Music and Riddle Culture in the Renaissance

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with a catalogue of enigmatic canonic inscriptions by Bonnie J. Blackburn

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4 | Riddles visualised

Introduction: visual poetry – visual music

As we have seen in Chapter 1, obscurity can stem from a multiplicity of factors. In Quintilian's *Institutio oratoria* we find discussions of dark vocabulary, but the rhetorician also devotes attention to obscurity in syntax (the arrangement of words), style (e.g. *brevitas*) and content (e.g. figures of speech). Furthermore, we learn that obscurity can be caused by specific types of formal organisation, which imply self-imposed restrictions that sometimes preclude the lucid expression of thought. Technical virtuosity goes hand in hand with a series of demands, which could be of a visual, verbal or numerological nature.[1] For example, in word games the author deliberately plays with the order and layout of letters and words, dissecting them into the smallest possible units and rearranging them according to specific rules. Such forms gained popularity in Classical Antiquity, and were further developed in the Middle Ages and the Renaissance. Examples of 'constrained writing' include well-known techniques such as anagrams (when the reordering of a word or phrase forms another word or phrase), pantograms (texts in which every word starts with the same letter),[2] chronograms (phrases in which specific letters can be read as numerals, of which the sum indicates a date) and rhopalic verses (a line in which the number of syllables per word increases systematically).

Writers also experimented with the *ordo legendi* of a text. Instead of the usual direction – horizontally from left to right – the reader is sometimes instructed to read the lines backwards (as in the 'versus retrogradus' or 'versus cancrinus'[3]) or vertically (from top to bottom or

[1] See also Ziolkowski, 'Theories of Obscurity', 134.

[2] See, for example, the monumental alliteration in Hucbald of Saint-Amand's *Eloga de calvis*, in which every word of the 146 hexameters starts with the letter c. The sixteenth-century collection *Acrostichia* (Basel, 1552) contains long poems in which every word starts with c, p and f respectively.

[3] To give just one example, G. Febel, *Poesia ambigua oder Vom Alphabet zum Gedicht: Aspekte der Entwicklung der modernen französischen Lyrik bei den Grands Rhétoriqueurs*, Analecta romanica, 62 (Frankfurt am Main: Klostermann, 2001), 320 mentions Baudet Herenc's poem *Le*

vice versa).[4] Acrostics, mesostics and telestics are poems in which the first, middle and last letter of each line respectively form a message. As we can read in Cicero's *De divinatione*, they were seen as a major cause of obscurity.[5] Above all, they must be seen in order to be perceived. Acrostics were mostly used for revealing someone's name – whether that of the author himself or a dedicatee – and were often highlighted by way of the font size and/or a different colour.[6] This kind of identification denotes the author's growing establishment as an authority and his wish to mark a work as his own.

For Renaissance composers, acrostics were equally popular text forms. In his *Illibata Dei virgo nutrix*, a singers' prayer to the Virgin Mary – whose Latin name is suggested by way of a repetitive *la-mi-la* soggetto – Josquin spelled out his name by way of an acrostic.[7] The texts of two of Busnoys's chansons – *A vous sans autre* and *Je ne puis vivre ainsi* – are designed in such a way as to spell out the name of his acquaintance Jacqueline d'Hacqueville via an acrostic.[8] Du Fay also composed a number of songs which reveal their dedicatee in this way. The first letter of each line of *Craindre vous vueil* discloses the name 'Cateline Dufai', whereas *Mon cuer me fait* even uncovers two names ('Maria' and 'Andreas').[9] This formal way of organisation was thus first and foremost made to be seen, as these names cannot be heard in performance, but are present in an encoded way.[10]

doctrinal de la seconde rhétorique, which in one source carries the heading 'Ainsi que l'ecrevice va' (Paris, Bibliothèque nationale de France, f. fr. 2206, fol. 103).

[4] U. Ernst, 'Lesen als Rezeptionsakt: Textpräsentation und Textverständnis in der manieristischen Barocklyrik', *Zeitschrift für Literaturwissenschaft und Linguistik*, 57–8 (1985), 67–94 uses the following terms for reading directions: 'progredient' (from left to right), 'regredient' (from right to left), 'deszendierend' (from top to bottom) and 'aszendierend' (from bottom to top).

[5] Cicero, *De divinatione*, II.11, defines an acrostic as 'cum deinceps ex primis versus litteris aliquid conectitur'.

[6] As we have seen in Ch. 1, the medieval bishop Aldhelm of Malmesbury identified himself as the author of a collection of one hundred riddles by way of an acrostic and a telestic.

[7] See also K. Pietschmann, 'Repräsentationsformen in der frankoflämischen Musikkultur des 15. und 16. Jahrhunderts: Transfer, Austausch, Akkulturation', *Musiktheorie*, 25 (2010), 99–115, who situates the piece's peculiarity on a twofold level. First of all, it is said that the encoding by way of an acrostic circumvents 'die emphatische unmittelbare Namensnennung [of Josquin]' (this of course goes for all acrostics); secondly, through this special treatment of the *ordo legendi* it becomes clear that the piece also addresses a public with a profound literary background (p. 107).

[8] The first line of two other chanson texts (*A que ville est abhominable* and *Ja que lui ne si actende*) make a pun on the woman's name.

[9] See especially D. Fallows, *Dufay* (London: Dent, 1982), 29–31, 43, 53–4, 60–1.

[10] They were not only used for individual pieces, but could also serve to highlight the overall plan of a collection: see, for example, the list of contents in the Medici Codex, spelling out 'Vivat semper Inclitus Laurentius Medices Dux Urbini', the first eight pieces of Florence, Biblioteca nazionale centrale, Magl. XIX.121 ('Marietta') and the first thirteen pieces of Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 287 extrav. ('à Estiene Petit').

In some cases, however, these messages were designed to be heard as well, albeit in a subtle way. In his motet *Anthoni usque limina* in praise of Saint Anthony, uniquely preserved in Brussels 5557, Busnoys incorporated his first and last name at the beginning ('*Anthoni us*que ad limina', fol. 49^{r}) and end ('fiat in omni*bus noys*', fol. 50^{r}) of the Latin text respectively.[11] His conceit is not only visually highlighted with red-ink letters, but hinted at by way of an inscription, which tells the singers how to detect the name of the composer: 'Alpha et o cephasque deutheri / cum pos decet penulti[mum] queri / actoris qui nomen vult habere' ('My alpha and omega, with the head of my second and the tail of my second-last, will tell the seeker the name of my author').[12] With *Anthoni usque limina* Busnoys thus created a remarkable effect: his motet in praise of Saint Anthony, which takes the form of a collective prayer when being said by the chorus of singers, is at the same time a prayer for him and one on which he put his distinctive signature.[13]

Apart from special typographical effects, more figurative elements were possible as well, and writers were as imaginative as composers. Fertile soil for experimentation were the *carmina figurata*. In these works, the text takes the shape of a graphic figure that is mimetically linked to the contents of the poem. In other words, the message of the text is visualised by its spatial layout.[14] This tradition goes back to Classical Antiquity in general and the oeuvre of Greek poets such as Simias of Rhodes, Dosiadas of Crete and Theokritos in particular.[15] Their creations – in the shape of an altar, an axe, a syrinx, etc. – together with the pattern poems of the *Anthologia*

[11] Modern edition: *Antoine Busnoys: Collected Works, Part 2: The Latin-Texted Works*, ed. R. Taruskin, Masters and Monuments of the Renaissance, 5 (New York: Broude Bros., 1990), 138–48.

[12] The play on Busnoys's name recurs in a letter by Jean Molinet to the composer, in which each line ends with either 'bus' or 'noys'.

[13] See also R. C. Wegman, 'Busnoys' "Anthoni usque limina" and the Order of Saint-Antoine-en-Barbefosse in Hainaut', *SM*, 17 (1988), 15–31; Wegman, 'For Whom the Bell Tolls: Reading and Hearing Busnoys's *Anthoni usque limina*' in D. Pesce (ed.), *Hearing the Motet: Essays on the Motet of the Middle Ages and Renaissance* (New York and Oxford: Oxford University Press, 1997), 122–41 (with a suggestion for a different interpretation of the tenor at 139 n. 29) and A. Lindmayr-Brandl, 'Die Autorität der Namen: Fremd-und Eigensignaturen in musikalischen Werken der Renaissance' in L. Lütteken and N. Schwindt (eds.), *Autorität und Autoritäten in musikalischer Theorie, Komposition und Aufführung*, Trossinger Jahrbuch für Renaissancemusik, 3 (Kassel: Bärenreiter, 2004), 21–40 at 34–40. Lindmayr-Brandl suggests that the penultimate line of the poem, 'ut per verbi misterium', could be seen as a reference to the encoding of the composer's name.

[14] Among the numerous studies of visual lyrics, see especially G. Pozzi, *La parola dipinta* (Milan: Adelphi, 1981) and D. Higgins, *Pattern Poetry: Guide to an Unknown Literature* (Albany: State University of New York Press, 1987).

[15] See the collection of pattern poems in *The Greek Bucolic Poets*, ed. and trans. J. M. Edmonds, Loeb Classical Library, 28 (London and New York: Heinemann, 1919), 485–511.

Graeca, became well known through fifteenth- and sixteenth-century editions and exerted an enormous influence on the poetry of that time.[16] In the fourth century, the Latin poet Publilius Optatianus Porphyrius addressed a series of panegyric *carmina figurata* to Emperor Constantine, most of which had special formal and visual peculiarities. During the Carolingian period, writers developed so-called spatial line-poems, which were designed in the form of a cross, a rectangle, a triangle or a circle; in some cases, an accompanying *declaratio* explains how to read the text.[17] The cross, as Christian symbol *par excellence*, gained special prominence in the poems of Venantius Fortunatus, its popularity culminating in Rhabanus Maurus' well-known cycle of 28 poems *De laudibus sanctae crucis* (*c.* 810). Printed versions (from 1503 onwards) of the latter contributed to a renewed interest in *carmina figurata* and stimulated imitations and developments thereof during the Renaissance.[18]

In the early modern period, shape poems were especially cultivated in Italy, England and Germany. Among the numerous advocates and their collections should be mentioned Piero Valeriano's *Poemata* (Basel, 1538), Girolamo Musici's *Rime diversi* (Padua, 1570), Richard Willes's *Poematum liber* (London, 1573) and Baldassarre Bonifacio's *Musarum libri XXV* (Venice, 1628), which show texts in such fanciful forms as an altar, a pyramid, an egg, a pear, a sword, a wine flagon and wings. Many of them were Latin or Greek scholars, hence familiar with the long-standing tradition of the genre. But the *carmen figuratum* also flourished among well-known writers such as Jean Marot, Jean-Antoine de Baïf and François Rabelais. A theoretical approach to the genre is offered in the chapter 'Of proportion in figure' of George Puttenham's *The Art of English Poesy* (1598), in which various forms of 'ocular representation' are discussed and illustrated by way of examples.[19]

[16] M. Church, 'The First English Pattern Poems', *Publications of the Modern Language Association*, 61 (1946), 636–50.

[17] U. Ernst, 'Zahl und Maß in den Figurengedichten der Antike und des Frühmittelalters. Beobachtungen zur Entwicklung tektonischer Bauformen' in Ernst, *Intermedialität im europäischen Kulturzusammenhang: Beiträge zur Theorie und Geschichte der visuellen Lyrik*, Allgemeine Literaturwissenschaft – Wuppertaler Schriften, 4 (Berlin: Schmidt, 2002), 23–43 at 40ff.

[18] N. M. Mosher, *Le texte visualisé: Le calligramme de l'époque alexandrine à l'époque cubiste*, American University Studies, II.119 (New York: Lang, 1990) and U. Ernst, *Carmen figuratum: Geschichte des Figurengedichts von den antiken Ursprüngen bis zum Ausgang des Mittelalters*, Pictura et poesis, 1 (Cologne, Weimar and Vienna: Böhlau, 1991).

[19] G. Puttenham, *The Art of English Poesy*, ed. F. Whigham and Rebhorn (Ithaca, NY and London: Cornell University Press, 2007), bk. 2, ch. 8.

Visual pictorialism gradually penetrated musical thinking, and riddles turn out to be a particularly fruitful domain. The scope of pictorial themes ranged from geometrical forms to religious, cosmological and political symbols, to more playful motifs. Because of their visual attractiveness, such pieces circulated in a wide range of sources and in various media: they not only survive in music manuscripts and prints, but also appear on broadsides, paintings, lithographs, copper engravings, intarsia, linen cloths, playing cards, alba amicorum, etc. Apart from that, they often occupy a prominent place in theoretical treatises: musical calligrams occur on title pages or in the liminary matter, or at the very end of the treatise, by way of a final résumé and symbolic conclusion. Their writers must indeed have considered them an epitome of their learning, a condensed way of expressing the essence of their ideas.

Literary and musical experiments with formal elements have in common their visual orientation, their 'materiality on the page' and their judicious use of spatiality. They only work in a written form and are not primarily made for oral transmission, but are designed to be read instead. In the case of music, too, these peculiarities cannot be heard – they pass unnoticed in performance – but are made and conceived to be seen. They are 'eye music' in the broad sense of the word. In these instances the notation is not merely a medium, a prescription for performance, but acquires a central function and is the focus of the composer's attention. Without the notation the maker's intention cannot be fully communicated. Rather, the *mise-en-page* is the very essence of and the key to the understanding of the text/music. The music or the text as written becomes the very subject of the writer's intention and, as a consequence of this, is mainly accessible and visible to insiders.

Reading these texts – whether silently or collectively – always implies a kinetic dimension: the reader has to convert the page into well-defined directions according to specific instructions and patterns, which in some cases have a mimetic function themselves.[20] The author literally directs the reader through the composition and channels the reading direction. In so doing, he deliberately plays with and confuses the reader's expectations, leading him to explore the written text in manifold and unexpected ways.

[20] Ernst, 'Lesen als Rezeptionsakt', 175 cites the example of a poem in the form of a wheel of Fortune. The reader's exploration of the text could be said to mirror the turning of the wheel itself. A comparable example in music would be Baude Cordier's *Tout par compas*. Here as well, the very act of reading/singing implies a movement of the page that is analogous to a traveller's effort to orientate himself by way of a compass (see below).

It is this balance between showing and hiding and the appeal to the reader to make sense of the written text that bring these creations close to the field of the riddle. Because of his active role in the realisation of the text, the reader in a certain sense becomes a second 'inventor'.[21] Above all, by the author's compelling of the reader to go down a specific path, the traditional *ordo legendi* is abandoned in favour of new, hitherto unexplored ways of reading. This also implies what Ulrich Ernst has called a 'Entautomatisierung' and 'Retardierung' of the act of reading itself.[22] Reading is no longer a self-evident, automatic activity, but the deceleration that goes with these new ways of 'scanning the page' makes it become a cognitive, hermeneutic activity, which offers the possibility for reflection. In the next pages, I explore how these principles can work in music by way of three sets of examples: riddles in the form of or accompanied by the image of a circle, a cross or the lunar cycle.

Geometrical figures: the circle

How swift the circle stir above,
His center point doth never move;
All things that ever were or be,
Are closed in his concavity.

...

And beyond his wide compass,
There is nobody nor no place,
Nor any wit that comprehends,
Where it begins, or where it ends.
And therefore all men do agree,
That it purports eternity.

George Puttenham, *The Art of English Poesy* (1598), book 2, chapter 12

The geometrical form and age-old symbol of the circle invites a whole range of interpretations. It can express concepts such as cyclical renewal, infinity – without beginning and end – and perfection. But a circle can also imitate the form of objects such as the wheel of Fortune, itself an allegory of the human condition. In his book on the history of visual lyrics, Ulrich Ernst discusses a *carmen figuratum* by Abelard in the form of two

[21] See also Febel, *Poesia ambigua oder Vom Alphabet zum Gedicht*, 404: 'Daneben wird die Bedeutung des Lesers, der als zweiter "faiseur" ebenso zur Realisierung der Texte beiträgt, zum ersten Mal explizit betont und so eine spiegelbildliche Relation von Leser und Autor gedacht.'

[22] Ernst, 'Lesen als Rezeptionsakt'.

concentric circles, from which a number of rays depart. The circular form allows a multiplicity of interpretations that are all present in the text of the poem, of which each line, moreover, starts with the letter O: it variously stands for the sun, a wheel, a host, the four winds, the cosmos, and infinity.[23]

In music as well, we encounter a range of compositions in the form of a circle. As early as the fourteenth century, composers began to play with the mimetic associations of the circle. In the anonymous ballade *En la maison Dedalus* from about 1375, two concentric circles depict a labyrinth, the 'house of Daedalus', in which the *persona* of the text claims to be enclosed (see Plate 4.1).[24] The ballade is also a love song, and the labyrinth an image for the lover's restless quest for his lady. In addition, the two-part canon in the lower voices could be seen as a musical reflection of the lover's miserable situation, faithfully chasing his beloved, but doomed never to reach her ('ma dame vers qui ne puis aller' / 'je ne say comment a li venir').[25]

Attached to the famous Chantilly Codex is the rondeau *Tout par compas suy composé* by Baude Cordier, written in so-called *Ars subtilior* notation.[26] Here again, we see two concentric circles in the centre of the page, which are surrounded by four other circles. Three of them (framed in a square) contain texts by and about Cordier himself, whereas the upper left circle not only reproduces the text of the rondeau on a five-line stave, but also contains the instruction that the upper voices sing in canon, with the *comes* entering after three breves at the unison (see Figure 4.1).[27] The circle thus stands for a compass – 'I am composed in the form of compass', the *persona* tells us – but also suggests the virtual infinity of what is conceived

[23] U. Ernst, 'Ein unbeachtetes "Carmen figuratum" des Petrus Abaelardus: Textüberlieferung – Verfasserproblematik – Gattungsstruktur' in Ernst, *Intermedialität im europäischen Kulturzusammenhang*, 65–90.

[24] Crocker, 'A New Source for Medieval Music Theory'.

[25] The canonic inscription reads 'Tenor faciens contratenorem alter alterum fugando' ('The Tenor making the Contratenor, with the one hunting the other'). See also O. Huck, 'The Early Canon as Imitatio naturae' in Schiltz and Blackburn (eds.), *Canons and Canonic Techniques*, 7–18.

[26] J. Bergsagel, 'Cordier's Circular Canon', *Musical Times*, 113 (1972), 1175–7; É. Anheim, 'Les calligrammes musicaux de Baude Cordier' in M. Clouzot and C. Laloue (eds.), *Les représentations de la musique au Moyen Âge. Actes du colloque des 2 et 3 avril 2004* (Paris: Musée de la Musique, Cité de la Musique, 2005), 46–55; Y. Plumley and A. Stone, 'Cordier's Picture-Songs and the Relationship between the Song Repertories of the Chantilly Codex and Oxford 213' in Y. Plumley and A. Stone (eds.), *A Late Medieval Songbook and Its Context: New Perspectives on the Chantilly Codex (Bibliothèque du Château de Chantilly, Ms. 564)* (Turnhout: Brepols, 2009), 303–28. See also the facsimile edition: *Codex Chantilly: Bibliothèque du Chateau de Chantilly, Ms. 564*, ed. Y. Plumley and A. Stone (Turnhout: Brepols, 2008).

[27] For a discussion of works whose text provides instructions for performance, see U. Günther, 'Fourteenth-Century Music with Texts Revealing Performance Practice' in S. Boorman (ed.), *Studies in the Performance of Late Mediaeval Music* (Cambridge University Press, 1983), 253–70.

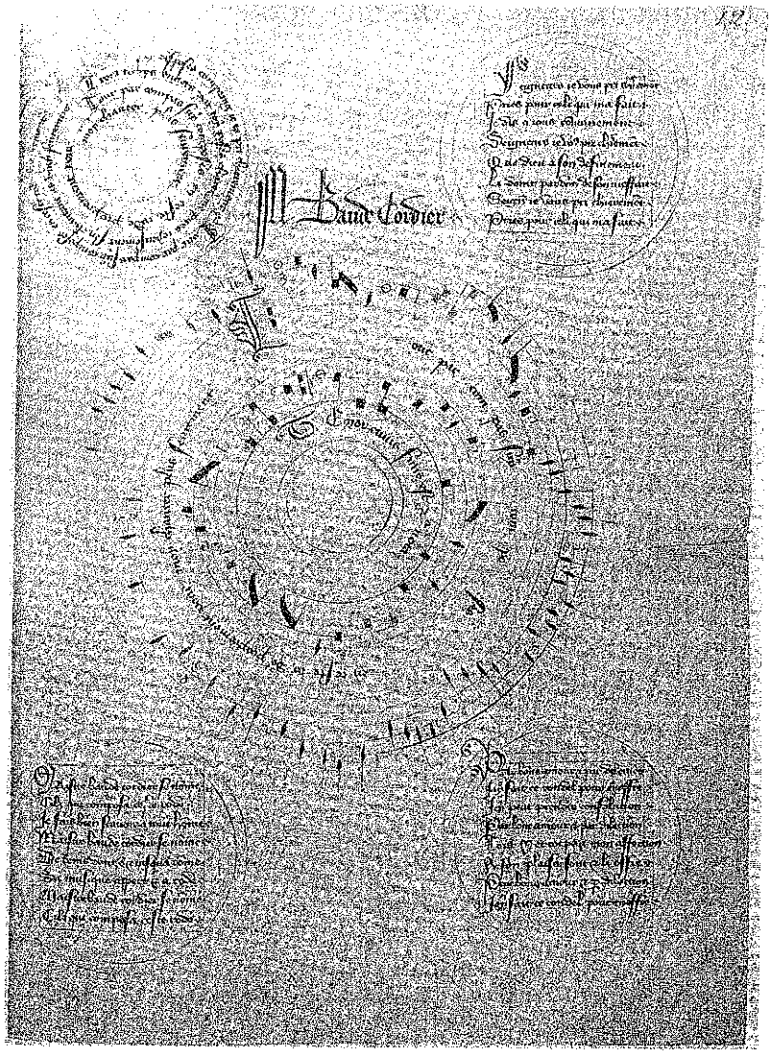

Figure 4.1 Baude Cordier, *Tout par compas* in the Chantilly Codex

as a perpetual canon. To sing the music, one is forced gradually to turn the page around. This kinetic dimension also implies a mimetic aspect: the singer is like a traveller trying to orientate himself by way of a compass. There is indeed a high degree of self-referentiality between music, text and image. They are all closely linked and add to the multilayered interpretation of the work as a whole.

