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Aporia and the Harmonious Subject*

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ABSTRACT
Paintings and prints in which the absence of an obvious narrative subject is combined with a sense of psychological intensity are among the most celebrated novelties of North Italian art around 1500. Images in which the "subject" appears to be music-making, such as Lorenzo Costa's *Concert* and Giorgione's *Three Ages of Man*, achieved widespread popularity as a part of that broader phenomenon. The vogue for these so-called "concert" pictures is usually explained in relation to either an assumed Venetian musical exceptionalism, or an improbably subtle investment in the neo-Platonic philosophy of cosmic harmony. This paper proposes a different, more straightfoward approach. Harmony—understood in the period as disparate elements brought into rational concord—was used right across Italian culture c.1500 as a ubiquitous metaphor for any system involving the proper arrangement of diversity. From the 1480s to the 1510s a whole series of print publications applied this metaphor to different aspects of image-making, including perspective composition and colouring. For artists interested in looking beyond the narrative subject to new principles that might organise an image and give interior life to its protagonists, harnessing the metaphor of harmony must have seemed an obvious and promising strategy.

Paintings and prints in which the absence of an obvious narrative subject is combined with a sense of psychological intensity, often characterised by scholars as poetic and ambiguous, are among the most distinctive novelties of North Italian art around 1500.[1] Images in which the "subject" appears to be music-making achieved widespread popularity as a part of that broader phenomenon—for example, Lorenzo Costa's *Concert* (c.1490; National Gallery), Giorgione's *Three Ages of Man* (c.1500-01; Galleria Palatina), Vittore Carpaccio's drawing of a *Concert* (c.1507-10; British Museum), Titian's so-called *Interrupted Concert* (c.1512; Galleria Palatina), Giulio and Domenico Campagnola's engraving of *Four shepherds with musical instruments* (c.1517; Metropolitan Museum etc.), Giovanni Cariani's *Concert* (c.1518-20; National Gallery of Art), Dosso Dossi's rhomboid *Musica* (c.1520-22; Gallerie Estensi), Girolamo Romanino's drawing of a *Concert Champêtre* (1520s; Metropolitan Museum), and Boccaccio Boccaccino's *Concert* preserved in an early copy (1520s; Pinacoteca Ambrosiana).

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[1] Such images are discussed under the heading of "aporia" in Nagel and Pericolo.

Scholars have generally explained the vogue for these so-called “concert” pictures in one of two ways. First, through what we could call the model of parallel development, which assumes that an innovation in one art must be matched by a parallel innovation in the others, usually allied to an assumption of Venetian exceptionalism. These principles have prompted some scholars to sift through the culture of musical practice in Venice at the beginning of the sixteenth century in search of a decisive innovation that could have prompted and inspired visual artists to see a new alignment with their own aesthetic objectives. Second, inspired principally by Leonardo da Vinci’s writings on harmonious form, some scholars have viewed the development through a neoplatonic lens, suggesting that painters including Giorgione and Titian were closely engaged with Marsilio Ficino’s philosophy and used musical subjects to communicate profound and subtle truths about the nature of the universe.

Neither of these approaches seems entirely satisfactory, for several reasons. The notion that the arts ought to develop in parallel feels like an outgrowth of an old “Renaissance” narrative that has long since been debunked. So far as we know, Venetian musical culture around 1500 was caught up in the same courtly fashion for lute song seen everywhere else in Italy. Several of the key artists of the “concert” genre were not Venetian in any case: the Ferrarese Costa worked in Bologna then Mantua; also Ferrarese was Boccaccino, who worked extensively in Cremona; Dosso worked especially in Mantua and Ferrara; the Lombard Romanino was based principally in Brescia; also Lombard was Cariani, who worked extensively in Bergamo. Certainly, most of these artists spent time in Venice and were closely familiar with the city and its culture; but they also lived and worked in numerous other North Italian cities. The contents of Leonardo’s notebooks were not widely known until they were posthumously compiled into a coherent *Trattato della pittura* by his student Francesco Melzi; the treatise was not available in print until the seventeenth century. The version of Ficino’s philosophy that was popularised by courtly neoplatonists such as Pietro Bembo and Baldassare Castiglione in the early 1500s was divested of much of its subtle philosophical and astrological nuance; it was in this simplified form that it found its widest print distribution, in vernacular works such as *Gli Asolani* and *Il Cortegiano*.

The purpose of this essay is to offer an alternative line of explanation, related to the harmony hypothesis but dramatically simplified and revised. I will argue that the concept of harmony probably was important to “concert” images, and also to the wider vogue for “poetic” and “ambiguous” pictures; but not because Ficino liked it, or even because Leonardo liked it—because everybody liked it (or at least, a large proportion of those equipped to engage with classicising Latin and elite vernacular discussion of the arts). And people liked the concept of harmony not because they were invested in the details of cosmic science, but because the notion of harmony waved vaguely in the direction of a subtle philosophical explanation that everybody liked the sound of but very few were concerned to examine in detail.

At the outset we can recognise that a series of printed books appeared in Italy either side of 1500 in which the metaphor of musical harmony was applied to the visual arts—first to architecture, and then also to sculpture and painting. Most of these passages are already familiar to scholars working on this topic, but in some cases existing English translations are not entirely successful in capturing the sense of their musical comments, so it will be useful to review them here in full.

