

Mid-Sixteenth-Century Venetian Keyboard Intonations  
and Toccatas: Towards a System of Improvised  
Embellishments

Heath Henn

This is a doctoral dissertation submitted to the University of Sydney in partial fulfilment of the requirements for its Doctor of Musical Arts program.

February 2026

Sydney Conservatorium of Music  
University of Sydney



# Abstract

The development of psalm-based Venetian keyboard intonations and toccatas in mid-sixteenth century was mainly propelled by the evolution of keyboard-specific embellishment techniques. Despite the apparent homogeneity in embellishment style observed among surviving repertory of this genre, no codification of the presumably prevailing method of improvised embellishments, either in the sixteenth century or in current time, is found.

In this dissertation, the author proposes a method of keyboard-specific improvised embellishments applicable to the improvisation on the cantus firmus in a four-part setting. The proposed rules of embellishment are built upon the prescriptive examples in embellishment treatises (e.g. Ortiz 1553, Bassano 1585, Diruta 1593, Bovicelli 1594) and notated embellishments in surviving repertory (e.g. BERTOLDO1591, DIRUTA1593, GABRIELI1593, PADOVANO1594). The efficacy of the proposed method is tested by its application to various structural points along a given psalm tone.

## Keywords

sixteenth-century embellishment, Venetian keyboard intonation and toccata, Gregorian psalm tone, improvised embellishment, keyboard embellishment

## Acknowledgements

The completion of this dissertation was expedited by the supervisory feedback of Prof. Neal Peres Da Costa and Prof. Kathleen Nelson, the librarianship of Mr. Ludwig Sugiri, and editing advice of Prof. Helen Mitchell, for which the author hereby notes his gratitude.

## Statement of Originality

This is to certify that to the best of my knowledge, the intellectual content of this dissertation is the product of my own work, and that all the assistance received in preparing this dissertation and sources have been acknowledged. In addition, this dissertation has not been submitted for any degree or other purposes.

## Financial Support

This research was partially supported by the Australian Government Research Training Program (RTP) offset scholarship.

# Table of Contents

List of Examples	5
List of Tables	8
Abbreviations	9
Chapter 1. Introduction	11
1.1 Cantus firmus procedure	11
1.2 Venetian keyboard intonations and toccatas	19
1.3 Classification of embellishments	32
1.4 About this study	41
Chapter 2. Analysis of notated embellishments in surviving repertory	49
2.1 General characteristics	50
2.2 Stationary embellishments	56
2.3 Non-cadential embellishments	62
2.4 Cadential embellishments	69
Chapter 3. Proposed system of improvised embellishments	75
3.1 Definitions	76
3.2 Hard rules	87
3.3 Soft rules	99
3.4 Corollaries	107

Chapter 4. Demonstrative examples	114
4.1 Selected work	114
4.2 Modification of notated embellishments	119
4.3 Modification of harmonic schema	128
Chapter 5. Irregularities and later developments	134
5.1 Notation of small-scale motifs	135
5.2 Notation of nuanced rhythmic constructs	138
5.3 Notation of elaborate cadential groppi	141
5.4 Later developments	144
Conclusion	150
References	151
Embellishment Catalogue	153

# List of Examples

Example 1.1.1 Eight psalm tones in traditional church modes	13
Example 1.1.3 Diego Ortiz, prescribed passaggi examples for an ascending second	17
Example 1.1.4 Giovanni Bassano, prescribed passaggi examples for an ascending second	17
Example 1.1.5 Giovanni Battista Bovicelli, prescribed passaggi examples for ascending second	18
Example 1.2.1 Giaches de Wert, <i>Falsobordone in exitu Israel</i>	20
Example 1.2.2 Antonio de Cabezón, <i>Fabordon y glosas del Primer Tono llano: Glosado con el Tiple</i>	21
Example 1.2.3 Antonio de Cabezón, <i>Fabordon y glosas del Primer Tono llano: Fabordon</i> (unembellished)	22
Example 1.2.4 Andrea Gabrieli, <i>Intonazione del Quarto Tono</i> , GABRIELI1593	25
Example 1.2.5 Andrea Gabrieli, <i>Intonzione del Quarto Tono</i> , GABRIELI1593 (unembellished)	27
Example 1.2.6 Giovanni Gabrieli, <i>Intonazione del Settimo Tono</i> , GABRIELI1593	29
Example 1.2.7 Giovanni Gabrieli, <i>Intonazione del Settimo Tono</i> , GABRIELI1593	30
Example 1.3.1 Michael Praetorius, tremolo ascendus and tremolo descendus	35
Example 1.3.2 Girolamo Diruta, tremoli on minims, semiminims and fusas	35
Example 1.3.3 Giovanni Bovicelli, tremoli on minims	35
Example 1.3.4 Anapestic tremoletto vs dactylic tremoletto	37
Example 1.3.5 Girolamo Diruta, cadential groppi examples	37
Example 1.3.6 Giovanni Battista Bovicelli, groppetti note seguenti vs groppetti raffrenate	37
Example 1.3.7 Giovanni Battista Bovicelli, lengthened introductory notes in a tirata	39
Example 1.3.8 Giovanni Battista Bovicelli, rhythmic nuance in the execution of a tirata	39
Example 1.3.9 Giovanni Battista Bovicelli, dotted rhythmic variation of a passaggio	39
Example 1.3.10 Girolama Diruta, Mixed Groppo	40
Example 2.1.1 Andrea Gabrieli, <i>Intonazione del Primo Tono</i> , GABRIELI1593	52
Example 2.1.2 Andrea Gabrieli, <i>Intonazione del Primo Tono</i> , GABRIELI1593 (unembellished)	54
Example 2.2.1 Commonly notated I–I embellishments in surviving repertory	58
Example 2.2.2 Sperindio Bertoldo, <i>Toccata Seconda</i> , bars 28–30, BERTOLDO1591	60
Example 2.2.3 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bars 3–7, GABRIELI1593	60
Example 2.2.4 Andrea Gabreli, <i>Toccata del Ottavo Tono</i> , bars 29–32, GABRIELI1593	61
Example 2.3.1 Commonly notated I–V embellishments in surviving repertory	64
Example 2.3.2 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bars 1–4, GABRIELI1593	66
Example 2.3.3 d'Incerto, <i>Toccata del Terzo et Quarto Tono</i> , bars 30–33, BERTOLDO1591	66
Example 2.3.4 Andrea Gabrieli, <i>Toccata del Ottavo Tono</i> , bars 7–10, GABRIELI1593	67
Example 2.3.5 Andrea Gabrieli, <i>Tocata del Primo Tono</i> , bars 1–4, GABRIELI1593	67
Example 2.3.6 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bars 12–15, GABRIELI1593	68
Example 2.4.1 Commonly notated V–I cadential embellishments	71
Example 2.4.2 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bars 60–65, GABRIELI1593	71
Example 2.4.3 Andrea Gabrieli, <i>Toccata del Nona Tono</i> , bars 17–21, GABRIELI1593	72