En la maison Dedalus and *Tout par compas* are early examples of works that combine visual pictorialism with an enigmatic notation or compositional technique. This tradition gains popularity in the fifteenth and sixteenth centuries and continues beyond. In this section, I shall take a closer look at two lesser-known works that survive in circular notation. But before doing so, a brief overview of Renaissance pieces in circular notation is in order, as they form the background against which we should consider this tradition. We shall see that in all these cases, the circle can serve different semantic purposes: it can have a mimetic function or express more abstract ideas such as infinity and/or togetherness. What all pieces have in common is that they are canons or at least contain two or more canonic voices. In the majority of cases, the canon is perpetual, but sometimes the circle gives rise to a *canon per tonos* or a retrograde canon.

The first example, dating from the late fifteenth century, is one of the most lavish pieces in circular notation. The multicoloured illumination that survives in the chansonnier Florence 229 shows a circle of music – lettered in gold – in the centre, which is surrounded by four winds against a blue background.[28] The music of the frontispiece is traditionally attributed to Bartolomeus Ramis de Pareia, whose name appears in the centre of the circle as part of the motto: 'Mundus et musica et totus concentus. Bartholomeus Rami'. As we have seen in Chapter 3, this musician was indeed fond of enigmatic inscriptions. However, this motto does not necessarily have to credit Ramis with composition of the music. Rather, as Howard Mayer Brown has shown in his edition of the chansonnier, the motto, with its allusion to the construction of macrocosm and microcosm along the same harmonic proportions, is a quotation – albeit in compact form – from Ramis's *Practica musica* (prima pars, tractatus primus). The idea that music reflects the laws of the world goes back to Classical Antiquity, but was revived at the end of the fifteenth century by Neoplatonists such as Marsilio Ficino. Against this background, the circle can thus be said to be an image of the world. This interpretation is reinforced by the

[28] *A Florentine Chansonnier from the Time of Lorenzo the Magnificent: Florence, Biblioteca Nazionale Centrale MS Banco Rari 229*, ed. H. M. Brown, 2 vols., MRM, 7 (University of Chicago Press, 1983). For a more recent intepretation of the frontispiece, see K. Pietschmann, 'Zirkelkanon im Niemandsland: Ikonographie und Symbolik im Chansonnier Florenz, Biblioteca Nazionale Centrale, Banco Rari 229' in M. J. Bloxam, G. Filocamo and L. Holford-Strevens (eds.), *"Uno gentile et subtile ingenio": Studies in Renaissance Music in Honour of Bonnie Blackburn* (Turnhout: Brepols, 2009), 605–15. Pietschmann presents convincing evidence that the illumination was not originally intended to be included in the manuscript. If we accept this hypothesis, it is telling that this complex piece was added to a chansonnier and not to, say, a collection of masses or motets.

four winds (named Oriens, Occidens, Septentrion and Meridion) that blow from four directions.[29] Apart from strengthening the circle's mimetic function as a depiction of the globe, they also have a more practical function: they mark the entrance points of the canonic voices. The interpretation of the four-voice canon is further specified in the inscription in the middle, which is full of Greek terms. As Brown shows, several solutions/readings of the riddle are possible, two of which involve an ever-progressing transposition along the circle of fifths.[30] If this is indeed the case, then this puzzle would indeed be a perfect expression of the unity of world and music. To quote Brown: 'It covers the entire universe in two dimensions: vertically, in traversing the entire gamut of notes from top to bottom; and horizontally, in modulating throughout the entire circle of fifths.'[31] This composition thus has a distinctive experimental touch, and the combination of visual and musical imagery offers its viewer a complex and fascinating puzzle to reflect upon.

There is a clear concentration of pieces in circular notation in the first decades of the sixteenth century. They occur in different media and are all embedded in a specific iconographic programme. The anonymous *Salve radix* survives uniquely in London Royal 11 E.xi, a choirbook for the English king Henry VIII.[32] The opening piece of the manuscript is a double canon, beautifully notated in the form of two circles, each containing a red rose in the centre (see Plate 4.2, showing one of them). The flower is not just a pictorial ornament; it has clear heraldic connotations: it is the Tudor rose and thus symbolises the king himself. In this motet, the circle allows for multiple, yet interrelated interpretations. First of all, it epitomises the reunion of Henry VIII and his sisters Mary and Margaret,

[29] In his *Canoni musicali*, fol. 104^{v}, Zacconi also has a four-voice work in circular notation, with four winds blowing from different directions. As he explains, the winds refer to a passage in Ezekiel 37:9, in which the prophet describes a valley full of bones. God resuscitates the bones and covers them with flesh with the following words: 'quattuor ventis veni spiritus et insufla super interfectos istos et revivescant' ('Come, spirit, from the four winds, and blow upon these slain, and let them live again'). The result is a double retrograde canon (between the voices on the upper and lower part of the circle respectively). See also L. Wuidar, 'Les *Geroglifici Musicali* du Padre Lodovico Zacconi', *Revue belge de musicologie*, 61 (2007), 61–87.

[30] Pietschmann, 'Zirkelkanon im Niemandsland', reinforces this interpretation by referring to passages in Bonaventura da Brescia's *Brevis collectio artis musicae* (1489) and Giorgio Anselmi's *De musica* (1434). More precisely, both theorists mention the four winds and associate them with the modes and the genera respectively.

[31] *A Florentine Chansonnier*, ed. Brown, 22.

[32] For a thorough analysis and contextualisation of this piece, see T. Dumitrescu, 'Constructing a Canonic Pitch Spiral: The Case of *Salve radix*' in Schiltz and Blackburn (eds.), *Canons and Canonic Techniques*, 141–70.

which took place in 1516.[33] Apart from that, the circle can be said to continue the topos of the closed garden that is shown on the preceding folio of the manuscript. The *hortus conclusus* is itself an allusion to England as a walled island, which – as the text of *Salve radix* tells us – 'closes outside the dissonant hearts of the aged' ('claudunturque foras dissona corda senum').

As Theodor Dumitrescu has shown, *Salve radix* is also most interesting from a compositional point of view. His analysis of the piece's constructive properties – especially its palindromic features – led him to the conclusion that the work can be performed as a canonic pitch spiral, which involves the successive addition of flats through the sequence of fifths.[34] The result is a work that – like the four-voice riddle in Florence 229 – enables multiple interpretations. While one version is 'straightforward' in that the double canon is sung as it is notated, a second version radically alters the aural result by gradually traversing the complete pitch space. Evidently, this requires a considerable effort on the part of the singers, and it must have entailed careful preparation before they could realise the unusual pitch spiral. Like the image on the first page of the choirbook, showing a single root (i.e. the Tudor family) with various branches (i.e. Henry VIII and his sisters), the rose composition on the following page also allows various readings that all go back to the same notational archetype. Above all, in this work the circle can be said to have both abstract and mimetic meaning: it is a powerful symbol for the unity of members of the (royal) family, but its closed nature also mimics the insular position of the country for which the manuscript was destined. Finally, the circular notation might even symbolise the work's experimental character as an ever-descending spiral along the circle of fifths.[35]

About a decade after *Salve radix*'s inclusion in a royal choirbook, a Continental manuscript also links the cyclic aspect of canons with the

[33] See also the image on the opening page of the choirbook, which shows a rose in the centre, flanked by a marigold and a marguerite (representing Mary and Margaret respectively).

[34] For a recording of this work, which follows Dumitrescu's transcription, see *Henry's Music – Motets from a Royal Choirbook*, with Alamire Ensemble, Quintessence, Andrew Lawrence-King and David Skinner (Obsidian, 2009).

[35] O. Ander and M. Lundberg, 'Principer, frågor och problem i musikvetenskapligt editionsarbete – med exempel från pågående inventerings-, editions-och utgivningsprojekt', *Svensk tidskrift för musikforskning*, 91 (2009), 49–76 at 62–4 discuss a piece in circular notation from around 1600 that might also have been conceived as a pitch spiral: *Pfaffen son* was part of the collection from the German congregation of St Gertrude in Stockholm and is currently preserved at the Music and Theatre Library of Stockholm (Tyska Kyrka XXXVI). My thanks to Mattias Lundberg for sharing this information with me.

circle. Each partbook of the madrigal collection Bologna Q 21 has a different canon in circular notation on its opening page.[36] In all cases, a circle surrounds a coat of arms in the form of a feather in a shield, to which bands on both sides have been added. Concordances with earlier sources make clear that these works were originally not intended to be depicted in the form of a circle, but their canonic structure may well have inspired the scribe of Bologna Q 21 to present them in this form to catch the attention of the manuscript's owner. Both Mouton's 4-in-1 canon *En venant de lyon* (Cantus) and Willaert's three-voice canon *Se ie naj mon amie* (Altus) are clefless compositions that turn out to be a *katholikon*, with each pitch level containing a modally differentiated version of the same melody.[37] The remaining two pieces are double canons: *Mon petit cor* (Tenor) is another work by Willaert, which had originally appeared in Antico's *Motetti novi e chanzoni franciose a quattro sopra doi* (Venice, 1520); Josquin's *Bayses moy* appears in the Bassus partbook.[38]

The visual attractiveness of circular notation made it an interesting element for music prints, manuscripts and treatises, and even paintings.[39] In his famous *Allegory of Music*, probably dating from the 1520s, the Ferrarese painter Dosso Dossi includes two examples of visual music, which he presents on stone tablets: apart from the triangular presentation of the three-voice mensuration canon in the second Agnus Dei from Josquin's *Missa L'homme armé super voces musicales*, Dossi includes a circle that contains a four-voice perpetual canon at the unison.[40] The question of the authorship of this work being put aside, the format of both canons clearly has a symbolic meaning. Each in its own way visualises musical perfection and thus underlines the painting's allegorical intentions.

[36] *Un canzoniere musicale italiano del Cinquecento (Bologna, Conservatorio di Musica "G. B. Martini" Ms. Q 21)*, ed. C. Gallico, 'Historiae musicae cultores' Biblioteca, 13 (Florence: Olschki, 1961).

[37] Major research on *katholika* has been done by P. Urquhart, 'Calculated to Please the Ear: Ockeghem's Canonic Legacy', *TVNM*, 47 (1997), 72–98.

[38] In Antico's collection, Willaert's chanson carries the inscription 'Alterius [*recte* Alternis] dicetis, amant alterna Camoenae' ('You will speak in alternation, the muses love alternation'), which is a quotation from the third book of Vergil's *Bucolics*, ll. 58–9.

[39] One year after *Salve radix*, circular notation seems to have been used as a merely decorative element on the title page of Antico's *Canzoni Sonetti strambotti et frottole libro quarto* (Rome, 1517). Antico reproduces the four-voice canon at the unison on the words 'Vivat Leo Decimus Pontifex' that had figured on the title page of the *Liber quindecim missarum* of 1516. The canon is now depicted without text in the form of a circle, showing the profile of a man in a cameo-like manner. For a transcription, see Ruhland, *Musikalische Rätsel*, 67.

[40] A major study of the music in this painting is H. C. Slim, 'Dosso Dossi's Allegory at Florence about Music', *JAMS*, 43 (1990), 43–99.

The triangle invites both pagan and Christian interpretations: it refers to the importance of the number three in Aristotelian theory, but also stands for the Holy Trinity as one of the main doctrines of Christian faith – see also the motto 'Trinitas in unum' that Dossi attached to Josquin's mensuration canon. The circle not only suggests the virtual infinity of the canon, but also the perfection of the unison or the octave, the imitation interval of the canon. We can assume that both works on Dossi's painting were originally not conceived with this special visual format in mind, but it is clear that the circle and the triangle not only fit the subject of the painting, but also bring to the fore a special feature of both canons.[41]

A further piece in the form of a circle leads back to England. In the 1540s, an eight-voice canon by a certain Morel was attached to the manuscript London Royal 8 G.vii.[42] The inscription 'Morel viro praeclarissimo domino comiti de Arundell' on top of the circle allows the identification of the dedicatee as either William Fitzalan, 18th earl of Arundel (†1544) or Henry Fitzalan, 19th earl of Arundel (1512–80).[43] Both were members of the Order of the Garter, and it is the emblem of this famous order of chivalry that inspired the form of the work. The order was dedicated to the image and arms of Saint George (the patron saint of England) and its arms show a garter with the motto 'Honi soit quy mal y pense' ('Shame be to him who thinks evil of it'). All these elements are present on the folio with Morel's composition: the order's motto serves as the text of the work, the circle (containing a five-voice canon) mimics the form of a garter, and in the centre is Saint George on a horse slaying a dragon with a lance, on which a three-voice canon is written – the oak leaves shown in and beneath the circle were part of the coat of arms of the Fitzalans.[44]

[41] The manuscript *Trattato del contrapunto* (Bologna B 140), written by Tomaso Graziani (probably as a result of his studies with Costanzo Porta), has a riddle in the form of two triangles and a circle. As the texts of the respective forms – 'Tres sunt qui testimonia dant in coelo' ('There are three that give testimony in heaven') and 'Demum omnia sine fine' ('finally all without end') – make clear, the triangle symbolises the Trinity, the circle infinity. This work is discussed in book 3 of Zacconi's *Canoni musicali*, fol. 106. See also Wuidar, 'Les *Geroglifici Musicali* du Padre Lodovico Zacconi'.

[42] A facsimile of the manuscript was published in the series Renaissance Music in Facsimile, 9, ed. H. Kellman (New York: Garland, 1987).

[43] 1544 was the year of Henry's induction, which might well have been the incentive for Morel's composition.

[44] Since the folio is deficient (a piece is torn out), a transcription of the music is problematic. The garter and the motto reappear on fol. 2^{v} as part of a heraldic illumination for Mouton's *Celeste beneficium*.

A few exceptions notwithstanding, most of the above-mentioned canons lack a canonic inscription. One or more *signa congruentiae* usually suffice to mark the entrance of the *com(it)es*, especially when it is a *fuga* canon. Two sixteenth-century works in circular notation, however, are accompanied by an enigmatic inscription. In both cases, the use of musical signs would not suffice to establish which transformation has to be applied to the notation. The enigmatic aspect of both works thus resides not only in the correct interpretation of the verbal canon, but also in deciphering the intimate connection between music, image and text.

The German composer Ulrich Brätel wrote an eight-voice motet *Ecce quam bonum*, which survives on a broadside printed by Philipp Ulhart in Augsburg in 1548.[45] Three concentric circles are surrounded by hunting scenes, which are placed in the corners of the rectangle that frames the circles: an armed hunter, tooting his horn and in the company of his dogs, goes after a stag and hares (see Figure 4.2). The editor, Sigmund Salminger, dedicated the work to the five sons of Raymund Fugger the Elder, and he is probably responsible for the panegyric poem 'Fuggeri patriae magnum decus . . .', which is printed at the bottom of the page. The lengthy verbal inscription in the middle instructs the performers how to sing the music:

CANON. Fuga. Octo vocum. Medium circulus fugam habet, cum qua duae exterioris & duae interioris circuli voces incipiunt, ita tamen, ut ex medij circuli voce, tres adhuc voces in unisono singulae post tria tempora sese subsequantur, Exterioris & interioris circuli voces, in medij circuli fugam cadunt, ubi morantur, et sic in medio consistit virtus, ac primi sunt novissimi, & novissimi primi.

Rule. Fugue for eight voices. The middle circle has the fugue, with which the two voices of the outer and inner circle begin, in such a way that from the voice (written) in the middle circle three further voices enter one after another at the unison, after three breves. [After which] the voices from the outer and inner circle join in the fugue of the middle circle, where they stay. And thus virtue consists in the mean (middle), and the first shall be last, and the last shall be first.

The central circle contains a four-in-one canon, with four voices entering at the unison at the distance of three breves, as the *signa congruentiae* indicate. The inner and outer circle each contain two free voices. After they have finished their line, they gradually join the four-voice canon and develop into an eight-in-one canon at the unison that can be repeated *ad infinitum* (see Example 4.1). The aural result is rather static, as due to

[45] Munich, Bayerische Staatsbibliothek, 2 Mus.pr. 156#2. The broadside was published posthumously, three or four years after Brätel's death.

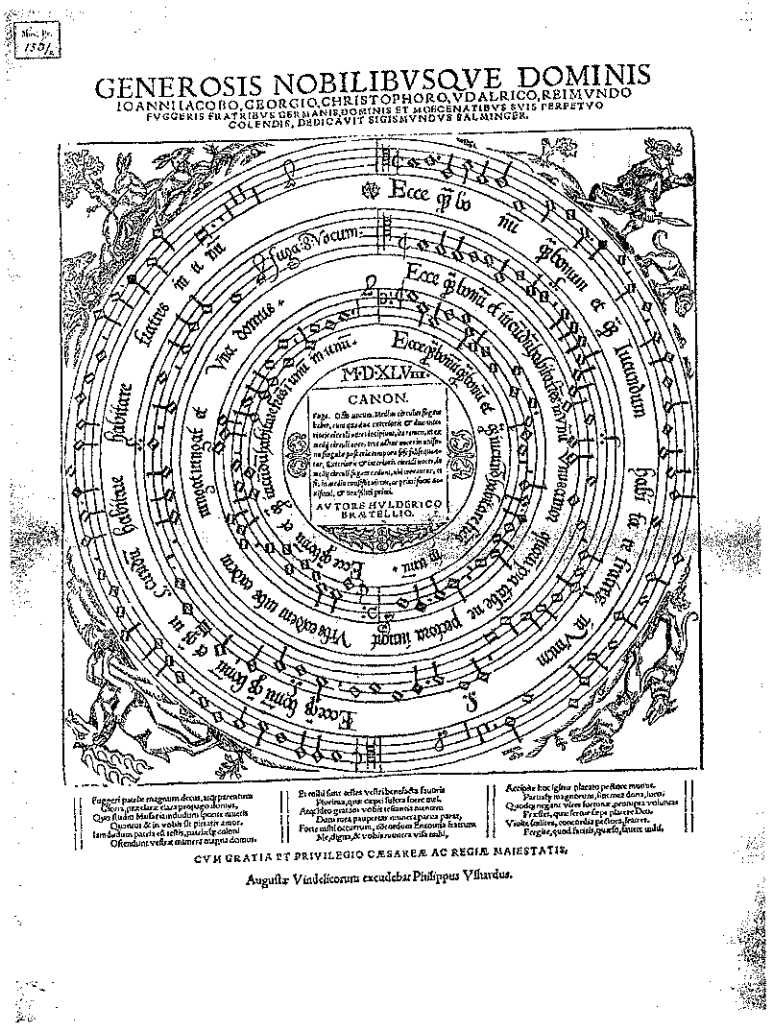

Figure 4.2 Ulrich Brätel, *Ecce quam bonum*. Munich, Bayerische Staatsbibliothek, 2 Mus.pr. 156#2

the canonic structure there is not much room for harmonic variation: especially when all voices start participating in the canon, the sonorities constantly oscillate between G, C and D. In Brätel's *Ecce quam bonum*, the circle becomes a powerful symbol for peace, harmony and unity between the members of a rich patrician family. This intention is underlined by the text of the motet, which starts with the well-known first verse of Psalm 132: 'See

Example 4.1 Ulrich Brätel, *Ecce quam bonum*

Example 4.1 (*cont.*)

Example 4.1 (*cont.*)

Example 4.1 (*cont.*)

how good and how pleasant it is for brethren to dwell together in unity' ('Ecce quam bonum et quam iucundum habitare fratres in unum'). But instead of continuing the biblical quotation, the poem takes a different direction:

Ecce quam bonum et quam iucundum
habitare fratres in unum,
unus amor quorum pia tam bene pectora iungit.
Urbs eadem iungat et una domus.

See how good and how pleasant it is
for brethren to dwell together in unity,
whose pious hearts are joined so well by one love.
May one and the same city and one house connect them.