Perhaps the best-known case, and the first to appear in print (in 1485), was Leon Battista Alberti's *De re aedificatoria*. Drawing heavily and explicitly on Vitruvius, Alberti argues that the proper arrangement of the elements of a building can be considered equivalent to the proper arrangement of sounds in a musical harmony:

> Neque item omnia unica tantum linearum ductione, e terminatione perscribi velim, ita ut nulla re inter se differant, sed alia delectabunt si maiora sint, alia conferent si minora sint, alia ex istorum mediocritate laudem assequentur. Ergo placebunt erectis constitutae lineis, hae alterae flexis, ac demum aliae utraque linearum ductione praefinitae comprobabuntur, modo id serves, quod saepe admoneo, ne in id vitium incidas, ut fecisse monstrum imparibus, aut humeris, aut lateribus videare. Condimentum quidem gratiae est omni in re varietas, si compacta et confirmata sit mutua inter se distantium rerum parilitate, eadem si inter se dissoluta et disconvenienti quadam disparitate discreparint, erit ea quidem absurdissima. Nam veluti in lyra cum graves voces respondeant acutis, et mediae inter utrasque ad concentum intentae resonant, sit ex vocum varietate sonora, et mirifica quaedam proportionum aequabilitas, quae maiorem in modum oblectet animos atque detineat.[2]
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> Then again, I would not wish all the members to have the same shape and size, so that there is no difference between them: it will be agreeable to make some parts large, and good to have some small, while others are valuable for their very mediocrity. It will be equally pleasing to have some members defined by straight lines, others by curved ones, and still others by a combination of the two, provided, of course, that the advice on which I insist is obeyed, and the mistake is avoided of making the building appear like some monster with uneven shoulders and sides. Variety is always a most pleasing spice, where differing objects agree and conform with one another, but when it causes discord and difference between them, it is extremely disagreeable. Just as on the lute when low notes are answered with high, and middling [ones] are attuned between the two to resound in concord, it makes from the variety of notes a certain resounding and wonderful balance of proportions, which delights and captivates the soul beyond measure.[3]

"Respondeant" suggests that Alberti is thinking of successive rather than simultaneous sounds—that is, in the simplest terms, a melody rather than a chord. However, the harmony arises when these sounds "resound in concord," which suggests simultaneity: perhaps Alberti is thinking of the resonance of the instrument, and also the sympathetic resonance of its strings, allowing successive sounds to be heard mingling together. "Lyra" can be read as referring to the ancient lyre, or as a classicising substitution for lute or lira da braccio as was common in the period. Either way, the overall meaning is the same: a variety of concordant sounds produces a harmony of proportions.

As Alberti's argument progresses, the notion of the harmony of proportions, understood with direct reference to Pythagorean musical mathematics, comes—in principle, though not necessarily in practice—to underpin his key ideas concerning beauty and *concinnitas* in

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[2] Alberti 1485, fol. 12v. Digital copies of all the period editions cited in this essay can be located using a combination of the USTC and Google Books.
[3] Alberti 1988, 24—adapted.

architectural design. It is clear that this develops a position already adopted by Alberti in his earlier *De pictura*, written in 1435 but not printed until 1540, where the fitting conjunction (*concinnitas*) of the varied elements of the composition serves to give expressive force to the *istoria*; but in *De pictura* any musical implications are at most a deep subtext. *Concinnitas* / *concinnitate* is used four times in the Latin version of the treatise, and in every instance Alberti's Italian version rephrases the passage to avoid giving a vernacular equivalent.[4] Unlike in *De re aedificatoria*, in *De pictura* these terms are not coloured through musical analogies, and no use is made of explicitly musical terms such as *harmonia* or *concordia* to place a musical context around their reading. *Concinnitas* is almost completely absent from music theory until about 1500, and even then not widely used; as others have already pointed out, Alberti borrowed the term from ancient discussions of rhetoric.[5] In his classic English translation of the treatise, John R. Spencer uses "harmony"/"harmonize" three times during the discussion of the *istoria* in book 2, rendering Alberti's *conveniant* (Lat.) / *conviensi*, *confacciano*, *aconfaranno*, *convengono* (It.), but the translation is rather misleading.[6] The verb *convenio* (come together, assemble) and especially its active present participle *conveniens* (fitting, suitable) certainly could be useful in discussing harmony—they are used regularly by fifteenth-century Italian music theorists—but they are not usually used as synonyms for "harmony," and in themselves they have no necessary musical implication. Thus, the conception of *concinnitas* in *De re aedificatoria* is qualitatively different from that in *De pictura* in its explicitly musical dimension, which may very probably have something to do with Vitruvius.

A musical analogy frames the description of a magnificent portal that forms the centrepiece of Francesco Colonna's contribution to architectural theory in the 1499 *Hypnerotomachia Poliphili*. Encountering the edifice, the protagonist Poliphilo is prompted to a meditation on the essence of architectural practice:

> in alcuna parte havendo facto moto del fine debito all'architectare, che e la praestante inventione di acquistare modulatamente dil'aedificio il solido corpo. Poscia licentemente quello invento, Lo Architecto per minute divisione el reduce, Ne piu ne meno quale il Musico havendo invento la intonatione et il mensurato tempo in una maxima quello da poi proportionando in minute Chromatice concinnamente sopra il solido lui el riporta. Per tale similitudine dapo la inventione la principale regula peculiare al'Architecto e la quadratura. Et questa distribuentila in parvissime, La harmonia se gli offerisce dil'aedificio et commodulatione, Et al suo principale gli convenienti correlarii. Per la quale cosa questa porta per la sua admiranda compositione et invento per excellentia essendo bellissima, et alle quale essendo adiecta tanta praecipua elegantia, et cum tanta emendata distributione, che parte in imo recisamento castigabonda non se accusava.[7]
>
> in several places I have made mention of the proper objective of building, which is the outstanding invention of achieving in a regulated manner the well-assembled body of a building. Then allowedly the architect reduces that invention to small sections, no

[4] I am using the Grayson edition of both Latin and Italian texts: Alberti 1973.
[5] Tavernor, 43-5.
[6] Alberti 1956, 74 and 77.
[7] Colonna, fol. 24r.

> more nor less than the musician, having invented the intonation and the measure as a whole, then proportioning it harmoniously in momentary colours, reassembles them to make a well-assembled whole. Similarly, following the invention, the principal rule particular to the architect is quadrature; and this distributes harmony in the smallest sections, if he assembles them to the building with proper regulation, and fitting correlation to his original idea. It is for this reason, the excellence of this portal in its admirable composition and invention being most beautiful, and conferred with such special elegance and such correct arrangement, that one could not fault the lowliest part with a curt rebuke.

