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Abstract:

This research uses statistical analysis of a sample of keyboard toccatas including pieces by Frescobaldi, Rossi, Froberger and the anonymous composer of the manuscript R-Vat Mus Chigi Q.IV.25 to investigate the extent to which surviving written examples of the genre contain indicators of their unwritten compositional processes. The results of the analysis indicate that within the measurably formulaic textural disposition, there are clearly defined motivic patterns and melodic shapes that are present in the work of all three composers. The intertextuality thus implied is indicative of common unwritten procedures used in the process of composing toccatas at the keyboard and undermines common assumptions about the use of concordances between sources as indicative of authorship.

Biographical statement:

Naomi J Barker is a lecturer in music at the Open University. Her research interests include 17th century Italian keyboard and other instrumental music; and cross-disciplinary studies of music in its cultural contexts, especially its relationship to art and the sciences.

Key words: Frescobaldi, Froberger, Rossi, Chigi, seventeenth-century keyboard toccata, compositional process, improvisation

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The Italian keyboard toccata c.1615-1650: A repository for oral compositional practices¹

In a letter to Mersenne, Giovanni Battista Doni wrote of his contemporary Girolamo Frescobaldi that ‘all his knowledge is at the ends of his fingers’.² While acknowledging Frescobaldi’s ability to compose fantasies and dances, Doni’s comments capture a fundamental tension emerging in instrumental music of the early seventeenth century. Doni, unlike a practising musician, was immersed in the literate world of the Republic of Letters – an environment where information conveyed in writing had an authoritative status. His low opinion of Frescobaldi, based on the composer’s apparent lack of theoretical prowess, suggests that he was unable to comprehend fully the working practices of an instrumental musician deeply embedded in unwritten compositional procedures that were realised first and foremost in sound. His comment represents in many ways the collision of two worlds at a crucial juncture in the history of instrumental music and of keyboard music, in particular, as it emerged from an oral-aural past, becoming not just a written, but a printed repertory. Frescobaldi himself suggested in the dedication of his first book of toccatas addressed to Ferdinando Gonzaga, that the music presented in the book was created at the keyboard.³ His note, addressed to the reader (*al lettore*) who must be the performer and not a silent reader for it to make sense, indicates his own awareness of the tension between the performative or artisan aspects, and the literate or representational elements in his music as he presents it to a reading rather than listening public. Although we can learn compositional rules from various performance manuals, some of which will be discussed below, paradoxically, it is only music that has survived in writing that can provide us with concrete evidence of how unwritten traditions or practices might have been woven together into larger musical structures.

Keyboard music preserved in a printed format perhaps suggests that as instrumental music emerged as a literate culture, it gradually acquired greater commercial value. The market for printed instrumental music before 1600 was dominated by lute tablatures, and keyboard

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¹ I would like to thank colleagues who have read and commented on early versions of this article. In particular, Dr David Appleton for hours of discussion about statistics and stylometry and the anonymous readers for their helpful suggestions for improvements.

² ‘...’on peut dire qu’il ait toute sa science aux bouts des doigts.’ Letter from Doni to Mersenne, 22 July 1640. Cornelius de Waard, *Correspondence du P. Marin Mersenne*, vol 9 (Paris: Editions du Centre National de la Recherche Scientifique, 1965), 488

³ ‘...havend’io composto il mio primo libro di fatiche musicali sopra i tasti’ Frescobaldi, *Toccate e partite...libro primo* (Rome: Nicolò Borbone, 1615)

music was slower to appear, and, even then, in a limited range of genres.⁴ The keyboard toccata, which routinely used a large quantity of small note-values as well as textures that were not restricted to four equal voices, was particularly unsuited to typesetting. A strong manuscript tradition for keyboard music continued long after the introduction of the printing press, perhaps because of the incompatibility of the printing process with the genres associated with keyboard performance and composition.⁵ Whatever the reasons for printing music that had long been the domain of the performer-composer, both Judd and Boncella have noted that genre and notational formats were inextricably linked.⁶ Frescobaldi's decision to publish his toccatas, and his choice of printing by means of engraving rather than type, seems to have been carefully considered. Cypess has suggested that the *Toccate e partite ... libro primo* was published with a specific function in mind, and that it can be read as a pedagogical text for the *stil moderno*.⁷ A different view has been posited by Silbiger who takes an overview of the 1637 reprints of both the *Libro primo* and the *Secondo libro di toccate* which were issued at the same time. He suggests that they were Frescobaldi's attempt at creating a definitive edition of his own work.⁸ Whatever the composer's motives for publication, what is clear is that these books mark a point of transition from the genuinely performative 'improvisation' that was composed mentally and not written down, to the apparently 'finished' composition, notated in some detail to mimic improvisation. Further, they indicate that the composer recognised the gap between the notation and what the original unwritten performance might have sounded like, providing the verbal instructions in his prefaces as an attempt to bridge that divide. The notation 'freezes' a version of a composition, the genesis and essence of which remained performative. It thus creates a repository from which we can extract and unravel some of the unwritten strategies of the composer at the keyboard.

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⁴ Howard Mayer Brown, *Instrumental music printed before 1600: a bibliography* (Cambridge MA: Harvard University Press, 1965); Claudio Sartori, *Bibliografia della musica strumentale italiana*, 2 vols (Florence: Olschki, 1952, 1968)

⁵ Heather F. Windram, Terence Charlston and Christopher J. Howe, 'A phylogenetic analysis of Orlando Gibbons's Prelude in G', *Early Music*, XLII (2014) 515-528; Rebecca Herissone, *Musical creativity in Restoration England* (Cambridge: Cambridge University Press, 2013)

⁶ Robert Judd, *The use of notational formats at the keyboard* (PhD dissertation University of Oxford, 1989); and Paul A. L. Boncella, *The Classical Venetian organ toccata (1591-1604): An ecclesiastical genre shaped by printing technologies and editorial procedures* (PhD dissertation, Rutgers State University, NJ, 1991)

⁷ Rebecca Cypess, 'Frescobaldi's Toccate e partite...libro primo (1615-1616) as a pedagogical text. Artisanry, imagination, and the process of learning', *Ricerche* xxvii (2015), 103-138

⁸ Alexander Silbiger, 'Frescobaldi's two books of toccatas (1637): Student exercises or monuments of art?' Forthcoming in Bruce Gustafson (ed), *The worlds of the harpsichord and organ: Liber amicorum David Fuller*, (New York: Pendragon)

The term improvisation in the early modern context incorporates a range of unwritten composition techniques: singing one or more additional parts to a *cantus firmus*; singing imitative counterpoint in several parts; the spontaneous creation of embellishments and variations by single-line instrumentalists and singers on existing melodies; responding on the organ for specific liturgical needs; and so on. With regard to the organ, Banchieri identifies four ways of playing: *fantasia*, *intavolatura*, *spartitura*, and *basso seguente*, all of which imply improvisation to a greater or lesser extent, but *fantasia*, or the playing of counterpoint, is accorded highest status.⁹ Recent research has demonstrated that the term ‘counterpoint’ in Renaissance and Baroque treatises means ‘improvised counterpoint’, or what Zacconi called *contrapunto alla mente*.¹⁰

With reference to the keyboard, improvisation implies more than the unwritten mental working out of voices in counterpoint, because it is also a physical act in which the capacities or limitations of the performer’s hands and instrument play a part. Cypess, drawing on the work of Gauvin, uses the term *habitus* to describe the instrumentality or physicality of the creative, performative process of composers of instrumental music of the early seventeenth century.¹¹ Guido, Schubert, Bellotti and others have demonstrated that contrapuntal improvisation at the keyboard was a learned skill, acquired through methodical practice at the keyboard over long periods of time, as well as through memorisation of contrapuntal rules and patterns of voice-leading and embellishment. All of these skills were developed through performance.¹² Memory and delivery were elements of rhetoric and were embedded in learning and teaching practices, which started with repetition and memorisation, progressed

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⁹ Banchieri, *Conclusioni nel suono dell’organo*, (Bologna: heredi di Giovanni Rossi, 1609) Facsimile edition, (Bologna: Forni Editore, 1968) 24. See also Lee Raymond Garrett, *Adriano Banchieri’s Conclusioni nel suono dell’organo of 1609: A translation and commentary* (DMA dissertation, University of Oregon, 1972) 60.

¹⁰ Lodovico Zacconi *Prattica di musica*, part II (Venice: Alessandro Vincenti, 1622; facsimile edn. Bologna: Forni, 1983). *Contrapunto alla mente* is discussed in Ernst T. Ferand, ‘Improvised vocal counterpoint in the late Renaissance and early Baroque’, *Annales musicologiques* 4 (1956) 129-179; Julie E. Cumming, ‘Renaissance improvisation and musicology’, *Music theory online: Journal of the Society for Music Theory*, Volume 19, Number 2, June 2013 <http://www.mtosmt.org/issues/mto.13.19.2/mto.13.19.2.cumming.html> More specific applications of mental counterpoint are referenced below.

¹¹ Rebecca Cypess, *Curious and modern inventions: Instrumental music as discovery in Galileo’s Italy* (Chicago and London : Chicago University Press, 2016) 22-24

¹² Massimiliano Guido, *Con la mente e con le mani: teaching and learning the art of counterpoint on the keyboard (1585-1671)*, *Philomusica on-line* vol. 11, no. 2 (2012); Peter Schubert, *From voice to keyboard: improvised technique in the Renaissance*, *Philomusica on-line* vol. 11, no.2 (2012); Edoardo M. Bellotti, ‘Composing at the keyboard: Banchieri and Spiridion, two complementary methods’ in *Studies in historical improvisation: from cantare super librum to partimenti* edited by Massimiliano Guido, (Abingdon and New York: Routledge, 2017) 115-130; Cory M. Gavito, ‘In search of the improvising Froberger’, in *Avec discrétion: rethinking Froberger*, edited by Andreas Vejvar and Markus Grassl, Wiener Veröffentlichungen zur Musikgeschichte 14, (Vienna: Böhlau Verlag, 2018) 187-203

to imitation of models drawing on materials already learned, and culminated in delivery or performance.