Brotherly love, as it is extolled in the Bible, becomes a vehicle to praise the solidarity between the city of Augsburg and the famous patrician Fugger family. But there is more. As Thomas Röder has shown, Salminger published this broadside at a precarious, but highly symbolic moment.[46] Indeed, in 1547–8, Emperor Charles V was in Augsburg, where he presided over the Imperial Diet. The spread of the Protestant religion continued to be a thorn in Charles's flesh, especially since the city of Augsburg – except for some rich Catholic families such as the Fugger and Welser families, who temporarily left their native town – had stood up for the Lutheran Reformation during the Schmalkaldic War. However, during the Danube campaign of 1546, many Protestant rulers had to capitulate, and thanks to the efforts of the Fuggers, Augsburg submitted to Charles. Against this turbulent historical background, Brätel's *Ecce quam bonum* reads as a political and religious manifesto: a plea for the peaceful cohabitation of Imperialism and urban autonomy on the one hand, and of religious convictions on the other. The three circles could be said to visualise the gradual reconciliation between the Emperor (the outer circle?), the city (the inner circle?) and the Fuggers. The family's 'stability' – symbolised by the canon technique, which stands for the 'all in one' principle – not only steers the middle course (in the literal and figurative sense of the word), but is also the point at which the other voices converge in the end. In the canonic inscription, this circle is tellingly labelled 'virtue': 'et sic in medio consistit virtus'.[47]

[46] T. Röder, 'Verborgene Botschaften? Augsburger Kanons von 1548' in Schiltz and Blackburn (eds.), *Canons and Canonic Techniques*, 235–51.

[47] As we have seen in Ch. 2, Obrecht used this inscription in the Gloria and Credo of his *Missa Fortuna desperata*. Here, the word 'medium' refers to the middle note, which is the starting point of the Tenor's melody in each section of both mass items. In another source Brätel's *fuga* also survives independently, i.e. without the four additional voices (Munich, Bayerische Staatsbibliothek, 2 Mus.pr. 156#18).

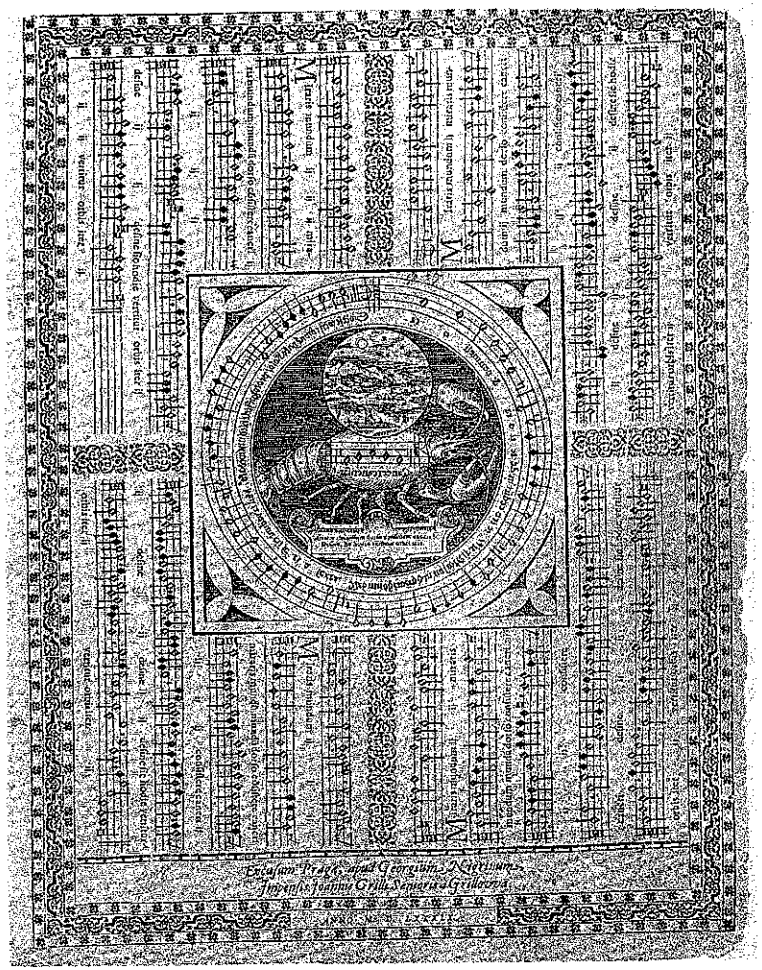

Figure 4.3 Anon., *Miraris mundum* in Prague DR I 21, p. 307

The Strahov monastery library in Prague holds a lavish broadside by an anonymous composer, which was printed in Prague by Georgius Nigrinus in 1589 (see Figure 4.3).[48] As I shall show, this six-voice work *a voci pari*

[48] Prague DR I 21, fol. 92r. My thanks to Scott Edwards for drawing my attention to this broadside. The manuscript is also available online at manuscriptorium.com. See also M. Bohatcová and J. Hejnic, 'Knihtiskař Jiřík Nigrin a jednolistové "proroctví" Jindřicha Demetriana', *Sborník Národního Muzea Praze*, 35 (1981), 73–135.

not only offers its recipient a rich musical, visual and textual programme to decipher and reflect upon, but it also seeks to integrate music in a wider emblematic context.[49] How does this work? Framed by a decorative border, which Nigrinus used for other broadsides as well, are four voices laid out in table format, with two pairs facing each other.[50] They sing the following, somewhat enigmatic text, about which more below: 'Miraris mundum dorso consistere cancri? Desine, sic hodie vertitur orbis iter' ('Are you surprised to see the world on the crab's back? Refrain! This is the way of the world nowadays').

The distich reappears in the centre of the broadside, where it is notated on a banderole. This central part consists of several interrelated elements. The banderole is accompanied by the image of a crab that carries a globe on its back – the vista includes a landscape with a man in a boat, a town's silhouette and a starry sky with a waning moon. In the body of the animal is a short five-note palindromic pattern *g–a–b–a–g*, under which the words 'Cancer cancrisat' ('The crab goes backwards') are printed reversed. The layout of the music is symmetrically organised, with a c4 clef and three breves' rest on either side. The notes form a brief *soggetto ostinato* of 2.5 breves. This ensemble is surrounded by a circle that contains music and is underlaid with a text that is likewise written backwards. In a macaronic mixture, Czech verses alternate with Latin ones:

Svět se točí rovně jako kolo,
Protož přítele hleď míť dobrého,
Multa vadunt cum feria sexta,
Neb mnohé věci jdou v světě zpátkem,
retro cedunt in deteriora & non meliora.

The world is turning straight like a wheel;
Therefore make sure to have a good friend.
Many things go on Friday.
Because many things in the world go backwards,
They go backwards for the worse and not for the better.[51]

[49] I am preparing an article (provisional title: 'The Globe on a Crab's Back: Music, Emblem and Worldview on a Broadside from Renaissance Prague') on this broadside.

[50] On other broadsides by Nigrinus, see M. Bohatcová, 'Farbige Figuralacrostichen aus der Offizin des Prager Druckers Georgius Nigrinus (1574/1581)', *Gutenberg-Jahrbuch*, 57 (1982), 246–62.

[51] My sincere thanks to Lenka Hlávková (Mráčková) for helping me with the translation of the Czech verses. Leofranc Holford-Strevens informed me that the text contains a pun: 'zpátkem' (l. 4) means 'backwards'; but it could also be read as 'z pátkem', 'with Friday', thus repeating the 'cum feria sexta' in l. 3 (private communication, 15 April 2012).

Together with the text underlay, the backward notation of the mensuration sign also indicates that the music is to be sung retrograde. The music turns out to produce a second, two-breve ostinato, which starts alternately on d' and g' and with statements separated by 3.5 breves' rest.[52] The result is a six-voice work for four free voices and two ostinati with three texts superimposed (see Example 4.2).[53]

It turns out that the distich 'Miraris mundum . . .' was well known in the context of emblem books. Only a few years before the publication of the broadside from Prague, the humanist Joachim Camerarius introduced these verses in his manuscript treatise *Symbola et emblemata* from 1587.[54] Here, the phrase serves as the *subscriptio* for an emblem, of which the *pictura* shows a crab with the globe on his back; the *motto* reads 'Sic vertitur orbis iter'. Camerarius explains that the backward movement of the crab symbolises a regressive world, a world that is desperate and losing sight of its goal. In order to illustrate this, he quotes a verse from Vergil's *Georgics*, I.200, where it is said that all things tend 'in peius ruere ac retro sublapsa referri' ('to speed to the worse, and backwards borne glide from us'). According to Camerarius, the image and the distich were invented by Laurentius Truchsess von Pommersfelden (1473–1543), who was a canon of Würzburg.[55] In the multi-volume printed version of Camerarius's treatise, this emblem is part of the fourth book, entitled *Symbolorum et emblematum ex aquatilibus et reptilibus desumptorum centuria quarta* (Nuremberg, 1604).[56] In this version Camerarius considerably expanded his commentary and adds further (mainly antique) sources to support the pessimistic image of the retrogressive movement of the world.

[52] Most of the Czech verses have one syllable more than the Latin ones, but the composer solved this by splitting the second minim into two semiminims for the Czech text.

[53] Both editions by Jitka Snížková are unfortunately defective: see *Výběr vícehlasých děl českého původu z XVI. a XVII. století* (Prague: SNKLHU, 1958), 73–77 and *Carmina carissima: Cantica selecta bohemica saeculi XVI. Coro a cappella*, Musica antiqua bohemica, II.11 (Prague: Supraphon, 1984), 21–33. For unknown reasons, she transcribes the piece for eight voices, thereby spreading the ostinato and the retrograde music in the circle over two voices each. Clearly, the broadside does not give any indication to do so.

[54] In Camerarius's treatise, the wording of the first line is slightly different: 'Miraris cancri dorso consurgere mundum?' For an edition and commentary on this manuscript, which is kept at the Stadtbibliothek Mainz (shelfmark Hs. II.366), see Joachim Camerarius the Younger, *Symbola et emblemata tam moralia quam sacra: die handschriftlichen Embleme von 1587*, ed. W. Harms and G. Heß (Tübingen: Niemeyer, 2009). The emblem and Camerarius's explanation are on pp. 193–4 of the manuscript (see Harms and Heß, 196–7 [no. 98] and their commentary on pp. 514–15). It is also printed in A. Henkel and A. Schöne, *Emblemata: Handbuch zur Sinnbildkunst des XVI. und XVII. Jahrhunderts* (Stuttgart: Metzler, 1996), col. 727.

[55] I have not been able to find this emblem in Truchsess's writings.

[56] Emblem no. 54, fols. 54^{v}–55^{r}.

Example 4.2 Anon., *Miraris mundum*

Example 4.2 (*cont.*)

Example 4.2 (*cont.*)

In the Renaissance, the image of the crab as an expression – to quote Camerarius – 'de Mundi perversitate querela' was revisited by several authors. Camerarius refers to book 38 (the section on 'De cancro') of Piero Valeriano's *Hieroglyphica* (Basel, 1556), but the topic is also touched upon in Erasmus's *Adagia*.[57] In their edition and commentary of Camerarius's handwritten *Symbola et emblemata*, Wolfgang Harms and Gerhard Heß mention further sources in which the image of the crab carrying the globe and the connotation that goes with it show up. Especially from the early seventeenth century onwards, the emblem and/or its motto occur in various contexts and in different media, such as a medal from the Altdorf Academy, a broadside from Augsburg, and as part of the emblematic ensemble in the Golden Hall of the Nuremberg town hall.[58] Especially interesting, however, is a mid sixteenth-century source, the album amicorum of the Augsburg organist Abel Prasch (Munich, Bayerisches Nationalmuseum, MS 245). On fol. 130^{r}, we find an entry from 1560 by a certain Jacob von Haunsperg zu Vachenlueg. As Harms and Heß surmise, the similarity between his fine-grained drawing of the crab and the images in Camerarius's *Emblemata* and our Czech broadside is so striking that they all seem to go back to the same, as yet unknown, prototype.

What could have inspired the anonymous composer to set this text? I believe a central figure might have been the person who is mentioned at the bottom of the broadside, below the name of the printer: we learn the page was made 'Impensis Joannis Grilli Senioris à Gryllovva', i.e. at the expense of Johannes Gryll a Gryllova. This Johann Cvrček – 'Cvrček' being the Czech word for cricket (German: 'Grille') – lived from 1525 to 1597 and was a legal counsel and writer from Rakonitz (Rakovník). He is known for his poems in the Greek language and for having translated several biblical books into Bohemian.[59] In 1571 Emperor Rudolph II made him a 'vladyka', a member of the lower nobility. In 1588, a year before the publication of the broadside, Gryll not only became mayor of his native town, but on 27 July Rudolph II also proclaimed Rakonitz a royal city. It may well have been the connection of these events that stimulated Gryll to

[57] See Erasmus, *Adagia*, III.7.98 ('Cancrum ingredi doces').

[58] J. F. Stopp, *The Emblems of the Altdorf Academy: Medals and Orations 1577–1626* (London: Modern Humanities Research Association, 1974), 168–9. The Nuremberg town hall was bombed during the Second World War, but a reconstruction of the emblems in the Golden Hall was partly possible thanks to the drawings in P. Isselburg, *Emblemata politica* (n.p., 1617).

[59] See the list of publications in A. Truhlář, K. Hrdina, J. Hejnica and J. Martinek (eds.), *Rukověť humanistického básnictví v Čechách a na Moravě*, 6 vols. (Prague: Academia, 1966), vol. II: Č–J, 236–7.

have the broadside printed in nearby Prague. Moreover, since 1482 Rakonitz had carried a crayfish in its coat of arms – the central place of the animal in the city's heraldry has an etymological reason: the Czech word for crab is 'Rak'. If we accept the hypothesis of Gryll's designation as the main impetus for the broadside, the festive occasion is strangely at odds with the inherently pessimistic tone of the text and the negative connotation of the crab carrying the world.

The uncertainty about the piece's origin notwithstanding, it is undeniable that the 1589 page exhibits a high degree of self-referentiality. Music, text and image are strongly interdependent, and each element intensifies the effect of the other. Above all, the underlying idea of the regressive world is expressed by all possible means. Apart from the text 'Miraris mundum', which serves as the verbal commentary on the image of the crab with the world on its back, several visual details – musical, textual and iconographical – reinforce the central message of the broadside. Most notable is the retrograde notation of the words 'Cancer cancrisat' for the short ostinato, which is itself conceived as a palindrome; as we have seen above, the Greek word for this technique is 'καρκινιῆοι'. Furthermore, as the notation of the Czech and Latin verses as well as the position of the clef indicate, the music in the circle has to be sung anti-clockwise. Finally, it could even be said that the layout of the four free voices serves the purpose of the work's essence. The table format not only mimics a performance situation with two pairs of voices facing each other,[60] but as they see each other's parts upside down, this could also be a reference to a 'mundus inversus', which is conceptually related to the idea of the retrogressive world.

The Prague broadside can be considered a moralising emblem. To the emblem's traditional combination of text and image, music has been added as a third medium that underlines the moral message with its own means. We could even say that the tripartite structure of the emblem – the *inscriptio* 'Cancer cancrisat', the *pictura* of the crab with the globe on its back, and the *subscriptio* in the form of a Latin distich – receives a further consolidation via the music in the circular notation. The music in the circle, which literally encapsulates the emblem, is a compressed form of the

[60] Contrary to many other broadsides that are discussed in this chapter, there is no problem in performing the music from this page: with two singers on the left and two on the right side, the remaining two parts in the centre can be sung by two further voices, standing at the small side of the rectangle. The five-note ostinato, which is interspersed with three breves' rest, can easily be sung from memory.

emblem's tripartite arrangement. It summarises and illustrates the three aspects in a condensed way: the circle revisits the image of the world – it is an abstract reproduction of the globe on the back of the crab; the text, with its mixture of Czech and Latin verses, reformulates the contents of the *subscriptio* about the world developing in a negative sense. Finally, the retrograde reading of the music visualises the backward movement of the world that is criticised in the emblem.[61] As a whole, like a riddle this broadside both conceals and reveals its intention: it demands an active recipient, offering him interpretative clues, while forcing him to decipher the notation and the meaning of the work at the same time.

Religious symbols: the cross

Within this crosse here may you find,
Foure parts in two be sure of this:
But first seeke out to know my mind,
Or els this Cannon you may misse.

Thomas Morley, *A Plaine and Easie Introduction to Practicall Musicke* (London, 1597), 174

These lines accompany a cross-shaped composition, as it appears in Thomas Morley's *Plaine and Easie Introduction to Practicall Musicke* (see Figure 4.4).[62] As we have seen in Chapter 3, Morley was not an enthusiast of enigmatic music – let alone opaque inscriptions – but this piece is a striking exception. Morley confesses that even the four-line instruction is too obscure to arrive at the correct solution. We are only told that four voices can be deduced from two written ones, i.e. from the music notated on the two beams of the cross. The crossbar contains a canon between Bassus and Tenor: while the Bassus has to sing the written melody in retrograde inversion, the Tenor has to transpose this melody up a twelfth, while singing all the notes as dotted minims. The staff of the cross produces another pair of voices: the Cantus sings the notes from top to

[61] It should be noted here that this interpretation of retrograde reading does not jibe with Craig Wright's theories in his *The Maze and the Warrior*. As was also discussed in Ch. 2, according to Wright this compositional technique is an image of 'Christ's journey into Hell and return' and an expression of 'the eternal prophecy of Revelation: our beginning will be our end'. I am currently embarking on a study on the symbolism of retrograde reading; in the course of my research, it has become clear that the technique has different meanings according to the context in which it appears, hence should be studied in a more nuanced way.

[62] As I noted in Ch. 3, according to the latest research by John Milsom and Jessie Ann Owens, it is not certain whether it was Morley who created this piece or rather an unknown master.

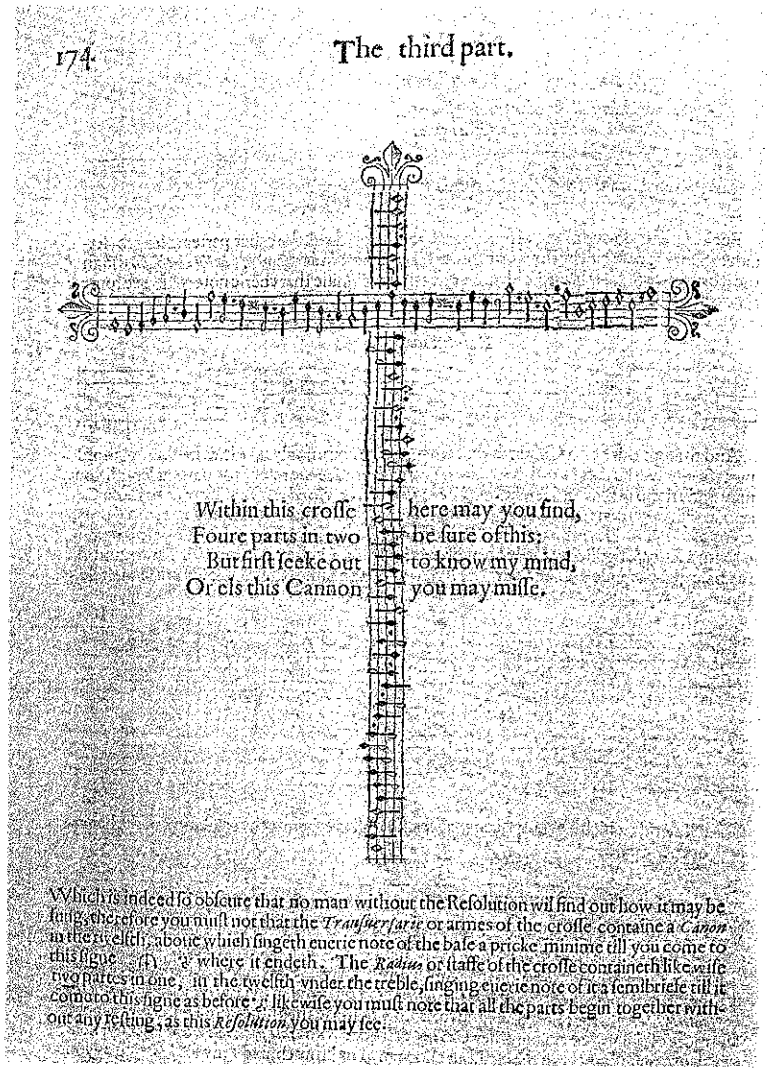

Figure 4.4 Thomas Morley, cross canon in *A Plaine and Easie Introduction to Practicall Musicke* (London, 1597), 174

bottom, while the Altus duplicates the melody at the lower twelfth, thereby treating every note as a semibreve.[63] This cross piece thus belongs to a

[63] 'Therefore you must note that the *Transuersarie* or armes of the crosse containe a *Canon* in the twelfth aboue, which singeth euerie note of the base a prickt minime till you come to this sign [signum] where it endeth. The *Radius* or staffe of the crosse containeth like wise two partes

Example 4.3 Thomas Morley, cross canon

subtype of canons in which the *comes* proceeds in one rhythmic value only.[64] Owing to the combination of these techniques, the aural result of the riddle is rather peculiar (see Example 4.3). The two outer voices are rhythmically varied, but Altus and Tenor move in one note value each, the former in semibreves, the latter in dotted minims, which causes a constant instability of the rhythmic structure. What is remarkable, though, is the fact that for Morley the image of the cross does not have any noticeable religious connotations – or at least he does not indicate a theological reason for depicting the music with a cross-shaped layout. It rather seems as if the mere form of the cross, with its sober but effective construction of

in one, in the twelfth vnder the treble, singing euerie note of it a semibriefe till it come to this signe as before [signum]: likewise you must note that all the parts begin together without any resting, as this *Resolution* you may see.' I quote from the forthcoming edition by John Milsom and Jessie Ann Owens, p. 174. The written-out solution follows on p. 175. See also D. Collins, 'Morley on Canon' in J. A. Owens and J. Milsom (eds.), *Thomas Morley: A Plaine and Easie Introduction to Practicall Musicke* (in press). I am grateful to Denis Collins for sending me his article prior to publication.