Colonna's impressionistic use of musical terms here makes the details extremely ambiguous, although his overall meaning is quite clear. In Italian around 1500 "tono" would normally be translated as "mode" (i.e. a particular manner of organising pitches in a melody)—and Colonna uses the word in that sense elsewhere in the book. "Intonatione," then, may indicate not a mode in itself but a modal application—that is, a melody; but it could also indicate a tuning. The English word "intonation" carries the same multivalence, so it is used here in preference to pinning Colonna down to a single meaning. "Il mensurato tempo," literally "measured time," indicates mensuration (similar to what is now called meter). Colonna's harmonious "minute chromatice" are translated here as "momentary colours," bringing them close to Leonardo's "tempi armonici" (harmonious instants) discussed by David Cohen in his contribution to this volume, but the phrase is ambiguous. It seems unlikely that Colonna is referring literally to the chromatic genus from ancient Greek music theory, as such a usage would make little sense in the context, although he may well be trading on the learned musical associations of the term nonetheless. What seems unambiguous is that this portion of the sentence is describing musical decisions at the microscopic rather than the macroscopic level. However one resolves the details, then, the overall sense of the passage is clear: the musician comes up with the principles governing pitch content and meter, then works these through at the local level—beat by beat, as it were—to generate the momentary events of the music, and finally assembles these momentary events together with proper organisation to make the whole work. This feels strikingly close to what Bonnie Blackburn has termed the "assembly method" of composition advocated by the priest and music teacher Pietro Aaron in his *Libri tres de institutione harmonica*, printed in 1516, in which a comparison between the musician and the architect is also invoked.[8]

The concepts of measure and symmetry, central to both these architectural applications of the harmony metaphor, are apt also for characterising the beautiful human form, as the scholar Pomponio Gaurico points out in his *De sculptura*, probably written whilst studying at the University of Padua around 1500 and printed in 1504:

> Mensuram igitur, hoc enim nomine Symmetriam Intelligamus, cum in caeteris omnibus quas natura progenuit rebus, Tum vero in homine ipso admirabilissimam et contemplari et amare debebimus, Ita enim undique, exactissime dimetatis partibus compositum est nostrum hoc corpus, ut nihil plane aliud quam Harmonicum quoddam omnibus absolutissimum numeris instrumentum esse videatur. …
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> Intelligendum est autem Eiusmodi Symmetriam, cunctis mortalibus, … Deprehendique in omnibus non secius quam Enharmonicum concentum in Musicis

[8] Blackburn 2001b, 3-4.

> instrumentis. Ut enim in Cithara Chordae si protendantur, exacuetur accrescetque sonus, Sin contra laxatae fuerint remittetur, eritque nihil minus eadem numerorum proportio, Ita et heic sive accrescat quantitas sive decrescat Idem tamen ipse commensus extabit.[9]
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> "Measure," therefore—by this name let us understand symmetry—both in all other things that nature has brought forth, and especially delightful in man, we shall need to contemplate and love. For this body of ours has been put together with such extreme precision in the measurement of its parts that it appears to be nothing other than a kind of harmonious instrument perfect in all its numbers. ...
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> Now it is to be understood, moreover, that this type of symmetry belongs to all mortal beings ... and is detected in all exactly like harmonious concord in musical instruments. Just as on the cithara if the strings are stretched the pitch will be sharpened and increase, whereas if they are loosened it will be relaxed, and their numerical proportion will nonetheless remain the same, so here too, though the quantity increases or decreases, the proportion itself will remain the same.[10]

Gaurico is evidently imagining that all the strings of an instrument are loosened or tightened together in proportion, so that the intervals formed among them remain the same whilst the pitches rise and fall. No doubt different contemporary readers would have taken different meanings from the term "cithara" here, but whether applied to an actual ancient cithara or a Renaissance stringed instrument the point works just the same.

The mathematician Luca Pacioli, in his *De divina proportione* printed in 1509, takes the decisive step in analogising harmony in music to perspective in painting—although, in line with contemporary usage, it is clear that his notion of "perspectiva" includes not only linear perspective but also composition and colouring:

> Se questi dicano la musica contentare ludito uno di sensi naturali. E quella el vedere. quale tanto e piu degno quanto egli e prima porta alintellecto se dichino quella satende al numero sonoro e ala mesura importata nel tempo de sue prolationi. E quella al numero naturale secondo ogni sua diffinitione e ala mesura dela linea visuale. Se quella recrea lanimo per larmonia. E questa per debita distantia e varieta de colori molto delecta Se quella suoi armoniche proportioni considera. E questa le arithmetici e geometrici.[11]
>
> If they say that music satisfies hearing, one of the natural senses, perspective satisfies sight, which is all the more noble to the extent that it is the first door to the intellect. If they say that music has to do with sounding number and the heedful measurement of the time of its durations, perspective, according to any definition, has to do with natural number and the measurement of the lines of vision. If music refreshes the spirit by harmony, perspective greatly delights by well-arranged diversity, and by variety of colours. If music concerns itself with its harmonic proportions, perspective concerns itself with those of arithmetic and geometry.

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[9] Gaurico, sigs. b iii v and b [v] v.
[10] My thanks to Leofranc Holford-Strevens and David Cohen for their help in translating this passage.
[11] Pacioli, sig. Biii r.

Sight was conventionally placed highest among the senses in the period, with hearing next in line—this barb is also in the arsenal of Pacioli's associate Leonardo when he compares the arts in his notebooks. Like Colonna (and numerous music theorists of the period), Pacioli is aware that music partakes of mathematics both in the measurement of pitches and in the measurement of durations. The notion that the principal purpose of musical practice is to refresh the spirit is a commonplace in this period.

