of music as if captured from reality. In this case Marchetto not only reproduces on paper the notes he wishes his singers to



5 Giotto, *Annunciation* (Padua, Scrovegni Chapel; Alinari/Art Resource, New York)

produce, but in a visual/musical play, also Giotto's complex matrix of frescoes. Marchetto renders Giotto's frescoes with precision in the numerology of his notation and the subtlety of his text with its acrostics and descriptions of images. Such interdisciplinary decorations were not unique at this time in Padua. Giotto's paintings inspired a miniaturist to decorate an antiphoner for the cathedral dating from c.1306.<sup>45</sup> Giotto is also credited with having decorated the walls of the Salone della Ragione, the programme of which has been ascribed to Peter of Abano, the philosopher, music theorist and astronomer.<sup>46</sup> The monumental impact of Giotto's frescoes was felt by generations of Paduan artists, who imitated the paintings in the chapel, placing Padua on the map of Italian painting.

The final point I shall consider is the representation of implied music in the *Annunciation* fresco

(illus.5). The scene is divided into two parts: the upper, which represents Gabriel's mission, the lower which takes place on earth. In Giotto's sequence of frescoes the *Annunciation* follows the *Wedding procession*. Gabriel kneels on the left while Mary hears his words on the right. God is surrounded by legions of angels, some of whom play instruments. Two angels playing lute and tambourine in the left background are mirrored by two angels playing psaltery and cymbals in the right foreground. Others appear to be singing. In the right foreground an angel plays the 'trumpet', which like those in the *Wedding procession* seems to be cut off by the frame; another plays what Howard Mayer Brown has described as a double recorder.<sup>47</sup> The choice of instruments is typical of medieval angel choirs.<sup>48</sup> Marchetto acknowledges the image of the angel choir in the first part of his *Lucidarium* when he quotes Remigius:

‘The vastness of music encompasses all that lives and all that does not live; thus the choir of all the angels, archangels and saints sings without end, chanting “Sanctus, Sanctus” before the eyes of God.’<sup>49</sup>

Marchetto was familiar with the classification of sound in three general groups, all of which are represented in Giotto’s picture. He describes them in book 1, chapter 7 of his *Lucidarium* as three ‘species of music’ (p.89).<sup>50</sup> The first is designated as ‘harmonic’ music, which is produced by the voice of human beings or animals. This is created by ‘sound of air set in vibration by the breath’ (p.91). The second is ‘organic’ music, which is produced not by the voice but still by the breath of humans as in ‘trumpets’. Then he notes the instruments *cimellis*, and ‘pipes, organs and the like’ (p.97). Notice that he cites the same instrument here (*cimella*) that Howard Mayer Brown has described as a ‘single-reed’ instrument. The third and final category is ‘rhythmic’ music, which Marchetto contends consists of all sound that is not voice as in the ‘monochord, the psaltery, the bell and similar instruments’ (p.101). This tripartite distinction in musical sound is found in Augustine’s *De ordine* 2.39.

Each of these types of musical sound is distinctly found in Giotto’s fresco. Furthermore, the representation of the Annunciation in two parts—unprecedented in the history of art—accentuates the musical quality or motion of the scene. In the midst of the heavenly music, God sends Gabriel to announce the birth of Christ to Mary.<sup>51</sup> There is implied musical transmission in this scene that corresponds to the musical drama of the Annunciation practised in Padua at this time. In celebration clerics dressed as Mary, Anne, Joseph and Joachim walked in procession from the sacristy around the cathedral carrying silver books. A small boy-chorister dressed to represent Gabriel sitting on a chair was carried from the baptistery and taken into the church; the clerics stopped in the middle of the church to represent a choir. The subdeacon paused after the readings and the words ‘Et egressus angelus ad eam dixit’. At this point Gabriel came forward, kneeling with two fingers of his right hand raised and began the antiphon *Ave Maria gratia plena*. These are the words of Marchetto’s acrostic, and perhaps the motet was sung at this point to replace the singing of the antiphon. The

connection to Giotto’s fresco is further strengthened because in his painting Gabriel is kneeling with two fingers raised. While receiving the spirit (symbolized by a dove) Mary rises and sings the antiphon *Ecce ancilla*. Marchetto was quite familiar with this antiphon: he uses it in his *Lucidarium* as a musical example in his chapter ‘Formation of modes’.<sup>52</sup> Thus the heavenly music is transmitted to earth in the figure of Mary, who in the earlier scene guides the chorus of believers with her *viella*.