Unwritten traditions were not and are not confined to musicians. The early modern period was still, to a large extent, an auditory rather than a visual culture. This does not necessarily indicate illiteracy, though levels of functional literacy were quite variable. To inform the analytical methodology used here, I have drawn on the work of scholars who have studied sound and listening, auditory cultures, and the long standing traditions of oral poetry stretching back to Homer.¹³ Orality in the early modern period was multi-dimensional, and its complexity is reflected in the range of surviving evidence and, indeed, in the scope of literature on the subject that covers a range of disciplines. In this article, the term ‘oral composition’ is preferred over the more common ‘improvisation’ in order to capture all aspects of unwritten composition including counterpoint; single-line melodic diminutions and more complex embellishment; memory skills including theoretical aspects as well as the tactile or kinetic elements of *habitus*; and the combinations of techniques used at the keyboard in the repertory under discussion.

This article will use a selection of keyboard toccatas written in *intavolatura* rather than score format, and Frescobaldi’s output as a primary, though not exclusive, point of reference. As my analyses rest to an extent on statistics, the choice of a single genre notated in a specific way ensured that numerical comparisons could not be affected by generic or notational differences. This does not necessarily mean that conclusions drawn from the analyses of toccatas are not applicable to other genres such as canzoni or partite or to toccatas for other instruments such as the lute. I have chosen c.1615, as my starting point to include the creation and publication of Frescobaldi’s *Toccate e partite... libro primo*. This excludes the Neapolitan publications of the toccatas of Mayone and Trabaci which were printed in *partitura* format rather than in *intavolatura*. By doing this I do not imply that they were not of importance in informing the development of the toccata as a genre, but to ensure that my

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¹³ Some of the key texts include: Albert B. Lord, *The singer of tales* (Cambridge MA: Harvard University Press, 1960); Walter J. Ong, *Orality and Literacy: the technologizing of the word* (London & New York: Routledge, 1982, rep 2014); Eric A. Havelock, *The muse learns to write* (New Haven & London: Yale University Press, 1986); Isidore Okpewho, *African oral literature: backgrounds, character, and continuity* (Bloomington: Indiana University Press, 1992); Veit Erlmann (ed.), *Hearing Cultures: Essays on sound, listening, and modernity* (Oxford and New York: Berg, 2004); Mark M. Smith (ed.) *Hearing history: a reader* (Athens and London: University of Georgia Press, 2004); Andrew Dell’Antonio, *Listening as spiritual practice in early modern Italy* (Berkeley and Los Angeles: University of California Press, 2011); Carol Harrison, *The art of listening in the early church* (Oxford: Oxford University Press, 2013)

analyses were comparing like with like. I have also largely excluded the toccatas of Merulo, for stylistic reasons which will become clear in my discussion below.

My analyses will be situated within a framework of theoretical and documentary evidence that describes oral composition in various pertinent contexts contemporary with the music. These sources provide the evidence for an argument that will enlarge our understanding of an unwritten tradition that was still an ongoing part of the working musician's life well into the first half of the seventeenth century. In so doing it will also challenge the use of partial concordance of sources as one of the primary ways in which ascription of authorship is made in this repertory.

Oral composition: an overview

In the early modern period the relationship between music as sounding number in a philosophical sense, music practised creatively as a sounding reality, and the complexities of music notation was intricate and operated on multiple levels. The inability of music notation to project the sounding reality of performance is evident in many sources. Vicentino, for example, in discussing performance gives advice about sharing diminutions around the singers and instrumentalists in a group, and goes on to state that 'sometimes a composition is performed according to a certain method that cannot be written down, such as uttering softly and loudly or fast and slow, or changing the measure in keeping with the words, so as to show the effects of the passions and the harmony'.¹⁴ The echoes of classical rhetorical texts by Quintilian and Cicero are recognisable, and Vicentino continues his advice by referring his reader to the practices of the orator. Prefaces to music by Peri, Caccini, Frescobaldi, Marini and others all offer advice to the performer that indicates a relationship between sound and notation that might be described as non-linear, with the flexibility of performance being more akin to the verbal modes of rhetorical delivery.¹⁵ There is evidence also that those engaged in

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¹⁴ 'qualche volta si usa un certo ordine di procedere, nelle compositioni, che non si può scrivere, come sono il dir piano, & forte, & il dir presto, & tardo, & secondo le parole, muovere la Misura per dimostrare gli effetti delle passioni delle parole, & dell'armonia...' Nicola Vicentino, *L'antica musica ridotta alla moderna pratica* (Rome: Antonio Barre, 1555) Lib IV, cap 42, f.94 v http://ks4.imslp.info/files/imglnks/usimg/9/94/IMSLP114662-PMLP210243-lantica_musica.pdf accessed 23/07/18. Translated by Maria R. Maniates, *Ancient music adapted to modern practice* (New Haven: Yale University Press, 1996), 301

¹⁵ The close relationship of musical and literary orality and their relationship to print is a rich area of investigation, but see especially Christopher Marsh, 'The sound of print in early modern England: the Broadside ballad as song' in Julia Crick and Alexandra Walsham (eds) *The uses of script and print, 1300-1700* (Cambridge: Cambridge University Press, 2004) 171-90; Luca Degli' Innocenti, *I 'reali' dell' Altissimo*, (Florence: Società Editrice Fiorentina, 2008) and 'The singing voice and the printing press: itineraries of the Altissimo's performed texts in Renaissance Italy', *The Italianist* Volume 34, Issue 3 (October 2014) 318-335

verbal delivery, such as preachers, were pointed to musical models for shaping their own performance.¹⁶ The fluid relationship between the written word and the voiced text, and reception of text as heard rather than read have clear parallels in instrumental music.

Some components of unwritten practices are easier to understand if not to recreate in practice. The way in which a piece of music as a whole was structured conceptually during the process of improvised composition remains difficult to evaluate. Jessie Ann Owens's research into how composers worked in the sixteenth century, and Rebecca Herrisone's work on concepts of creativity in Restoration England have made significant progress in unravelling some of the complexities, but there is still a great deal that remains to be discovered and understood, especially as applied to specific repertoires.¹⁷ In comparison, the rules of melodic embellishment, of counterpoint, and for playing from a bass line are all described in greater or lesser detail in a variety of treatises, the most important of which, for the purposes of this article, are those by Diruta, Banchieri and Spiridion a Monte Carmelo.¹⁸ The two areas on which my analyses focus are melodic embellishment and diminution practices and combinatorial processes of counterpoint. While this material is discussed in the literature, some points germane to the analyses which follow are worth noting.

A variety of surviving performers' manuals provide instructions how to embellish existing melodies. That this was done without necessarily having a notated original is evident from early sources such as Ganassi's *Opera intitulata Fontegara* (Venice, 1535)¹⁹ in which simple intervals are the building blocks of an ever increasing density of notes. The complex multi-note patterns that emerge may ultimately 'represent' just one interval. Florid embellishment is of course a given in the 'new music' of the late sixteenth and early seventeenth century,

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¹⁶ Todd Borgerding, 'Preachers, "Pronunciatio," and Music: Hearing Rhetoric in Renaissance Sacred Polyphony', *The Musical Quarterly*, Special Issue: "Music as Heard" 82 (1998), 586-598
<http://www.jstor.org/stable/742340>

¹⁷ Jessie Ann Owens, *Composers at work: The craft of musical composition 1450-1600* (Oxford: Oxford University Press, 1997); Rebecca Herisone, *Musical creativity in Restoration England* (Cambridge: Cambridge University Press, 2013)

¹⁸ Diruta, *Il transilvano*, (Venice: 1593, 1609) Facsimile edition, edited by E.J. Soehnlén and Murray C. Bradshaw (Buren, Netherlands: Frits Knuf, 1983); Banchieri, *L'organo suonarino* with a new introduction by Giulio Cattin, (Amsterdam: Frits Knuf (nd)) Reprint of the edition of Venice 1605 (complete) plus parts of 1611 and 1638 editions; Donald E. Marcuse, *Adriano Banchieri L'organo suonarino: transcription, translation and commentary* (PhD dissertation, Indiana University, 1970); Banchieri, *Conclusioni nel suono dell'organo*, (Bologna: heredi di Giovanni Rossi, 1609) Facsimile edition, (Bologna: Forni Editore, 1968); Spiridionis a Monte Carmelo, *Nova instructio pro pulsandis organis*, edited by Edoardo Bellotti, (Latina: Il Levante Editrice, 3rd ed. 2018); Bruce A. Lamott, *Keyboard improvisation according to 'Nova instructio pro pulsandis organis' (1670 ca. -1675) by Spiridion a Monte Carmelo* (PhD dissertation, Stanford University, 1980)

¹⁹ Silvestro Ganassi, *Opera intitulata Fontegara* (Venice, 1535), translated by Hildemarie Peter (Berlin: Robert Lienau, 1956)

however, the handbooks of Ortiz (1553), Sancta Maria (1565) Dalla Casa (1584), Bovicelli (1594), Conforti (1601, 1607) and others all suggest that a rich tradition of embellishment existed long before it appeared in the printed outputs of Caccini and his contemporaries.²⁰ The techniques of embellishment outlined by these authors are fundamentally similar, in that they require the performer to identify the interval to be embellished, the temporal distance between the two notes that create that interval, and the number of notes required to fill the space thus identified. Decisions concerning temporal distance and number of notes to be used will determine the level of virtuosity required. The requirements for single-line instruments and keyboard instruments are essentially the same. The examples of vocal *gorgie* in Zacconi's *Prattica di musica* provide further examples of longer passages of embellishments.²¹ The function of vocal *gorgie* too, parallels the diminutions expected in instrumental performance, to enrich the performance and to create *meraviglia* in the listener.