The Milanese choirmaster Franchino Gafori, the first Italian music theorist to routinely publish his treatises in print, devotes an entire chapter to the roles of harmony in the other arts in his book on harmony, *De harmonia*, printed in 1518 (although completed by 1500). His passage on painting runs:

> Namque dum picturam animaduertis: nihil absque numerorum proportionibus in ea factum comperies: sed et corporum mensuras: colorumque mixtiones per numeros et symetrias: atque ita picturae ornamenta conspicies esse disposita: rursus per numeros ipsam artem primam imitari naturam. Qualis namque proportio in naturalibus corporibus fecerit pulchritudinem talis et in figurarum mensuris et colorum comparationibus est subsecuta: ob quam causam coloribus forma atque figura Pictores ipsi mores atque uitam intelligi voluerunt.[12]
>
> When you look at painting, you will discover that nothing has been done in it without numerical proportions, but you will see that both the measurements of bodies and the mixtures of colours, and thus the beauties of painting, have been determined according to numbers and symmetries, and that it is thus that the beauties of the paintings have been arranged, and that in turn it is through numbers that the art itself imitates primary nature. For whatever proportion has created beauty in natural bodies, such proportion has also ensued in the measurements of shapes and the comparisons of colours; for which reason, by colours, form, and shape painters themselves meant character and life to be understood.[13]

This passage makes a common element among the arts out of their objective to imitate nature—a commonplace of classical poetics. Nature is organised according to mathematical principles; thus, any art setting out to imitate nature must partake of the same numerical organisation. Seen in this way, painting is not borrowing harmonic principles from music; rather, both arts are representing the harmony found in nature, via their differing media. (This point is also crucial to Alberti's use of proportion in *De re aedificatoria*.)

These are certainly not the only nor the first harmonious analogies between music and the visual arts in the period. The Florentine artist Lorenzo Ghiberti notes that perfect vision is only possible when the lines and planes of an object are "concordant in a single action" ("concordante in una actione") in his *Commentarii* drafted in the 1450s, for example.[14] In the *Trattato di Architettura* of the 1460s, the architect and engineer Filarete, like Alberti, follows Vitruvius in arguing that the architect needs to understand harmony "so that he understands how to attune the members with the parts of the building, because they are all harmonised as

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[12] Gafori, fol. 96v.
[13] Blackburn 2001a, 142-3.
[14] Schlosser, 1:169. As with "concordant" in English, *concordante* could be taken here in the sense of "agreeing," rather than as a musical term, but its musical significance inflects its meaning nonetheless.

are the notes of song."[15] In his *De arte contrapuncti* completed in 1477, the Naples-based musician Johannes Tinctoris compares the use of discord in music to a painter introducing "some deformity" ("quampiam deformitatem") in a beautiful shape.[16] And of course Leonardo compared music and painting extensively in his notebooks, as discussed in Cohen's contribution to this volume. However, by virtue of their circulation via the relatively new technology of print, it seems reasonable to assume that these particular passages had more numerous readers, and bear particularly strong witness to the general currency of the harmony metaphor in visual arts discourse in Italy around 1500.

Gafori's passage is actually an unacknowledged quote from Aristides Quintilianus' *Peri mousikēs*, a text of interest to some scholarly Hellenophiles in Italy around 1500 alongside the music treatises of Ptolemy and Cleonides for their accounts of ancient Greek music theory independent of Boethius, long the standard source on the topic.[17] This is one of several ancient texts analogising music and the visual arts via the metaphor of harmony which found their way into print in Italy around 1500. The best known, of course, was Vitruvius' *De architectura*, sufficiently invested in the relationship between architecture and music to give a reasonably detailed summary of Aristoxenian harmonic theory.[18] In its first Italian printed edition, a beautiful folio volume of 1497 represented by a generous 114 surviving copies, Vitruvius' treatise was anthologised alongside Cleonides' *Harmonicum introductorium* in a new Latin translation by Giorgio Valla, Chair of Latin and Greek at the University of Venice. Another classical source for the harmonious visual arts was the short proemium to the *Imagines* of Philostratus Junior—certainly less well known than Vitruvius, and also not as widely accessible as the longer *Imagines* of Philostratus Senior, but nonetheless important to those taking a classicising view of the visual arts in this period.[19] Philostratus Junior uses harmony to characterise the proper disposition of the members of the body in a manner very similar to Gaurico:

> Δοκοῦσι δέ μοι παλαιοί τε καὶ σοφοὶ ἄνδρες πολλὰ ὑπὲρ ξυμμετρίας τῆς ἐν γραφικῇ γράψαι, οἷον νόμους τιθέντες τῆς ἑκάστου τῶν μελῶν ἀναλογίας ὡς οὐκ ἐνὸν τῆς κατ᾽ ἔννοιαν κινήσεως ἐπιτυχεῖν ἄριστα μὴ εἴσω τοῦ ἐκ φύσεως μέτρου τῆς ἁρμονίας ἠκούσης· τὸ γὰρ ἔκφυλον καὶ ἔξω μέτρου οὐκ ἀποδέχεσθαι φύσεως ὀρθῶς ἐχούσης κίνησιν.[20]
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> Learned men of olden times have written much, I believe, about symmetry in painting, laying down laws, as it were, about the proper relation of each part of the figure to the other parts, as though it were impossible for an artist to express successfully the emotions of the mind, unless the body's harmony (ἁρμονίας) falls within the measurements prescribed by nature; for the figure that is abnormal and that exceeds these measurements cannot, so they claim, express the emotions of a rightly constituted being.[21]

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[15] "bisogna Musica, accio che intenda d'accordare i membri con le parti dello edifizio, perché si concordino tutti come fanno le note del canto, cosi proprio bisogna concordare," Filarete, 2:429.
[16] Tinctoris 2020, 2.31.
[17] Blackburn 2001a; Palisca.
[18] See among others Wittkower, 104–37; Smith, 80–97; Vergo, 135–77.
[19] Baxandall; Webb.
[20] Philostratus et al., 284; Lucian et al., 483.
[21] Philostratus et al., 285.

Philostratus Junior's *Imagines* was printed in Italy, in Greek, five times across the first half of the sixteenth century, the first edition appearing in 1503; and it is known to have circulated in manuscript much earlier.