The movement in Giotto’s fresco from heavenly to earthly music reflects the interest in the representation of earthly phenomena as experienced in nature. A similar progression appears in Marchetto’s two theoretical treatises. The *Lucidarium* begins with several chapters outlining the history of music and its meaning, while the *Pomerium* concerns music as a strictly physical property.<sup>53</sup> The *Pomerium* contains no eloquent allusions to past writers about music—Boethius, Cassiodorus, or Augustine—as does the first treatise. Rather, when describing the properties of intervals, Marchetto chooses to quote the scientific Aristotle and his treatise *The Physics*. Another important claim to a return to nature is Marchetto’s choice of definition for the word ‘music’. In book 1, chapter 6 he notes that ‘music derives from *moys*, which means “water”, since music was discovered by the waters, as Remigius reports; for just as water cannot be touched without its being moved, so can there be no music without it being heard’ (p.87).<sup>54</sup> The same words recur in Peter of Abano’s *Expositio problematum Aristotelis* written c.1310.<sup>55</sup> Peter was the leading proponent of the Aristotelian natural school, stressing the scientific appreciation of objects based on observation.<sup>56</sup> The earthly and scientific designation of music from water is a far cry from the lofty later Trecento attribution of music to the Muses (ultimately found in Isidore of Seville) expounded by Boccaccio in his *Commentary on the Divine Comedy*.<sup>57</sup> For Boccaccio, music derives from the nine Muses and can be divided into nine parts; whereas Marchetto mentions only six—the lungs, the throat, the palate, the tongue, the front teeth and the lips (p.91). For Boccaccio, the word originates in Parnassus, while for Marchetto it originates on earth.

The notational practices of Marchetto and the painting of Giotto in the Scrovegni Chapel show a

strong affinity for the representation of nature. Giotto captures with precision the details of flora, fauna, facial expressions and musical instruments. Marchetto captures the spirit of the Annunciation in the colourful language of his motet text and symbolic notation. Together they epitomize the prevailing intellectual and artistic spirit in the city of Padua

and its dedication to a scientific understanding of natural objects. Both represent the pinnacle of medieval thought: Giotto as the master of expression and form before the adoption of full-blown perspective, and Marchetto the last breaths of linearly driven music just before the adoption of a more harmonic, metaphorically driven language.

1 '... ars imitatur naturam in quantum potest (per Physicorum, secundo Physicorum). Probatio per exemplum: nam qui depingit liliū vel equum, nititur ipsa depingere in quantum potest ad similitudinem equi seu liliū naturalis.' *Marchetto da Padova: Pomerium*, ed. G. Vecchi (Rome, 1961), pp.50–51; trans. K. Eales in F. A. Gallo, *Music of the Middle Ages*, ii (Cambridge, 1985), pp.115–16.

2 For Giotto's portrayal of nature, see J. Stubblebine, *Assisi and the rise of vernacular art* (New York, 1985), pp.89–90, and Robert Oertel, *Early Italian painting to 1400* (London, 1966), pp.86–9.