Example 2.4.4 Commonly notated IV–I cadential embellishments	73
Example 2.4.5 Andrea Gabrieli, <i>Intonazione del Quinto Tono</i> , bars 15–17, GABRIELI1593	74
Example 2.4.6 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bars 17–18, GABRIELI1593	74
Example 3.1.1 Good notes and bad notes in various rhythmic division of a tactus	77
Example 3.1.2 Andrea Gabrieli, <i>Intonazione del Settimo Tono</i> , bars 10–11, GABRIELI1593	77
Example 3.1.3 Andrea Gabrieli, <i>Intonazione del Primo Tono</i> , bars 5–8, GABRIELI1593	77
Example 3.1.4 Giovanni Gabrieli, <i>Intonazione del Primo Tono</i> , bar 3, GABRIELI1593	80
Example 3.1.5 Examples of good leaps and bad leaps	80
Example 3.1.6 Andrea Gabrieli, <i>Intonazione del Primo Tono</i> , bars 9–10, GABRIELI1593	80
Example 3.1.7 Andrea Gabrieli, <i>Toccata del Settimo Tono</i> , bars 14–15, GABRIELI1593	83
Example 3.1.8 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bars 9–10, GABRIELI1593	83
Example 3.1.9 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bars 11–14, GABRIELI1593	83
Example 3.1.10 d'Incerto, <i>Toccata del Primo et Secondo Tono</i> , bars 15–16, PADOVANO1594	85
Example 3.1.11 Andrea Gabrieli, <i>Toccata del Quarto Tono</i> , bar 7, GABRIELI1593	85
Example 3.1.12 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bar 14, GABRIELI1593	85
Example 3.1.13 Giovanni Gabrieli, <i>Intonazione del Terzo et Quarto Tono</i> , bars 6–8, GABRIELI1593	86
Example 3.2.1 Giovanni Gabrieli, <i>Intonazione del Secondo Tono</i> , bars 1–5, GABRIELI1593	88
Example 3.2.2 Commonly notated rhythmic divisions of a semibreve tactus	88
Example 3.2.3 Commonly notated rhythmic divisions of a minim tactus	88
Example 3.2.4 Giovanni Gabrieli, <i>Intonazione del Terzo et Quarto Tono</i> , bars 6–8, GABRIELI1593	90
Example 3.2.5 Andrea Gabrieli, <i>Intonazione del Primo Tono</i> , bars 5–9, GABRIELI1593	90
Example 3.2.6 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bars 61–62, GABRIELI1593	90
Example 3.2.7 Giovanni Gabrieli, <i>Intonazione del Settimo Tono</i> , bars 5–7, GABRIELI1593	92
Example 3.2.8 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bar 5, GABRIELI1593	92
Example 3.2.9 Andrea Gabrieli, <i>Intonazione del Settimo Tono</i> , bars 10–11, GABRIELI1593	92
Example 3.2.10 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bar 4, GABRIELI1593	94
Example 3.2.11 Andrea Gabrieli, <i>Intonazione del Sesto Tono</i> , bar 9, GABRIELI1593	94
Example 3.2.12 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bars 14–18, GABRIELI1593	94
Example 3.2.13 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bars 1–17, GABRIELI1593	96
Example 3.2.14 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bar 8, GABRIELI1593	98
Example 3.2.15 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bar 8, GABRIELI1593 (modified)	98
Example 3.2.16 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , bar 8, GABRIELI1593 (modified)	98
Example 3.3.1 Andrea Gabrieli, <i>Intonazione del Settimo Tono</i> , bars 13–14, GABRIELI1593	100
Example 3.3.2 Annibale Padovano, <i>Toccata del Primo Tono</i> , bars 13–15, PADOVANO1594	100
Example 3.3.3 Andrea Gabrieli, <i>Intonazione del Settimo Tono</i> , bars 13–17, GABRIELI1593	100
Example 3.3.4 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bars 65–68, GABRIELI1593	102
Example 3.3.5 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bars 5–7, GABRIELI1593	102
Example 3.3.6 Location of a lone inflection note in a step-moving embellishment	104
Example 3.3.7 Sperindio Bertoldo, <i>Toccata Seconda</i> , bars 7–10, BERTOLDO1591	104
Example 3.3.8 Location of two inflection notes in a step-moving embellishment	106
Example 3.3.9 Giovanni Gabrieli, <i>Intonazione del Sesto Tono</i> , bars 5–7, GABRIELI1593	106

Example 3.4.1 Commonly notated eight–note step embellishments for odd-degree melodic intervals	108
Example 3.4.2 Andrea Gabrieli, <i>Intonazione del Primo Tono</i> , bars 5–8, GABRIELI1593	111
Example 3.4.3 Andrea Gabrieli, <i>Intonazione del Settimo Tono</i> , bars 10–11, GABRIELI1593	111
Example 3.4.4 d'Incerto, <i>Toccata del Primo et Secondo Tono</i> , bars 25–29, PADOVANO1594	112
Example 4.1.1 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , GABRIELI1593	115
Example 4.1.2 Andrea Gabrieli, <i>Toccata del Quinto Tono</i> , GABRIELI1593 (unembellished)	117
Example 4.2.1 Modified Example 1	122
Example 4.2.2 Modified Example 2	124
Example 4.2.3 Modified Example 3	126
Example 4.3.1 Modified harmonic schema of the selected work	130
Example 4.3.2 Modified Example 4	132
Example 5.1.1 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bars 25–26, GABRIELI1593	136
Example 5.1.2 Andrea Gabrieli, <i>Toccata del Ottavo Tono</i> , bars 39–42, GABRIELI1593	136
Example 5.1.3 d'Incerto, <i>Toccata del Primo Tono</i> , bars 22–24, PADOVANO1E594	137
Example 5.1.4 Andrea Gabrieli, <i>Intonazione del Settimo Tono</i> , bars 14–17, GABRIELI1593	137
Example 5.2.1 Andrea Gabrieli, <i>Intonazione del Nono Tono</i> , bars 28–30, GABRIELI1593	139
Example 5.2.2 Andrea Gabrieli, <i>Intonazione del Ottavo Tono</i> , bar 4–6, GABRIELI1593	139
Example 5.2.3 Andrea Gabrieli, <i>Toccata del Nono Tono</i> , bars 72–74, GABRIELI1593	140
Example 5.2.4 Annibale Padovano, <i>Toccata del Sesto Tono</i> , bar 50–51, PADOVANO1594	140
Example 5.3.1 Andrea Gabrieli, <i>Toccata del Ottavo Tono</i> , bars 41–45, GABRIELI1593	142
Example 5.3.2 Andrea Gabrieli, <i>Toccata del Sesto Tono</i> , bar 15–17, GABRIELI1593	142
Example 5.3.3 Annibale Padovano, <i>Toccata del Ottavo Tono</i> , bars 44–50, PADOVANO1594	143
Example 5.4.1 Commonly notated cadential gruppi in Claudio Merulo's keyboard toccatas	147

# List of Tables

Table 1.1.1 Key pitches of the eight psalm tones	14
Table 1.1.2 Key structural points of a psalm tone	14
Table 1.1.3 Key treatises on sixteenth-century Venetian embellishment practice	16
Table 1.2.1 Development of psalm-based keyboard intabulation techniques	31
Table 1.2.2 A three-period evolution of the Venetian keyboard toccata form	31
Table 1.3.1 List of embellishment terms	33
Table 1.4.1 Surviving repertory of mid-century Venetian keyboard intonations and toccatas	45
Table 4.2.1 Summary characteristics of notated embellishments in three modified examples	121
Table 5.4.1 Nineteen keyboard toccatas in two collections by Claudio Merulo	146

# Abbreviations

The following abbreviations are used throughout this dissertation unless otherwise specified.

## *Musical Collections*<sup>1</sup>

“BERTOLDO1591” = Bertoldo, Spirindio. *Toccate, Ricercari et Canzoni francese intavolate per sonar d’Organo da Sperindio Bertoldo, Nuouamente Stampati in Venetia, Appresso Giacomo Vincenti M. D. XCI.* RISM A/I B 2130.