[64] As Collins, 'Morley on Canon', points out, other examples of this procedure may be found in canon collections by Bevin, Bull and Waterhouse.

two arms, offered the young musician an interesting occasion to experiment with 4-in-2 canons in an attractive visual design.

Morley was neither the first nor the last to present music in the form of a cross. He could draw on a tradition that had started in the first decades of the sixteenth century and was to continue well beyond. Being a universal emblem of salvation and one of the central symbols of Christianity, the cross is firmly embedded in a religious context. It was an important element in medieval passion theology, which not only developed a *contemplatio crucis*, but also supported a *compassio crucis*, a 'suffering with' the crucified Christ. This concept was encouraged by depictions of Christ on the cross, which almost literally 'impressed' the image on the supplicant and stimulated a mystical re-enactment of Christ's Passion. The idea of visual intensification was advanced in the Renaissance.[65] In 1492, for example, the Dominican friar Michele da Carcano wrote a sermon about the use of images in general and devotional objects in particular. In his opinion, they have both a mnemonic function and an emotional impact: images, more than texts, help to retain a message in one's memory; they arouse devotion and excite the viewer's imagination. The Dominican friar and reformer Girolamo Savonarola, who wrote a treatise on the triumph of the cross, even created an image that devout people could carry with them as a tool for contemplation while praying.[66] With the advent of the Reformation, the cross continued to have a privileged place. But there was a considerable shift of emphasis in its theological significance and epistemology. The cross even became a cornerstone in Lutheranism: according to Luther's *theologia crucis*, which he defended during the so-called Heidelberg Disputation in April 1518 but touched upon in earlier and later texts as well, Christ's Passion and crucifixion are the only way to salvation. It is only from God's self-revelation through the cross that people can learn about him.[67] An important aspect of Luther's hermeneutics is the tropological interpretation of the *crux Christi* as the suffering of

[65] R. Viladesau, *The Triumph of the Cross: The Passion of Christ in Theology and the Arts, from the Renaissance to the Counter-Reformation* (Oxford University Press, 2008).

[66] In his *Libro . . . della verita della Fede Christiana sopra el Glorioso Triompho della Croce di Christo*, Savonarola considers Christ's Passion and crucifixion as the first cause of grace and salvation.

[67] See Y. J. Kim, *Crux sola est nostra theologia: Das Kreuz Christi als Schlüsselbegriff der Theologia crucis Luthers* (Frankfurt am Main: Lang, 2008). The *theologia crucis* was opposed to the scholastic *theologia gloriae*, which according to Luther speculates about God's being without any connection to real life. It is also said that the scholastic view focuses too much on the reconciliation between God and mankind. Kim shows that Luther's ideas were strongly connected with the theological movement at the University of Wittenberg.

Christians. The cross is neither a way to union with God nor an example for the imitation of his sanctity, but God's only cure and present to the faithful.

It is no surprise, then, that Renaissance artists from both Catholic and Protestant circles produced works related to Christ's death on the cross – including the carrying of the cross, the raising of the cross, his descent from the cross and the entombment – in such overwhelming quantities. Apart from crucifixes and paintings, crosses were often integrated in visual poetry for an epicedium or *carmen funerale*,[68] or more generally for texts about the Passion. From the early decades of the sixteenth century onwards, composers were to follow suit. Their cross-shaped pieces circulated in various media and were eye-catchers in both practical and theoretical sources. Composers must have been inspired not only by the visual attractiveness of the cross and its capacity to convey a religious message, but also by the performative challenges it enabled. For as in literature, the cruciform layout was particularly suitable for experimenting with different reading directions in the horizontal and vertical sense: forward and backward on the one hand, descending and ascending on the other. It is no coincidence, then, that the majority of musical crosses are conceived as a double retrograde canon, with the voices starting from opposite ends of the cross's arms. For composers, the cross thus was not only a vehicle for expressing their religious worldview, but also an original way to visualise the essence of an established compositional technique.

Most cross pieces are accompanied by imaginative enigmatic inscriptions, which are – not surprisingly – mostly quotations from the Bible. Before scrutinising two cruciform riddles, by Ghiselin Danckerts and Adam Gumpelzhaimer, I shall first give a general overview of compositions in the form of a cross and highlight the intertextual relations between some of them.[69]

Ludwig Senfl seems to have started the tradition and even did so in several compositions. In the manuscript choirbook Munich 37

[68] Cf. the chapter 'Die neuzeitliche Rezeption des mittelalterlichen Figurengedichtes in Kreuzform: Präliminarien zur Geschichte eines textgraphischen Modells' in U. Ernst, *Intermedialität im europäischen Kulturzusammenhang*, 181–224. See also the poem in the form of a cross by Antoine de Baïf in Mosher, *Le texte visualisé*, 112.

[69] For an overview of cross-shaped pieces from the second half of the sixteenth century onwards, see W. Braun, 'Visuelle Elemente in der Musik der frühen Neuzeit: Rastralkreuze' in G. F. Strasser and M. R. Wade (eds.), *Die Domänen des Emblems: Außerliterarische Anwendungen der Emblematik*, Wolfenbütteler Arbeiten zur Barockforschung, 39 (Wiesbaden: Harrassowitz, 2004), 135–55.

(fols. 10^{v}–11), *Istum crucis socium et regni credimus* – the sixth strophe of a sequence for the feast of Saint Andrew – is depicted in the form of a diagonal cross.[70] This layout was evidently inspired by the so-called *crux decussata* on which the apostle Andrew is said to have been martyred and which is also mentioned in the text. The result is a short double retrograde canon *ad voces aequales* between Contratenor and Tenor on the one hand, Vagans and Bassus on the other – the voice labels are positioned at each end of the cross so as to illustrate the composer's intention. This short piece does not have an enigmatic inscription; the main challenge for the singers is to understand the experiment with the *ordo legendi* and the connection between the strophe's layout and its contents.

Two other cross-shaped motets by Senfl have an identical verbal canon. Both *Crux fidelis* and *O crux ave* appear on a broadside: a miniature image of the crucified Christ on the left is flanked by a biblical inscription on the right.[71] As we have seen in Chapter 2, the psalm verse 'Misericordia et Veritas obviaverunt sibi, Iustitia et Pax osculatae sunt', with its twofold meeting of virtues, is an elegant way to hint at a retrograde canon. But there is also a theological explanation for Senfl's choice of this psalm for two pieces related to the cross.[72] As I have shown elsewhere, from the commentaries of the Church Fathers onwards, Psalm 85 was interpreted in typological terms as an allegory of the Passion.[73] More precisely, this is a psalm about a nation in exile: God is asked to restore the harmony between Mercy and Truth, between Justice and Peace. Only then will the nation be rescued. In the various commentaries on the Book of Psalms, we read that it is exactly this hope for deliverance that was realised when God sent his Son Jesus Christ to the earth and when Christ died on the cross to do penance for the sins of mankind. At that moment Mercy and Truth come together, Justice (which is granted by God) and Peace (which is to be realised by mankind) kiss each other.

[70] See Ludwig Senfl, *Sämtliche Werke. Band X. Motetten. Vierter Teil: Kompositionen des Proprium Missae III*, ed. W. Gerstenberg (Wolfenbüttel and Zürich: Möseler, 1972), VI (facsimile) and 75 (transcription).

[71] Munich, Bayerische Staatsbibliothek, 2 Mus.pr. 156#4 and Vienna, Österreichische Nationalbibliothek, SA.87.D.8. Mus 32. For a transcription of *Crux fidelis* and *O crux ave*, see J. C. Griesheimer, 'The Antiphon-, Responsory-, and Psalm Motets of Ludwig Senfl', PhD thesis, Indiana University (1990), vol. II, 605–7 and 608–10 respectively.

[72] *Crux fidelis* is a procession hymn for the Veneration of the Cross on Holy Friday; *O crux ave spes unica* is the sixth strophe of *Vexilla regis*, a hymn for Passiontide.

[73] See Schiltz, 'La storia di un'iscrizione canonica'. See also H. Hattenhauer, *Pax et iustitia*, Berichte aus den Sitzungen der Joachim Jungius-Gesellschaft der Wissenschaften, 3 (Hamburg, 1983).

Their identical layout and common inscription suggest that *Crux fidelis* and *O crux ave* were conceived as a pair. The broadsides do not contain any information on the place, the date or the printer. However, another source for both works makes clear that Senfl even had a motet in three *partes* in mind. Indeed, the manuscript partbooks Munich 322–25, dating from around 1527 and containing music that was owned by Heinrich Glarean, present *Crux fidelis*, *Ecce lignum crucis* and *O crux ave* as a triptych that uses the same canonic inscription throughout. It is difficult to say whether Senfl composed his motet with or without the cross-shaped form in mind. But it is clear that music, text and image of the broadside form a coherent unity and bear witness to the composer's acquaintance with particular theological traditions.[74] The cross-shaped layout of the strophe from the Andrew sequence in the Munich choirbook, in which the composer played a major role as a scribe, shows that Senfl was not unfamiliar with the semantic possibilities of visual music. In the case of *Crux fidelis* and *O crux ave*, he might well have instigated the production of the two (or maybe even three?) broadsides. They serve almost as a devotional image along the lines of Michele da Carcano's above-mentioned description: they invite the viewer to contemplate the crucifixion, to reflect on the text of the piece and connect it with the compositional technique that is suggested by the psalm verse.

Senfl's cross pieces not only seem to have initiated a real vogue for cruciform riddles, but also had a direct influence on two composers: apart from Adam Gumpelzhaimer, about whom more below, Leonhard Paminger too must have known the broadsides and referred to them. In other works from his considerable output as well, he shows his acquaintance with Senfl's oeuvre, and two motets from his *Secundus tomus ecclesiasticarum cantionum* (Nuremberg, 1573) bear witness to this. In the section of works 'De Passione Domini' – Paminger's motet books are organised according to the church calendar – are two works on a fold-out page.

[74] Senfl's *Crux fidelis* and *O crux ave* were also used, albeit without the cross layout, as exempla in theoretical treatises and were reprinted many years after Senfl's death. In his *Erotemata musices practicae* (Nuremberg, 1563), Ambrosius Wilfflingseder reprints *O crux ave spes unica* and visualises the idea of the two voices meeting/kissing each other by printing the names of the virtues at the beginning and end of the music respectively. On the next page, he labels the *resolutiones* as 'Vox Veritatis' and 'Vox Pacis'. *Crux fidelis* appears both in Heinrich Faber's *Ad musicam practicam introductio* (Nuremberg, 1550) and in the famous third book 'De Canonibus' of Hermann Finck's *Practica musica* (Wittenberg, 1556). In the *Suavissimae et iucundissimae harmoniae* (Nuremberg, 1567), the printer added the following hint to the Altus: 'more Hebræorum canit' ('[the Altus] sings in the manner of the Hebrews'), thus referring to the writing direction from right to left; for the Tenor it simply says 'Cancrizat'.

On each side is a cross-shaped composition: the antiphon *Tua cruce triumphamus* and the hymn *Vexilla regis*.[75] Like Senfl's pair, the diptych shares the same inscription, which is taken from John 6:37: '(Eum) qui venit ad me non eijciam foras' ('Him that cometh to me, I will not cast out'). A double retrograde canon is hinted at not only via the verbal canon, but also by further notational features. In addition to placing the words 'Vox cancrizans' on the opposite side of both arms of the cross, the first word(s) of the text are printed backwards ('ecurc auT' and 'allixeV' respectively).[76] Paminger, although working in the Catholic diocese of Passau, had many friends in Protestant circles and was considerably influenced by Reformation ideas. It is not unthinkable, then, that he considered the cross-shaped pieces, with their emphasis on the redemptive power of Christ's Passion, a fitting musical exemplification of Luther's above-mentioned *theologia crucis*.[77]

With the next composer we turn to a decidedly Catholic context. Among Pieter Maessens's puzzle canons is a nine-voice *Per signum crucis*, which is also preserved on a broadside.[78] The work is dedicated to Ferdinand I's wife Anne, Queen of Hungary and Bohemia, and their son Charles. Although the page does not mention a date and place of publication, Laura Youens proposes 1543 as *terminus post quem*, since in that year Maessens moved to Vienna to become a member (and in 1546 chapel master) of Ferdinand's chapel.[79] Anna died in January 1547, which leaves us with a fairly narrow time frame of about three years for the composition of *Per signum crucis*. Attached to the cross are additional staves going in different directions; it is the singer's task to find out the path he has to take. The words 'In nomine Patris, Filii et Spiritus Sancti', written on both arms of the cross, mimic the sign of the cross Catholics usually make via a ritual hand motion (see Figure 4.5). These words return at the bottom of the page, where they are flanked by a skull, out of which writhes a serpent, and

[75] See also Meyer, '*Vexilla regis prodeunt*', who for unclear reasons only discusses *Vexilla regis*.

[76] It should also be noted here that the pieces have complementary clefs: c3 and f4 for *Tua cruce*, c1 and c4 for *Vexilla regis*. They are not in the same mode, though.

[77] This hypothesis was also advanced by Grantley McDonald in his paper 'Ludwig Senfl, Leonhard Päminger and Martin Luther's Theology of the Cross' (Barcelona, Medieval and Renaissance Music Conference, 5–8 July 2011).

[78] It is part of the same collection of broadsides from the Bavarian State Library that also contains Senfl's *Crux fidelis* and Gumpelzhaimer's *Crux Christi* (see below). Shelfmark 2 Mus.pr. 156#1.

[79] L. Youens, 'Forgotten Puzzles: Canons by Pieter Maessens', *Revue belge de musicologie*, 46 (1992), 81–144. Comparing the printing method with other broadsides from that period, she hypotheses that Philipp Ulhart from Augsburg might have been the printer.

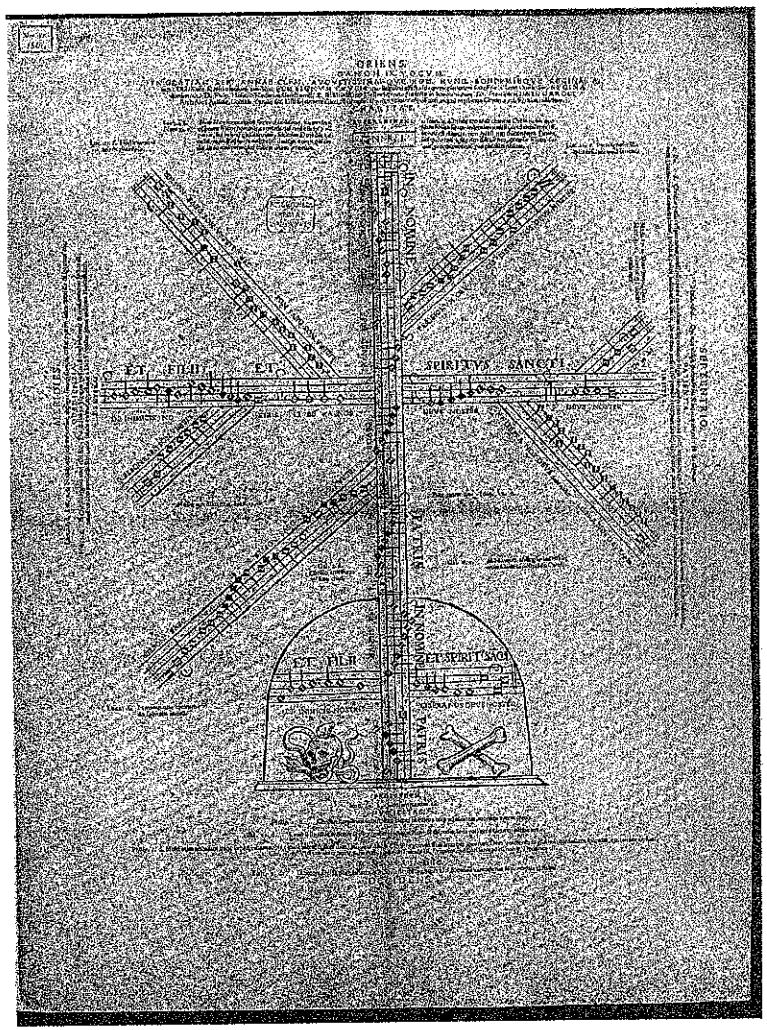

Figure 4.5 Pieter Maessens, *Per signum crucis*. Munich, Bayerische Staatsbibliothek, 2 Mus.pr. 156#1

bones. The text of the piece, 'Per signum crucis de inimicis nostris libera nos, Deus noster', is related to the feasts of *Inventio crucis* (3 May) and *Exaltatio crucis* (14 September). Each of the four main points of the cross is identified by a direction (Oriens, Septentrion, Occidens and Meridies), a position (Supereminens, Sinistra, Profundum and Dextera) and a virtue

(Charitas, Patientia, Humilitas and Obedientia).[80] These virtues are the subject of the almost twenty biblical quotations that surround the multi-branched cross. As Youens shows, the equation of the four points of the cross with these four virtues can be traced back to Augustine, who explains the symbolism of the cross in his 140th letter.[81]

The biblical verses that accompany Maessens's piece do not contain any clues about the music – such as the clefs and the route of the voices; the recipients have to figure that out themselves – and should thus not be considered as enigmatic inscriptions.[82] Rather, with this broadside Maessens offers his patrons a condensed view of the theological meaning and context of Christ's Passion, thus testifying to his broader religious knowledge and his capacity to incorporate it in a sophisticated musical programme. He invites the viewer to spend time with the work and to explore the rich array of sources quoted. He guides the eye of the recipient in various directions and places music, text and image under the sign of the cross. When we search for a possible historical context for this broadside, Ferdinand I's presidency of the Imperial Diet at Nuremberg in 1543 comes to mind. During both meetings, the Turkish threat and the growing influence of the Protestants were at the top of the agenda. Could Maessens's broadside be considered a religious pamphlet to support his patrons, in which he makes a plea to 'free us from the enemies by the sign of cross'? Furthermore, it should be mentioned that Ferdinand's wife Anna, the actual dedicatee of the page, was known as a pious and learned woman. She wrote a prayer book, entitled *Clypeus pietatis*, which was reprinted numerous times until well into the seventeenth century. One of the prayers is to be said when the priest, during the liturgy, makes the sign of the cross when holding the host over the chalice. In Maessens's motet, the sign of the cross is explicitly seen as salvation and as a protection against enemies ('ein Heyl und Beschirmung wider alle heimliche Arglist meiner Feind').[83]

[80] All texts are reproduced in Youens, 'Forgotten Puzzles', 91–2 n. 30.

[81] It should also be mentioned here that Maessens had a profound interest in theology and symbolism, which speaks among others from his book of prayers, the *Novem piae et breves orationis dominicae declarationes* (Augsburg, 1555).

[82] For a transcription, see *Pieter Maessins, um 1505–1562. Sämtliche Werke*, ed. O. Wessely and M. Eybl, Denkmäler der Tonkunst in Österreich, 149 (Graz: Akademische Druck und Verlagsanstalt, 1995), 84. For a different version (with other clefs and registers of the individual voices), see Youens, 'Forgotten Puzzles', 139–44.

[83] Quoted from the 1642 edition by J. G. Schönwetter: *Clypeus Pietatis, Das ist, Schildt der Andacht: In welchem Alte und Newe, jedoch Andächtige, zu der Gottseligkeit und Liebe Gottesdienstliche, auch schöne Gebet . . . begriffen seynd; Weyland von der . . . Frawen Anna, Römische Keyserin . . . für Ihrer Majestät selbst eigne Andacht zusammen verfasset* (Frankfurt am Main: J. G. Schönwetter, 1642), 86.

Whether there is a direct connection between this passage in Anna's manual of devotion and Maessens's *Per signum crucis* or not, with this work he clearly touched upon a topic that for various reasons had a special importance for his employers.

In addition to Morley's cross canon, discussed at the beginning of this section, cruciform riddles appear regularly in a theoretical context.[84] In the last book of his *El Melopeo y maestro* (Naples, 1613), Pietro Cerone includes no fewer than four riddles in cross-shaped form. His predilection for religious themes runs like a golden thread throughout his treatise. Cerone, who was a priest in Naples from 1603 onwards, is very much concerned with the propagation of the Catholic faith. It is worthwhile noticing that *El Melopeo y maestro* has a double dedication: in addition to addressing the Spanish king Philip III, he puts his work under the protection of the child Jesus and his mother Mary, 'emperatriz de los Cielos . . ., amparo seguro, y efficacissima advocata de los pecadores'. In this paratext, Cerone even explicitly refers to the crucified Christ speaking to his mother ('Mulier ecce Filius tuus') and to John ('Ecce Mater tua'), and he ends the dedication with the sign of the cross ('con el Padre, y el Hijo, y el Espiritu sancto. Amen').[85] In this context, the multiple presence of the cross theme (nos. 20, 34, 43 and 45) in a book with forty-five *enigmas musicales* does not come as a surprise.

Cerone even concludes his collection with a cross riddle. The final piece, entitled *Enigma doblado en otra differente forma de Cruz* (no. 45) is by Ghiselin Danckerts. Its position at the very end of the book – and indeed of the treatise in general – marks once more Cerone's deeply entrenched Catholic belief. He must have got to know Danckerts's music in Naples, where the Dutch composer was in the service of Pierluigi Caraffa before joining the papal choir in 1538; after his appointment in Rome, Danckerts visited Naples on several occasions. In his manuscript treatise, Danckerts writes that the piece had been published in print: 'il motetto del Crucem Santam [*sic*] subiit, a due parti fatti a modo d'una croce, pubblicato anche esso per la stampa'.[86] However, the original (probably broadside) is now

[84] In this context, I should also mention the cruciform piece by Costanzo Porta in Bologna B. 140, added between fols. 11 and 12.