3 'Giotto ebbe uno ingegno di tanta eccellenza, che niuna cosa dà la natura, madre di tutte le cose e operatrice, col continuo girar de' cieli, che egli con lo stile e con la penna o col pennello non dipingesse sì simile a quella, che non simile, anzi più tosto dessa paresse, in tanto che molte volte nelle cose da lui fatte si truova che il visivo senso degli uomini vi prese errore, quello credendo esser vero che era dipinto.' Giovanni Boccaccio, *Decameron*, ii, ed. V. Branca (Florence, 1960), p.149; Giovanni Boccaccio, *The Decameron*, trans. G. H. McWilliam (Harmondsworth, 1972), p.494.

4 'Cum igitur ipsae notae scriptae ad artem musicae pertineant, licet ipsa musica de se sit accepta scientia, oportuit ergo quod proprietates additae notis ipsis, scriptis propter necessitatem modi tradendi, adderentur eisdem secundum perfectiones repertas ab ipso homine, qui instituit talem artem. In homine autem primo et principaliter invenitur dextrum et sinistrum.' *Marchetto da Padova: Pomerium*, p.51.

5 *Marchetto da Padova: Pomerium*, chap. 3, I et seq. When there are three

semibreves in a bar of imperfect time (roughly equivalent to the modern conception of a two-beat bar), the last breve naturally is assigned the greater value. So we read ♩ ♩ ♩. When a stem is added to the first breve (*via artis*) the bar is read ♩ ♩ ♩. For more on this, see W. Apel, *The notation of polyphonic music, 900–1600* (Cambridge, MA, 1953), pp.368–84.

6 The suggestion that the theorist wrote the motet *Ave regina celorum / Mater innocencie* for the opening ceremonies of the chapel in 1305 is made in F. A. Gallo, 'Marchettus de Padua und die 'franco-venetische' Musik des frühen Trecento', *Archiv für Musikwissenschaft*, xxxi (1974), pp.42–56. Gallo seems to back away from this position in his introduction to *Polyphonic Music of the Fourteenth Century*, xii (Monaco, 1976), where he makes no statement whatsoever connecting the motet with the Scrovegni Chapel.

7 Scardeone's book was printed in Padua in 1560. For more on Marchetto's biography, see O. Strunk, 'On the dates of Marchetto da Padova', *Essays on music in the Western world* (New York, 1974), pp.39–43, originally published as 'Intorno a Marchetto da Padova', *Rassegna musicale*, xx (1950), pp.312–15; and N. Pirrotta, 'Marchettus de Padua and the Italian Ars Nova', *Musica disciplina*, ix (1955), pp.55–71. See also the comprehensive introduction to *The Lucidarium of Marchetto of Padua: a critical edition, translation, and commentary*, ed. J. Herlinger (Chicago, 1985).

8 'Ornavit ergo hac celebri arte patriam, atque Italiam fere primus Marchetus, cognomento Paduanus, doctissimus philosophus, similis et Musicus ...' Scardeone, *De antiquitate urbis Patavii* (Padova, 1560), p.262.

9 The fact of Marchetto's journey to

Naples is not noted in Strunk, 'On the dates of Marchetto da Padova', or Pirrotta, 'Marchettus de Padua and the Italian Ars Nova'.

10 '... qui sua aetate de Musica primus, in eo modulandi genere, quod Enharmanium dici audio, praeceptis generalia dedisse perhibetur. Quare cum illis temporibus magni nominis esset, et doctissimus in ea re a cunctis haberetur, invitatus a Ruberto, inclityo Siciliae rege, qui doctissimos quosque ea tempestate fovebat. Neapolim profectus est, ibidemque in eius aula multa cum laude versatus.' Scardeone, *De antiquitate*, p.262.

11 'Scripsit interim De praeceptis artis Musicae mensurate librum, quem Pomarium nominavit.' Scardeone, *De antiquitate*, p.262.

12 *The Lucidarium*, ed. Herlinger, p.3.

13 '... in cuius principio ita legitur: Principi domino Ruberto Dei gratia Hierusalem et Siciliae regi, Marchetus de Padua humilem recommendationem.' Scardeone, *De antiquitate*, p.262.