Texts directly concerned with music or the visual arts were not the only classical sources where one might encounter analogies of this kind around 1500. An interesting case is Apuleius' Latin translation of the pseudo-Aristotelian *De mundo*, included in Giovanni Andrea Bussi's *editio princeps* of Apuleius' *Opera* in 1469 (reissued 1488, 1493, 1497). The treatise sets out in a neoplatonic vein to describe the cosmos as a well-ordered system whose order is upheld by a transcendent god. As one might expect, harmony plays a crucial role for the author in encapsulating the order of the cosmos, in particular as a notion which explains how such disparate and apparently contradictory elements as dry and wet, hot and cold, light and heavy, straight and curved, air and earth and fire and water, are held together in a single regulated whole. Painting, music and language are given here side-by-side as examples that might help the reader accept the validity of this principle:

> pictura ex discordibus pigmentorum coloribus, atris atque albis, luteis et puniceis, confusione modica temperatis imagines his quae imitatur, similes facit. Ipsaque musica, quae de longis et brevibus acutis et gravioribus sonis constat, tam diversis et dissonis vocibus harmoniam consonam reddit. Grammaticorum artes unde quaeso, cum ex diversis collectae sint litteris ex quibus aliae sint insonae, aliae semisonantes, tum mutuis se auxiliis adiuvantes syllabas pariunt et de syllabis voces.[22]
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> Painting, from the discordant colours of pigments, black and white, yellow and crimson, by blending them in regulated mixtures, makes images similar to what it is imitating. So it is with music, which, constituted from long and short, high and low sounds, from such differing and dissonant voices, renders consonant harmony. Whence, I ask, come the arts of the grammarians, [which] as they are assembled from letters among which some are silent, some half-sounding, so, helping themselves by the use of mutual aids, they bring forth syllables, and from syllables, words.

These various and numerous passages analogising elements of the visual arts to musical harmony are interesting and striking. Nonetheless, they belong in a wider context of contemporary harmonious metaphors within which they are also obvious and expected. Texts circulating in the decades around 1500 apply the harmony metaphor to a bewildering variety of phenomena involving disparate elements held together in a fitting arrangement—from the individual, to marriage and the family, to the state and international relations, to the angels or spheres in the heavens, and much in-between. Appreciating this context is helpful to mitigate somewhat the philosophical weight that might otherwise be perceived in these passages.

Among the most pervasive applications of the harmony metaphor concerns poetic language. In his sonnet "L'aspecto humano in cui natura pose," printed in a 1501 anthology, the Urbinese diplomat Agostino Staccoli lauds the beauty of his beloved's speech, describing "The elevated and sweet usage, and the harmony,/ of words wise and elegant."[23] The

[22] Apuleius, fol. 92r.
[23] "L'alto et dolce costume, & l'armonia/ De le parole accorte et gratiose." Staccoli, fol. 18r. My thanks to Ciara O'Flaherty for bringing this verse to my attention.

harmonious speech of the beloved is a trope deployed also by Lorenzo de' Medici in his sonnet "Quel che il proprio valore e forza excede;" and when discussing this poem in his *Comento de' miei sonetti*, written in the 1480s, he explains the conceit by comparing the harmony of several voices sounding simultaneously to the harmony of well-crafted language:

> La terza bellezza, della voce, consiste quando di più voce concorde resulta uno concento che si chiama armonia; e questo può procedere così da diverse voce, come è detto, come da una dolcezza e suavità di parole insieme bene connesse e accomodate, le quali ancora non possono essere così composte sanza armonia.[24]
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> The third beauty [mentioned in the sonnet], of the voice, is created when from several concordant voices there results a sounding-together that is called harmony; and this can arise from diverse voices, as has been said, just as also from a sweetness and delicacy of words well connected and arranged together, which cannot be composed thus without harmony.

Indeed, the harmony of language was a commonplace in fifteenth-century Italian poetics, founded in Plato, as Lorenzo explains when commenting upon another sonnet praising the beloved's voice:

> E qui è da notare che nel cantare e nel parlare della donna mia sono comprese tre parti, che, secondo Platone, contiene la musica, le quali sono queste: el parlare, armonia e rithmo (che credo sia detta quella che vulgarmente chiamiamo "rima," perché "rithmo" non è altro che un parlare terminato da certa misura, come sono li versi e rime vulgari). Chiamasi el parlare "musico," ancora che non abbi piedi certi, quando è composto in modo che diletti li orecchi, come si vede in quelli che "eloquenti" sono chiamati.[25]
>
> Here we must note that in my lady's singing and speaking are included the three parts that, according to Plato [*Republic* 3.398c], are in music, which are these: speaking, harmony and rhythm (which I believe is what we call *rima* in the vernacular, because "rhythm" is nothing other than speech circumscribed by a certain measure, as are verses and rhymes in the vernacular). Speaking is called "musical," even though it does not really have feet, when it is composed in such a way as to delight the ear, as can be seen in those who are called "eloquent."[26]

The connection allowed poets to appropriate from musicians the task of reflecting the harmony of the spheres. Imitation of heavenly harmony comes in two kinds, explains Cristoforo Landino in his commentary on Dante's *Commedia*, first printed in 1481 and very frequently reissued:

> altri sono che si dilectano del concento della voce et degli strumenti musici, et questi sono vulgari et leggieri musici. Altri equali sono di piu grave giudicio con misurati versi exprimano gl'intimi sensi della mente loro; et questi sono quegli che concitati da divino spirito possono gravissimi et sententiosissimi versi scrivere. Et questa da Platone e decta poesia, la quale non solamente con la suavita della voce dilecta

[24] Medici, 42.
[25] Medici, 126.
[26] Guarino, 175—adapted.

> gl'orecchi, chome quella vulgare musica, ma chome dixi alti et arcani et divini sensi discrive, et di celeste ambrosia pasce la mente.[27]
>
> There are some who delight themselves with the harmony of the voice and of musical instruments, and these are vulgar and shallow musicians. There are others who are of more profound judgement, who with measured verses express the intimate sentiments of their mind, and these are those who, spurred on by the divine spirit, can write the most profound and meaningful verses. And this is called "poetry" by Plato, which does not only delight the ears with the sweetness of the voice, as does that vulgar music, but as I say describes high and mysterious and divine insights, and on celestial ambrosia pastures the mind.