[85] See also the 'Oraciones para antes de estudiar' Cerone prints in the introduction, between the two dedications. These prayers are also introduced by the sign of the cross.

[86] Bruyn, 'Ghisilinus Danckerts, zanger van de pauselijke Cappella' (1949), 131.

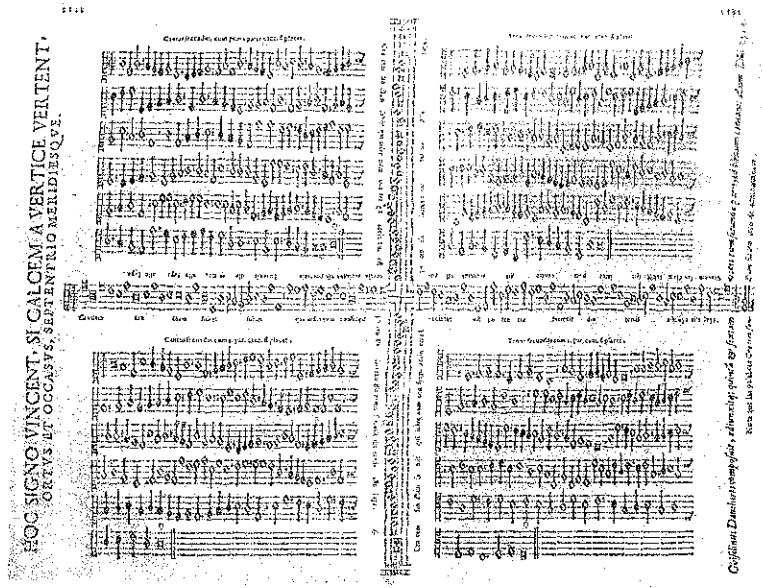

Figure 4.6 Ghiselin Danckerts, *Crucem sanctam subiit* in Pietro Cerone, *El Melopeo y maestro*, 1138–9. Regensburg, Bischöfliche Zentralbibliothek, Th 34

missing. In his *El Melopeo y maestro*, Cerone prints the work on a double page and dates it 1549 (see Figure 4.6).

The cross is accompanied by the following inscription: 'Hoc signo vincent si calcem a vertice vertent. Ortus et occasus, septentrio meridiesque' ('They will win with this sign if they turn the end on its head. East and West, North and South'), thereby referring to the vision of Constantine in order to underline the power of the cross.[87] As we have seen above, with Optatianus Porphyrius' cross poems for the Emperor a tradition of cruciform poetry started that must have influenced composers as well.

The title of the riddle (*Enigma doblado* . . .) already reveals that Danckerts's riddle allows a double solution. How is this to be interpreted? Each arm of the cross contains a pair of voices: Cantus (c1 clef) and Bassus (f4 clef) on the one hand, Altus (c3 clef) and Tenor (c4 clef) on the other. The positioning of the clefs, the mensuration sign (¢) and the text underlay

[87] The four cardinal directions, mentioned in the verbal canon, are called by the ancient time indications, with *ortus* standing for sunrise, *meridies* for midday and *occasus* for sunset. In ancient Rome, *septentrio* was an alternative name for the constellation of the Great Bear, and became a synonym for the northern wind.

at each point of the cross hint at Danckerts's intention: whereas the Cantus sings its music straightforward, the Bassus literally turns the melody upside down, which results in retrograde inversion. As the inscription says, the voices have to turn the music 'from tip to toe'. The same procedure goes for Altus and Tenor. The latter voice in fact quotes the plainchant melody of *Crucem sanctam subiit*, which was sung on various feasts related to the commemoration of the cross.[88] To the left and right, Cerone adds two voices (Cantus secundus and Tenor secundus), which do not participate in the canon and can be added *ad libitum* (see Example 4.4).

A second version of the riddle results from another 'turning of the end on its head'. This time, the Cantus (and the Altus) sing their melody backwards, whereas the Bassus (and the Tenor) once more turn that music upside down, which results again in retrograde inversion. Here as well, two optional voices – printed on the lower part of the page – can be added to enrich the harmony. Owing to these various techniques, which pose serious restrictions on the freedom of the voices (such as the avoidance of dotted notes and dissonances), the aural result of Danckerts's work is rather static, which also seems to be the reason why he proposes to add further voices.

In his discussion of the riddle, Cerone mentions twice that the words *Crucem sanctam* are not so much to be sung as to serve as decoration: 'no sirve tanto para cantar, como par ornamento'.[89] This is strange, not only because Danckerts himself calls the piece by this title in his manuscript treatise, but also because he has the Altus quote the melody of the antiphon *Crucem sanctam subiit*, with which Cerone surely was familiar himself.[90] But it seems that he had difficulties with the text underlay of the other voices – especially in the case of the retrograde reading – which is why he may have thought the words to be of secondary importance.[91]

[88] See the edition in *Ghiselin Danckerts: The Vocal Works*, ed. E. Jas, Exempla Musica Zelandica, 5 (Middelburg: Koninklijk Zeeuwsch Genootschap der Wetenschappen, 2001), 6–11.

[89] Cerone, *El Melopeo y maestro*, 1137. See also 1139, where he writes under the image of the cross: 'Nota que las palabras *Crucem sanctam* sirven solo de adornamiento.'

[90] The text of the antiphon is as follows: 'Crucem sanctam subiit qui infernum confregit: accintus est potentia, surrexit die tertia, alleluia' ('He submitted to the Holy Cross who broke Hell; he was girded with power, he rose on the third day, alleluia'). Translation quoted from Jas's edition, xv. For the melody of the antiphon, see *Liber Usualis*, 1461.

[91] Text underlay is often problematic with retrograde canons. Even when a written-out *resolutio* of the retrograde version of a melody is given, scribes or printers often fail to underlay the text. See also Zazulia, 'Verbal Canons', 291ff. This said, it is indeed somewhat difficult to provide a good coordination of words and music in Danckerts's riddle *tout court* – see also the edition by Eric Jas.

Example 4.4 Ghiselin Danckerts, *Crucem sanctam subiit*

Example 4.4 (*cont.*)

Example 4.4 (*cont.*)

However, another source that also transmits Danckerts's cruciform riddle points in the same direction. It has until now gone unnoticed that Zacconi also discusses the piece in his *Canoni musicali*.[92] In book 3, which is about music accompanied by an image (Zacconi calls them *gieroglifici*) or a poem, he analyses the cross piece in chapter 9, without, however, naming the composer.[93] But a couple of things are different, which makes one wonder about the respective sources Cerone and Zacconi used. To begin with, the text is different: in Zacconi's version, the four voices sing the text 'Per signum crucis de inimicis nostris', i.e. the same text Maessens used for his above-mentioned broadside. However, Zacconi puts these words at the beginning of each arm of the cross as a kind of marker, but he is not concerned with a precise text underlay. Neither does he seem to have recognised the plainchant melody of *Crucem sanctam subiit* in the Altus. Aside from that, the verbal canon is slightly different from Danckerts's riddle: 'Hoc signo vinces, si calcem a vertice vertes'. Not only has the third person plural changed into a second person singular, but the cardinal directions are also absent, which has consequences for the interpretation of the riddle. Indeed, what is especially remarkable is that Zacconi does not mention the possibility of a second version. He presents his readers with only one *resolutio*, and even that one only partially. The reader has to find out for himself about the double retrograde inversion canon that underlies the four voices and is not told about the alternative upside-down reading of the voices; neither does Zacconi provide a second pair of *si placet* parts. He seems to have understood the turning upside down of the page in one sense only.[94] For Zacconi, who is normally not at a loss for words, this paucity of information is striking, to say the least. Furthermore, even the music itself shows differences compared with Cerone's version: in nearly all parts, the first four bars have

[92] The piece is not discussed in Wuidar, 'Les *Geroglifici Musicali* du Padre Lodovico Zacconi'.

[93] Zacconi, *Canoni musicali*, fol. 110. See the reproduction in Cerfeda, 'Il ms. *Canoni musicali proprij e di diversi autori* di Lodovico Zacconi', vol. II, 204 (transcription on p. 90). Chapter 9 carries the heading 'D'un altro sorte di canoni con croce che sono d'altra più singolar consideratione'. The 'other cross piece' Zacconi refers to concerns a short anonymous piece that is discussed in the preceding chapter. It is a double retrograde canon without text, but with the following text from Matthew 16:24 written diagonally between the four arms of the cross: 'Qui vult venire post me / abneget semetipsum / et tollat crucem suam / et sequatur me' ('If any man will come after me, let him deny himself, and take up his cross, and follow me'). See the reproduction in Cerfeda, vol. II, 203 (transcription on p. 89).

[94] This is also surprising because, as we have seen in Chapter 2, both in his *Prattica di musica* and the *Canoni musicali* Zacconi discusses the possibility of multiple solutions (often involving inversion) that can be found without the composer marking this as such. He even explicitly mentions the technique of 'revolutione', a term derived from turning the music upside down.

different note values and harmonies, after which both sources coincide again; however, smaller rhythmic and melodic variants keep occurring. This is especially the case with the *si placet* voices, which have livelier rhythms vis-à-vis the canonic voices anyway. Apart from a different clef for the Tenor secundus (c4 in Cerone, f3 in Zacconi), there are numerous smaller differences. It is difficult to find a reason for these variants, not only because we do not have Danckerts's original, but especially since the compositional restrictions imposed by retrograde inversion canons are considerable and do not leave very much room for changes. Cerone and Zacconi must have copied the music from different sources. A final difference between both versions needs to be mentioned. Zacconi writes that the cross was accompanied by further pictorial elements. As we read in his commentary:

> oltre il porvi parole di più singolari ed intime significationi, v'hanno anco fatto due parti musicali appresso, situate di l'un lato, e l'altro, e ve l'hanno poste a libito, e beneplacito di cantanti, con apprendernele appresso (come ho detto) in foggia di spaliera, attaccata in asta; che l'una si vegghi attaccata alla lancia, e l'altra alla canna con la sponga.
>
> Besides the fact that they have used particular words full of secret meaning, they also have made two voices together with it, which are situated on one and the other side [of the cross], and they made them *ad libitum* for the pleasure of the singers, putting them [the melodies] in the form of an espalier attached to a staff, of which one can be seen attached to a lance, the other to the reed with the sponge.

In Zacconi's drawing on fol. 110^{v}, the *si placet* voices do indeed seem to serve as an espalier that flanks the cross. Two objects from the *arma Christi* are attached to it: a lance on the left side and a sponge set on a reed to the right. Zacconi was not good at drawing, but the intention nevertheless is clear. Cerone does not include these instruments of the Passion in his version. Either it might have been too difficult to realise these iconographical details in print, or the absence of these objects could be yet another indication that both theorists drew their example from different sources.

Another cruciform riddle that is mentioned in *El Melopeo y maestro* is from the late sixteenth century. The *Enigma con otra differente Cruz* (no. 43), which in Cerone's treatise is without attribution to a composer, turns out to be Adam Gumpelzhaimer's *Crux Christi*.[95] This piece survives in several sources,

[95] Cerone, *El Melopeo y maestro*, 1131 only says the work is by 'un Compositor moderno'. In his short *declaracion*, he writes that the piece 'no ay cosa difficultosa ni secreta'. At the end, he also mentions a cruciform piece by Giovanni Maria Nanino, which, however, is lost.

in different media and in various forms.[96] The best-known version of the work – and probably also Cerone's source – is in Gumpelzhaimer's *Compendium musicae*, an introduction to the principles of *musica practica*, illustrated with numerous examples. The treatise first appeared in 1591 and was reprinted more than a dozen times until the end of the seventeenth century. From the second edition (Augsburg, 1595) onwards, the lavishly designed page was added shortly after the dedication. The piece also survives as a large broadside (Munich, Bavarian State Library, 2 Mus.pr. 156#19; see Figure 4.7).[97] Scenes from Christ's Passion – the Mount of Olives in Gethsemane, the sleeping apostles, Judas and the soldiers, Calvary, the crown of thorns, nails, etc. – build the background for a cross and four circles, all of which contain music. As the explanation at the bottom of the page makes clear, they yield two compositions: the *Crux Christi* is for six voices, the *Quatuor evangelistae* for eight. How does this work?

Let us start with the *Quatuor evangelistae*. In the centre of each circle is the symbol of an evangelist: an angel (Matthew), a winged lion (Mark), a winged bull (Luke) and an eagle (John).[98] The text recalls the last words of one of the malefactors who were crucified beside Christ: 'Domine, memento mei cum veneris in regnum tuum' ('Lord, remember me when thou shalt come into thy kingdom'; Luke 23:42). By having the circles surround the cross in the centre of the page, it is as if the malefactor – while representing the penitent community – is addressing himself to Christ on the cross, begging for mercy and forgiveness. The same intention is expressed in the two-line epigram at the bottom of the page, which reads like the *subscriptio* of an emblem: 'Quem prece sollicito, seu Sol, seu Luna coruscet, / CHRISTE fer auxilium, Cruce qui peccata luisti' ('Christ, whom I beg, whether the sun or the moon is shining, help me, you who at the cross has taken away the burden of sin').

[96] W. Dekker, 'Ein Karfreitagsrätselkanon aus Adam Gumpelzhaimers *Compendium musicae* (1632)', *Die Musikforschung*, 27 (1974), 323–32. See also Schiltz, 'La storia di un'iscrizione canonica'.

[97] However, not all copies of the 1595 edition contain this page. In Augsburg, Staats- und Stadtbibliothek, Tonk. 831, for example, the *Crux Christi* appears as a copper engraving by Dominicus Custos; the copy of the Bavarian State Library does not have this engraving. In the following editions, we have either a woodcut by Alexander Mair or a copper engraving by Wolfgang Kilian.

[98] It can be noted that the four circles are arranged as in a choirbook: Cantus and Altus on top, Tenor and Bassus at the bottom. The transcription of the *Quatuor evangelistae* in Adam Gumpelzhaimer, *Ausgewählte Werke*, ed. O. Mayr, Denkmäler der Tonkunst in Bayern, X.2 (Leipzig: Breitkopf & Härtel, 1909), 5–6 mistakenly interprets the clef of the two upper voices as c1. As the edition shows, this produces many dissonances. The clef should be read as g1, as in my transcription.

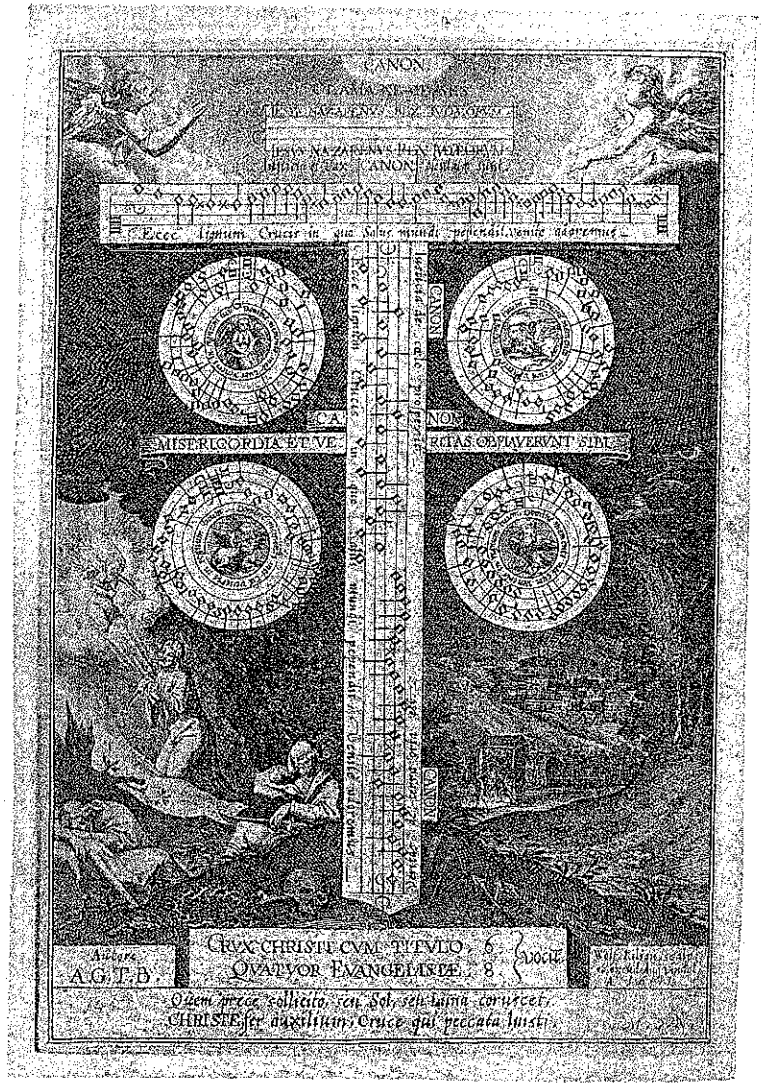

Figure 4.7 Adam Gumpelzhaimer, *Crux Christi – Quatuor evangelistae*. Munich, Bayerische Staatsbibliothek, 2 Mus.pr. 156#19

In order to know how eight voices can be deduced from four circles, one has to take into account the verbal canon that is added between the circles. The text is familiar: Gumpelzhaimer takes the same Psalm verse that Ludwig Senfl had already chosen for his cruciform riddles, 'Misericordia

et Veritas obviaverunt sibi'.[99] Here as well, the meeting of Mercy and Truth gives way to a retrograde canon.

The music of every circle must thus be read clockwise and anti-clockwise at the same time, which produces an eight-in-four canon (see Example 4.5). With the music going in two directions, the linear sense of time is suspended: Christ's identity as Alpha and Omega, beginning and end, is being represented. In other words, a constructivist musical principle becomes a medium of symbolic expression.

As such, the symbolism suggested by the circle perfectly complements the moment of Christ's Passion that is expressed by the cross. The text is a prayer for Good Friday: 'Ecce lignum Crucis in quo Salus mundi pependit. Venite adoremus' ('Behold the wood of the cross on which hung the Saviour of the world. Come let us worship'). The opening imperative 'ecce' explicitly invites the recipient to look at and contemplate the suffering of Christ via the interplay of image, text and music. At the same time, the sacred wood is made alive through sound. Several inscriptions hint at the interpretation of the music on the two arms of the cross. Gumpelzhaimer attaches the remaining hemistich from Psalm 85 – 'Iusticia et Pax osculatae sunt' – to the music of the cross-bar. At the same time, he emulates Senfl's example by adding two more passages from the same Psalm: with the words 'Veritas de terra orta est' ('Truth is sprung out of the earth') written from bottom to top and 'Iusticia de Caelo prospexit' ('Justice hath looked down from heaven') from top to bottom, he visualises the reconciliation of heaven and earth that takes place through Christ's death on the cross. At the same time, it is an image of what is happening in musical terms: two voices start on the opposite side of the staff and produce another retrograde canon.

The two remaining voices of the *Crux Christi* must be sought at the top of the page. Two angels flank the *titulus* of the cross, which carries the words 'Iesus Nazarenus Rex Iudaeorum' written twice on the staff. Above it is an enigmatic inscription – note that the word 'Canon' is written as if coming out of a light and in the place where God is usually depicted. The instruction 'Clama ne cesses' ('Cry, cease not') is a quotation from Isaiah 58:1 and instructs that the text should be declaimed without interruption, with two voices singing on *e* an octave apart (see Example 4.6). As in the

[99] Gumpelzhaimer also knew Philippe de Monte's eight-voice *Ad te, Domine, levavi animam meam*, which contains a four-voice canon with the same psalm verse as enigmatic inscription: he transcribed the music in the so-called Gumpelzhaimer Codex E (Kraków, Biblioteka Jagiellońska, Mus. ms. 40027). On this manuscript, see M. Steinhardt, 'New Works by Philippe de Monte in a Recovered Codex', *Revue belge de musicologie*, 42 (1988), 135–47 and R. Charteris, *Adam Gumpelzhaimer's Little-Known Score-Books in Berlin and Kraków*, Musicological Studies and Documents, 48 (Neuhausen: American Institute of Musicology, 1996).

Example 4.5 Adam Gumpelzhaimer, *Quatuor evangelistae*

Example 4.5 (*cont.*)

Example 4.6 Adam Gumpelzhaimer, *Crux Christi*

case of the psalm verses, with this biblical quotation Gumpelzhaimer also seems to refer to the music of a famous predecessor: as we have seen in Chapter 2, 'Clama ne cesses' accompanies the third Agnus Dei of Josquin's *Missa L'homme armé super voces musicales*. As Bonnie Blackburn proposes, in Josquin's mass the use of the verse from Isaiah has a double function: it 'relates not only to the cry for mercy to "the Lamb of God that takest away the sins of the world" but to "On a fait partout crier" and the trumpet motif of the *L'homme armé* song: "Cry, cease not, lift up thy voice like a trumpet, and shew my people their wicked doings, and the house of Jacob their sins"'.[100] In Gumpelzhaimer's *Crux Christi*, the inscription is used for Christ, the Lamb of God who by his death on the cross took away the sins of the world. The verbal canon can also be said to invoke the verdict of the Jews, chief priests and officers who – as we read in John 19 – cry out before Pilate to crucify Jesus, the 'King of the Jews'.