“DIRUTA1593” = Diruta, Gabrieli. *Il Transilvano Dialogo sopra Il Vero Modo di Sonar Organi, et Istromenti da Penna, del R P Girolamo Diruta Perugino, dell’ordine de’ Frati Minori Conu, di San Francesco, Organista del Dvomo di Chioggia, Appresso Venetia Giocomo Vincenti 1593.* RISM B/I, 159725.

“GABRIELI1593” = Gabrieli, Andrea et Giovanni Gabrieli. *Intonationi d’Organo di Andrea Gabrieli, et Di Gio: Svo Nepote Organisti della Sereniss. Sig. Di Venetia in S. Marco, Libro Primo, In Venetia Appresso Angelo Gardano 1593.* RISM B/I, 159310

“MERULO1598” = Merulo, Claudio. *Toccate d’intavolatura d’organo di Claudio Merulo da Coreggio organista del Sig. Duca di Parma et Piacenza ecc. Nuouamente da lui date in luce, et con ogni diligenza corette. Libro primo.* In Roma appresso Simone Verovio, 1598 – con licenza de Superiori. RISM A/I M 2376.

“MERULO1604” = Merulo, Claudio. *Toccate d’intavolatura d’organo di Claudio Merulo da Coreggio organista del Sig. Duca di Parma et Piacenza ecc. Nuouamente da lui date in luce, et con ogni diligenza corette. Libro secondo.* In Roma appresso Simone Verovio, 1604 – con licenza de Superiori. RISM A/I M 2376.

“PADOVANO1594” = *Toccate et Ricercari d’Organo del Excellentissimo Annibale Padovano Gia Organista della Serenissima Signoria di Venetia Nonamente Stampate, & date in Luce.* In Venetia Appresso Angelo Gardano. M. D. C III. RISM A/A 1252.

---

<sup>1</sup> The hyperlinks for the consulted music manuscripts in the RISM database can be found in the list of references at the end of the dissertation.

### *Structural Points of Psalm tone*

“RA<sub>n</sub>” = first recitation of the n<sup>th</sup> statement of the psalm tone

“M<sub>n</sub>” = mediant of the n<sup>th</sup> statement of the psalm tone

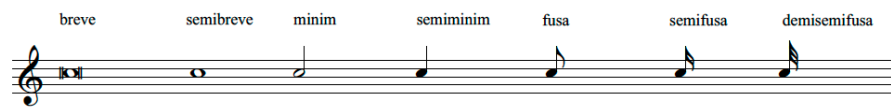
“X<sub>n</sub>” = flex of the n<sup>th</sup> statement of the psalm tone

“RB<sub>n</sub>” = second recitation of the n<sup>th</sup> statement of the psalm tone

“T<sub>n</sub>” = termination of the n<sup>th</sup> statement of the psalm tone

### *Mensural Notation*

This dissertation adopts the modern rhythmic notation in lieu of the white mensural notation in the original manuscripts.



### *Helmholtz Pitch Notation*

Throughout this dissertation, the pitch reference is made with the Helmholtz pitch notation. The following diagram gives the pitch notation of the lowest note of each octave in the Helmholtz system.



## Chapter 1 Introduction

### 1.1 Cantus firmus procedure

The genesis of instrumental music in the late fifteenth and early sixteenth centuries is rooted in the modification, elaboration and embellishment of vocal monophony. During the ensuing decades spanning the better part of the sixteenth century, the substantial output of instrumental writing arising out of the modification and adaptation of antecedent vocal prototypes indicates both an insatiable appetite and a persistent effort in the exploration of instrumental embellishment techniques. The resulting compositional style is one characterised by the contrast between the fluidity of improvised ornamentation and rigidity of the modal framework preset by the cantus firmus.<sup>2</sup>

The cantus firmus procedure, by definition, is the method of improvising counterpoint and ornamentation using the melodic and harmonic framework of a selected cantus firmus.<sup>3</sup> Early application of the procedure in the form of four-part harmonisation of Gregorian psalm tones (e.g. the *falsobordone* style), in the absence of the added embellishments, dates back to the late fifteenth century, but it was not until the early decades of the sixteenth century that this procedure underwent significant evolution and contributed to the emergence of several new forms of instrumental music such as instrumental falsobordoni and intabulations.

At the centre of the sixteenth-century cantus firmus procedure were the eight Gregorian psalm tones, each corresponding to a traditional church mode (see Example 1.1.1).<sup>4</sup> Texturally monophonic and unaccompanied, structurally simple and rhythmically unstrained, the eight psalm tones of great liturgical familiarity provided a suitable framework for the improvisation of counterpoint and embellishment techniques. As shown in Example 1.1.1, the structure of each psalm tone is such that it is divisible into two equal halves. The first half consists of a formulaic intonation (*inchoatio*), a recitation (*tenor*), which is sometimes disrupted by an occasional downward melodic inflection (*flexa*) and the middle cadence (*mediatio*). The second half is comprised of a

---

<sup>2</sup> Murray C. Bradshaw, *The Origin of the Toccata*, (American Institute of Musicology, 1972), 25.

<sup>3</sup> Murray C. Bradshaw, *The Falsobordone: A Study in Renaissance and Baroque Music* (American Institute of Musicology: Hänssler-Verlag, 1978), 31.

<sup>4</sup> Around the middle decades of the sixteenth century, the modal system was expanded by Glareanus (*Dedecachordon*, 1547) from eight tones to twelve tones, which resulted in the inclusion of four additional modes and psalm tones. The additional four psalm tones are not part of the focus of this study.

second recitation, and a choice of final cadences (*terminatio*), which are given to ensure smooth transition into the ensuing antiphon.<sup>5</sup> The mode and key pitches of each psalm tone and the definitions of the key structural points of a psalm tone are summarised in Table 1.1.1 and Table 1.1.2 respectively.

If the recitation of each psalm tone is considered as its most common pitch, there are four types of inflection along progression of a psalm tone, namely the intonation, flex, mediant and termination. The intonation is an optional part that precedes the beginning of a psalm tone and usually features an ascent to the ensuing recitation pitch. The flex is a small and fleeting deviation in pitch from a long held recitation. The mediant and termination, as alluded to above, are the cadential melodies that conclude the first and second halves of a psalm tone respectively.

So common was the usage of the eight psalm tones as cantus firmus of instrumental works that improvisation of embellishments over a predetermined series of their harmonic schema became an integral component in the education of sixteenth-century musicians.<sup>6</sup> Table 1.1.3 gives a summary of the key embellishment manuals by eminent sixteenth-century theorists. Despite the specificity of the intended readership of the said treatises, theoretical prescription of sixteenth-century embellishments was rarely reserved for particular classes of instruments and vocalists.<sup>7</sup> Most prescribed examples in these embellishment manuals were considered to be equally applicable to disparate mediums of realisation, as instrumental embellishment tutors rarely took into account the idiomatic capabilities of their specialised instruments.<sup>8</sup> In addition, no clear demarcation of vocal and instrumental embellishments was observed at least during the early decades of the sixteenth century, with many theorists insisting that prescribed embellishments in their treatises were equally appropriate for voice, and for wind and stringed instruments.<sup>9</sup> Instrumental authors such as Sylvestro Ganassi (1492–1565) and Diego Ortiz (c. 1510–c. 1576), placed great importance on the instrumentalists' capacity to emulate the human voice, not only in “expressiveness and melodic flexibility”, but also in “the technique and style of vocal ornamentation”.<sup>10</sup>

---

<sup>5</sup> Editors of Encyclopaedia Britannica Article History, Psalm Tone, <https://www.britannica.com/art/psalm-tone>.