In Lorenzo's sonnet "Se con dolce armonia due istrumenti" the harmony metaphor is used in another of its most ubiquitous applications: to encapsulate the accord of two lovers. In this context the metaphor often operates through the phenomenon of sympathetic resonance, explained by Pietro Bembo in his *Gli Asolani*, first printed in 1505 and again in several editions through the 1510s and 20s:

> Dicono e sonatori; che quando sono due liuti bene et in una medesima voce accordati; chi l'uno tocca, dove l'altro gli sia vicino et affronte; amendue rispondono a un modo; et quel suono, che fa il tocco, quello istesso fa laltro non tocco et non percosso da persona. O Amore, et qua liuti, o quai lire piu concordemente si rispondono, che due anime che s'amino delle tue?[28]
>
> Players say that, when two lutes are tuned well and to the same pitch, whoever plucks one, where the other is close by and facing it, both respond in the same way; and that sound which is made by the plucked lute, the same sound is made by the other which is not plucked by anyone. Oh Amor, what lutes or what liras could respond to one another more concordantly than two souls of yours that love one another?

The association of love with harmony is an operation that can carry extremely subtle significance in the hands of a dedicated neoplatonist such as Ficino. However, it was not in its most subtle but rather in its comparatively obvious guise that the link was described in widely-read texts by courtly neoplatonists such as Bembo and Castiglione. In book 4 of *Il Cortegiano* the character of Bembo explains that love is a sensation caused by the soul's longing to return to the harmony of the heavens, provoked by the contemplation of earthly beauties that echo the form of that harmony—such as the beautiful beloved.

This notion builds on the assumption that not only the heavens but the human body and soul can be understood in terms of harmony, another ubiquitous use of the harmony metaphor in this period. Human harmony might be thought of in terms of the proper mixture of the humours, the passions, or the virtues. Pier Paolo Vergerio applies harmony to the passions in his *De ingenuis moribus ac liberalibus studiis*, composed in Padua at the beginning of the fifteenth century and circulating in a veritable avalanche of Italian printed editions from the 1470s right through to the seventeenth century:

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[27] Dante, 17.
[28] Bembo, 142.

> Ut enim non omnis vox, sed tantum que bene consonat ad soni melodiam facit ita et motus anime non omnes sed qui rationi conveniunt ad rectam vite harmoniam pertinent.[29]
>
> For just as not every voice makes a melodious sound, but only one that harmonises well, so also not all movements of the soul, but only those which accord with reason, contribute to a harmonious life.[30]

Ficino focuses instead on the virtues when discussing the harmonious government of the ideal prince, in his summary of Plato's dialogue *De regno* (now usually titled *Politicus*), printed from 1484 in Latin editions of Plato's *Opera*:

> Precipue vero animos omnium decentissima quadam fortitudinis temperantiaeque mixtione componat, musicos imitatus, qui acuta gravibus rite miscentes, concentus suavissimos modulantur.[31]
>
> But above all, let [the ruler] compose the souls of all [his subjects] in a most seemly mixture of fortitude and temperance, imitating the musicians, who, mixing high pitches with low, sing harmonies of the utmost sweetness.[32]

Another interesting approach to human harmony can be found in Niccolo Perotti's *Cornucopiae*, a Martial commentary so compendious that in print it quickly metamorphosed into an encyclopedia. Perotti quotes the opinion of Aristoxenus, as reported by Lactantius in *De opificio Dei* (which itself was available in the numerous printed editions of his *Opera*), that human perception arises like harmony from the composition of the entire body:

> Nam cum variae de mente philosophorum scientiae fuerint et quidam ut Aristoxenus, dixerit "nullam esse, sed quasi harmoniam in fidibus ex constructione corporis, et compagibus viscerum vim sentiendi existere. Musici enim intentionem concentumque nervorum in integros modos sine ulla offensione consonantium harmoniam vocant" [Lactantius, *De opificio Dei*, chap. 16].[33]
>
> In fact, there were various doctrines of the philosophers about the mind, and some, like Aristoxenus, said: "that there is no mind at all, but like the harmony of pipes, from the arrangement of the body, and the structure of the viscera, there arises perception. For musicians call 'harmony' the tuning and concert of strings sounding together without any [mutual] offense."

Another domain frequently described as harmonious around 1500 was that of knowledge. Commenting on his sonnet "In qual parte andrò io, ch'io non ti truovi," Lorenzo de' Medici reflects on the diversity of people's interests and objectives, concluding that "thus is born the variety of *studii umani* ... similar to the harmony and consonance that results from diverse voices in concord."[34] The same metaphor can be found in the more obviously academic

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[29] Vergerio, sig. b [iii] v; Kallendorf, 52.
[30] Kallendorf, 53.
[31] Plato, sig. [o viii] v.
[32] My thanks to David Cohen for this translation.
[33] Perotti, col. 1069. My thanks to Charlotte Hancock and Laura Stefanescu for their assistance in working on the *Cornucopiae*.
[34] Guarino, 100—adapted. "onde nasce la varieta delli studii umani ... simile all'armonia e consonanzia che resulta di diverse voce concorde;" Medici, 28.

context of an inaugural lecture given by Gregorio Amaseo upon taking the Chair of Latin and Greek at the University of Venice in 1501, this time as part of an argument for studying all the Liberal Arts rather than specialising in just one:

> Ex quibus quidem liberalibus Artibus: cum diversae sint ac variae Sectiones: Inter se tamen connexae prorsus unum corpus conficiunt: atque ad unum benevivendi finem inenarrabili consonantia universae conspirant.[35]
>
> From these truly liberal arts, although they are diverse and varied in their divisions, yet the connections between them make of them one single body, and together they sound an indescribable harmony in pursuance of the single objective of living well.

Amaseo—a lawyer by training—even applies the metaphor to the *Great Gloss*, the medieval compilation of all the commentaries on the *Corpus Juris Civilis*, congratulating its compiler Accursius on having "assembled together the glosses of many into a single consonance."[36] (Here, in fact, Amaseo is imitating the preface to the Digest itself, where a harmony metaphor is applied to the process of assembling a coherent and concise account of Roman law.)