14 'Fuit igitur apud Rubertum, ut Timotheus olim apud Alexandrum: qui remittere et excitare norat regis affectus, prout variare cantum, vocis que modos sibi placebat.' Scardeone, *De antiquitate*, p.262.

15 Robert of Anjou's connection to music is further illuminated by a musical dedication to him in a music manuscript from Prato; for more on the manuscript, see B. Pescerelli, 'Un omaggio musicale a Roberto d'Angiò', *Studi musicali*, xx (1991), pp.173–9.

16 A. Martindale, in *The complete paintings of Giotto*, ed. E. Baccheschi (New York, 1966), p.5

17 Gallo, 'Marchettus de Padua', pp.42–3.

18 For Abano, see F. Alessio 'Filosofia



e scienza: Pietro Da Abano', in *Storia della cultura veneta: il Trecento* (Vicenza, 1976), pp.171–206.

19 A. Gloria, 'Sulla dimora di Dante in Padova', in *Dante e Padova: studi storico-critici* (Padova, 1865), p.21.

20 For more on the Scrovegni family, see C. Bellinati, 'La Cappella di Giotto all' Arena e le miniature dell' Antifonario "Giottesco" della Cattedrale, 1306', *Da Giotto al Mantegna*, ed. L. Grossato (Milano, 1974), pp.23–30.

21 J. H. Stubblebine, *Giotto: the Arena Chapel frescoes* (London, 1969; R/1995), p.105.

22 For the history of the Arena Chapel and a commentary on it, see also R. Salvini, *Giotto, the Scrovegni Chapel in the Arena at Padua* (Florence, 1953), and G. Basile, *The Arena Chapel frescoes* (London, 1993).

23 I have not included the huge *Last Judgement* on the west wall or the 14 *Virtues and Vices* in counting the number of frescoes. They are not part of the three cycles of the narrative that include Life or Joachim, Life of St Anne and the Virgin and the Passion.

24 See n.6 above.

25 The texts are reproduced from Gallo, 'Marchetto de Padua', pp.46–7.

26 Gallo, 'Marchettus de Padua', p.47.

27 Many studies have been written exploring the complex relationship between number symbolism and the structure of motets. The most famous example is C. Warren, 'Brunelleschi's dome and Dufay's motet', *The musical quarterly*, lxxix (1973), pp.92–105, which asserts that numerical proportions exhibited in Guillaume Dufay's motet *Nuper rosarum flores* reflect the structural proportions of the cathedral in Florence. Warren's tantalizing thesis has been since refuted, most notably in C. Wright, 'Dufay's *Nuper rosarum flores*. King Solomon's Temple, and the Veneration of the Virgin', *Journal of the American Musicological Society*, xlvii (1994), pp.395–439, which points out that the complex proportions in Dufay's motet do not correspond to Brunelleschi's dome but rather to a description of Solomon's temple; in his discussion Wright affirms the prevalence of number symbolism in

the repertory: 'Perhaps this inherently numerical quality accounts for the fact that the isorhythmic motet was the favorite of composers wishing to convey a message beyond the explicit meaning of the text' (p.437). It has been shown that the number 30, relating to the theme of Judas' selling of Christ for 30 pence, is of structural significance in *Inflammatu invidia / Sicut de ligno parvulus / Victime paschali laudes*, an anonymous motet in the *Roman de Fauvel*: see W. Arlt, 'Triginta denarii—Musik und Text in einer Mottette des Roman de Fauvel über dem Tenor *Victimae paschali laudes*', *Pax et sapientia: studies in text and music of liturgical tropes and sequences in memory of Gordon Anderson* (Stockholm, 1985), pp.97–113. Number allegory in relation to betrayal in Guillaume de Machaut's isorhythmic motet *Amours qui a le pouvoir / Faus samblant m'a deceu / Vidi dominum* is discussed in M. Bent, 'Deception, exegesis and sounding number in Machaut's Motet 15', *Early music history*, x (1991), pp.15–27. It has also been shown how the 11-note tenor *talea* in John Dunstable's four-voice *Veni sancte spiritus / Veni creator spiritus* recalls the descent of the Holy Spirit on the 11 remaining disciples: see M. Bent, *Dunstable* (London, 1981), p.55.