The lists of diminution patterns for each interval that may be extracted from these books suggest that a repertory of formulae was learned by instrumentalists as part of the 'stock in trade' of performing. While this sort of feat may seem strange to modern ideas about composition, the concept of *copia* was well established in early modern education. It was part of the study of rhetoric, the fundamentals of which were central to creative processes of the early modern period. The idea of successively embellishing, enriching and amplifying passages drawn from classical authors was embedded in the teaching of Erasmus, and inspired by the revival of the works of Quintilian and Cicero.²² It is easy to see the relationship between Erasmus's 200 variations on a single sentence in *De Copia* and the multitude of amplifications of musical intervals presented in performance manuals. Ganassi, for example, directly echoes Erasmus's virtuosic variations by providing 175 variants of a six-note cadence pattern.

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²⁰ There is a growing literature on the issues relating to the interpretation of printed embellishments, particularly in vocal music. One argument is that some composer-performers deliberately withheld the critical information that would allow others to 'read' and recreate their performances and so undermine their status as virtuosi. See for example Tim Carter, 'Printing the "new music"' in Kate Van Orden (ed) *Music and the cultures of print* (New York: Garland Publishing Inc. 2002) 3-37 and Richard Wistreich, 'High, Middle and Low: Singing Monteverdi' in Dinko Fabris and Margaret Murata (eds) *Passaggio in Italia: music on the Grand Tour in the Seventeenth century*, (Turnhout: Brepols, 2015)

²¹ Lodovico Zacconi, *Prattica di musica Prima parte*, (Venice: Bartolomeo Carampello, 1596; facsimile edn. Bologna: Forni Editore, 1983) 64-75

²² Desiderius Erasmus of Rotterdam, *On Copia of words and ideas*, trans. Donald B. King and H. David Rix, (Milwaukee Wisconsin: Marquette University Press, 2012). See also, Bettina Varwig, 'Mutato Semper Habitu': Heinrich Schütz and the Culture of Rhetoric, *Music & Letters*, Vol. 90, No. 2 (May, 2009), 215-239

That memory also played a key role in oral composition is indisputable. Lorenzetti has shown that in the sixteenth century concepts of *fantasia* were related to memory and rhetoric as well as to imagination.²³ Roger North, though writing somewhat later, indicates explicitly that musicians relied on their memories of common musical patterns:

‘his memory will be filled with numberless passages of approved ayre, and have *ad unguem* all the cursory graces of cadences and semi-cadences, and common descants, and breakings, as well as the ordinary ornaments of accord, or touch... It is not to be expected that a master invents all he plays in that manner. No, he doth but play over those passages that are in his memory and habituall to him. But the choice, application, and connexion are his, and so is the measure, either grave, buisy or precipitate; also the severall keys to use as he pleaseth...’²⁴

Studies of Medieval and Renaissance mnemonic practices indicate that from at least the ninth century memory skills were methodically learned.²⁵ Even though we do not know precisely how a young musician would have been taught, it is highly likely that even in the late-sixteenth and early-seventeenth centuries, whether a choir boy or instrumentalist, he would have been expected to memorise large quantities of musical material. This might have included theoretical concepts; chants with their associated intonations, reciting tones and conclusions; the order of antiphons and psalms; and so on. The pages of contrapuntal rules, diminution patterns and cadences found in instrumental treatises were, in all likelihood, designed to be memorised so that they could be drawn on at will in different improvisational contexts.²⁶

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²³Stefano Lorenzetti, “‘Arboream inspicias figuram’”. Figure e luoghi di memoria nel pensiero e nella pratica musicale tra Cinque e Seicento’ in *Memory and Invention: Medieval and Renaissance literature, art and music*, edited by Anna Maria Busse Berger and Massimiliano Rossi, Villa I Tatti, The Harvard University Center for Italian Renaissance Studies, vol 24 (Florence: Leo S. Olschki, 2009) 99-150

²⁴ Roger North, *An essay of musickall ayre, c.1715-20*, edited by J. Wilson, quoted in Herissone, *Musical creativity in Restoration England*, 369-70

²⁵ Anna Maria Busse Berger, *Medieval music and the art of memory*, (Berkley and London: University of California Press, 2008); Mary J. Carruthers, *The book of memory: a study of memory in medieval culture*, (Cambridge: Cambridge University Press, 1992); Stefano Lorenzetti, “‘Arboream inspicias figuram’”. Figure e luoghi di memoria nel pensiero e nella pratica musicale tra Cinque e Seicento’

²⁶Busse Berger has compared such lists of patterns to artists’ model books that would have been used as generic types to be drawn on and embellished to suit the specific contexts in which they were used. Anna Maria Busse Berger ‘Models for composition in the fourteenth and fifteenth centuries’ in *Memory and Invention: Medieval and Renaissance literature, art and music*, edited by Anna Maria Busse Berger and Massimiliano Rossi, Villa I Tatti, The Harvard University Center for Italian Renaissance Studies, vol 24 (Florence: Leo S. Olschki, 2009) 59-80

Guido has demonstrated that the method of teaching diminutions for keyboard instruments outlined in Diruta's *Il transilvano* embeds fingering patterns in memory, and that the same sort of passages may be used in improvising *contrapunto di note negri* (counterpoint that requires multiple notes for each note of the cantus firmus).²⁷ While small-scale, specially-written examples of toccatas are included in the treatise to convey his method, and further evidence of larger-scale pieces that match his miniatures is provided in the printed toccatas of Merulo, I will demonstrate below that with reference to toccatas from outside the Venetian area, Diruta's statement that 'toccatas are all diminutions' deserves further scrutiny.²⁸

It was not until the 1670s that reference to existing printed repertoires is made in connection with embellishment practices. Spiridion, in his *Nova instructio*, uses reference to extracts from Frescobaldi's printed books as examples rather than teaching his techniques through purely theoretical methods that needed to be mastered through constant practice.²⁹ These were probably also intended to be memorised as models from which to develop new ideas. The eventual appearance of reference to printed repertoires rather than specially-written examples mirrors the emergence of references to printed vocal works in theoretical treatises in the late-sixteenth century.³⁰

Harmony too, could be composed mentally using a variety of formulae, though these are less evident in the theoretical literature when it comes to groups of instrumentalists. Van Orden has found evidence suggesting that in mid-sixteenth century France singers harmonised chansons in thirds and sixths, while the earliest treatises on playing the trumpet indicated harmonisation at a step distant in the harmonic series as a required performance technique.³¹ In relation to a slightly later period, Menke has found that early Baroque composition has parallels with earlier polyphonic strategies and that structures based on alternating thirds and

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²⁷ Massimiliano Guido, 'Counterpoint in the fingers: a practical approach to Girolamo Diruta's *breve & facile regola di contrappunto*', *Philomusica On-line* vol. 11 no. 2 (2012)

<http://riviste.paviauniversitypress.it/index.php/phi/article/view/1452>

²⁸ Diruta, *Il transilvano*, 1:36 'le toccata son tutte diminutioni'

²⁹ Bruce A. Lamott, *Keyboard improvisation according to 'Nova instructio per pulsandis organis'*, 52

³⁰ Cristle Collins Judd, *Reading Renaissance music theory: hearing with the eyes* (Cambridge: Cambridge University Press, 2000)

³¹ Kate Van Orden, *Materialities: Books, readers and the chanson in sixteenth-century Europe* (Oxford: Oxford University Press, 2015), 206; Albert Hiller, *Music for trumpets from three centuries (c.1600-after 1900)*, Cologne music series, (Cologne: Wolfgang G. Haas Musikverlag, 1993), 6-7; Edward H. Tarr, 'The trumpet before 1800' in Trevor Herbert and John Wallace (eds), *The Cambridge companion to brass instruments* 84-102. (Cambridge: Cambridge University Press, 1997), 84-85; Girolamo Fantini, *Modo per imparare e sonare di tromba* (Florence: 1638). See also Igino Conforzi, 'Girolamo Fantini, "Monarch of the trumpet": new light on his works', *Historic Brass Society Journal* http://www.historicbrass.org/Portals/0/Documents/Journal/1994/HBSJ_1994_JL01_004_Conforzi.pdf

fifths between outer voices provide a secure skeleton for unwritten practices including basso continuo.³² If at least one given part was present, there was a range of strategies available to the keyboard player to creatively work out more complex textures.

Counterpoint during the fifteenth and sixteenth centuries meant primarily mental counterpoint – a skill that was learned by every choir boy and governed by strict rules.³³ It was practised at all levels of society and by singers and instrumentalists alike, as even the artisan classes sang *sortisatio*, a kind of orally composed polyphony.³⁴ Well into the seventeenth century, knowledge and skill in counterpoint is the most important attribute of the ‘perfect musician’ cited in a letter from cornettist Luigi Zenobi to his patron.³⁵ The evidence of tests for applicants for musical posts such as organist at St. Marks in Venice or Maestro di Cappella at Toledo Cathedral, though geographically diverse and fragmentary, indicates that the professional musician of the late-sixteenth and early-seventeenth century was expected to have extraordinary abilities in unwritten composition and performance.³⁶

While the reports of the skills of early modern musicians may well be exaggerated in order to reflect the superior tastes of a patron or institution, their skills may be learned today. Schubert has distilled the elements of a number of counterpoint treatises into a modern guide for students of counterpoint, and together with Guido, has demonstrated that strict counterpoint in the form of the *ricercar* was frequently composed ‘at the keyboard’ as a practiced technique. It seems highly likely that short bursts of contrapuntal activity within the otherwise free texture of the *toccata*, would have been similarly composed.³⁷ The performed composing out of an accompaniment up from a given bass line in early basso continuo

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³² Johannes Menke “‘Ex centro’ improvisation: sketches for a theory of sound progression in the early Baroque”, in Dirk Moelants (ed) *Improvising early music. Collected writings of the Orpheus institute*, vol 11. (Leuven: Leuven University Press, 2014) 69-91