<sup>6</sup> Howard Mayer Brown, *Embellishing Sixteenth-Century Music*, (London: Oxford University Press, 1976), viii.

<sup>7</sup> Mayer Brown, *Embellishing Sixteenth-Century Music*, 14.

<sup>8</sup> Imogene Horsley, “Improvised Embellishment in the Performance of Renaissance Polyphonic Music,” *Journal of the American Musicological Society*, Vol. 4, No. 1 (Spring, 1951): 15.

<sup>9</sup> *Ibid.*

<sup>10</sup> Mayer Brown, *Embellishing Sixteenth-Century Music*, viii.

Example 1.1.1 Eight psalm tones in traditional church modes<sup>11</sup>

The image displays eight musical staves, each representing a different psalm tone in traditional church modes. Each staff begins with a treble clef and a series of notes. Above the notes, abbreviations indicate specific tones or intervals: I, RA, X, M, RB, and T. The staves are labeled as follows:

- Primo Tono
- Secondo Tono
- Terzo Tono
- Quarto Tono
- Quinto Tono
- Sesto Tono
- Settimo Tono
- Ottavo Tono

<sup>11</sup> K. T. Lartigue, *Ad Communionem: Antiphons and Psalms*, (CreateSpace Independent Publishing Platform 2016), 1210–1216. Refer to Table 1.1.2 for a set of psalm-related abbreviations that will be used throughout the remainder of the dissertation.

Table 1.1.1 Key pitches of the eight psalm tones

Psalm tone	Mode	Recitation A	Mediant	Recitation B	Termination <sup>12</sup>
I	dorian	a	b <sup>b</sup>	a	d
II	hypodorian	f	g	f	d
III	phrygian	c	d	c	a
IV	hypophrygian	a	b	a	e
V	lydian	c	d	c	a
VI	hypolydian	a	b <sup>b</sup>	a	f
VII	mixolydian	d	e	d	a
VIII	hypomixolydian	c	d	c	g

Table 1.1.2 Key structural points of a psalm tone

Latin Term	English Translation	Abbreviation	Definition
<i>inchoatio</i>	intonation	I	melodic introduction at the onset of psalm tone
<i>tenor</i>	recitation	R	repeated pitch in between cadences of psalm tone
<i>flexa</i>	flex	X	a minor variation from the recitation
<i>mediatio</i>	mediant	M	cadence of the first half of psalm tone
<i>terminatio</i>	termination	T	cadence of the second half of psalm tone

---

<sup>12</sup> Alternative endings (“*differentiae*”) exist.

The chief focus of the aforementioned treatises is the prescription of *passaggi* examples. In the collation of their vast library of embellishments, embellishment tutors made great effort to organise the prescribed examples in a user-friendly way. Among other factors, unfailing consideration was given to the length of the embellished melodic note, size of the embellished melodic interval, whether the embellishment was made for a cadence, and if so, the mode of the cadence. A quick survey of the prescribed *passaggi* by various theorists reveals a certain level of idiosyncrasy in the prescription of embellishment techniques. Example 1.1.2, Example 1.1.3, Example 1.1.4 juxtapose the *passaggi* examples for the melodic interval of an ascending second as prescribed by three authors of different professional backgrounds. Ortiz, a pedagogue, places emphasis upon simple construction of ready-to-use cadential formulas. Bassano, a cornetist, seems preoccupied with speed and virtuosity. Bovicelli, a singer, explores nuance in the rhythmic division of a tactus.

With regard to improvised embellishments in an actual performance, contradictory accounts exist in relation to the extent to which the added embellishments altered the underlying vocal model. Mayer Brown observes that, by modern standard, a greater degree of performative liberty was bestowed upon the sixteenth-century musician to realise un-notated compositional intention beyond the score.<sup>13</sup> Therefore, what is perceived as the obscurement and modification of the original melodic contour may have happened as a result of the performer's effort to elaborate an intrinsic compositional idea. Others, including many contemporaneous theorists in the sixteenth century, caution against the addition of extravagant embellishments. McDermott notes that a learned and refined sixteenth-century patronage was unlikely to be impressed with an overabundance of embellishments on the sheer account of technicality and excessive decoration, which, if unchecked, stood to reduce the effectiveness of a keyboard performance.<sup>14</sup>

---

<sup>13</sup> Ibid., 74.

<sup>14</sup> Charles Michael McDermott, "The Canzoni d'Intavolatura of Claudio Merulo" (PhD diss., University of California, 1974), 19.

Table 1.1.3 Key treatises on sixteenth-century Venetian embellishment practice

Author	Title (Year of Publication)	Type <sup>15</sup>	Primarily intended for
Silvestro Ganassi dal Fontego (1492–1565)	Opera Intitulata Fontegara (1535)	∇	viol and recorder
Adrianus Petit Coclico (1499–1562)	Compendium Musices (1552)	Ψ	unspecified
Diego Ortiz (c. 1510–c. 1576)	Tratado de Glosas (1553)	∇	viola da gamba
Gioseffo Zarlino (1517–1590)	Le Institutioni harmoniche (1558)	Ψ	unspecified
Giovanni Camillo Maffei (fl. 1562–c. 1573)	delle lettere del Sr. Gio. Camillio Maffei da Solofra (1562)	∇	voice
Girolamo Dalla Casa (?–1601)	Il vero modo di diminuir (1584)	∇	voice
Giovanni Bassano (c. 1571–1617)	Ricercate, passaggi et cadentie (1585)	∇	cornetto
Lodovico Zacconi (1555–1627)	Prattica di Musica (1592)	Ψ	unspecified
Girolamo Diruta (c. 1546–c. 1624)	Il Transilvano (1593)	Ψ	keyboard
Giovanni Luca Conforto (1560–1608)	Breve et facile maniera d'essercitarsi a far passaggi (1593)	∇	voice
Riccardo Rogniono (c. 1550–c.1620)	Passaggi per potersi essercitare nel diminuire terminatamente (1594)	∇	violin
Giovanni Battista Bovicelli (c. 1550–c. 1594)	Regole, passaggi di musica, madriagli et motetti passeggiati (1594)	∇	voice

---

<sup>15</sup> ∇ = Embellishment Manual, Ψ = General Theory (containing reference to embellishment practice)

Example 1.1.2 Diego Ortiz, prescribed passaggi examples for an ascending second<sup>16</sup>

Musical notation for Example 1.1.2, showing 21 numbered examples of prescribed passaggi for an ascending second. The examples are arranged in four lines of music. Line 1 contains measures 1-5, line 2 contains measures 6-11, line 3 contains measures 12-15, and line 4 contains measures 16-21. Measure 17 includes a triplet of eighth notes. Each example shows a different melodic path for an ascending second interval.

Example 1.1.3 Giovanni Bassano, prescribed passaggi examples for an ascending second<sup>17</sup>

Musical notation for Example 1.1.3, showing 28 numbered examples of prescribed passaggi for an ascending second. The examples are arranged in seven lines of music. Line 1 contains measures 1-3, line 2 contains measures 4-7, line 3 contains measures 8-11, line 4 contains measures 12-15, line 5 contains measures 16-19, line 6 contains measures 20-22, and line 7 contains measures 23-28. The examples illustrate various melodic paths for an ascending second interval, including some with complex rhythmic patterns.