28 For an edition of Marchetto's motet, see Gallo, 'Marchettus de Padua', pp.54–6.

29 See C. Gnudi, *Giotto* (Milan, 1958), p.138. Gnudi describes the entire fresco in harmonious terms praising its 'strong musicality', 'sweet rhythm', and 'musical abandon'.

30 See T. Connolly, 'The legend of St Cecilia, II: Music and the symbols of virginity', *Studi musicali*, ix (1980), pp.3–44.

31 Connolly, 'The legend of St Cecilia, II', p.19. Connolly notes that St Cecilia, the famous virgin of Rome, was depicted with instruments beginning in the 14th century with a statue by the Master of St Anastasia (c.1325) now in the Museo Castelvecchio of Verona: see T. Connolly, 'The cult and iconography of S. Cecilia before Raphael', *Indagini per un dipinto: la Santa Cecilia di Raffaello* (Bologna, 1983), p.129.

32 Translation of commentary and

text of Psalm 32 in G. Cattin, *Medieval music*, i, trans. S. Botterill (Cambridge, 1984), pp.162–3. The complete translation of Augustine's commentary on all the Psalms is found in *Expositions on the Book of Psalms by St Augustine, Bishop of Hippo*, 6 vols. (Oxford, 1848).

33 12th-century psalter from the Abbey of St Remigius, Reims: Cambridge, St John's College, Ms. B 18, ff.1, 182, reproduced in D. W. Robertson, *A preface to Chaucer* (Princeton, 1963), plates 29, 30.

34 Trecento thinkers certainly knew of Apollo's connection to music: see E. M. Beck, 'Music in the cornice of Boccaccio's *Decameron*', *Medievalia et humanistica*, xxiv (1997), pp.33–49.

35 Christ could be associated with Apollo as God of light, justice and music: see E. Panofsky, *Renaissance and Renaissance in Western art* (Almquist, 1960). However, the connection between Giotto's fiddler and Christ could just as easily be made if the figure is read as Orpheus, who was able to resurrect the dead with his playing.

36 J. Riess, 'Justice and common good in Giotto's Arena Chapel frescoes', *Arte cristiana*, lxxii (1984), pp.69–80.

37 See *The Lucidarium*, ed. Herlinger, p.97. Colin Lawson notes that the chalumeau was a 'single-reed instrument of predominantly cylindrical bore, related to the clarinet. The term originally denoted a pipe or bagpipe chanter', and found its popularity in the 17th century: see C. Lawson, 'Chalumeau', *New Grove dictionary of musical instruments*, ed. S. Sadie, i (London, 1984).

38 It has been suggested that the string instrument is a *lira da braccio* and the figure is associated with Apollo: see M. Edwards, 'Apollo and Daphne in the Arena Chapel', *Bollettino del Museo Civico di Padova*, lxxvii (1988), pp.15–35. Though the allusion to Apollo is plausible, the instrument is not a *lira*, which only came into being in the 15th century and was used as accompaniment to singing because chords could be easily performed on it.

39 L. Tintori and M. Meiss, *The painting of the Life of St Francis of Assisi with*



notes on the *Arena Chapel* (New York, 1962).

40 G. Gennari, *Annali della città di Padova* (Bassano, 1804), iii, p.24.

41 'Saggio ordinamento, perchè le adunanze troppo numerose potevano essere sospette di macchinazione contro lo stato' (p.24).

42 B. Brunelli, 'La Festa dell'Annunciazione all'Arena e un affresco di Giotto', *Bollettino del Museo Civico di Padova*, xviii (1925), pp.100-109, notes that the angel and Mary are placed in *luoghi deputati* or special theatrical chambers used in the dramatic representation of the Annunciation in Padua.