³³ Julie E. Cumming, ‘Renaissance improvisation and musicology’, *Music theory online: Journal of the Society for Music Theory*, Volume 19, Number 2, June 2013

<http://www.mtosmt.org/issues/mto.13.19.2/mto.13.19.2.cumming.html>

³⁴ Rob C. Wegman, ‘From Maker to Composer: Improvisation and Musical Authorship in the Low Countries, 1450-1500’, *Journal of the American Musicological Society*, Vol. 49, No. 3 (Autumn, 1996), 409-479, DOI: 10.2307/831769, <http://www.jstor.org/stable/831769>

³⁵ Bonnie J. Blackburn and Edward Lowinsky, ‘Luigi Zenobi and his letter on the perfect musician’ in Bonnie J. Blackburn, *Composition, Printing and Performance: Studies in Renaissance music* (Farnham: Ashgate, 2000), 61-107

³⁶ Phillipe Canguilhem, ‘Singing upon the book according to Vicente Lusitano’, *Early Music History* 30, (2011), 55-103. doi:10.1017/S0261127911000052; James H. Moore, *Vespers at St. Mark's. Music of Alessandro Grandi, Giovanni Rovetta and Francesco Cavalli*, 2 vols, (Ann Arbor, MI: UMI research Press, 1981

³⁷ Peter Schubert, *Modal counterpoint, Renaissance style*, (New York and Oxford: Oxford University Press, 2008); Massimiliano Guido and Peter Schubert, ‘Unpacking the Box in Frescobaldi’s *Ricercari* of 1615’, *Music theory online: Journal of the Society for Music Theory*, Volume 20, Number 2, June 2014, http://www.mtosmt.org/issues/mto.14.20.2/mto.14.20.2.guido_schubert.html

accompaniment is also mental counterpoint and provides an additional window on the improvisational skills of the performer.³⁸ Banchieri's addition of a 'quinto registro' to the 1611 edition of his *L'organo suonarino*, explaining how to work from a bass line, is testimony to the need for working keyboard players to acquire this skill, even if they were unable to produce complex polyphony.³⁹ While composing up from a bass line was evidently an increasingly important element of keyboard skills in the seventeenth century, toccatas do not appear as exemplars in demonstrating its rules in the treatises, and therefore bass-driven practices are not a primary consideration in my analyses.

We should not underestimate how much improvised counterpoint might have influenced compositional practice at the keyboard in genres other than those that are not strictly contrapuntal. That unwritten composition at the keyboard was a performative experiential activity is evident in Maugars' account of hearing Frescobaldi on a visit to Rome in 1639. His description recounts how the composer made 'a thousand sorts of inventions appear on his harpsichord' but that even though his music had been printed, he needed to be heard to fully appreciate his skill in improvising.⁴⁰

The toccata: some generic evidence

Literary historians identify the use of formulae as a characteristic trait of oral poetry. The Italian keyboard toccata has likewise long been characterised as being formulaic, and it is tempting to see structural analogies to oral literature as described by Ong, Lord and others.⁴¹ Nevertheless, how formulae are used, combined and processed into a larger structure as a matter of compositional choice, that is, choices made during composition at the keyboard as an oral process, at least in initial stages, is far harder to evaluate without the benefit of a verbal syntax. There is nonetheless an expectation of certain elements within a piece called a toccata. Kallberg's concept of a 'generic contract' between composer and listener is as germane to this type of improvised compositional process as it is to later genres.⁴² Indeed, the

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³⁸ Bellotti, 'Composing at the keyboard', 125

³⁹ Banchieri, *Conclusioni nel suono dell'organo*, 24

⁴⁰ 'Mais sur tout ce grand Friscobaldi fit paroître mille sortes d'invention sur son clavecin, l'orgue tenant toujours ferme. Ce n'est pas sans cause que ce fameux organiste de Saint Pierre a acquis tant de reputation dans l'Europe; car bien que ses oeuvres imprimées rendent d'assez bon témoignage de sa suffisance, toutefois pour en bien juger, il faut l'entendre à l'improviste faire des toccades pleines de recherches & d'inventions admirables.' André Maugars, 'Discours de la musique d'Italie et des operas' in *Divers traitez d'histoire, de morale et d'elequence* (Paris: chez la veuve Thiboust et Pierre Esclassan, 1672) 162-163, <https://ia902605.us.archive.org/27/items/diverstraitездhi00sain/diverstraitездhi00sain.pdf>

⁴¹ See note 13 above.

⁴² Jeffrey Kallberg, 'The rhetoric of genre: Chopin's Nocturne in G minor', *19th Century Music*, 11 (1988)

manipulation of expected gestures may have been a key indicator of ‘modernity’ in instrumental music and may have implications for our understanding of the term *affetti* as used in instrumental music, especially with regard to rhetorical modes of delivery.⁴³ Formulae do not imply lack of structure or development, but are a tool in the creative process. However they do rest on an assumption of a shared language between listener and performer – a language the performer uses as a tool for creativity and the listener, for understanding - to be able to perceive norms, and departures from those norms that signpost meaning or direction in the narrative.

The modal theory prevalent at the end of the sixteenth and early seventeenth centuries is likely to have played a role in the generation of formulaic procedures in compositional processes. It is relatively easy to see how outlining boundaries of species; positioning of the final; cadential patterns; recurrence of pitch patterns; and so on could be used as a frame of reference – the assumed shared language - for unwritten compositional practices of all types. The relationship between improvisation and rhetoric likewise invites parallels in terms of building a macrostructure but will be beyond the scope of this article. My focus here is on foreground motivic activity, but my analyses are based on a framework in which modal boundaries and species relationships are assumed to be a unifying principle.⁴⁴

In seeking vestiges of oral composition, the most obvious starting point is the notion of ‘stock sections’ identified as typical of the early- to mid-seicento toccata.⁴⁵ From these ‘stock sections’, characteristic textural types may be drawn out, three of which predominate – chordal passages, running *passaggi* in one or both hands, and contrapuntal sections.⁴⁶ All

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⁴³ Andrew Dell’Antonio, *Syntax, form and genre in sonatas and canzonas 1621-1635*, (Lucca: Libreria Musicale Italiana, 1997)

⁴⁴ My analytical principles are derived from analytical studies by among others: Gregory Barnett, ‘Modal theory, church keys and the sonata at the end of the seventeenth-century’, *Journal of the American Musicological Society*, 51 (1998) 245-281; Carl Dahlhaus, translated by Robert O. Gjerdingen, *Studies on the origin of harmonic tonality* (Princeton: Princeton University Press, 1990); Susan McClary, *The transition from modal to tonal organization in the works of Monteverdi* (PhD dissertation, Harvard University, 1976); Bernhard Meier, translated by Ellen S. Beebe, *The modes of classical vocal polyphony*, (New York: Broude Brothers, 1988); Harry S. Powers, ‘Tonal types and modal categories in renaissance polyphony’, *Journal of the American Musicological Society*, 34 (1981) 428-70

⁴⁵ ‘works in large sections built up of contrasting units’ Frederick Hammond, *Girolamo Frescobaldi* (Cambridge MA: Harvard University Press, 1983) 141-146; ‘having ‘stock’ type sections’ Paul A. L. Boncella, *The Classical Venetian organ toccata (1591-1604)*, 162-183; ‘a repertory of opening formulas’ Alexander Silbiger, *Italian manuscript sources of 17th century keyboard music*. (Ann Arbor, MI: UMI Research Press, 1980) 32

⁴⁶ Anthony Newcomb, ‘Guardare ed ascoltare le toccate’ in Dinko Fabris and Sergio Durante (eds.) *Frescobaldi nel IV centenario della nascita* (Florence: Leo S. Olschki, 1986) 281-300 suggested a ‘flexible procedural paradigm’ (‘un paradigma procedurale flessibile’) consisting of a chordal opening, followed by sections of increased rhythmic movement, motivic development and cadential activity.

three types rely on an underlying modal framework; tend to function at particular points in the piece; and can be categorised hierarchically, thus supporting a macrostructure. [Figure 1] Each textural type, in turn, is created from smaller motivic units, many of which echo the underlying modal boundaries or species relationships, and form a microstructure. The opening of the toccata almost invariably uses chordal textures to prolong the primary pitches of the mode. The position of the final is usually made clear in relation to the species boundaries of the fifth and fourth within the overall register. The ending of the toccata is often formed of running scale passages that both re-establish the mode after the diversions of the central portion of the piece, and serve to show the performer's skill. Each textural type may be reduced to sub-categories as indicated in Figure 1.

Figure 1. Hierarchy of formulaic textures and their components

Of the three main textural types, chordal passages are least divisible into sub-categories, but are the most likely places of greatest divergence between what is written and what is played. The examples in Diruta's *Il transilvano* suggest that the formulaic opening chordal passages

are unembellished, as they are presented in long note-values.⁴⁷ In comparison, later pieces particularly from Roman circles, indicate that such opening chords are frequently animated by trill type diminutions. One conclusion that may be drawn from this is that the simple exemplars in Diruta's book (largely by composers in the Venetian sphere of influence), were probably intended for the performer to embellish. It is worth noting that Diruta teaches how to play a toccata in the first part of his treatise, suggesting he regarded them as comparatively easy, while intabulating a vocal piece and creating four part counterpoint is reserved for the second part. Although Frescobaldi suggests in his preface that the beginnings should be played slowly and arpeggiando, he frequently introduces an oscillating or trill type motif in the first few bars of a toccata that passes through different registers and from hand to hand. This notated embellishment is perhaps an attempt to capture the kind of diminutions that Diruta intended for his fictional student to insert into his exemplars.

Running passages of scales passing from one hand to another are, like diminutions, standard elements of keyboard style and are introduced by Diruta as an early stage of learning keyboard skills, just prior to learning diminutions.⁴⁸ In the context of the toccata, *passaggi* conform to the modal patterns introduced by the opening chords. In a liturgical context, the purpose of the toccata might have been to provide the pitch for a motet or vocal piece to follow, in which case, sections of chords and *passaggi* are functional, but little more.⁴⁹ As a formula for oral composition, all that is needed is the required mode or psalm tone from which the performer could create a simple toccata that would fulfil the required function. In a secular environment and played on the harpsichord, *passaggi* could become a vehicle for virtuosity.