<sup>16</sup> Diego Ortiz, *Tratado de glosas sobre clausulas y otros generos de puntos en lan musica de violones* (Rome: Valerio & Luigi Dorico, 1553), 4.

<sup>17</sup> Giovanni Bassano, *Ricercate, passaggi et cadentie per potersi essercitar nel diminuir terminatamente con ogni sorte d'istrumento; et anco diversi passaggi per la semplice voce* (Venice: Giacomo Vincenzi & Ricciardo Amadino, 1585), 22.

Example 1.1.4 Giovanni Battista Bovicelli, prescribed passaggi examples for ascending second<sup>18</sup>

The image displays a musical score for Example 1.1.4, consisting of 35 numbered measures. The notation is written on a single staff in treble clef. The measures are organized into six lines of five measures each. The first line contains measures 1 through 6. The second line contains measures 7 through 12. The third line contains measures 13 through 18. The fourth line contains measures 19 through 23. The fifth line contains measures 24 through 28. The sixth line contains measures 29 through 32. The final line contains measures 33 through 35. The music features a variety of rhythmic patterns, including quarter notes, eighth notes, and sixteenth notes, often with slurs and accents. The overall progression is an ascending second, with the pitch rising stepwise through the measures.

---

<sup>18</sup> Giovanni Battista Bovicelli, *Regole, passaggi di musica, madriagli et motetti passeggiati*, 1594, trans. Jesse Rosenberg, *Historical Brass Society Journal*, 38.

## 1.2 Venetian keyboard intonations and toccatas

The cantus firmus procedure outlined in Chapter 1.1 contributed to the significant growth in the output of keyboard music during the second half of the sixteenth century. Among the various musical models which emerged from several decades of persistent compositional experimentation, the Venetian toccata attained a unique status of distinction for its technical virtuosity and expressive intensity. Predominantly set in the keyboard idiom, the toccata form subjected well-known psalm tones to varied embellishments in the prevailing style of ornamentation and improvisation.<sup>19</sup> So elaborate and ingenuous were the embellishments near the end of the sixteenth century that the newly composed toccatas became increasingly divorced from their vocal antecedents.

Notwithstanding their unprecedented complexity in a most mature form, the late-century Venetian toccatas are rooted in the simple vocal models dating back to the late fifteenth and early sixteenth century. The *classical falsobordone*, a popular vocal model during the early sixteenth century, contains many structural and functional elements that would appear in later keyboard works. In Example 1.2.1, the first psalm tone is delivered in the tenor part and surrounded by stepping intervals. Notated embellishments are kept to a minimum and usually appear at the mediant and termination of the psalm tone.

---

<sup>19</sup> Susan Cotton Perry, “The Development of the Italian Organ Toccata: 1550–1750” (DMA diss., University of Kentucky, 1990), 9–10.

Example 1.2.1 Giacches de Wert, *Falsobordone in exitu Israel*

The image displays a musical score for 'Falsobordone in exitu Israel' by Giacches de Wert, consisting of eight measures. The score is written for four staves: three treble clefs and one bass clef. The key signature is one flat (B-flat). The first system contains measures 1 through 5, and the second system contains measures 6 through 8. The music is characterized by a steady, rhythmic pattern of eighth notes in the upper staves, with a more complex bass line in the bottom staff. The piece concludes with a double bar line at the end of measure 8.

Example 1.2.2 Antonio de Cabezón, *Fabordon y glosas del Primer Tono llano: Glosado con el Tiple*

The musical score is presented in four systems, each with a vocal line (treble clef) and a piano accompaniment (grand staff). Measure numbers 1 through 21 are indicated above the vocal line. The score includes various musical notations such as slurs, ties, and triplets. The piano accompaniment features a steady rhythmic pattern in the right hand and harmonic support in the left hand.

Measures 1-6: The vocal line contains notes labeled RA, 2, 3, 4, 5 M, and 6. The piano accompaniment consists of a rhythmic pattern of eighth notes in the right hand and chords in the left hand.

Measures 7-12: The vocal line contains notes labeled 7, 8, 9, 10, RB, 11, and 12. The piano accompaniment continues with the rhythmic pattern, including triplets in measures 11 and 12.

Measures 13-17: The vocal line contains notes labeled 13 T, 14, 15, 16, and 17. The piano accompaniment continues with the rhythmic pattern.

Measures 18-21: The vocal line contains notes labeled 18, 19, 20, and 21. The piano accompaniment continues with the rhythmic pattern.

Example 1.2.3 Antonio de Cabezón, *Fabordon y glosas del Primer Tono llano: Fabordon (unembellished)*<sup>20</sup>

1 RA 2 3 4 5 M 6

7 8 9 10 RB 11 12

13 T 14 15 16 17

18 19 20 21

<sup>20</sup> In this and other instances in the remainder of this dissertation, the unembellished or modified version of the original published work is created by the author for analytical purposes.

The first keyboard falsobordone appeared around 1530 and unsurprisingly stemmed from the classical vocal falsobordone. Unlike its vocal progenitor, the keyboard falsobordone was based on the *idealised* cantus firmus.<sup>21</sup> Bradshaw points out that the idealisation of the cantus firmus, or the presentation of the borrowed melody in an altered manner, is a conventional sixteenth-century compositional technique that is not unique to keyboard works. Such idealisation often entails a combination of the usual practices of the transposition, harmonisation, modification and embellishment of the original melody, thus emancipating the compositional constraints resulting from the strict adherence to the unaltered melodic contour. An example of the early keyboard falsobordoni is found in eight versets by Antonio de Cabezón (1510–1566). As seen in Example 1.2.2, the psalm tone, which was once distinctly delivered in the classical falsobordone, is now submerged in the continuous flow of scalar *passaggi* in the soprano, which effectively obscures the various sectional transition points that would be otherwise evident in the unembellished version (Example 1.2.3).

The developmental lineage from the classical vocal falsobordone to keyboard falsobordone was resumed with the emergence of the Venetian keyboard intonations during the mid-sixteenth century. The current surviving repertory is found in a collection (i.e. GABRIELI1593) consisting of eight intonations by Andrea Gabrieli (1532–1585) and a further eleven by Giovanni Gabrieli (c. 1554–1612). In spite of the late-sixteenth-century publication date (1592) of the collection, it is plausible that Andrea's intonations were in actuality conceived between 1550 and 1560, only to be published posthumously, by virtue of the collection's use of the traditional eight church modes (instead of the twelve).<sup>22</sup> In addition, the general stylistic uniformity of Andrea's intonations (see Example 1.2.4 and Example 1.2.5) — the use of slow sustained chords to establish the tonality of the recitation, the embellishment of either the soprano or bass part in a four-part vocal texture with interminable and sweeping scalar passages, the formulaic nature of cadential ornamentation and the adherence of such embellishments to the idealised psalm monody — seems to characterise the homogeneity and rigidity which one would expect in the early developmental stage of the intonation and toccata music. By comparison, Giovanni Gabrieli's intonations are in all likelihood to have been composed during a later period, as they show considerably more restraint in the overuse of scalar passages and greater variety in the progression of chordal polyphony (see Example 1.2.6 and Example 1.2.7).

---

<sup>21</sup> Bradshaw, *The Origin of Toccata*, 26.

<sup>22</sup> Willi Apel, *The History of Keyboard Music to 1700* (Indiana University Press, 1972), 218.