The *Crux Christi – Quatuor evangelistae* must have had a special significance for Adam Gumpelzhaimer. Apart from its presence in the *Compendium musicae* and as a large broadside, it also survives in various alba amicorum. One of those is especially noteworthy. The *Stammbuch* of Paul Jenisch (Württembergische Landesbibliothek Stuttgart, Cod. hist. qt. 299) contains two versions of the *Crux Christi*.[101] The entry on fol. 106^{r} contains a striking textual difference. Instead of ending *Ecce lignum crucis* with the imperative 'Venite adoremus', we now read 'Iesus Christus noster'. Interestingly, these words were used in a Protestant context, which was both Gumpelzhaimer's and Jenisch's religion. As we have seen above, in Luther's *theologia crucis*, the cross was not so much an object of devotion that should be venerated ('Venite adoremus'); rather, Luther interprets Christ's Passion in tropological terms as the suffering of the faithful. Via the cross, Christians identify themselves with 'Iesus Christus noster'. It is certainly telling that in all printed sources of the *Crux Christi*, Gumpelzhaimer opts for the traditional Catholic variant of the *Ecce lignum crucis* text, whereas in a 'private' entry for an album amicorum he confesses unequivocally to his Protestant belief.

[100] Blackburn, 'Masses Based on Popular Songs and Solmization Syllables', 59.

[101] On the album amicorum of Paul Jenisch, see C. Gottwald, 'Humanisten-Stammbücher als musikalische Quellen' in W. Stauder, U. Aarburg and P. Cahn (eds.), *Helmuth Osthoff zu seinem siebzigsten Geburtstag* (Tutzing: Schneider, 1969), 89–103.

Music and nature: the lunar cycle

I with borrowed silver shine,
What you see is none of mine.
First I show you but a quarter,
Like the bow that guards the Tartar;
Then the half, and then the whole,
Ever dancing round the pole;
And true it is, I chiefly owe
My beauty to the shades below.

Jonathan Swift, *On the Moon*

The moon has always held a strong fascination for scientists, philosophers, authors and mankind in general. Long before the first landing on the moon, the Greek satirist Lucian wrote of a trip to the moon. In a most amusing tone, Lucian describes the inhabitants – whom he calls 'Selenites' after the Greek goddess Selene – what they look like, what they eat and drink, what happens when they grow old, etc. In his *De Vita Caesarum*, Suetonius describes the 'lunatic' Roman emperor Caligula as a rather remarkable person, who talked to the full moon and even wanted to embrace her. In Ariosto's *Orlando furioso*, the knight Astolfo flies to the moon in Elijah's flaming chariot, where he hopes to find a cure for Orlando's madness. On the moon, everything lost on earth is to be found, including Orlando's wits. Astolfo brings them back in a bottle and makes Orlando sniff them, thus restoring him to sanity.

The fascination with the moon found a particular expression in Renaissance musical riddles.[102] More precisely, musicians were struck by the resemblance of the various phases of the moon to the mensuration signs. The similarities between both are indeed striking: from the waxing crescent moon over the first quarter (☽) to the full moon (O) and then back to the third quarter and the waning crescent moon (C), all forms have a parallel in the stock of mensuration signs. By playing with this analogy, composers were able to intimately connect the universal order of the macrocosm with the notational subtleties of the Renaissance musical microcosm. The laws of the heavens are reflected in the fundamentals of musical organisation. Apart from their visual analogy, the mensuration signs and the lunar cycle are indeed linked on a more abstract level.

[102] See also my 'A Space Odyssey: The Mensuration Signs and the Lunar Cycle' in S. Rommeveaux, P. Vendrix and V. Zara (eds.), *Proportions: Science – Musique – Peinture & Architecture* (Turnhout: Brepols, 2011), 217–29.

Both are ways of measuring time: musical time ('musica mensurabilis') with its changing subdivisions on the one hand, cosmic time on the other.[103] Not surprisingly, the etymology of the word *moon* refers to its relation to the computation of time: the Germanic term *Mond*, which is related to the Latin *mensis*, is ultimately derived from the Proto-Indo-European root *me-*, also represented in *measure*. Words derived from it – like *Monday* and *month* – indicate the moon's importance for measuring time: a week corresponds to the seven-day phases of the moon, one month is the time it takes for the moon to circle the earth. In fact, the majority of all calendar systems are based on the movement of the moon, whence they are called lunar calendars.

Several music treatises of the fourteenth and fifteenth centuries, such as the *Quatuor principalia musicae* and the seventh book of Jacques de Liège's *Speculum musicae*, draw a parallel between the tempus divisions in music and the division of time in general.[104] The expanded version of Prosdocimus's *Tractatus cantus mensurabilis* (Lucca, Biblioteca Statale, MS 359) even compares the circle of tempus perfectum to the zodiac sign, which stands for one solar year and is divided into twelve parts or months. In the music of the Renaissance, this abstract analogy is developed in more tangible terms, as the similarities between both are extended to the visual level. A handful of riddles offer a fascinating testimony of the way this field is explored in inscriptions, images and their musical realisation. Most of these pieces appear in theoretical treatises, a fact that clearly points to their speculative character and intention. I shall discuss the riddles in order of increasing complexity.

Early traces of the tradition can be found in the five-voice motet *Saule quid me persequeris – Sancte Paule apostole* by Jean Le Brung, of which the text is about the conversion of St Paul (Acts 9).[105] The Tenor primus takes

[103] See also E. Schroeder, '"Mensura" according to Tinctoris in the Context of Musical Writings of the Fifteenth and Early Sixteenth Centuries', PhD thesis, Stanford University (1985).

[104] A. M. Busse Berger, *Mensuration and Proportion Signs: Origins and Evolution* (Oxford: Clarendon Press, 1993), 46.

[105] A facsimile edition of the piece in Vatican CS 46 (fol. 85^{v}–88^{r}) appeared in the series Renaissance Music in Facsimile, 21 (New York and London: Garland, 1986). According to Jeffrey Dean, the motet was copied by Claudius Bouchet and belongs to the manuscript's latest layer of music (p. vi). This motet also survives in *Fior de motetti e Canzoni novi composti da diversi eccellentissimi musici* (Rome: Giunta, 1526; RISM 1526^{5}) and *Liber octavus XX. musicales motetos quatuor, quinque vel sex vocum modulos habet* (Paris: Attaingnant, 1534; RISM 1534^{19}), as well as in several manuscripts (Padua A 17). In Casale Monferrato, Archivio Capitolare, MS D(F), the work is attributed to Pierre Moulu. Modern edition by A. Tillman Merritt, *Treize livres de motets parus chez Pierre Attaingnant en 1534 et 1535* (Monaco: L'Oiseau Lyre, 1962), vol. VIII, 53–61.

the form of an ostinato on the words 'Sancte Paule ora pro nobis' (with the melody quoting the litany of the Saints), which is accompanied by the inscription 'Canon: Luna te docet' ('Rule: The moon teaches you') on the one hand, and a ¢ followed by three superimposed C signs on the other. The latter not only indicate the *soggetto*'s entrance on *g'*, *d* and *g* respectively, but they also tell the Tenor to observe the mensuration signs when he repeats the ostinato: in each case, the note values have to be augmented.

In book 3, chapter 14 (fol. 125[r]) of his *Canoni musicali*, Lodovico Zacconi presents a canon by Biagio Pesciolini (1535–1611),[106] which was apparently composed for the baptism of the future Grand Duke of Tuscany, Cosimo II de' Medici (1590–1621).[107] In Zacconi's book, this piece is part of a section on 'canoni musicali fatti in enigma', i.e. music in the form of a 'mysterious poem' ('un certo misterioso particolar poema'), of which the text itself contains indications for deciphering the composer's intentions. At the end of the section, images add to the complexity of the riddle. The result is a series of musical enigmas, in which text and image offer complementary clues and lead to the solution.

Pesciolini's work is a four-voice motet in honour of the Virgin Mary, based on a passage from a Marian sequence. The text is notated as follows: 'TU[c] celi PANdis absconditA tu regi[t]na DominA cunCTO[a]RUM PORtA in celesTI[b] sedE'. As Zacconi explains, the vowels of the text produce a *soggetto cavato dalle vocali*, i.e. starting with *ut–re–mi–fa–mi*, etc. Furthermore, the syllables are written in three different formats, indicating three different note values: 'maiuscula' (semibreve), 'ordinaria' (minim) and 'picciola' (semiminim). The letters added between square brackets mark the points where the voices enter, one after the other, each time at a distance of two breves: first Cantus, then Tenor, Altus and finally Bassus.

In order to allow a correct interpretation of his riddle, Pesciolini added a pictorial element. Indeed, Zacconi writes that the composer's work was accompanied by an image of 'Una Madonna con la luna sotto i piedi', i.e. the Virgin Mary with the moon under her feet. Unfortunately, Zacconi, not a good painter himself, did not include the image, but it is a familiar topic in Renaissance iconography, where it turns up in paintings, statues,

[106] On this composition, see also Wuidar, 'Les *Geroglifici Musicali* du Padre Lodovico Zacconi'.

[107] Zacconi, *Canoni musicali*, fol. 125[r]: 'nel battesimo del serenissimo gran prencipe di Toscana ... facendovi (com'egli dice nella sua lettera stampata)'. Quoted after Cerfeda, 'Il ms. *Canoni musicali proprij e di diversi autori* di Lodovico Zacconi', 378.

and on frescoes and altarpieces. It refers to the description of the Apocalyptic Woman in the book of Revelation, who was later identified as the Virgin Mary: 'And a great sign appeared in heaven: A woman clothed with the sun, and the moon under her feet, and on her head a crown of twelve stars.'[108] Zacconi's readers must have known what the image was supposed to look like. He goes on, explaining that every element of the drawing has a musical meaning: the Virgin Mary, the 'most sublime creature', stands for the G-clef (i.e. the highest clef).[109] The 'sweet' child Jesus provides the key to establish the system (b molle): Cantus and Tenor thus sing the resulting melody in the *hexachordum molle* (starting on *f'* and *f* respectively), whereas Altus and Bassus imitate it a fourth below, in the *hexachordum naturale*. Finally, the shape of the moon indicates the mensuration sign of Pesciolini's composition, i.e. tempus imperfectum: 'Con quella luna semicircolare, forsi dico che haverà voluto mostrare il tempo del semicircolo semplice.'[110] Here as well, it is the visual analogy between the half moon and the sign of C that is played with as part of the riddle's *resolutio*.

Zacconi writes that the text of the work contains several additional indications for the singers. The *soggetto cavato* is not only the key to the melody; he also explains that the words 'pandis abscondita' refer to the canonic technique. Like the Virgin Mary, who uncovers things hidden, the work gradually develops into a polyphonic construction and discloses the musical potential of a single line. The final phrase, 'regina domina, cunctorum porta in celesti sede', refers back to the image of the Madonna with the moon under her feet, as this is the clue to the interpretation of the canon – the image 'apre la via à cantori come detto canone si habbia à cantare'.

Judging from the written-out *resolutio*, Zacconi seems to have missed an important point of Pesciolini's canon. In his solution, the canon can be

[108] Revelation 12:1. Translation quoted from the Douay–Rheims 1899 American Edition. See also B. J. Blackburn, 'The Virgin in the Sun: Music and Image for a Prayer Attributed to Sixtus IV', *Journal of the Royal Musical Association*, 24 (1999), 157–95 at 185–9.

[109] 'Col disegno della Madonna, haverà forsi voluto mostrar la chiave di G sol re ut acuto, e questo perché: si come fra tutte le chiavi musicali non v'è la più sublime che la sudetta, cosi anco fra tutte le creature humane, non v'è altra, ne la più sublime che la B. Vergine' (fol. 126[r]).

[110] It should be added here that Zacconi had a great interest in astrology, resulting in, among others, *L'astrologiche richezze di natura* and *Pronostici perpetui*. See also L. Wuidar, 'Les œuvres astrologiques de Padre Lodovico Zacconi (1555–1627) face à la censure ecclésiastique', *Bulletin de l'Institut Historique Belge de Rome*, 75 (2005), 5–26 and Wuidar, *Musique et astrologie après le Concile de Trente*, Études d'histoire de l'art, 10 (Brussels and Rome: Belgisch Historisch Instituut te Rome, 2008), esp. 126–46.

repeated *ad infinitum*: after three semibreve rests, the voices start again – he only shows the first notes of the Cantus's second statement.[111] But this would produce intolerable dissonances with the other voices. Pesciolini's intention, however, was a different one, and again the text may be said to contain a clue to the correct interpretation. By depicting the Virgin Mary as the 'porta paradisi', the 'gate to all people's celestial dwelling', he seems to suggest a gradual ascension towards this goal. And this is indeed the key to Pesciolini's canon: it is a *canon per tonos*, of which the starting pitch ascends a second upon each repetition. Thus, the second statement of the Cantus starts on *g'*, the third one on *a'*, etc., with the other voices changing accordingly (see Example 4.7). In all repetitions, the solmisation remains the same.[112] The deceptively simple tune thus hides – this being yet another interpretative layer of 'abscondita' – a far more intricate canonic construction, a musical visualisation of the 'scala paradisi', so to speak.[113]

The third book of Hermann Finck's *Practica musica* includes an enigmatic instruction that also alludes to the similarity of cosmic elements and the mensuration signs. 'Da mihi dimidiam lunam, solem, & canis iram' ('Give me the half moon, the sun and the dog's anger') is what we could call an audio-visual riddle (see Figure 4.8). Finck explains that this verse can be used when a composer decides not to show the mensuration signs, but to hint at them in a cryptic way instead: 'The moon stands for this sign C, the sun for O and the r for the dog's anger, which used to be written as 2' (sig. Cc2^{r}).[114]

It turns out that Finck resurrects a well-known literary riddle, whose origins seem to go back to the Middle Ages.[115] Martin Luther used it in one of his famous *Tischreden*[116] and the phrase also turns up in two famous

[111] See also his explanation about the rests at the end of the canon on fol. 125^{v}: 'non denotano altro che tre pause da doversi aspettare prima che si rincomminci da capo'. This solution is not discussed in Wuidar, *Canons énigmes et hiéroglyphes musicaux* either.

[112] This would add another work to the bulk of pieces discussed in E. E. Lowinsky, 'Music in Titian's Bacchanal of the Andrians: Origin and History of the Canon per tonos', in Lowinsky, *Music in the Culture of the Renaissance and Other Essays*, ed. B. J. Blackburn, 2 vols. (University of Chicago Press, 1989), vol. I, 289–312.

[113] Due to the ever-changing starting pitch, the solmisation also changes and the *soggetto cavato* is not applicable to all statements of the melody.

[114] What looks like a 2 is a round r (𝄽). The letter *r* clearly refers to the noise a dog produces when it is angry (Engl.: 'snarling'; German: 'knurren').

[115] See Galloway, 'The Rhetoric of Riddling in Late Medieval England', 87ff., who discusses its appearance in English riddle books.

[116] Here the phrase is 'Redde Deo mediam lunam, solem, canis iram', which is explained as follows: 'Das hertz will Gott, kein heuchlerey, darumb sich, dass dirs ein ernst sey.'

Example 4.7 Biagio Pesciolini, *Tu celi pandis abscondita*

German riddle collections.[117] It is in fact a word game: a combination of the letters C (i.e. the half moon), O (the sun) and R (the sound of an angry dog) results in the Latin word 'cor' ('heart'). The sentence 'Da mihi

[117] Johannes Lorichius's *Aenigmatum libri tres* (Frankfurt, 1545), fol. 77^{r} and Johannes Lauterbach's collection of *Aenigmata* (Frankfurt, 1601), 156.

Example 4.7 (*cont.*)

dimidiam lunam, solem, & canis iram' should thus be understood as 'Give me your heart', which is why it was a favourite epigram for an album amicorum. Another possibility to encode the same word is the following sentence, also quoted by Hermann Finck: 'Dimidium spherae, spheram, cum principe romae / Postulat a nobis totius conditor orbis' ('The founder of the whole world asks from us the half of the orb, the orb and the ruler of Rome'). The riddle is a literary pun, but Finck gives it a musical twist by reading the letters as mensuration signs: 'You thus have C for tempus imperfectum, O for tempus perfectum and O2 for modus minor perfectus.' He did not include a musical example for this inscription; he probably invented it himself without drawing on an existing composition.

In the three riddles discussed so far, the moon plays a partial role in a larger compositional concept: it is embedded in a religious context, accompanied by further enigmatic literary and visual clues, and combined

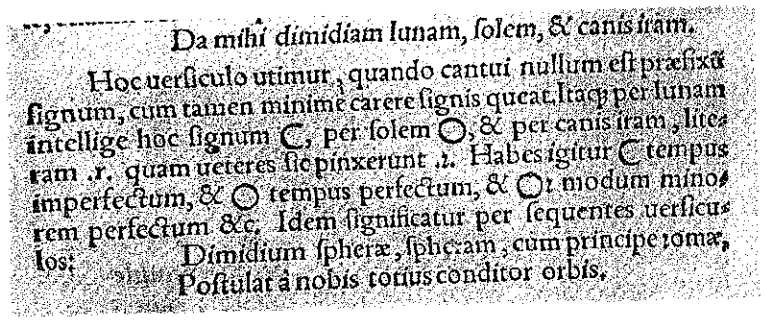
Da mihi dimidiam lunam, ſolem, & canis iram.
Hoc uerſiculo utimur, quando cantui nullum eſt præfixũ ſignum, cum tamen minime carere ſignis queat. Itaq; per lunam intellige hoc ſignum C, per ſolem O, & per canis iram, lite- ram .r. quam ueteres ſic pinxerunt .ɔ. Habes igitur C tempus imperfectum, & O tempus perfectum, & O2 modum mino- rem perfectum &c. Idem ſignificatur per ſequentes uerſicu- los: Dimidium ſpheræ, ſpheram, cum principe romæ, Poſtulat à nobis totius conditor orbis.

Figure 4.8 Hermann Finck, *Practica musica*, sig. Cc2^{r}. Regensburg, Bischöfliche Zentralbibliothek, Th 120

with other cosmic elements. The next two riddles are different in this respect: here, the moon is at the very centre of the riddle's concept. Above all, both works have abstract intentions, seeking pleasure in exploring the theoretical possibilities of the similarities between the lunar cycle and the mensuration signs. The first piece appears in the treatise by the Scottish Anonymous (London Add. 4911).[118] As we have seen in Chapter 3, the book dates from around 1580 and was probably intended for didactic purposes. Book 1, chapter 15 contains a series of riddle canons, each of which focuses on a specific technical aspect. It is the fourteenth canon (fol. 34^{r}) that is relevant here. The short monophonic piece consists of five notes C–D–E–D–C accompanied by the instruction 'Sit velluti luna crescit decrescit et oda' ('Just as the moon waxes and wanes, so let the hymn do also') (see Figure 4.9). The prefixed mensuration signs (¢, C and O) indicate the augmentation ('waxing') and diminution ('waning') of the motto: 'Off this present tenor the perfyt signe dois triplicat, the imperfect dois duplicat, of diminucion dois menorat. All nottis to the canon subdewit Be this precept.'

As with all his riddles, the Scottish Anonymous provides a *resolutio*. The small melodic unit, which is in itself conceived as a palindrome, appears five times. The melody is transposed upwards and downwards, starting on *c*, *g*, *c'* and again *g* and *c* respectively; the pitches are indicated by the position of the mensuration signs on the system. The value of the notes changes according to the mensuration signs under which they are sung. The course of the lunar cycle is thus imitated in three ways: the shape of the melody, the starting pitch of each statement, and the rhythmic pace of

[118] For a study of this treatise, see Maynard, 'An Anonymous Scottish Treatise on Music'.

Figure 4.9 Scottish Anonymous (London Add. 4911), Fourteenth Canon, fol. 34[r]

the five statements all follow a pattern of rising/growing towards a climax (full moon) and descending/decreasing again.[119]

The last example to be mentioned here is in many ways similar to the riddle of the Scottish Anonymous, but takes it a step further. Cerone's *Enigma de la escala* (no. 41) is for four voices, but only the Tenor voice is conceived as a riddle; the other three voices are written out.[120] The Tenor's enigma takes the form of an image that is accompanied by a series of verbal instructions (see Figure 4.10). On top of a ladder with six steps is a banderole 'Aretini scala dominatur', which evidently refers to the Guidonian scale and the six solmisation syllables *ut re mi fa sol la*.[121] The verbs 'Ascendunt' and 'Descendunt' on the left and the right side of the ladder indicate that the solmisation syllables should first be sung upwards, then downwards. Under the ladder is a breve rest followed by a breve, on top of the ladder another breve rest is written. As Cerone explains in his *declaracion*, the length of the breve and the breve rest does not remain constant throughout the piece, but is subject to change ('cuyos valores seran differentes y variados'). Here, we are referred to the picture of the

[119] On fol. 27[v] is another riddle that refers to celestial bodies. With the inscription 'Saturnus tardior est Mercurio' ('Saturn is slower than Mercury'), he alludes to the different velocities of both planets, which depends on their distance from the sun. As Mercury is closer to the sun, it has to move faster. Thus, in the musical riddle, while the slower Saturnus sings the melody under C2, Mercury sings it twice as fast under C.

[120] Cerone, *El Melopeo y maestro*, 1125–8.

[121] For recent research on the Guidonian scale, see M. Giani, '"Scala musica": Vicende di una metafora' in F. Nicolodi and P. Trovato (eds.), *Le parole della musica III: Studi di lessicologia musicale* (Florence: Olschki, 2000), 31–48.