Analysis of *passaggi* written out in printed texts provide a micro view of combinations of ascending and descending figurations that relate to the formulaic 'composing out' of intervals used by Ganassi and other instrumental tutors. *Passaggi* can be divided into sub-categories according to direction, distance travelled, left or right hand or both, and so on.⁵⁰ These

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⁴⁷ Diruta, *Il transilvano*, 1: 13-35

⁴⁸ Diruta, *Il transilvano*, 1: 8-10

⁴⁹ The function or purpose of large-scale toccatas such as those of Frescobaldi is an area for further research, but if they were intended to provide liturgical links and introduce a pitch to be followed by a choir or cantor, this might explain Frescobaldi's instruction in the preface to his *Toccate e partite... libro primo* that they may be terminated at any cadence.

⁵⁰ See especially Peter van Kraneneberg and Johan Zoutendijk. 'A pattern recognition approach to the attribution of early seventeenth-century keyboard compositions using features of diminutions' in *Networks of music and culture in the late sixteenth and early seventeenth centuries*, edited by David J. Smith and Rachelle Taylor, (Farnham: Ashgate, 2013) 169-184

formulas were stock in trade for ‘intabulating’ or embellishing vocal models, and it is unsurprising that many toccatas, especially in the Venetian style, seem similar. Murray Bradshaw’s hypothesis that the toccata evolved from psalm tones was, no doubt, suggested by this rather skeletal pattern of chords and scales.⁵¹ Bradshaw’s view is not universally accepted, and Silbiger has argued that vocal polyphony rather than psalm tones acted as a model for the toccata, and has ‘detabulated’ examples in trying to expose such models.⁵² If we take the view that the toccata is a repository for oral practices, there may be many different conceptual models that display similar surface formulae.

Of the three textural types, the presence, and increasing prevalence, of contrapuntal sections in the Roman toccata suggest a locus for a more fruitful search for vestiges of oral compositional techniques. While chords and scales require little overt compositional inventiveness, counterpoint demands a different skill. How motifs are used in contrapuntal contexts provides some more tangible evidence of oral procedures of composition at the keyboard that have become embedded in the printed music that has come down to us.

The analyses that follow draw on a sample of toccatas amounting to approximately 55 individual pieces by Merulo, Rossi, Ferrini, Salvatore, Froberger, and Frescobaldi, as well as three toccatas from the Chigi manuscript I-Rvat Ms. Q.IV.25 (attributed to Frescobaldi but disputed), and three anonymous toccatas from the manuscript I-RAc Ms. Classense 545 (Ravenna 545).⁵³ The Frescobaldi sample was drawn from his *Primo libro* and *Libro*

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⁵¹ Murray C. Bradshaw, *The origin of the toccata*. Musicological studies and documents 28, (np: American Institute of Musicology, 1972)

⁵² Alexander Silbiger, Italian manuscript sources, 191; and ‘Is the Italian keyboard ‘intavolatura’ a tablature?’ *Recercare* 3 (1991) 81-103

⁵³ For the purposes of these data analyses, toccatas in the *durezza e ligature* style were not considered, as they appear to operate under different principles as a sub-genre. The elevation toccatas are considered however, as their construction conforms to the patterns of other toccatas in the sample, although they do represent a sub-genre in terms of implied affect. The data used in the analyses and graphs presented here are part of a larger scale ongoing investigation that will eventually collate information for toccatas from Merulo through to Froberger (approximately 1600-1660). The sample here is drawn from Ferrini, Toccatas from ms Vat Mus 569 in *Composizioni per organo o clavicembalo* ed. Loreggian (Padua: Edizioni musicali Euganea, 1995); Frescobaldi, *Toccate e partite libro primo*, Rome: Niccolò Borbone 1615-16 ed. Christopher Stemberge, (Kassel: Barenreither, 2010; Frescobaldi, *Toccate e partite libro primo*, facsimile edition, ed. Laura Alvini (Florence: Societa per edizioni scelte, 1980); Frescobaldi, *Secondo libro di toccate...* (Rome: Niccolò Borbone, 1627), ed. Etienne Darbellay, *Monumenti Musicali Italiani*, vol. 3, (Milan: Suvini Zerboni, 1979); Frescobaldi, *Secondo libro di toccate...* facsimile edition, ed. Laura Alvini (Florence: Societa per edizioni scelte, 1980); Froberger *Libro secondo*, 1649 and *Libro quarto* (Ms Mus Hs 18706) Ed. Siegbert Rampe, *Neue Ausgabe samilicher Clavier-un Orgelwerke* 1 and 2 (Kassel: Barenreiter, 1993, 1995); Merulo, *Toccate d'intavolatura per organo libro secondo* (Rome: Smone Verovio, 1604) Facsimile edition, ed. Laura Alvini, (Florence: Studio per Edizioni Scelte, 1981); Merulo, *Toccate per organo* ed. Sandro della Libera (Milan: Ricordi, 1959); Michelangelo Rossi, *Toccate e corrente* (Rome: Carlo Ricarii, 1657) Facsimile edition Ed. Laura Alvini, (Florence: Societa per edizioni scelte, 1982); Michelangelo Rossi, *Toccate e corrente* ed. J. B. White, *Corpus of Early Keyboard Music* 15, American Institute of Musicology, 1966; Salvatore, *Ricercari a 4 voci, canzoni*

secondo, but not the *Fiori musicali*. This sample yielded the initial data concerning textural types and subsequent indicators of areas for deeper analysis.

An initial overview of textures indicated a gradual shift in importance of counterpoint in relation to the toccata as a whole.⁵⁴ This shift can be measured quantitatively as a percentage of the total length, as indicated in **Figure 2** which shows the raw data as a mean for each composer or, in the case of Frescobaldi, for each publication. In this and subsequent figures, the data is ordered according to the date or approximate date of publication or assumed composition. This graph shows that pieces produced towards the middle of the century contain a higher percentage of counterpoint in relation to a shorter total length. As can be seen in Figure 2, the pieces by Merulo are considerably longer but contain only a small percentage of contrapuntal textures compared to the rest of the sample. Almost all of Merulo's contrapuntal sections are derived from rhythmically offset scales, and many of them evolve into homorhythmic chordal passages.⁵⁵ As the character of Merulo's contrapuntal working is so different from that evident in the pieces with a provenance outside Venice, his toccatas were excluded from subsequent analysis of contrapuntal passages on stylistic grounds. The three anonymous toccatas from Ravenna 545 were also excluded, as they are not a unified group, varying significantly in length and distribution of textures. They were included in the survey as an additional point of comparison, but, for the purposes of the analyses that follow, they are statistically insignificant.

The status of contrapuntal passages can also be measured qualitatively in the relative density of points of imitation. **Figure 3** shows the mean number of entries for each contrapuntal point. This includes all points in each toccata. It is apparent in Frescobaldi's early pieces that there are many points of imitation in relation to the whole. These are short and quite fragmentary, while in later toccatas, for example by Froberger, there are fewer and longer

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francesi, toccate, ...libro 1 (Naples, 1641), and MS Naples 73 (I-Nc-Conservatorio di San Pietro, Ms Mus.str 73) ed. B. Hudson, *Collected Keyboard Works*, Corpus of Early Keyboard Music 3, AIM, 1964; Alexander Silbiger (ed.) *Vatican, Biblioteca apostolica vaticana, MS Chigi Q.IV.25* (New York and London: Garland, 1988); Silvia Rambaldi and Barbara Cipollone eds. *Libro di fra Gioseffo da Ravenna* (Ms. I-Rac Ms Classense 545) (Bologna and Rome: Bardi Editore, 1999).

⁵⁴ In order to avoid confusion created by missing barlines and by bars with different numbers of beats, each measurement is by tactus. The general tactus of each toccata is taken as the minim, and in compound sections the dotted minim. The editions used for this study have significant differences in barring, hence the unequivocal use of tactus avoids any distortion of the result.

⁵⁵ It is probably worth noting that one of the major manuscript sources for the Merulo toccatas (Biblioteca Nazionale di Torino, Raccolta Giordano vol 2) leaves out a number of contrapuntal sections. These are noted in Merulo *Toccate per organo* ed. della Libera, preface (n.p)

points, and in each point a greater concentration of entries. These initial findings suggest a shift in compositional procedures.

Figure 2. Contrapuntal sections in relation to whole length measured by tactus and expressed as percentages⁵⁶

⁵⁶ Note that all the data represented in these graphs is raw data and has yet to be subject to statistical tests.

Figure 3. Relative density of points of imitation

While chordal passages and running figurations might be obviously formulaic and based on a given mode or psalm tone, analysis of the points of imitation provides further data that may signpost an unwritten origin. First, an examination of the type of imitation provided a qualitative classification of these points based on the relative strictness of the imitation. Four categories emerged: real (exact transposition), tonal (with alterations to maintain the prevailing modal or tonal centre), variant, and pseudo imitation. Here I define variant imitation as an imitation in which a single interval or rhythm is altered⁵⁷, while pseudo imitation is not truly an imitation but a contrapuntal texture in which following voices copy the rhythm patterns and general melodic direction of the leading voice, but change intervals apparently randomly.⁵⁸

The toccatas in Frescobaldi's *Primo libro* (1615/16) use a range of types of imitation, and include contrapuntal passages that start as variant or pseudo imitations, but are extended by using truncated versions of the motif already in use. In other words, they are not properly imitative at all. There is also a loose use of motifs that repeat in a different register or have significant gaps between apparent imitations. I have grouped these 'pseudo' imitations with variant imitations for the purposes of clarity in the graph in Figure 4, as the technique is rare in the work of the other composers under consideration. In his *Libro secondo* (1627) the imitations are more developed in terms of density though not at predictable temporal distances, and sometimes broken up with antiphonal rather than imitative extensions. This rather loose contrapuntal treatment gives way to more formalised, measured imitations that enter with some degree of temporal and intervallic predictability in Froberger's *Libro secondo* (1649), his earliest surviving collection, where the contrapuntal sections tend to use strict imitation. A summary of the analytical data is shown in **Figure 4**.