The notion of the harmony of the spheres, which acts across this whole harmonious discourse as a kind of meta-metaphor, was extremely popular across Italian literary and visual culture at this time; but that popularity should not be mistaken for objective belief. Rather, for most, the harmony of the spheres seems to have had the status of an elegant and poetic idea, which does not bear close examination, and which is perfectly suited to the operations of a metaphorical or allusive style of thought and communication. It is certainly true that dedicated neoplatonists could and did take it very seriously—most famously Ficino, who is able to describe the kinds of melody favoured by each sphere according to its nature as part of a practical program of sonic astrology, in his *De vita libri tres* printed in 1489 and reissued several times.[37] But it is equally true that Aristotle had rejected the idea in his *De caelo et mundo*:

> These results clear up another point, namely that the theory that music is produced by their movements, because the sounds they make are harmonious, although ingeniously and brilliantly formulated by its authors, does not contain the truth. It seems to some thinkers that bodies so great must inevitably produce a sound by their movement: even bodies on the earth do so, although they are neither so great in bulk nor moving at so high a speed, and as for the sun and the moon, and the stars, so many in number and enormous in size, all moving at a tremendous speed, it is incredible that they should fail to produce a noise of surpassing loudness. Taking this as their hypothesis, and also that the speeds of the stars, judged by their distances, are in the ratios of the musical consonances, they affirm that the sound of the stars as they revolve is concordant. To meet the difficulty that none of us is aware of this sound, they account for it by saying that the sound is with us right from birth and has thus no contrasting silence to show it up; for voice and silence are perceived by contrast with each other, and so all mankind is undergoing an experience like that of a coppersmith, who becomes by long habit indifferent to the din around him.

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[35] Amaseo, sig. Aii v.
[36] "in unam consonantiam multorum glosulas collegisset," Amaseo, sig. B [i] r.
[37] Ficino, fol. 83r-v.

> Now this theory, I repeat, shows great feeling for fitness and beauty, but nevertheless it cannot be true. The difficulty of our hearing nothing, which they attempt to solve, is not the only one; there is also the absence of other effects unconnected with sensation. Excessively loud sounds are also able to shatter inanimate masses, e.g. the noise of thunder splits stones and other materials of the most enduring kinds. And when so many bodies are in motion, if the noise which travels here is in proportion to the size of the moving body, it must be many times greater than thunder when it reaches us, and of insupportable force and violence. No, there is a good reason why we neither hear anything ourselves nor see violence done to inanimate objects, namely that the movement is noiseless.[38]

Fourteen printed editions of *De caelo et mundo*, in William of Moerbeke's Latin translation, appeared in Italy in the last three decades of the fifteenth century, together represented by around 800 surviving copies known to the USTC. Some were *Opera* volumes; the majority gave methodical commented walk-throughs of Aristotle's text prepared by Thomas Aquinas, Gaetano da Thiene, or Albert of Saxony.[39] It seems likely, therefore, that Italians who were sufficiently exercised about issues of music and natural philosophy to take a view on the harmony of the spheres were well aware of Aristotle's coherent and watertight explanation of the dubious physics behind the concept.

Despite his skepticism, though, Aristotle accepts that the concept is "κομψῶς" (elegant; Moerbeke renders this less sympathetically as "leviter loquitur," lightly spoken), "περιττῶς" (overflowing; Moerbeke gives "superflue"), "ἐμμελῶς" (well-tuned; Moerbeke gives "allicienter," enticing), and "μουσικῶς" (musical; Moerbeke gives "musice").[40] In other words, although it isn't actually true, it is still a beautiful and poetic idea. This is exactly the attitude found in most Italian usage of the concept around 1500. A good example is to be found, once again, among the literary efforts of Lorenzo de' Medici. Whilst his sonnet "Quel che il proprio valore e forza excede" compares the beloved's speech to "l'armonia celeste" (celestial harmony), in the author's commentary on the poem we read that:

> è da intendere essere suto oppinione di alcuni filosofi, la quale mette Cicerone nel suo libro intitolato *De somnio Scipionis*, che il moto delle celeste spere generi diverse voci secondo la diversità de' moti, più veloce o più tarda, e di tutti insieme una dolcissima armonia, di tanta grande voce e suono, che gli orecchi umani non sono sufficienti a udire, come gli occhi mortali non possono vedere il sole; dando per essemplo che quelli uomini e quali nascono vicini alle cateratte del Nilo, cioè dove quello grande fiume d'altissimi monti cade in basso, per lo strepito e romore grande tutti sono sordi. Questa oppinione, non essendo molto aprovata, ancora da me non è messa per certa.[41]
>
> it is to be understood according to the opinion of certain philosophers, as Cicero says in his book entitled *The Dream of Scipio*, that the motion of the celestial spheres generates diverse tones according to the diversity of their motions, faster or slower, and from all together comes a most sweet harmony, of such great voice and sound, that human ears are not sufficient to hear it, just as mortal eyes cannot see the sun;

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[38] Aristotle, 193-5 (*On the Heavens* 290b).
[39] Kraye.
[40] Aquinas, sigs. i [6] v - k [1] r.
[41] Medici, 41.

> giving the example of those men who are born near the cataracts of the Nile, that is, where that great river falls from high mountains to the bottom, who because of the roar and great noise are all deaf. This opinion, not being greatly approved, also for me is in doubt.

Thus, even for an associate and student of Ficino, the harmony of the spheres furnishes an elegant poetic conceit and a pleasant metaphor, but when it comes to rational prose it can be concisely deflated.

Also skeptical on this front was Tinctoris, who commended Aristotle's reasoning in the prologue to his *De arte contrapuncti* mentioned earlier in this essay. Defining "armonia" and "concordantia" in the first ever printed dictionary of musical terms, he wrote that:

> Armonia est amenitas quedam ex convenienti sono causata.[42]
>
> Harmony is a certain pleasantness caused by a coming together of sound.
>
> Concordantia est sonorum diversorum mixtuta dulciter auribus conveniens.[43]
>
> Concord is a mixture of diverse sounds that is sweetly agreeable to the ears.