Figure 4.10 Pietro Cerone, *Enigma de la escala* in *El Melopeo y maestro*, 1125. Regensburg, Bischöfliche Zentralbibliothek, Th 34

moon, which is accompanied by five mensuration signs (¢, C, O, ☽1/2 and ☽ respectively) and the indication 'ut luna'. The idea, of course, is that the succession of the signs corresponds to the phases of the lunar cycle.[122] Finally, the number of mensuration signs suggests that the series of solmisation syllables has to be sung five times. In order to know which hexachord the solmisation syllables have to be sung in, Cerone has added the banderole 'Canunt per omnes C-F-G', referring to the *hexachordum naturale* (starting on C), *molle* (starting on F) and *durum* (starting on G). For the written-out solution of his riddle, Cerone has used the 'comun Tiempo' of tempus imperfectum or C (see Figure 4.11 and Example 4.8).[123] In the first and last statement, the solmisation syllables are sung in semibreves in the *hexachordum naturale* (starting on C). In the second and fourth statement, the solmisation syllables are sung in breves in the

[122] Cerone actually put the phases of the lunar cycle in the wrong order. If the moon is moving towards full moon, the left side is dark. The first quarter moon thus takes the form of reversed C (and not C, as Cerone suggests). If the moon is moving towards the new moon, the right side is dark. The third quarter moon thus looks like C (and not reversed C).

[123] The same is done by the Scottish Anonymous.

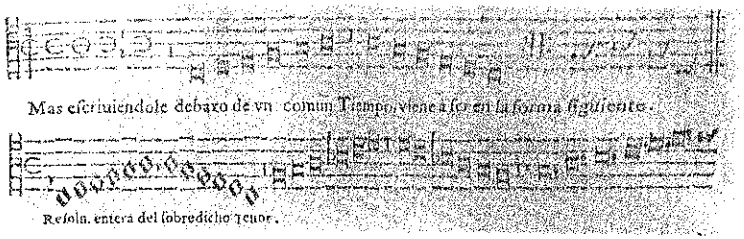

Figure 4.11 *Resolutio* of the Tenor from Cerone's *Enigma de la escala*, 1126. Regensburg, Bischöfliche Zentralbibliothek, Th 34

hexachordum molle (with b♭) starting on F. For the central statement, the solmisation starts on G of the *hexachordum durum*. In the tempus perfectum the breve now has the length of three semibreves.

In accordance with the prescription 'ut luna', every parameter of the construction is a musical reflection of the lunar cycle. The melodic line of the *soggetto*, the succession of hexachords and note values, the form of the mensuration signs: all are organised around a central axis, and like the lunar phases culminate in the full moon.[124] One can even add another element to this list of analogies. If we count the number of breves and rests for each statement, it turns out that they are all multiples of seven. Likewise, every major phase of the lunar cycle takes seven days (or one week): seven days from new moon to first quarter moon, another seven days from first quarter moon to full moon and so on. After approximately 28–9 days (i.e. one month), the whole cycle starts again.[125]

Do these musical riddles in any way relate to the scientific developments of their time? After all, some Renaissance music theorists had a profound knowledge of astrology and some even wrote elaborate texts about the topic. Like music, astronomy was part of the curriculum of the *artes liberales*; and theorists such as Nicolaus Burtius, Bartolomeus Ramis de

[124] Wuidar, *Musique et astrologie*, 46 n. 107 mentions a manuscript with music by Antonio Caldara, *Il quinto libro di canoni all'Unisono à 3 voci. Comp. in tempo che battea la luna* (1730). This manuscript, together with Caldara's *Divertimenti musicali. per campagna . . . Comp. in tempo, che battea la luna* (1729) is now kept in the Sächsische Landesbibliothek – Staats- und Universitätsbibliothek Dresden (shelfmark Mus. 2170-H-1 and Mus. 2170-H-2 respectively). I have not yet been able to examine these manuscripts.

[125] In his *Passacaglia* BuxWV161, Dietrich Buxtehude seems to have played with this temporal aspect of the lunar cycle. For an analysis of this work and its musical translation of the *numerus perfectus* 28 and its constituents, see especially P. Kee, 'Getal en symboliek in Passacaglia en Ciacona', *Het Orgel*, 82 (1986), 205–14 at 208–9 and G. Webber, 'Modes and Tones in Buxtehude's Organ Works', *EM*, 35 (2007), 355–69.

Example 4.8 Pietro Cerone, *Enigma de la escala*

Example 4.8 (*cont.*)

Example 4.8 (*cont.*)

Example 4.8 (*cont.*)

Pareia, Girolamo Cardano, Pontus de Tyard and Zacconi were skilled in astrology and published on it.[126] Cerone's enigma was published at a time when the traditional view of the moon was undergoing drastic changes.[127] Traditionally, the heavens, starting at the moon, were the realm of perfection; the sublunary region was the realm of change and corruption. Aristotle suggested that the moon perhaps partook of some contamination from the realm of corruption. Medieval followers of Aristotle, trying to make sense of the lunar spots, entertained various possibilities. The explanation that finally became standard was that there were variations of 'density' in the moon that caused this otherwise perfectly spherical body to appear the way it does. The ideal of the perfection of the moon, and therefore the heavens, was thus preserved.

The telescope, however, delivered the *coup de grâce* to attempts to explain away the moon's spots and to the perfection of the heavens in general. It was one of the central instruments of the Scientific Revolution of the seventeenth century. Already in sixteenth-century literature one can find several references to devices that would allow one to see things from a great distance, but it was Galileo Galilei who made the instrument famous. His telescope revealed hitherto unsuspected phenomena in the heavens, which were to have a profound influence on the controversy between the followers of the traditional geocentric astronomy and those who favoured the heliocentric system of Copernicus.[128] Galilei constructed his first telescope in June or July 1609, and in March 1610 he published his *Sidereus Nuncius*, with a dedication to Cosimo II de' Medici. Coincidentally, Biagio Pesciolini's moon riddle was composed for the baptism of the Grand Duke twenty years earlier. It is tempting to speculate whether a theorist like Pietro Cerone knew about Galilei's discoveries, which became famous soon after their publication. After all, Cerone was keen to stress his wide-ranging knowledge of and his acquaintance with all possible disciplines, as becomes clear in the course of his *El Melopeo y maestro*. Like the other examples I have discussed, Cerone's riddle reflects the widespread desire of the sciences and the arts to get close to and understand the nature of the moon.

[126] On the connection of music and astrology (mainly from the second half of the sixteenth century and beyond), see Wuidar, *Musique et astrologie*.

[127] The following paragraphs are mainly based on information from 'The Galileo Project' (Albert van der Helden and Elizabeth Burr): http://galileo.rice.edu/sci/observations/moon.html.

[128] With his telescope, Galileo saw that the lunar surface has mountains and valleys, much like the surface of the Earth. The moon was thus not spherical and hardly perfect. See R. Ariew, 'Galileo's Lunar Observations in the Context of Medieval Lunar Theory', *Studies in History and Philosophy of Science*, 15 (1984), 213–26.

Rebus, cryptography and chronogram

A field where music, text and image enter into a special connection is the rebus, where pictures are used in place of letters or words. As a genre, the rebus is related to the riddle, as it too poses a special challenge to the recipient and presents itself as a question that needs to be solved. It is an encoded message that must be deciphered. A rebus is intended to be puzzling and decelerates the reading pace. Apart from that, like a riddle a rebus is a form of constrained writing that uses strict rules, but due to its openness and ambiguity leaves considerable room for fantasy and imagination. The recipient has to make sense of the – seemingly incoherent – building blocks and bring them together in order to discover the rebus's meaning.[129] Above all, by presenting a message in an indirect way, the solution of a rebus often yields unexpected and humoristic aspects, thus introducing an element of play and entertainment that is also to be found in many riddles.

The rebus was immensely popular in the Renaissance, and had become an increasingly attractive playground ever since the period of the *rhétoriqueurs*: in their works, they had explored the creative potential of homophones – words that are pronounced the same but differ in meaning – which is central to the working of a rebus.[130] Its combination of playful and cryptic elements charmed famous people such as the polymath Leonardo da Vinci and the calligrapher Giovanni Battista Palatino.[131] Throughout Europe, we find examples in Latin, French, Dutch, Spanish, Italian, English and German. Rebuses also found their way into theoretical writings.[132] In the third chapter of his *Bigarrures du Seigneur des Accords*

[129] A major study of the phenomenon in general and during the Renaissance in particular is Céard and Margolin, *Rébus de la Renaissance*. They stress the fact that 'ces "écrits en image" ne sont pas des images "illustrant" un texte, mais des images qui sont *à lire* comme un texte, qui sont un substitut du texte, avec sa dynamique et son mode de communication propres' (p. 53). For a discussion in the context of riddle images, see also E.-M. Schenck, *Das Bilderrätsel* (Hildesheim: Olms, 1973).

[130] On this aspect, see also Céard and Margolin, *Rébus de la Renaissance*, 17ff. They show that the play with homophony was not limited to poetry, but also extended to personal mottoes, coats of arms, standards, coins, tombstones, etc.

[131] See e.g. A. Marinoni, *I rebus di Leonardo da Vinci, raccolti e interpretati. Con un saggio su "Una virtù spirituale"* (Florence: Olschki, 1954). Palatino included a chapter on 'Cifre quadrata et sonetto figurato' in his *Libro . . . nel qual s'insegna à scrivere ogni sorte lettera, antica, et moderna* (Rome, 1545), in which a complete sonnet is depicted in the form of a rebus.

[132] See, for example, Giordano Bruno's *De imaginum, signorum et idearum compositione* (Frankfurt am Main, 1591); English translation (*On the Composition of Images, Signs & Ideas*) by Charles Doria, ed. D. Higgins (New York: Willis, Locker & Owens, 1991).

(Paris, 1582), for example, Estienne Tabourot des Accords discusses various ways of making a rebus 'par lettres, chiffres, notes'. Tabourot's treatise, which was reprinted many times and gained wide popularity, is concerned with all kinds of word games, such as acrostics, retrograde verses, anagrams, palindromes, echoes, etc., thus offering its reader a fascinating overview of verbal creativity in the Renaissance.[133]

As is clear from Tabourot's treatise, music was also instrumentalised for this kind of word puzzle. Basic musical constituents such as solmisation syllables and note values were used as pictures that represented words, parts of words or sometimes even small sentences. Among the manuscript sketches of Leonardo da Vinci, written in a Milanese context around the turn of the century, a whole range of rebuses include musical elements as well. Some of them consist almost exclusively of solmisation syllables, leading to phrases such as 'L'amore mi fa sollazzare' or 'Amore là sol mi remirare, sol là mi fa sollecita'.[134] In his collection *ΓΡΙΦΟΛΟΓΙΑ sive Sylvula logogriphorum* (Frankfurt am Main, 1602), Nicolas Reusner also includes a series of musical 'griphoi', in which both solmisation syllables and note values are treated in a rebus-like manner.[135] Or consider the rebus in Paris, Bibliothèque nationale de France, f. fr. 5658, which dates from the late fifteenth or early sixteenth century (see Figure 4.12).[136] Notes occur three times and together with the other pictures help to form the moralistic phrase 'La paix solennelle nous maintient en soulas' ('the solemn peace keeps us relieved'). Or, as Céard and Margolin explain in their two-volume book on rebuses in the Renaissance: '*La* – paix – sol en aile [*sol* in a wing] – nœuds main tient en sol [a hand carries a knot in *sol*] – A(s)'.[137]

Composers too – or in some cases their scribes – such as Guillaume Du Fay, Arnold de Lantins, Pierre de la Rue, Alexander Agricola and Matthaeus Pipelare incorporated rebus-like elements in their signature by

[133] For a good overview, see H. H. Glidden, 'Babil/Babel: Language Games in the Bigarrures of Estienne Tabourot', *Studies in Philology*, 79 (1982), 242–55.

[134] E.g. Marinoni, *I rebus di Leonardo da Vinci*, 195 (no. 88) and 233. Most of Leonardo's rebuses survive on seven folios currently in the library of Windsor Castle.

[135] Reusner's collection was added to Johannes Lauterbach's *Aenigmata* (Frankfurt am Main, 1601). The musical griphoi appear on pp. 157–8. On the etymology and meaning of 'griphos', see Ch. 1.

[136] See the reproduction in Céard and Margolin, *Rébus de la Renaissance*, vol. II, 78 and 269–70 (explanation of the rebus).

[137] The three solmisation syllables – once *la* and twice *sol* – are here to be read in the hexachordum durum.

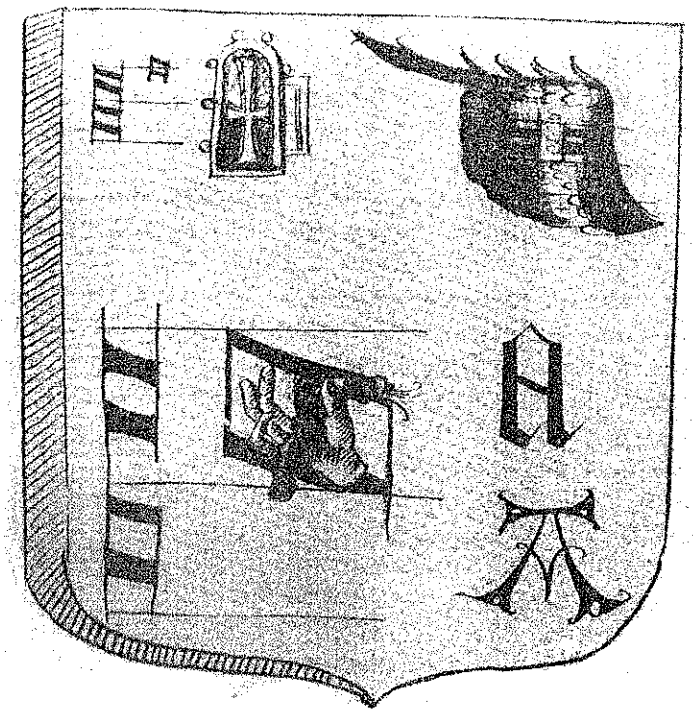

Figure 4.12 Rebus in Paris, Bibliothèque nationale de France, fonds français 5658

substituting parts of it with solmisation syllables.[138] Pipelare's surname was sometimes even fully depicted as a rebus, by having the solmisation syllables *la* and *re* preceded by the image of a pipe.[139] And the scribe Petrus Alamire, whose scriptorium produced the manuscripts in which one finds the rebus-like attributions to La Rue and Pipelare, sometimes used

[138] One wonders whether Du Fay's choice of his signature (to be found in music manuscripts, letters and even on his tombstone) might be explained by the closeness of Cambrai to Picardy, which was known for its cultivation of rebuses (see, for example, the collection *Rébus de Picardie illuminés* from the late fifteenth century, now in Paris, Bibliothèque Nationale de France, f. fr. 5658 and 1600). More generally speaking, rebuses were popular in heraldry in the tradition of so-called canting arms, where the bearer's name is expressed by a visual pun or rebus.

[139] See the illustration (from London, British Library, Cotton MS Galba B IV, fol. 203^{v}) in H. Kellman (ed.), *The Treasury of Petrus Alamire: Music and Art in Flemish Court Manuscripts 1500–1535* (Ghent and Amsterdam: Ludion, 1999), 21.

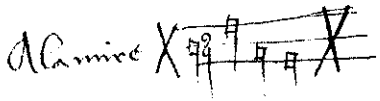

Figure 4.13 Signature of Petrus Alamire. London, British Library, Cotton MS Galba B IV, fol. 203^{v}

a rebus himself (with the solmisation syllables *la*, *mi* and *re* on a three-line stave) as a signature – indeed, the very choice of Petrus Imhoff's pseudonym makes us almost expect this visual wordplay (see Figure 4.13).[140]

An extremely complex musical piece that makes use of rebus-like elements is Ockeghem's *Ut heremita solus*. This enigmatic motet, whose solution has been discussed at length by Andrea Lindmayr-Brandl, combines several cryptic principles.[141] One of these is hidden in the first stave of Petrucci's edition of the *Motetti C* (Venice, 1504). As can easily be seen, the line is almost completely composed of words that can be expressed by solmisation syllables – where this is not possible, normal letters are used (see Figure 2.20 above). The resulting text reads as follows: 'O v*ere sol*, *la*bes *fa*[l]*la*ces *solut ut remi*t[t]*ere sol*es, ergo *la*psoque *re*o *miserere*' ('O veritable sun, the deceitful stains have been cleansed, as thou art wont to forgive; therefore have mercy on one who has fallen and is guilty').[142]

In a sense, the origin of Josquin's *Missa La sol fa re mi* – at least if we are to believe the anecdote from the last chapter of Glarean's *Dodekachordon* – can also be said to go back to a rebus-like idea. This is what Glarean tells us: 'Again, when Josquin sought a favor from some important personage and when that man, a procrastinator, said over and over in the mutilated French language, *Laise faire moy*, that is "leave it to me", then without delay Josquin composed, to these same words, a complete and elegant

[140] For Agricola, see for example the chansonnier of Hieronymus Lauweryn van Watervliet (London Add. 35087), fols. 37^{v} (*C'est mal sarchie*) and 39^{v} (*Da pacem Domine*).

[141] Lindmayr-Brandl, 'Ein Rätseltenor Ockeghems'.

[142] Translation (by Leofranc Holford-Strevens) quoted from J. van Benthem, 'Text, Tone, and Symbol: Regarding Busnoys's Conception of *In hydraulis* and Its Presumed Relationship to Ockeghem's *Ut heremita solus*' in P. Higgins (ed.), *Antoine Busnoys: Method, Meaning, and Context in Late Medieval Music* (Oxford: Clarendon Press, 1999), 215–53 at 234. Edition in *Johannes Ockeghem: Collected Works. Third Volume: Motets and Chansons*, ed. R. Wexler with D. Plamenac (New York: Galaxy Music Corporation, 1992), 18–24.

missa la sol fa re mi.'[143] The verisimilitude of the anecdote is underlined by a detail that accompanies Josquin's mass in the manuscript Vatican CS 41, which was prepared shortly after the composer left Rome. The initial shows a man with a turban holding a banderole with the text 'Lesse faire a mi', thus offering the clue to the interpretation of the *soggetto*, i.e. the solution of the rebus.[144] When hearing the dismissive phrase, Josquin must have been struck by the fact that it could be quite easily translated – by virtue of its phonetic similarity or 'by the same words', as Glarean writes – into solmisation syllables. He treats the five-note *soggetto* as a 'code' with an extra-musical meaning and has it dominate the texture of the whole mass. Like a rebus, the solmisation syllables are used as a 'picture' (in the broad sense of the word), whose combination produces a verbal text. Strictly speaking, the only difference from a rebus as we usually know it is the fact that in this case only one type of picture is used, whereas a rebus is normally composed of a plethora of pictures.[145]

Apart from their use in a playful yet intellectual context, elements of music were sometimes even used as real ciphers. Although the use of codes as such is an age-old phenomenon, cryptography flourished in the Renaissance. Machiavelli underlined the importance of codes for the transmission of *arcana imperii*, and Leon Battista Alberti and Johannes Trithemius designed complicated methods of encryption.[146] In a period that continued to expand methods for transmitting messages by means of codes and signals, music played a significant role.[147] A basic rule in all these systems is that notes acquire a verbal, i.e. non-musical, meaning and by so doing allow the composition of a secret message. Most of these techniques use a rather simple substitution cipher, in which letters are assigned to individual notes. Marco Antonio Colonna, who had been appointed head of the Spanish army by the Duke of Alba in 1564, developed a cipher that uses letters to indicate geographical names and dignitaries on the one hand, and pitches in four different note values to denote letters on the other.[148] Matteo Argenti, who was the official papal cipher secretary in the late sixteenth and early seventeenth century, designed a musical code system that was part of his manual on cryptanalysis.[149] In 1596, he developed a system through which nine pitches could be varied in eight different ways, thus enabling seventy-two possible symbols. Around the same period, Blaise de Vigenère states in his *Traicté des chiffres, ou secrètes manières d'escrire* (Paris, 1586), that 'even music can disguise itself as a code; by making use of the lines and the distance between the letters, with breves, semibreves and black notes, depending on where they are located; with them one can make several alphabets as one wishes' (p. 278).[150] The enlarged 1606 edition of Giovanni Battista Porta's *De occultis literarum notis* also contains a chapter with the suggestive title 'Musicis notulis quomodo sine suspicione uti possimus' ('How we can use musical notes without suspicion').[151] Here, the author discusses and exemplifies various ways in which pitches and durations can be used for

[143] Heinrich Glarean, *Dodekachordon* (Basel, 1547), bk. 3, ch. 26: 'Idem Iodocus, cum ab nescio quo Magnate beneficium ambiret, ac ille procrastinator identidem diceret mutila illa Francorum lingua, Laise faire moy, hoc est, sine me facere, haud cunctanter ad eadem verba totam composuit Missam oppido elegantem La sol fa re mi.' English translation quoted from *Dodecachordon*, trans. Miller, vol. II, 272.

[144] For an evaluation of the mass, its possible relation with the popular barzelletta *Lassa far a mi* and a list of vocal and instrumental works after Josquin based on the same *soggetto*, see J. Haar, 'Some Remarks on the "Missa La sol fa re mi"' in E. E. Lowinsky and B. J. Blackburn (eds.), *Josquin des Prez: Proceedings of the International Josquin Festival-Conference held at the Juilliard School at Lincoln Center in New York City, 21–25 June 1971* (London, New York and Toronto: Oxford University Press, 1976), 564–88.