⁵⁷ This does not include the intervals usually associated with tonal imitation.

⁵⁸ While there is inevitably an element of interpretation here as the analysis is not extracted from digitally coded scores, I have tried to be consistent in the application of this nomenclature.

Figure 4. Types of imitation measured by tactus and expressed as mean percentages

The shift towards stricter imitative counterpoint in the later pieces evident in Figure 4 may indicate several things. It could be symptomatic of the emergence of a stronger sense of harmonic tonality, or indicative of a more literate compositional approach in the younger Froberger. On the other hand, a residual oral approach in which modality was more prevalent directly influenced compositional choices in the work of Frescobaldi. **Example 1** illustrates these differences.

The passage from ‘Toccata undecima’ from Frescobaldi’s *Secondo libro* demonstrates a fluid approach to imitation. The dux presents a simple rising scale over a third, followed by a descending skip of a perfect fifth, then ascending and descending skips of a third. In modern terms, it looks like a subject in A minor. The imitation that follows suggests it will be an imitation at the fifth below, but subsequent entries prove otherwise with real, tonal and variant entries eventually breaking down into a truncated pattern consisting only of the scalar third, which then breaks down into *passaggi*. This type of contrapuntal treatment accounts for the high levels of pseudo and variant imitation indicated in the graph. However, Froberger’s dux presents a subject comprising a rising arpeggio, followed by a descending scale over a fifth, and then a pattern strikingly similar to Frescobaldi’s. The whole is then imitated at the fifth and proceeds predictably at regular temporal distances.

Example 1a: Frescobaldi, *Libro secondo*, Toccata undecima 22-24⁵⁹

⁵⁹ All Frescobaldi examples here and below are transcribed from Frescobaldi, *Toccate e partite libro primo* (Rome: Nicolò Borbone, 1637), and Frescobaldi, *Secondo libro di toccate...* (Rome: Nicolò Borbone, 1637); facsimile editions edited by Laura Alvini, *Archivum musicum: Collana di testi rari vol 3-4* (Florence: Studio per edizioni scelte, 1980) with additional reference to Frescobaldi, *Toccate e partite libro primo* ed. Christopher Stemberge, (Kassel: Barenreither, 2010 and *Secondo libro di toccate* ed. Etienne Darbellay, *Monumenti Musicali Italiani*, vol. 3, (Milan: Suvini Zerboni, 1979)

Example 1b: Froberger, *Libro secondo*, Toccata IV, 16-19⁶⁰

An alternative interpretation of the data is that the differences in approach to counterpoint could simply be a ‘thumbprint’, or measure of the individual styles of these composers. If that is the case, then we have the basis of a way to assess authorship of anonymous pieces. I would argue though that, even if this is an individual measure of style, the presence of a looser contrapuntal style that rests on an older modal framework represents significant traces of unwritten procedures in the older composer. The evidence of the data shown in this graph indicating the loose treatment of imitative passages in Frescobaldi’s work, especially contrapuntal writing that is only apparently, rather than strictly imitative, may correlate with Annibaldi’s identification of low identical entry ratios in the contrapuntal manipulations present in Frescobaldi’s early *Fantasia*. This type of contrapuntal working in the toccatas, like that of the *Fantasia*, may also be indicative of the demands of a particular kind of patronage. It is beyond the scope of this article to pursue this line of enquiry.⁶¹

Given the apparent emphasis on contrapuntal sections, further analysis of the microstructures of the head motifs for these sections points to other formulaic processes. The first order interval of a motif, that is, the distance between the first two notes, indicates whether the melodic figure is scalar or moves by skip. A sample of these motifs was extracted from the sources outlined above, and the first order intervals were identified and counted.⁶² The results are reflected in **Figure 5**.

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⁶⁰ All Froberger extracts in this example and those below are transcribed from Froberger *Libro secondo*, 1649 and *Libro quarto* (Ms Mus Hs 18706) Ed. Siegbert Rampe, *Neue Ausgabe sämtlicher Clavier- und Orgelwerke* 1 and 2 (Kassel: Barenreiter, 1993, 1995)

⁶¹ Claudio Annibaldi, ‘Frescobaldi’s *Primo libro delle fantasie a Quattro* (1608): a case study on the interplay between commission, production and reception in early modern music’, *Recercare* 14 (2002) 31-61

⁶² In this sample, the elevation toccatas were excluded as the affective demand for chromaticism and therefore movement by semitone is likely to skew the statistics. The pedal toccatas were likewise excluded as the harmonic implications of the sustained pedal may likewise affect interval choice.

Figure 5. First order intervals of motifs represented as mean percentages of the total number of intervals counted for each composer

This analysis makes no qualitative assessment of the imitation that follows each interval, which may be a pseudo imitation or variant imitation, nor does it evaluate the relationship between motifs across a single piece. A classification of motivic movement in this way may point to underlying performative habits that are embedded in the notated pieces. Further research and refinement of these statistics may, for example, enable ascending or descending movement to be mapped on to placement of a motif in left or right hand and thus correlated to potential fingering habits. In this sample, for all of the composers considered, the majority of motifs proceed by step and, in the case of Frescobaldi, the figure is highest at upwards of 70%. By quantifying the number of intervals of a third or greater, and including those same intervals in a count of intervals of a fourth or greater, it is possible to see the number of motifs that start with a skip of a third, either major or minor. Only a small number of motifs start with an initial skip of a fourth or larger, with Froberger scoring the highest incidence of these intervals. It is highly likely, given these statistics, that there may be underlying formulae that reflect the patterns of a modal macrostructure within the motivic microstructure.

Motivic patterns and formulaic figurations

The macrostructure created by successive sections of contrasting textures does not seem to have a predictable pattern, other than a chordal opening and increasing density of *passaggi* towards the close. However, within that loose framework, there are a sufficient number of predictable elements at the microstructural level appearing in different contexts and different pieces in the form of recurring melodic-harmonic patterns to justify their identification as formulae.

All of the toccatas in Frescobaldi's *Libro primo* and *libro secondo*, including the elevation toccatas but not the *durezze e ligature*, contain two types of motif: trill-type motifs consisting of an oscillating figure with either a prefix or suffix or both; and melodic motifs which may be derived from an interval or interval progression, filled out and rhythmically activated. The trill-type diminution figure raises interpretational difficulties, not to mention problems of nomenclature. It is neither a true *tremolo*, *tremoletto* nor *grosso* as described by Diruta; nor a *trillo*, the term that Frescobaldi uses as a global descriptor in his prefaces, as this term has implications of the repercussive figure used in vocal ornamentation. They do seem to have similar functions to the *gropi* illustrated in *Il Transilvano* where, Diruta suggests, they may be rhythmically based on any note length, used ascending and descending and at cadences.⁶³ His examples of *gropi* used to embellish triads could easily represent the type of pattern used to navigate between chords in the opening of a toccata. As used by Frescobaldi, diminution motifs fall into five broad categories based on the distance (either tone or semitone), initial direction (ascending or descending) of the oscillation, and the prefix or suffix attached to them. These categories can be mapped against the most common contexts of diminutions, whether cadential, passage work or head motifs in contrapuntal sections. A sample of these types is shown in **Example 2**.⁶⁴ The type shown in Example 2 a) and b) are most commonly cadential, while those in Example 2 c) and d) may take on a more 'thematic' function and be used in imitative or pseudo-imitative passages. Some of these patterns are equally evident in the opening sections of toccatas from Froberger's *Libro secondo* and *Libro quarto*, though they appear less in later sections of these pieces. In Rossi's toccatas they are used more sparingly, but, nonetheless, do make an appearance from time to time. The simple

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⁶³ Diruta, *Il transilvano*, 10

⁶⁴ As the toccatas by Frescobaldi and Froberger are identified by number order only, in the following examples, the upper case Roman numeral indicates the book number and the lower case numeral of the specific toccata in that book.

fact that these motifs can so easily be grouped suggests a repertory of formulaic patterns, probably learned at the keyboard at an early stage of musical education, and recalled from memory in the process of composition at the keyboard. Their written survival is a residue of that oral practice.

a) Ascending approach by semitone from longer note value

b) Descending approach by semitone with termination

c) Ascending approach to downward trill with 'snap' termination

d) Descending approach to upward trill with termination of shorter note values

e) Even semiquaver trills

Example 2. Frescobaldi - Trill-type diminution motifs

The melodic motifs derived from an interval or interval progression are related to the common patterns used for filling out simple intervals in the process of embellishment or intabulation that are described in sixteenth century performance manuals

A closer examination of the motifs used by Frescobaldi, Rossi and Froberger in their toccatas bears out the evidence of the theorists mentioned above, and suggests that they drew on a variety of note patterns that are common enough to be classified as memorised formulae.

Melodic patterns that outline fourths and fifths, especially if these are stepwise, project the species boundaries of the prevailing mode. They can be manipulated to generate or to evade cadential closure and may be easily chromaticised to create passing tonicisations. Patterns of fourths and fifths, importantly, also lie ‘under the hand’ on the keyboard.

One of the most common gestures in the toccatas under scrutiny is a stepwise ascending fourth, usually commencing from a rest or tie, giving it an offbeat rhythmic shape. It is found in both contrapuntal contexts and in *passaggi*. In Frescobaldi’s work this pattern may appear distributed across two voices, one of which has a sustained note, usually the lower extreme of the interval, while the other completes the ascent. **Example 3a-c** provides three different versions of this motif. The offbeat metrical position suggests movement toward the upper extreme of the interval and, depending on the position of tones and semitones, may infer a moment of perfect closure. If this is shifted to a strong-weak accentuation, it indicates movement away from the initial lower note, rather than progression toward the upper note. The fourth is a modal signifier, so this formula is embedded in the harmonic language of its context. Patterns ascending over a fourth from an offbeat are also found in Froberger and Rossi, but the distribution of such a motif over two voices seems peculiar to Frescobaldi.