The stylistic uniformity that characterised the embellishing procedure of mid-sixteenth-century keyboard intonations was short-lived (see Table 1.2.1). Andrea Gabrieli, who wrote both intonations and toccatas, recognised the need for the toccata form to outgrow the miniature form of intonation.<sup>23</sup> The inherent weakness of such embellishment language, which Apel regards as being “only suitable for music of small framework”, eventually proved insufficient as keyboard music lengthened over time.<sup>24</sup> In the last few decades of the sixteenth century, the various constraints imposed on the intonation were gradually abandoned in a rapidly advancing toccata form at the hands of Venetian organists, such as Andrea Gabrieli (1532–1585), Annibale Padovano (1527–1575), Giovanni Gabrieli (1554–1612), and Claudio Merulo (1533–1604).

The evolution of the Venetian keyboard toccatas during the second half of the sixteenth century is characterised by Bradshaw to have proceeded in three sub-periods.<sup>25</sup> The early period (c. 1550–1570) saw the advent of a refreshingly distinctive keyboard style which embellishes the psalm tones in block chords with interminable scalar passages sweeping from one end of the keyboard to the other. The parameters of the vocal falsobordone were abandoned in favour of improvisatory passageworks, flourishing cadences and free counterpoint. The middle period (c. 1570–1585) witnessed the important insertion of the *ricercar* sections in between virtuoso passageworks and the resulting convergence of two vocal styles (i.e. falsobordone and motet) in the keyboard idiom. The imitative section served to contrast the toccata texture with its comparably slower melodic rhythm, faster harmonic rhythm, greater focus on polyphony, and narrowed range of notes. The late period (c. 1586–1600) witnessed the widening gulf between the elaborate and diverse embellishing figurations and the vocal *cantus firmus*, which made the presence of the idealised *cantus firmus* increasingly inaudible. In addition, harmonic rhythm and textural changes quickened due to the emerging predominance of motivic writing and increasing acceptance of dissonance and leaping intervals. This three-period developmental trajectory is summarised in Table 1.2.2.

---

<sup>23</sup> Apel, *The History of Keyboard Music to 1700*, 222.

<sup>24</sup> *Ibid.*

<sup>25</sup> Murray C. Bradshaw, “The Influence of Vocal Music on the Venetian Toccata,” *Musica Disciplina*, vol. 42 (1988): 167–180.

Example 1.2.4 Andrea Gabrieli, *Intonazione del Quarto Tono*, GABRIELI1593

Measures 1-3 of the musical score. The top staff shows a vocal line with notes labeled 1, 2, RA, 3, and M. The middle staff is the right-hand piano accompaniment, and the bottom staff is the left-hand piano accompaniment.

Measures 4-6 of the musical score. The top staff shows a vocal line with notes labeled 4, 5 RB, T, and 6. The middle staff is the right-hand piano accompaniment, and the bottom staff is the left-hand piano accompaniment.

Measures 7-9 of the musical score. The top staff shows a vocal line with notes labeled 7, 8, and 9. The middle staff is the right-hand piano accompaniment, and the bottom staff is the left-hand piano accompaniment.

10 11 12

Musical score for measures 10-12. The top staff (treble clef) contains a single melodic line with a long slur over measures 10, 11, and 12. The middle staff (right hand of the piano) features a complex rhythmic accompaniment with sixteenth and thirty-second notes. The bottom staff (left hand of the piano) provides a steady bass line with eighth notes and rests.

13 14

Musical score for measures 13-14. The top staff (treble clef) has a melodic line with a slur over measures 13 and 14. The middle staff (right hand of the piano) shows a sequence of chords and melodic fragments. The bottom staff (left hand of the piano) continues with a rhythmic bass line.

15 16

Musical score for measures 15-16. The top staff (treble clef) shows a melodic line with a slur over measures 15 and 16. The middle staff (right hand of the piano) has a rhythmic accompaniment with sixteenth notes. The bottom staff (left hand of the piano) features a bass line with chords and rests.

Example 1.2.5 Andrea Gabrieli, *Intonzione del Quarto Tono*, GABRIELI1593 (unembellished)

1 2 RA 3 M

4 5 RB T 6

7 8 9

10 11 12

Musical score for measures 10-12. The top staff (treble clef) shows a melodic line with a slur over measures 10 and 11, and a fermata over measure 12. The bottom staff (piano accompaniment) consists of chords in both hands.

13 14

Musical score for measures 13-14. The top staff (treble clef) features a long slur spanning both measures. The bottom staff (piano accompaniment) shows chords in both hands, with a fermata over measure 14.

15 16

Musical score for measures 15-16. The top staff (treble clef) has a slur over measure 15 and a fermata over measure 16. The bottom staff (piano accompaniment) shows chords in both hands.

Example 1.2.6 Giovanni Gabrieli, *Intonazione del Settimo Tono*, GABRIELI1593

Measures 1-3 of the musical score. Measure 1 is labeled '1 RA' and contains a single note on the treble clef staff. Measure 2 is labeled '2 M' and contains a single note on the treble clef staff. Measure 3 is labeled '3 RB' and contains a single note on the treble clef staff. The piano accompaniment consists of chords in the right hand and a bass line in the left hand.

Measures 4-5 of the musical score. Measure 4 is labeled '4 T' and contains a single note on the treble clef staff. Measure 5 is labeled '5' and contains a single note on the treble clef staff. The piano accompaniment features a complex bass line with many sixteenth notes and chords in the right hand.

Measures 6-7 of the musical score. Measure 6 is labeled '6' and contains a single note on the treble clef staff. Measure 7 is labeled '7' and contains a single note on the treble clef staff. The piano accompaniment continues with a complex bass line and chords in the right hand.

Example 1.2.7 Giovanni Gabrieli, *Intonazione del Settimo Tono*, GABRIELI1593

1 RA 2 M 3 RB

Measures 1-3 of the musical score. Measure 1 (labeled '1 RA') features a single note on the treble clef staff. Measure 2 (labeled '2 M') features a half note on the treble clef staff. Measure 3 (labeled '3 RB') features a single note on the treble clef staff. The piano accompaniment consists of chords in the right hand and sustained notes in the left hand.

4 T 5

Measures 4-5 of the musical score. Measure 4 (labeled '4 T') features a half note on the treble clef staff. Measure 5 (labeled '5') features a half note on the treble clef staff. The piano accompaniment continues with chords and sustained notes.

6 7

Measures 6-7 of the musical score. Measure 6 (labeled '6') features a single note on the treble clef staff. Measure 7 (labeled '7') features a single note on the treble clef staff. The piano accompaniment continues with chords and sustained notes.