43 'Sopra due cattedre a ciò destinate, montavano l'angelo e Maria, e così venivano portati fino all'Arena, precedendo i tubatori del comune e il clero Padovano, e seguendo il signor prodestà con tutti i cittadini e con i gastaldoni delle arti... Nel cortile dell'Arena l'angelo doveva salutare Maria con la salutatione angelica. Tuttociò senza nessuna spesa del comune o dei monaci: i tubatori del comune e i pubblici salariati dovevano in questo giorno suonare le trombe, e suonando accompagnare l'angelo e Maria dal palazzo all'Arena senza pagare premio di sorta ec.' A. Dall'Acqua, *Cenni storici sulle famiglie di Padova* (Padova, 1842), pp.104-5.

44 Tintori and Meiss, *The painting of the Life of St Francis*, p.160: 'The overlapping of the patches of intonaco prove beyond any question that on both nave walls as well as on the triumphal arch Giotto worked in the normal and practical sequence from top to down.'

45 For more, see C. Bellinati, 'La Cappella di Giotto all'Arena', pp.23-30.

46 G. F. Vescovini, 'Pietro d'Abano e il salone di Padova', *Labyrinthos*, ix (1986), p.57. G. Vecchi, 'Medicina e musica: voci e strumenti nel *Conciliator* (1303) di Pietro da Abano', *Quadrivium*, viii (1967), pp.5-22. Peter's writings about music appear most prominently in *differentia* 83 of the *Conciliator*, and *problemata* 19 of the *Expositio*.

47 H. M. Brown, 'A catalogue of

Recent instruments', *Imago musicae*, ii (1985), p.214.

48 See R. Hammerstein, *Die Musik der Engel: Untersuchungen zur Musikanschauung des Mittelalters* (Bern and Munich, 1962).

49 'Magnitudo musice capit omne quod vivit et quod non vivit; hanc concertum angelorum, archangelorum, sanctorumque omnium ante conspectum Dei Sanctus, Sanctus dicentes since fine decantant.' *The Lucidarium*, ed. Herlinger, p.77. Herlinger notes that this passage is not in Remigius but approximated rather in Macrobius *Somnium Scipionis* 2.3.11. All subsequent translations of Marchetto's *Lucidarium* are taken from the Herlinger edition, to which page numbers in the text refer.

50 *The Lucidarium*, ed. Herlinger, p.89.

51 See C. Young, *The drama of the medieval church*, ii (Oxford, 1933), pp.248-50; A. W. Robertson, 'Remembering the Annunciation in medieval polyphony', *Speculum*, vii (1995), pp.279-81; J. Stevens, *Words and music* (Cambridge, 1986), pp.308-11.

52 *The Lucidarium*, ed. Herlinger, p.489.

53 Musical treatises from the late 13th and 14th centuries were often paired as seen in the works Garlandia, de Muris and Philippe de Vitry. The first concerns fundamentals, the second mensuration: see *The Lucidarium*, ed. Herlinger, pp.5-6).

54 For the tradition of music deriving from the word water, see N. Swerdlow, 'Musica Dicitur a Moys, Quod est Aqua', *Journal of the American Musicological Association*, xx (1967), pp.3-9.

55 Peter of Abano, *Expositio problematum Aristotelis* (Mantua, 1475), 189r. For more on this, see F. A. Gallo, in *Music theory and its sources*, ed. A. Barbera (South Bend, 1990).

56 F. Alessio, 'Filosofia e scienza', *Storia della cultura veneta*, ii (Vicenza, 1976), pp.171-206. For more on Abano's *Commentary*, see L. Olivieri, *Pietro d'Abano e il pensiero neolatino* (Padua, 1988).

57 Giovanni Boccaccio, *Il comento alla Divina Commedia ed gli altri scritti intorno a Dante* (Bari, 1918), p.199.

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