Rossi, in the ‘Ottava toccata’ (19) **Example 3d** for example, uses the offbeat ascending fourth to reach a longer note, inverting Frescobaldi’s trick of sustaining the lower note, but creating an equally compelling frame for species boundaries. Then over a period of several bars, (22-26) he opens the first interval of the ascent from a tone to a third, shifting the outlined interval from a fourth to a fifth. In the ‘Prima toccata’ (18-21) **Example 3e** he uses a succession of offbeat ascending scale segments separated by skips. The first scale segment is a fourth, but the subsequent segment of each group is more fluid, as demanded by the pseudo-imitative character of the passage. Froberger, likewise combines two ascents to create an imitative passage in the fourth toccata of the *Secondo libro* (5-7), **Example 3f**, although in this case the second ascent is truncated.

a) Frescobaldi: Libro primo, Toccata quinta, 22

b) Frescobaldi: Libro primo, Toccata decima, 31-32

c) Frescobaldi: Secondo libro, Toccata quarta, 12-13

d) Rossi: Toccata ottava, 19

e) Rossi: Toccata prima, 18-21

f) Froberger: Libro secondo, Toccata IV, 5-6

Example 3 a-f. Offbeat ascending fourth patterns⁶⁵

A second figuration or formula is created from two pairs of ascending steps, comprising either tones or semitones, separated by a skip. [Example 4a-d] This pattern is harmonically mobile, nearly always contains some chromatic alteration, and may be manipulated to create or to avoid cadential expectations. This pattern too, is frequently positioned on an offbeat, creating forward movement, and may be split across ‘voice’ parts in sequential passages. Froberger uses it as a cadential approach in the final bars of the first two toccatas of his *Libro secondo*. Rossi uses a similar pattern in the ‘Decima toccata’ but, instead of creating cadential impetus, it is used in an imitative passage in which the rhythmic placing shifts the accent between stronger and weaker metrical positions. This figuration is related to patterns comprising an offbeat neighbour-note figure, followed by a skip. These appear both in the context of *passaggi* and as motifs used in imitation [Example 5a-c]

⁶⁵ All Rossi extracts in this example and those below are transcribed from *Toccate e correnti d'intavolatura d'organo e cimbalo*, (Rome: Ricarii, 1657); Facsimile edited by Laura Alvini, *Archivum musicum, Collana di testi rari vol 12* (Florence: Studio per edizioni scelte, 1982).

a) Frescobaldi: Libro primo, Toccata sesta, 16

b) Frescobaldi: Secondo libro, Toccata undecima, 6-7

c) Froberger: Libro secondo, Toccata 1, final bar

d) Rossi: Toccata decima, 39-41

Example 4a-d. Patterns of pairs of ascending steps

a) Frescobaldi: Libro secondo, Toccata quinta, 44-47

b) Frescobaldi: Primo libro, Toccata prima, 22-23

c) Rossi, Toccata ottava, bb. 62-3

Example 6a-c. Ascending and descending scale segments separated by a skip

Frescobaldi: Libro primo, Toccata seconda, 16-17

Example 7: Truncated scale segments separate by a skip

These patterns all have identifiable intervallic derivations, predominantly thirds, fourths and fifths, which suggests that they may function in relation to modal boundaries, and place them

in a theoretical framework based on projection of modal finals. In addition, their relationship to specific intervals allows for them to behave like diminutions as substitutes for those intervals. Not only does one find identical figures in different contexts and in different modes, but also derivatives of these figures created from the alteration of a single interval or change in melodic direction. While there are differences in the way these patterns are used by Frescobaldi, Rossi and Froberger, the fact that they appear in so many different contexts suggests that individually they do not carry a specific function, such as pre-cadential extension or building *passaggi*, but are flexible enough for a range of purposes including points of imitation, sequence, chromatic alteration to shift harmonic direction, or fulfilment of cadential expectation. However, they are not generally used as exordial motifs at the start of a composition, and seldom as head motifs initiating contrapuntal sections. However, the presence of such patterns does not mean that there is a lack of cohesion in the compositions or, conversely, that they are predictable. Indeed, some of Frescobaldi's toccatas indicate an almost organic treatment of motif.⁶⁶

Beyond single author collections: intertextuality and ascription

The repetition of figurations in single author collections, both print and manuscript, by different composers, raises the question as to whether such formulae have composer-specific variants, or whether they are more generally representative of an oral tradition that happens to have been preserved in a single-composer print or, in the case of Froberger, manuscript. In order to address this question, a manuscript collection that scholars agree is representative of the Roman keyboard tradition of the period 1630-50, Biblioteca Apostolica Vaticana - Vat Mus Chigi Q.IV.25 (henceforth Chigi 25), will present an illuminating case.

This manuscript bears an ascription to Frescobaldi on the flyleaf, but its authorship has been disputed for decades and the literature about it is sizeable.⁶⁷ The main scribal hand is that of

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⁶⁶ Motivic structures are discussed in more detail in my PhD dissertation, *Analytical issues in the toccatas of Girolamo Frescobaldi*, (Royal Holloway, University of London, 1995).

⁶⁷ Claudio Annibaldi, 'La didattica del solco tracciato: Da 'klavierbuchlein' d'ignoti a prima fonte frescobaldiana autografa', *Rivista italiana di musicologia*, 20 (1985) 44-97; 'Ancora sulle messe attribuite a Frescobaldi: proposta di un profittevole scambio', in Sergio Durante and Dinko Fabris (eds) *Girolamo Frescobaldi nel IV centenario della nascita: atti del convegno internazionale di studi*, Ferrara 1983, Florence: Olschki, 1986) 125-152; Musical autographs of Frescobaldi and his entourage in Roman sources, *Journal of the American Musicological Society* XLIII (1990) 393-425; Was Frescobaldi a chameleonic scribe? *Early music*, XL (2012) 172; Etienne Darbellay, 'The manuscript Chigi Q.IV.24 of the Biblioteca Apostolica Vaticana as Frescobaldian source: new criteria for authenticity' in Claire Fontijn (ed) *Fiori musicali: liber amicorum Alexander Silbiger* (Michigan: Harmonie Park Press, 2010) 23-38; Hammond, *Girolamo Frescobaldi*, 258; Christine Jeanneret, *L'oeuvre en filigrane*, (Florence: Leo S. Olschki, 2009) 287-303; Leonhardt, G. 'Johann Jacob Froberger and his music'. *L'organo* vi (1968)15-40; Silbiger *Italian manuscript sources*, 123-125; 'The

Nicoló Borbone, one of Frescobaldi's pupils, who was also an organist and composer in his own right as well as the engraver of Frescobaldi's two toccata publications. Although the last three toccatas of the manuscript are the focus of most of the debates concerning the possible composer of the manuscript, they provide ideal case studies here. I have argued elsewhere that they may be examples of student work demonstrating the absorption of the Roman toccata idiom.⁶⁸ However, regardless of composer or purpose, these pieces represent compositional treatment of texture that is consistent with toccatas of a similar provenance and time period as can be seen in Figures 2-4 above.

The typically Frescobaldian trill-type motifs appear, although there are fewer of them and they are not predictably near the start of each piece. Moreover, the types of motif used in contrapuntal sections are also consistent with generic expectations. Patterns based on an offbeat ascending fourth are present, though as with the trill-type motifs, there are fewer of them. However, the similarity of one occurrence of this gesture in the first of these toccatas to passages in Rossi and Froberger's work is evident. **Example 8.** The offbeat neighbour-note pattern also appears in the Chigi toccatas in passages that resemble Rossi and Froberger shown in **Example 9.**

Roman Frescobaldi tradition c.1640-1670' in *Journal of the American Musicological Society* 33 (1980) 42-87; Van Asperen, B, 'Drei Toccaten in der Handschrift Chigi Q.IV.25: Überlegungen zu einer möglichen Zuschreibung an Johann Jacob Froberger' in *Concerto: Das Magazin für Alte Musik*, 26 (2009) 34-41

⁶⁸ 'Learning the trade: What was Froberger doing in Rome?' in *Avec discrétion: rethinking Froberger*, edited by Andreas Vejvar and Markus Grassl, Wiener Veröffentlichungen zur Musikgeschichte 14, (Vienna: Böhlau Verlag, 2018) 205-221

a) Ms Chigi Q.IV.25: Toccata 1a, b.3

b) Rossi: Toccata prima, b.27

c) Froberger: Secondo libro, Toccata IV, b.5

Example 8. A comparison of passages using an offbeat ascending fourth pattern⁶⁹

⁶⁹ Extracts from the Chigi toccatas are transcribed from the facsimile edition, edited by Alexander Silbiger *Vatican, Biblioteca apostolica vaticana, MS Chigi Q.IV.25* (New York and London: Garland, 1988)

a) Ms Chigi Q.IV.25: Toccata 1a, b.25

b) Froberger: Secondo libro, Toccata III, b. 10

c) Rossi: Toccata quinta, b. 19

Example 9. A comparison of offbeat neighbour-note patterns

In addition to the Frescobaldian motivic formulae in this manuscript, there are also some longer figurations that are used by Rossi and Frescobaldi, such as a scalic gesture in contrary motion that Kirkendale described as a *circulatio* figure, and the use of a persistent ostinato in one hand against a changing pattern in the other.⁷⁰ Both of these gestures are created by physical movement of the hands. In the case of the former, both hands move in opposite directions, in the latter, one hand remains stationary and the other moves away from it. The presence of such formulaic patterns and motifs suggests that a repertory of common gestures used by the performer-composers of the time has been absorbed by the composer of this manuscript, and in all probability was learned working at the keyboard.