These definitions make harmony about diverse materials brought together into pleasing accord. Identical in import and certainly much more widely available was the definition of *consonantia* in the pseudo-Aristotelian *Problemata*, a much-printed reference text in the decades around 1500 which included a lengthy section on music:

> Consonantia gaudemus quoniam complexio est contrariorum habentium proportionem adinvicem: proportio autem ordinatio quod erat delectabile natura: complexionatum autem omne incomplexionato omni delectabilius.[44]
>
> We take joy in consonance because it is a blending of contraries that have a proportional relationship—proportion and also regulation being naturally delightful; things that are blended are more delightful than things that are not blended.

Diverse and even opposing elements brought to rational accord was *the* core principle of harmonic thinking around 1500, and is shared with all other uses of the concept of harmony we have seen in this essay. Whether the materials are lines, colours, members of a body, elements of a building, syllables, words, academic disciplines, lovers, members of a household, citizens, states, or spheres, the notion of harmony encapsulates the pleasant effect arising from the skilful arrangement of their diversity according to some sort of rational principle. The greater the diversity of the materials, within reason, the greater the achievement and perfection attained by bringing them together into an attractive arrangement.

An account of harmony from another core reference work around 1500, Perotti's *Cornucopiae*, gives an important additional nuance:

> Sunt qui Cantorem, Occentorem, et Succentorem ita distinguant, ut Cantores sint, qui maxime elevant, atque acuunt vocem. Succentores, qui minimum Occentores, qui

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[42] Tinctoris 1494, sig. a.iii. r.
[43] Tinctoris 1494, sig. a.iiii. r-v. On the understanding of harmony among musical specialists around 1500 see Blackburn 2001b.
[44] *Problemata*, fol. 177r.

> inter utrumque medium tenent, quae varietas mirabilem servata musica ratione concentum reddit.[45]
>
> There are those who distinguish between Cantors, Occentors, and Succentors, in this manner: Cantors are those who sing very high in a piercing fashion, Succentors are those who sing very low, and Occentors are those who hold the middle ground between both; this variety, if music's rational accord is maintained, has a wonderful result.

Harmony here emerges as the necessary partner to the aesthetic principle of variety (*varietas*); the variety of the elements is pleasing only when harnessed to a harmonious arrangement.[46] The linking of variety and harmony is key to several of the passages concerning the harmony of the visual arts given above—and none more so than that from Alberti's *De re aedificatoria*.

Significantly, although the rational nature of musical harmony was centrally important to the harmony metaphor, very few writers in the period found it necessary to chase it down into mathematical specifics. Even the well-informed were generally content to wave a hand vaguely in the direction of Pythagoras, and note that it is really a topic for specialists. Despite Alberti's exceptional commitment to harmony and to musical analogies in *De re aedificatoria*, he specifically excuses the architect from acquiring any actual expertise in music:

> Quae autem conferant immo quae sint architecto penitus necessaria ex artibus haec sunt. Pictura et mathematica. In caeteris doctus ne sit non laboro. … Ne musicum etiam esse oportere dixero … nolo auribus ad harmoniam penitus obtusis.[47]
>
> Of the arts the ones that are useful, even vital, to the architect are painting and mathematics. I am not concerned whether he is versed in any others. ... Nor do I say that he ought to be a musician, ... [although] I do not want his ears to be insensitive to harmony.[48]

Alberti is content here to leave the judgement of harmonious combination in music to sense and sensation, despite the focus elsewhere in his treatments of painting and architecture on the rational topics of proportion and geometry. This pragmatic but poetic position, which accepts the judgement of the ear (or the eye) whilst engaging harmony as an attractive and learned metaphor, was certainly shared by many artists, musicians and poets around 1500.

In sum, from the middle of the fifteenth century some architectural theorists had found the concept of harmony to be a useful way of establishing the rightness, value and meaningfulness of the elements combined to form a structure, which collectively did not acquire meaning by telling a story. From the end of the century, the concept of harmony expanded into the territory of line, form and colour, providing a way of thinking about the rightness, value and meaningfulness of the elements combined in the composition of a picture, without recourse to a narrative subject. This development comes at exactly the same

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[45] Perotti, col. 616.
[46] On *varietas* see, among many others, Clarke, 42-54; Luko.
[47] Alberti 1485, fol. 143v–144r.
[48] Alberti 1988, 317

time as we see artists exploring the possibilities of making paintings without obvious narrative subjects, paintings that have confounded modern iconography precisely because they convey a rich sense of meaningfulness whilst remaining tantalisingly ambiguous. This same generation of artists is also the first to thematise music-making as in itself a subject for a painting; and, as Katherine McIver has pointed out, they are the first generation of artists for whom Vasari is at pains to stress musical competence.[49] Importantly, though, music is the vehicle of the harmony metaphor, but it is not necessarily its destination. Contemporary poetics—in which musical metaphors generally are rife, and connections with real musical practice extensive—was equally invested in the concept of harmony, and claimed the truths sounded by the spheres as its own. Thus, in the theory and practice of the visual arts harmony need not always be seen as a musical analogy; it could also be a musical route to a poetic analogy.

It seems reasonable to suggest, then, that for at least some of these artists the ubiquitous metaphor of harmony was an enabling subtext in their creative innovations, at once challenging them to create a sense of ineffable rightness in compositions crafted from seemingly disparate elements—old and young, male and female, rich and poor, sober and foppish, sacred and secular, standing and seated, heroic and pathetic, real and mythological, bright and shadowy—and offering a means of articulating the value and meaningfulness of such compositions once created, even when narrative content remained deliberately obscure. The thematisation of music-making, and the whole supposed genre of concert paintings, can be seen as one particular crystallisation of this subtext—amounting, one might argue, to a visual statement of the aesthetics of the harmonious subject from a group of artists who, in the main, left no detailed written account of their thinking. Seen in light of these arguments, the inclusion of a musical score, or any other apparatus of music-making, becomes a means of organising the viewer's response to the disposition and colouring of the figures into an appreciation of the harmonious effect produced by the artist's arrangement of diverse and even incongruous elements. Such appreciation acquires value from the poetic potential of the metaphor of harmony to achieve cosmic signification, but is generally content to let that potential remain poetic, rather than chasing it into the domain of mathematics and astronomy.

[49] McIver.

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