[145] As Bonnie Blackburn remarks (private communication, 28 January 2011), Serafino's sonnet *La vita ormai resolvi* – which is full of solmisation syllables – could be considered as a reverse rebus, as it turns out that the syllables can be deciphered as musical notes: when read in vertical order (from top to bottom), they form a melody that quotes parts of the plainchant *Salve regina*. In one source, the poem carries the inscription 'Sonecto XCIX artificioso sopra la musica dove piu uolte e inserito. Vt: Re: Mi: Fa: Sol: La. Alla nostra donna'. For a discussion of the piece, see E. E. Lowinsky, 'Ascanio Sforza's Life: A Key to Josquin's Biography and an Aid to the Chronology of His Works' in E. E. Lowinsky and B. J. Blackburn (eds.), *Josquin des Prez: Proceedings of the International Josquin Festival-Conference held at the Juilliard School at Lincoln Center in New York City, 21–25 June 1971* (London, New York and Toronto: Oxford University Press, 1976), 31–75 at 57–9. In the above-mentioned compositions, music in general and the solmisation syllables in particular can be read as language. Serafino's poem does the opposite, because here, as Lowinsky puts it, 'language reveals music' (p. 60).

[146] See also Jütte, *Das Zeitalter des Geheimnisses*, esp. 87–92 with further literature.

[147] For an overview of this topic, see especially E. Sams, 'Cryptography, musical', in *NG*, vol. VI, 753–8 and Gerhard F. Strasser, 'Musik und Kryptographie', in *MGG*^{2}, Sachteil, vol. VI, cols. 783–90.

[148] Jérôme P. Devos, *Les chiffres de Philippe II (1555–1598) et du despacho universal durant le XVIIe siècle* (Brussels: Palais des Académies, 1950), 215–19.

[149] See the edition of Argenti's manual in Aloys Meister, *Die Geheimschrift im Dienste der päpstlichen Kurie von ihren Anfängen bis zum Ende des XVI. Jahrhunderts* (Paderborn: Schöningh, 1906, 148–62. The title of papal cipher secretary was created in 1555.

[150] 'La musique meme se peut déguiser en forme de chiffre; faisant servir les lignes et leurs entr'espaces de lettres, avec les notes brèves, semi-brèves et noires, selon qu'elles y seront situées; dont se peuvent former plusieurs alphabets à la discretion de chacun'. See J.-R. Fanlo, 'Le *traicté des chiffres et secretes manieres d'escrire* de Blaise de Vigenère' in D. Martin, P. Servet and A. Tournon (eds.), *L'énigmatique à la Renaissance: Formes, significations, esthétiques. Actes du colloque organisé par l'association Renaissance, Humanisme, Réforme (Lyon, 7–10 septembre 2005)* (Paris: Champion, 2008), 27–39.

[151] Giovanni Battista Porta, *De occultis literarum notis* (Strasbourg, 1606), bk. 5, ch. 14, pp. 335–7. Originally published in 1563 under the title *De furtivis literarum notis*.

cryptographical purposes. One way is to substitute every letter of the alphabet by a note with a specific pitch and duration: a scala with semibreves from *e* to *a'* and minims from *a'* back to *e* covers the whole alphabet and enables one to make a secret message look like an innocent composition.[152]

In the further course of the seventeenth century, other writers continued to develop similar methods.[153] In the enlarged version of his *Steganologia et steganographia: Geheime Magische Natürliche Red und Schreibkunst* (Nuremberg, *c.* 1620), Daniel Schwenter uses what is only a minor variation of Porta's table.[154] A far more sophisticated cipher was designed shortly afterwards by Gustav Selenus, a pseudonym of Duke August II of Brunswick (the founder of the famous Herzog August Bibliothek in Wolfenbüttel), in book 6 of his *Cryptomenytices et cryptographiae libri IX*.[155] In chapter 13, which is dedicated to the use of circles, dots and notes as codes, he refers to Schwenter's work and the substitution cipher as we know it from Porta and others. A few pages later, however, Selenus discusses different systems 'De Transformatione Obliquâ Notarum Musicalium' (see Figure 4.14) and how they can be used 'extrà omnem suspicionem'. They are characterised by an increasing degree of complexity, in which several cipher keys are combined and the hexachord plays a major role. Selenus even incorporates the possibility of a retrograde reading of the music. He then illustrates his theory with several examples, both monophonic and polyphonic.[156]

[152] Near the beginning of his treatise (bk. 1, ch. 5), Porta discusses all kinds of obscurities in language, riddles being one of them. It should also be mentioned here that Porta, in his *Magiae naturalis sive de miraculis rerum naturalium libri IV* (Naples, 1558), includes a chapter on the magical effect of music in general and the *lyra* in particular (bk. 2, ch. 25): see C. Pennuto, 'Giovambattista della Porta e l'efficacia terapeutica della musica' in L. Wuidar (ed.), *Music and Esotericism*, Aries Book Series, 9 (Leiden and Boston: Brill, 2010), 109–27.

[153] See H. N. Davies, 'The History of a Cipher, 1602–1772', *ML*, 48 (1967), 325–9. In the eighteenth and nineteenth centuries, Porta's system was sometimes depicted in the form of a cipher wheel. In this alternative method, notes and letters were written on two concentric circles, of which one was fixed, the other movable. See for example E.-G. Guyot, *Nouvelles récréations physiques et mathématiques* (Paris, 1769), 188.

[154] D. Schwenter, *Steganologia et steganographia* (Nuremberg, *c.* 1620), 303–4 (end of bk. 5).

[155] G. Selenus, *Cryptomenytices et cryptographiae libri IX* (n.p., 1624), 311 and 321–6.

[156] The solution of the monophonic melody (pp. 324–5) is especially worth mentioning. When one applies Selenus's code to the music, the following phrase appears: 'Hiet dich for deinen Diener Hansen: Dan er sol dich bey Nacht erwirgen' ('Watch out for your servant Hansen, because he is going to strangle you by night')! H. Blumenberg, 'Ein musikalisches Bildrätsel', *Die Musikforschung*, 45 (1992), 163–5 discusses a riddle whose notes produce the name 'Wolf Preisegger bvrgerschreiber zv Nirnberg'. The enigma works with an interesting substitution system: each solmisation syllable can stand for four possible letters (*ut*: a, g, n and t; *re*: b, h, o and v, etc.).

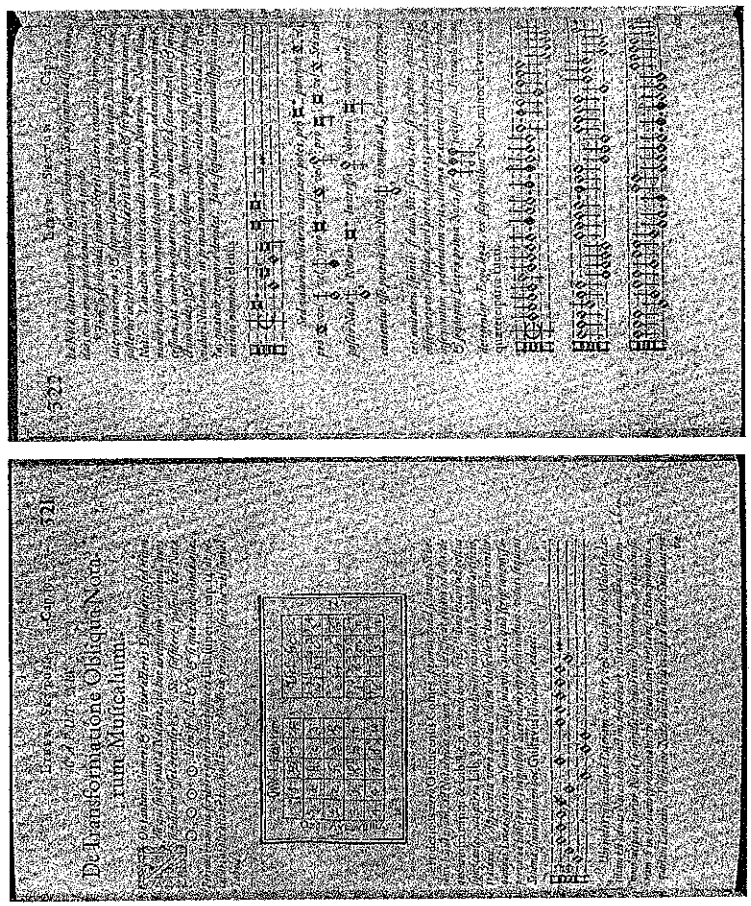

Figure 4.14 Gustav Selenus, *Cryptomenytices et cryptographiae libri IX* (Lüneburg, 162), 321–2. Munich, Bayerische Staatsbibliothek, Res/2 Graph. 39

A final category that should be mentioned in this context leads back to the sixteenth century. A small number of compositions are conceived as chronograms, in the sense that the music hides a date or a year that needs to be untangled by the singers/readers. In her monograph on literary chronograms, Veronika Marschall makes a distinction between two layers of text in this type of 'poesis artificiosa'.[157] Apart from the linear basic text, which presents itself directly to the recipient – whether in the form of a verse or of a longer poem – there is a second semantic level that is integrated in the basic text and produces its own meaning. Usually signalled by capitals and/or a different colour, highlighted letters are treated as numerals that must be added together (with I = 1, V = 5, X = 10, etc.) in order to produce a year.[158] Such numerical cryptograms are mostly written for specific occasions and offer their readers the possibility to discover and decipher a text within a text. The tradition of writing chronograms goes back to ancient times, but the 'carmen numerale' was especially popular in the Renaissance, and it seems that composers were inspired by this procedure and applied it to music.

In some cases, singers simply had to count the number of notes and rests, the sum of which produces a year that is related to a person or an event.[159] This procedure occurs, for example, in the collection *Suavissimae et iucundissimae harmoniae* (Nuremberg, 1567). The editor Clemens Stephani, whose function is mentioned on the title page, selected the pieces and ordered them according to a careful plan.[160] Various works are dedicated to Bohemian personalities, and one of these works contains a date. Martin Agricola's four-voice *Festina lente*, the second piece of the collection, is announced as 'symbolum' of Václav Albín from Helfenburk (see Figure 4.15). Albín (*c.* 1500–77) was chancellor of the Rosenberg

[157] V. Marschall, *Das Chronogramm: Eine Studie zu Formen und Funktionen einer literarischen Kunstform*, Helicon. Beiträge zur deutschen Literatur, 22 (Frankfurt am Main: Lang, 1997).

[158] For an introduction to the various uses of letters as numbers, see G. Quang, 'Buchstaben als Zahlen', *Symbolon. Jahrbuch für Symbolforschung*, 10 (1991), 43–50.

[159] This technique is of course not to be confused with gematria, which has been applied by some scholars to compositions from the Renaissance. Here, every letter of the alphabet is associated with a number (a = 1, b = 2, c = 3, etc.). By counting the total number of notes of a work and/or a voice, some scholars claim to detect a composer's signature that is hidden in the music (e.g. Du Fay = 4+20+6+1+23 = 54). This technique is problematic from a methodological point of view, however.

[160] See my 'Rosen, Lilien und Kanons: Die Anthologie *Suavissimae et iucundissimae harmoniae* (Nürnberg, 1567)' in P. Gancarczyk and A. Leszczynska (eds.) *The Musical Heritage of the Jagiellonian Era* (Warsaw: Instytut Sztuki PAN, 2012), 107–22.

Symbolum

NOBILIS ET STRENVI VIRI VENCESLAI ALBINI, CON-
ſiliarij nec non Cancellarij, Illuſtris & Magnifici D. Guilhelmi à Roſis, Cronnouiæ
domini, Clariæ & nobilis domus Roſenbergenſis gubernatoris, &c.
numerum anni continens.

II. Martinus Agricola. *Tenor in Epidiateſſaron.*

Eſtina lente: Lentus tamen eſſe caue to: Sic lentos

len te cura late re poteſt cura late-

re po teſt.

Figure 4.15 Martin Agricola, *Festina lente* in *Suavissimae et iucundissimae harmoniae* (Nuremberg: Gerlach, 1567), sig. B2^{v}. Munich, Bayerische Staatsbibliothek, 2 Mus.pr. 40

family in their castle at Český Krumlov, hence a confidant of the book's dedicatee, Wilhelm von Rosenberg. The paratext printed above the motet reveals that the piece contains a chronogram: 'Symbolum ... numerum anni continens'. Agricola's *Festina lente*, which is conceived as a double canon, in each canon pair has a total of sixty-five notes and rests. Given the fact that the collection was printed in 1567, this might imply that we can pinpoint Albín's year of birth as 1502. It is clear that the composer himself, who had already died in 1556, cannot possibly have intended such a reading of his motet. The integration of a 'time riddle' in *Festina lente* should rather be considered the result of Stephani's invention.

A far more sophisticated example of a musical chronogram can be found in the final piece, *Puisqu'en janvier*, of Susato's collection of *Vingt et six chansons musicales* (Antwerp, 1543).[161] Its Tenor is printed in red and

[161] A colour facsimile was published in the series Corpus of Early Music (Brussels: Culture et Civilisation, 1970), vol. I.

black (by double impression); an enigmatic poem is attached, which tells us a specific date is hidden in the piece (see Plate 4.3):[162]

CANON. Par les notes l'an icy trouverez
Et des pauses le jour du moys scaurez
Quand L'empereur de Thunes retour feit
Dans Bruxelles
Et si ce ne souffist
En telle heure qu'estoit apres midi
L'aultre'en tel temps dira ce que j'ay dict.

RULE. By (counting) the notes here you will find the year
And by the rests you will know the day of the month
In which the Emperor returned from Tunis to Brussels;
And if this is not enough,
On which hour it was in the afternoon.
The other will tell in which month (took place) what I have said.

The rubric tells us that the piece is related to Charles V's conquest of the Ottoman Empire in Africa. Susato claims to have hidden the year, the day and the hour of the emperor's triumphal entry into the city of Brussels – an event Susato might even have witnessed himself. The month is already revealed in the chanson's main text:

Puis qu'en janvier on peult appercevoir
Vostre venue, aussy que vous puis veoir
En ce pays ou vous ay attendu,
Si vostre zele'est sur moy estendu
Depuis cest an tout heur pourray avoir.

Because in January we can witness
Your arrival, so you may see
In this country where I waited for you.
If your zeal reaches towards me
Since this year I could have each hour.

But how are we to find the other elements? Fortunately, a near-contemporary source offers help. *Die nieuwe Chronycke van Brabant* (Antwerp, 1565) informs us about the year, the date and the hour: 'Ende

[162] On this chanson, see also K. K. Forney, 'New Documents on the Life of Tielman Susato, Sixteenth-Century Music Printer and Musician', *Revue belge de musicologie*, 36–8 (1982–4), 18–52 at 35–6.

van daer tooch die Keyser met zyn suster ende met alle die heeren te Brussel. Doer hy quam opten xxix dach van Januario, Anno xl omtrent vier oren na noene' ('And from there the Emperor went with his sister and all the lords to Brussels. There he arrived on the twenty-ninth day of January of the year 1540 at four o'clock in the afternoon').[163] As the rubric tells us, we have to count the notes in order to know the year. If we add up all the (black and red) notes, the total is thirty-nine breves and a minim. As Kristine Forney explains, as the year did not change until Easter by Antwerp style, this is the correct date. In order to know the day of the month, it turns out we have to count only the red rests, which add up to twenty-nine semibreves. For the time of day, the rubric instructs us to look at 'the other'. With this, the *comes* is meant. Although a *signum congruentiae* is lacking, by trial and error we discover that a fifth voice can enter after three breves either at the fifth above or a fourth below the Tenor.[164] Both options are plausible, and if we decide on the latter, we can see that the imitation interval of the fourth indicates the hour of Charles's entry, i.e. four o'clock (see Example 4.9).[165]

Contrary to most of the examples we have discussed in this and the foregoing chapters, in Susato's composition the enigmatic element does not reside primarily in the transformation of a written melody – that is, apart from the canonic imitation that has to be derived from the Tenor. The enigmatic rubric does not prompt the singer to apply a special technique to the music according to a given rule. The music as written can in fact be sung the way it is notated – the only real challenge is for the *comes* to find the correct imitation interval and distance. Rather, the main goal of the poem is to tell the singer that the music is the key to a historical (i.e. extra-musical) event Susato wished to celebrate. Music is treated as a set of signs that all contribute to the solution of the chronogram: the number of notes and rests as well as the use of two colours. Like the musical riddles we have discussed in this book, the recipient thus has to become active: he knows that a message is hidden in the notation, for which the accompanying instruction offers the necessary clues. But

[163] Cited in *ibid.*, 36 n. 109. The description is on p. 27 of *Die nieuwe Chronycke*.

[164] This solution was discovered by Antoine Auda, as is mentioned in B. Huys, *Verzameling kostbare werken: Ontstaan en ontwikkeling van een afdeling van de Koninklijke Bibliotheek* (Brussels: Koninklijke Bibliotheek, 1961), 95–9.

[165] Huys, *Verzameling kostbare werken*, 97 writes that the upper fifth is the only possible solution, which would result in a second Superius, but this is not correct. An imitation of the Tenor (written in c3, whereas the Altus is written in c4) at the lower fourth would produce a second Tenor.

Example 4.9 Tielman Susato, *Puisqu'en janvier*

Example 4.9 (*cont.*)

Example 4.9 (*cont.*)

Example 4.9 (*cont.*)

contrary to most of the above-mentioned examples, this activity does not have any concrete musical consequences, as the voices can sing their lines without further ado. As a matter of fact, this 'time riddle' could have been expressed in a different medium. Music is one possible semiotic system to produce the required result, but strictly speaking language (by way of capitals, colours, etc.) could have done the trick as well. What remains is a composition, an occasional chanson for Charles V. If one could not see the elaborate layout and did not know the piece's conception as a musical chronogram, a sounding panegyric for the emperor could still be enjoyed.

* * *

In this chapter, I have discussed riddles in which images play a central role in the interpretation of the piece. Their presence not only turns these compositions into real works of art, but through the intimate nexus of music, text and image, these brain-teasers also offer their recipients a multisensory experience to reflect upon – regardless of whether they were meant for performance or rather for private meditation and silent reading. It is here that the musical riddle's connection with the culture of the enigmatic in general becomes especially traceable, as it seeks to broaden the cryptic embedding of music in other media. The resulting self-referential synergy often adds a further symbolic layer to the composition. Above all, because of their special arrangement and *mise-en-page* these riddles challenge the reader's usual reading pattern and force him to explore the page in various directions.

The list of topics I have mentioned here is far from complete. To give just a few examples: we also have riddles accompanied by or depicted in the form of the zodiac or the four elements, which – very much like the lunar cycle – seek to connect music with the cosmos and the eternal laws of the *musica universalis*. Playful elements such as a chessboard, dice, animals or a mirror were equally favoured fields to experiment with and often hide profound concepts behind the seemingly ludic surface.[166] Some riddles operate with colours and yet others integrate political symbols (such as a coat of arms and/or a dignitary's motto), thus instrumentalising the music's potential for the self-display of a ruler while underlining his taste for the coded and the secret. Such a vast topic, embracing such diverse areas and disciplines, deserves a separate study. Indeed, much still waits to be 'uncovered'.

[166] See for example M. Long, 'Symbol and Ritual in Josquin's Missa Di Dadi', *JAMS*, 42 (1989), 1–22.

Conclusion

In the third volume of his *Geschichte der Musik* (Leipzig, 1868), the music historian August Wilhelm Ambros dedicates a long chapter to the 'Künste der Niederländer'. He begins by summarising the withering criticism it invited in later centuries, in the aftermath of descriptions by Padre Martini, Charles Burney and Johann Nikolaus Forkel.[1] Indeed, in his day the canons and fanciful enigmatic inscriptions by composers such as Busnoys, Josquin and Obrecht were often considered the 'summit of bad taste' ('Gipfel alles Ungeschmackes'), 'unworthy plaything' ('unwürdige Spielerei'), in short 'non-music' ('Nicht-musik'). With their compositions fallen into disrepute, Ambros provocatively asks: 'Who would risk going into the dark haunted forest of these "canons"?'[2] Under such bad auspices, the undertaking seemed to be doomed to fail. But Ambros decides to enter the *selva oscura* nonetheless and offers some astute observations about the contrapuntal and notational subtleties of Franco-Flemish composers, which he rightly characterises as typical expressions of the music of that period.

The scepticism vis-à-vis polyphonic complexity in general and musical riddles in particular that Ambros here briefly touches upon is of course not just a *post factum* observation, ventilated some centuries after the emergence of these works. On the contrary, in the music theory of their time, enigmas attract criticism for various reasons. They are said to be a sign of a composer's intellectual bragging, needlessly vexing the singer and the listener alike. The riddle's champions, on the other hand, consider them first and foremost a mental challenge that can teach them hitherto unknown things, hence bring intellectual satisfaction. Neither in literature, music or any other art form do riddles leave their recipients cold. Either one feels attracted by the (implicit or explicit) question they pose, or one is annoyed by their veiling and the process of unravelling they require. The radicality of both positions seems to go back to a basic characteristic of

[1] A. W. Ambros, *Geschichte der Musik*, 3 vols. (Leipzig: Leuckart, 1868), vol. III (*Geschichte der Musik im Zeitalter der Renaissance bis zu Palestrina*), 61–80.

[2] *Ibid.*, 62: 'Wer mag sich in den finsteren Zauberwald dieser "Canons" hineinwagen?'