⁷⁰ Warren Kirkendale, "Circulatio"-Tradition, "Maria Lactans", and Josquin as Musical Orator, *Acta Musicologica* Vol. 56, Fasc. 1 (Jan. - Jun., 1984), pp. 69-92, DOI: 10.2307/932617, <http://www.jstor.org.libezproxy.open.ac.uk/stable/932617>

Where ‘stock’ patterns are used in different rhythmic and harmonic contexts, and in pieces with very different ‘thematic’ content, they cannot be considered concordant in the sense of establishing some kind of compositional priority between sources. Instead, these ‘concordances’ mark both sources as displaying evidence of oral composition. Intertextuality is likely to arise from the use or re-use of memorised and previously worked formulae while performing and composing at the keyboard. In itself, the presence of such patterns is perhaps not significant, but it brings into question the presence of partial concordances between sources as an argument for authorial identity, and demands a deeper understand of composer-specific uses of common gestures and formulae. Concordances comprising patterns that are primarily derived from memorised diminution patterns that are also not genre-specific, are particularly problematic if used as indicators of common authorship.

Jeanneret has argued that the correnti in the manuscript F-Pn, Rés.Vmc 64 (henceforth Paris 64) are evidence of a process of composition in which small motivic patterns form the basis of a composition that is worked out first in miniature, elaborated to form a more worked out second stage, and progressing to a final, finished composition – a process she terms ‘modular’.⁷¹ The generic nature of the motivic pattern in question (Paris 64, fol. 2, bar 5 and bar 11) which is identical to formulae for one of the most basic embellishments of the interval of an ascending third in the ‘regola prima’ of Ganassi’s *Fontegara*, and which also appears in Sancta Maria’s treatise repeated to extend it to fill a longer note value, I would argue, is evidence of a performative compositional process.⁷² This same ‘module’ is also found in the third of Rossi’s published correnti. A very similar pattern that is essentially an inversion of it is used in Rossi’s Corrente seconda.

Another pattern identified by Jeanneret as a concordance between Paris 64 fol. 2, and the corrente prima from Frescobaldi’s *Secondo libro* (Example 10) also appears in the sarabanda from Froberger’s ‘Partita seconda’. With one interval changed (the upward skip of a third, becomes a repetition of the same pitch), it appears also in the courant from the same suite. As with the module identified above, this pattern too derives from embellishment practices

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⁷¹ Christine Jeanneret, ‘Un cahier d’ébauches autographe inédit de Frescobaldi (F-Pn, Rés.Vmc 64)’, *Recercare* Vol. 17 (2005), 135-159 and ‘Places of memory and invention: The compositional process in Frescobaldi’s manuscripts’, in Andrew Woolley and John Kitchen (eds) *Interpreting historical keyboard music* (Farnham: Ashgate, 2013,) 65- 81 (74)

⁷² Sancta Maria, *Libro llamado arte taner fantasia*, (Valadolid: Francisco Fernandez de Cordova, 1565) facsimile edition. (Farnborough: Gregg international Publishers, 1972) 58-59; Silvestro Ganassi, *Opera intitulata Fontegara* (Venice, 1535), <https://ia800706.us.archive.org/13/items/ims1p-intitulata-fontegara-ganassi-silvestro/PMLP46423-001ganassi.pdf> ; Ganassi, *Opera intitulata Fontegara*, translated by Hildemarie Peter (Berlin: Robert Lienau, 1956)

and can be found in Ganassi's *regola prima* as an embellishment of a descending second. There are enough of Froberger's other dances that contain gestures of a similar 'shape' (to use the Rti-an terminology) that these patterns cannot be said to have an authorial identity, for example, the courantes of the *Libro secondo*, Partita seconda, and Partita quarta and *Libro quarto* Partita prima and Partita seconda. The patterns lie under the hand and are manipulated using memorised combinations and permutations, rather than demonstrating an evolving written process.

These generic embellishment patterns are perhaps more exposed in the simpler dances than they are in more complex pieces such as the toccatas. However, successive combinations of the same type of diminutions may add up to florid *passaggi* found in the keyboard toccatas. They should not therefore be used as a concordance to identify anonymous work, unless there is a substantial passage and an identical accompanying framework of other elements, including rhythmic character and harmonic or contrapuntal context.

a) Frescobaldi: Corrente, Paris 64, fol 2, after Jeanneret in Woolley and Kitchen, p. 72

b) Frescobaldi: Libro secondo, Corrente prima, bb.1-3

c) Froberger, Libro secondo, Partita secondo - Sarabanda, b. 1

d) Froberger, Libro secondo, Partita secondo - Courant, b.1

Example 10. Intertextuality of Frescobaldi's compositional module

Conclusions

The toccata, as a genre, fulfilled certain expectations in terms of sections of specific types of texture, starting with a chordal opening followed by a variety of contrapuntal sections and passage work of increasing density. That the composers were aware of the contrasts and different characters of such sections is evident in the prefaces that suggest ways of playing that separate and highlight *affetti*. The unwritten practices of performance, or ‘delivery’ to use the rhetorical term, thus map onto the generic formulation of the macrostructure. The contrast and balancing of one *affetto*, or texture, against another suggests a reading of the prefaces that indicates a performance practice informed by structural as well as affective considerations. It may also afford a new way of evaluating the musical syntax of the keyboard toccata in relation to other instrumental genres such as the emerging sonata.⁷³

Within the microstructure, the presence of multiple formulaic patterns in toccatas at one level reinforces Diruta’s claim that toccatas are ‘all diminutions’ and, in the work of Merulo, this is proved to be the case by the tiny amount of contrapuntal activity in relation to the overall length of his toccatas. Embellishment and rearrangement of simple ideas in multiform ways as seen in the examples here, seem to parallel the Erasmian notion of *copia*. If common educational practice is a reliable model, we can assume a level of learning by rote and example, copying the work of the ‘great masters’, and using ‘master’ works as exemplars for deriving new pieces. Indeed, Ganassi’s presentation of embellishments in his treatise suggests that the pupil should start from the simpler patterns, playing and memorising them, and then move on to patterns that are rhythmically more complex. Diruta, in addition, teaches his fictional pupil about modes so, perhaps for the keyboard player, learning flourishes that map onto modal boundaries or common cadence formulae in both hands would also have featured in that process.

For composers beyond Venice, the picture is more complex, with passages that are provably ‘all diminutions’ broken up by contrapuntal sections, the motifs of which are in many cases themselves formulaic. The formulae used in more complex antiphonal or contrapuntal contexts identified above in the toccatas of Frescobaldi, Rossi and Froberger, are evidence of a compendium of gestures that the composer-performer may have drawn on while working at the keyboard. The frequency of note patterns that fill a fifth or fourth suggests not only allegiance to modal boundaries, but also that, for the performer at the keyboard, they ‘fall

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⁷³ Dell’Antonio’s conclusions drawn from examination of early sonata and canzona publications could perhaps be applied to keyboard and lute music. See Dell’Antonio, *Syntax, form and genre*

under the hand'. Analysis in order to map interval patterns and their placement in either left or right hand, along with evidence of fingering patterns, may provide further evidence of the performative origins of these formulae.

The formulaic patterns outlined in the analyses above all seem to signal memorising, copying, embellishing and expanding as part of an oral compositional process that has been preserved in the written text. Learning processes based on repetition, memory and the embedding of physical movement in a kinetic memory results in elements of intertextuality almost by default, as finger patterns and hand movements are repeated in different contexts. It is this inadvertent intertextuality preserved in written compositions that betrays the oral and performative compositional process. The fact that these vestiges of the compositional processes can be extracted does not undermine suggestions that the books may have been pedagogical models, monuments of collected works, or attempts to preserve a single outstanding performance, but they can add to our understanding of the unwritten conceptualisation and genesis of the toccata as a genre.

How musicians learned compositional skills, and especially the question as to how sections of counterpoint created using unwritten techniques and passages more loosely based on motivic patterns or formulae are fitted together on a conceptual level, needs further research. My analysis has demonstrated that contrapuntal passages become increasingly important in the toccata over time. As the average length of the toccata decreased, the frequency, density and length of contrapuntal sections increased, marking the transition from the toccata that is 'all diminutions' to one that is texturally more varied. As part of this process, specific parts of the toccata were populated by specific textures: the opening with chords or chords with diminutions; the end with a complex contrapuntal section followed by *passaggi* or *passi doppi* to create a final flourish. Newcomb's description of Frescobaldi's toccatas as following a 'flexible procedural paradigm' is apt, as the flexibility of any underlying organisational principles of the central sections is precisely the problem.⁷⁴ However, formulaic gestures comprising both diminution patterns and combinatorial permutations may have been memorised in the way that artists used model books or orators used key phrases or quotations from classical sources, positioning them and combining them to suit a new context.⁷⁵ The presence of common types of section seems to suggest parallels with rhetoric which, like

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⁷⁴Newcomb, 'Guardare ed ascoltare le toccate', 286

⁷⁵ Busse Berger, 'Models for composition in the fourteenth and fifteenth centuries' 69-75

composition at the keyboard, was an unwritten skill derived from practices of verbal delivery. Testing the validity of a hypothetical rhetorical structure as a generic procedure in the keyboard toccata (as opposed to examining the use of surface figures as codified by later German theorists) would demand analysis of a significant sample and is an area for future research.

The presence of the many motivic formulae do not rule out the hypotheses of Bradshaw and Silbiger that toccatas are based on pre-existent models, whether those are *cantus firmi* or secular polyphonic madrigals. However, such models may be deeply hidden by the successive processes of learning by imitation, emulation and expansion over more than one generation of teacher-pupil transmission.

The need to preserve and transmit larger scale compositions, even if the written medium was inadequate and however they were designed conceptually, ultimately has given us a window through which to view, albeit obliquely, a distant performative practice. Notwithstanding some considerable lacunae in our knowledge, the identification of different techniques and patterns within the toccata as a genre, is a step toward understanding the performative skill of composing at the keyboard.