Table 1.2.1 Development of psalm-based keyboard intabulation techniques

	Classical vocal falsobordone	Keyboard falsobordone	Venetian keyboard intonation	Venetian keyboard toccata
First appearance	c. 1490–1510	c. 1530–1540	c. 1540–1550	c. 1550–1560
Modification of cantus firmus	rare	limited	common	standard
Complexity of notated embellishments	simple	uniform	evolved	convoluted
Division of recitation and cadence	distinct	blurred	fluid	continuous

Table 1.2.2 A three-period evolution of the Venetian keyboard toccata form

	Early Period	Middle Period	Late Period
Time	c. 1550–1570	c. 1570–1585	c. 1585–1600
Presence of psalm tone	evident	idealised	disguised
Cadential embellishments	formulae	varied	diverse
Harmonic rhythm	slow	accelerated	fast
Inclusion of imitative section	rare	emerging	standard
Dissonance	rare	tolerated	accepted

### 1.3 Classification of embellishments

The classification of sixteenth-century embellishments is problematic due to two difficulties. First, the disparate and ever evolving nomenclatures of embellishment techniques as adopted by sixteenth-century embellishment tutors and theorists renders the codification of a unified system an impossible task. Second, the classification methods proposed in the surviving sixteenth-century embellishment treatises (see Table 1.1.3) often erroneously suggest non-mutually-exclusive categories of embellishments and do not seem to account for all possibilities of figurative constructs.<sup>26</sup>

Modern scholars such as Horsley<sup>27</sup> and McDermott<sup>28</sup> follow the conventional distinction made between embellishments that are applied to a single melodic note ('grace') and embellishments that are applied to a melodic interval ('passaggio'). Such demarcation, albeit conceptually straightforward, creates a few problems. First, the definition of note-based embellishments leads to a false impression of their temporal instantaneity and discounts their frequent usage in sustaining sound. In the performance of sixteenth-century music, conventional graces such as the *tremoli* and *tremoletti* are frequently improvised independently of the notated embellishment and executed for an arbitrary duration. Second, if the definition of a single-note embellishment is allowed, ambiguity may arise when one tries to determine which of the two adjacent melodic notes the notated single-note embellishment belongs to, as the commencement of the grace does not necessarily coincide with that of the embellished melodic note. Third, an interval-based embellishment such as a *passaggio* is sometimes the figurative sum of a series of single-note embellishments, and, at least in such cases, it makes little sense to treat graces and *passaggi* as parallel categories. Last, many embellishments are of hybrid character and cannot be classified into either category due to the addition of single-note auxiliary embellishments to the melodic contour of the main interval-based embellishment.

It is for the reasons above that, for the purpose of this study, the author has chosen to adopt a simplified classification system and treat all embellishments as instances of a *passaggio*, an interval-

---

<sup>26</sup> McDermott, "The Canzoni d'Intavolatura," 19.

<sup>27</sup> Horsley, "Improvised embellishment," 7.

based embellishment that subdivides melodic notes into notes of smaller time values. If the embellishment starts and ends on the same note, the embellishment is considered to be in correspondence with a melodic interval of unison. A minimum number of embellishment terms are used throughout this study to describe stereotyped constructs of an embellishment. The ensuing sections will describe each type in greater detail.

Table 1.3.1 List of embellishment terms

Embellishment Term	Figurative Characteristics
tremolo (tremoli, pl.)	on the beat, alternation with upper note
tremoletto (tremoletti, pl.)	can be on the beat, before beat, through the beat, generally applicable to descending scalar construct
cadential gruppo (cadential groppi, pl.)	generally placed on the penultimate beat of the cadence, preceded by a segment of passaggi
tirata (tirati, pl.)	scalar passaggi used to connect phrases
mixed gruppo (mixed groppi, pl.)	made up of progressively smaller notes, typically used to cover a melodic interval of third
passaggio (passaggi, pl.)	any way to bridge over a melodic interval, a generic term encompassing all above

### 1.3.1 Tremolo

Though the tremolo is regarded by many sixteenth-century theorists as a most basic embellishment, there is little consensus in its definition. Praetorius defines the tremolo as the alternation between the embellished note and its upper note (*tremolo ascendus*) or its lower note (*tremolo descendus*).<sup>29</sup> While this definition accommodates both the ascending and descending variants, Praetorius advises keyboard players against employing tremoli ascendus, which are usually adopted by string and wind instrumentalists.<sup>30</sup> Diruta adopts a similar definition but his pedagogical examples, as shown in

Example 1.3.2, contain only tremoli ascendus, not tremoli descendus. On the appropriate duration of a tremolo, Diruta insists that a tremolo last half the time value of the embellished note, which is consistent with his pedagogical examples. Bovicelli, a vocalist who likens tremolo to the trembling of human voice on a note, allows in his definition for alternation between the embellished note and more than two adjacent pitches.<sup>31</sup> In addition, Bovicelli's examples, as shown in Example 1.3.3, contain notation of varied rhythms in consecutive tremoli, as one can reasonably demand from a trained singer.

---

<sup>29</sup> Michael Praetorius, *Syntagma Musicum*, Vol. 1, 1614: 38.

<sup>30</sup> *Ibid.*, 40.

<sup>31</sup> Giovanni Battista Bovicelli, *Regole, passaggi di musica, madriagli et motetti passeggiati*, 1594, translated by Jesse Rosenberg, *Historical Brass Society Journal*, 38.

Example 1.3.1 Michael Praetorius, tremolo ascendus and tremolo descendus



Example 1.3.2 Girolamo Diruta, tremoli on minims, semiminims and fusas<sup>32</sup>



Example 1.3.3 Giovanni Bovicelli, tremoli on minims



---

<sup>32</sup> Girolamo Diruta, *Il Transilvano*, 1593, trans. Murray C. Bradshaw and Edward J. Soehnen, *The Transylvanian*, (Institute of Medieval Music, 1984, vol. 1), 69–70.

### 1.3.2 Tremoletto

All prescribed examples of tremoli in the last section feature the simultaneous commencement of the trill and embellished note. The tremoletto is an alternative term used by some theorists (e.g. Diruta) to encompass variants of tremolo-like embellishments that does not require the commencement of the trill to coincide with that of the embellished note.

There are two types of tremoletti depending whether the tremoletto starts on the embellished note (*'dactylic tremoletto'*) or before the embellished note (*'anapaestic tremoletto'*). If a tremoletto starts on the embellished note (1, 3, 5, 7 in Example 1.3.4) it leads to a *dactyl* (i.e. one stressed beats followed by two unstressed beats). If a tremoletto starts before the embellished note (2, 4, 6, 8 in Example 1.3.4), it leads to an *anapaest* (i.e. two unstressed beats followed by one stressed beat). Diruta adds that a tremoletto is more often applied to a descending scalar construct (5, 6, 7, 8 in Example 1.3.4) than an ascending scalar construct (1, 2, 3, 4 in Example 1.3.4).<sup>33</sup> As shown in Example 1.3.4, regardless of the direction of the embellished scalar construct, the auxiliary note of the tremoletto is invariably the note immediately preceding to the embellished note in the melodic line.

---

<sup>33</sup> Ibid., 25.

Example 1.3.4 Anapestic tremoletto vs dactylic tremoletto<sup>34</sup>

Musical notation for Example 1.3.4, showing eight measures of rhythmic patterns. Measures 1-4 are anapestic tremoletto (two eighth notes followed by a quarter note), and measures 5-8 are dactylic tremoletto (a quarter note followed by two eighth notes). The notation is in treble clef with a key signature of one sharp (F#).

Example 1.3.5 Girolamo Diruta, cadential groppi examples<sup>35</sup>

Musical notation for Example 1.3.5, showing seven measures of cadential groppi. Measures 1-2 are simple cadential figures. Measures 3-4 show more complex rhythmic patterns. Measures 5-7 show increasingly complex and dense rhythmic patterns, including sixteenth-note runs. The notation is in treble clef with a key signature of one sharp (F#).

Example 1.3.6 Giovanni Battista Bovicelli, gropetti note seguenti vs gropetti raffrenate<sup>36</sup>

Musical notation for Example 1.3.6, showing four measures of gropetti. Measures 1-2 are gropetti note seguenti (note following), and measures 3-4 are gropetti raffrenate (restrained). The notation is in treble clef with a key signature of one sharp (F#).

<sup>34</sup> Ibid., 70.

<sup>35</sup> Diruta, *Il Transilvano*, 38.

<sup>36</sup> Bovicelli, *Regole, passaggi di musica, madriagli et motetti passeggiati*, 54.

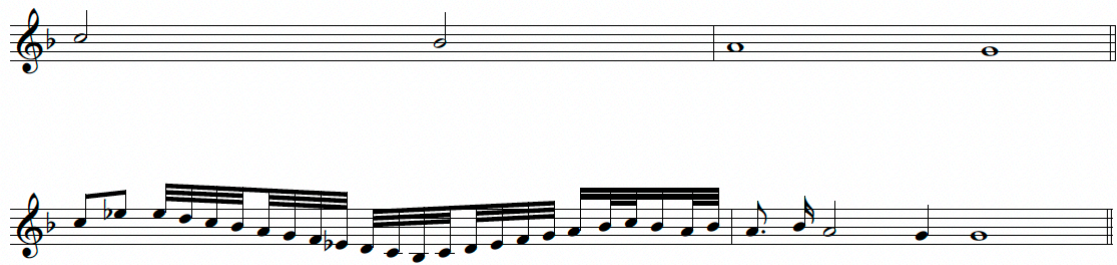
### 1.3.3 Cadential groppo

The cadential groppo, known for its stereotyped ending, is a most common embellishment notated in sixteenth-century musical works. As is evident in Diruta's pedagogical examples (Example 1.3.5), cadential groppi are mainly differentiated by the introductory division that precede their near-identical endings. Bovicelli prescribes that one may end a cadential groppo in two ways, either by keeping equal note values (*'gropetti seguenti'*, 1 and 2 in Example 1.3.6) or by using elongated note values (*'gropetti raffrenate'*, 3 and 4 in Example 1.3.6). He opines that the latter is generally superior as it lends greater charm to the voice and accommodates the finish of words, though he does acknowledge the value of the former for the sake of variety. He further cautions that, in the case of *gropetti raffrenate*, the elongated notes must not be much too longer than the embellished notes so as not to reduce the music to a grinding halt.

### 1.3.4 Tirata

A tirata is a commonly notated sixteenth-century embellishment of lengthy scalar construct. It is often used to alter the size of melodic intervals by multiples of an octave (e.g. second to ninth, second to sixteenth). In the introduction part of the cadential groppo in 7 in Example 1.3.5, a tirata is used to 'octave-switch' the starting melodic note from  $f''$  to  $f'$ . On the execution of a tirata, Bovicelli suggests two techniques that can be used by a vocalist to make a tirata sound more graceful. One is to lengthen its introductory notes relative to the following step notes (Example 1.3.7). The other is to rhythmically distinguish the small-value notes (Example 1.3.8). The rhythmic nuance in the execution of equal-valued passaggi is not always captured in the notation. Bovicelli stresses the importance of varying the manner of rendering the passaggio even if its pitches are fixed (Example 1.3.9).

Example 1.3.7 Giovanni Battista Bovicelli, lengthened introductory notes in a tirata<sup>37</sup>



Example 1.3.8 Giovanni Battista Bovicelli, rhythmic nuance in the execution of a tirata<sup>38</sup>



Example 1.3.9 Giovanni Battista Bovicelli, dotted rhythmic variation of a passaggio<sup>39</sup>



<sup>37</sup> Bovicelli, *Regole, passaggi di musica, madriagli et motetti passeggiati*, 41.

<sup>38</sup> *Ibid.*, 42.

<sup>39</sup> *Ibid.* 43.

### 1.3.5 Mixed groppo

The mixed groppo is a term coined by Diruta to reflect the combined use of progressively smaller note values (e.g. fusas, semifusas and demisemifusas) in a passaggio.<sup>40</sup> As seen in Example 1.3.10, mixed groppi are typically reserved for the melodic interval of either an ascending or descending third, a common occurrence in vocal polyphony. The embellishment technique of leveraging the gradual reduction in note value in the creation of growing momentum in a melodic line is not unique to the mixed groppo. Sixteenth-century composers frequently used similar techniques in other types of passaggi (see Chapter 3).

Example 1.3.10 Girolama Diruta, Mixed Groppo



## 1.4 About this study

### 1.4.1 Objectives

This analytical study, which pertains to the delineation and elaboration of a vocal monody on the keyboard, is motivated by three main objectives:

- i) to describe the stereotypical embellishing techniques in mid-sixteenth-century Venetian keyboard writing (Chapter 2);
- ii) to devise a practical system of improvising embellishments based on an analysis of the notated examples in the surviving repertory (Chapter 3); and
- iii) to demonstrate the applicability of the said system on various structural points along a given psalm tone (Chapter 4).

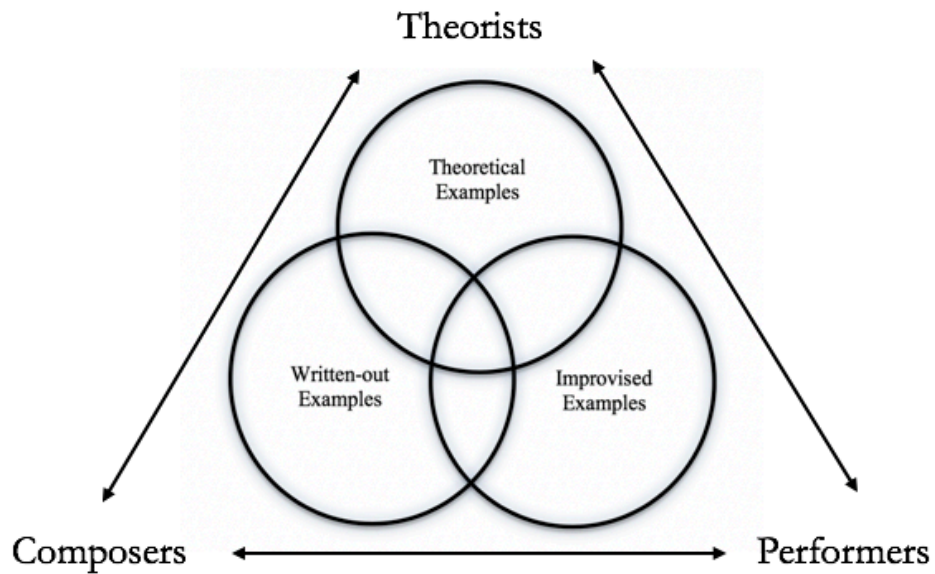
### 1.4.2 Methodology

Of relevance to this study are three sources of embellishments, namely the prescribed examples by sixteenth-century theorists in pedagogical works, notated examples by composers in surviving musical works, and improvised examples by sixteenth-century keyboardists in actual performances. While historical evidence demonstrates considerable overlapping between these three types of embellishments, some embellishment examples are available only from one or two sources. The inter-relationship between the three types of embellishment examples and their respective area of creative practice is captured in Figure 1.4.1.

Though little current research exists to suggest any significant relationships between the three and their respective area of creative practice, the abundant of overlapping suggests the high likelihood of mutual influence. In the Catholic churches of sixteenth-century Venice, it would not be difficult to envisage the role of the composer, theorist and performer being assumed by the same person. Pritchard stresses the conceptual overlap between notation and performance by characterising the notated scores as “the instantiations of a musical work that existed, in an unfixed state, in the mind

of the composer.”<sup>41</sup> He further points that the prescribed examples contained in sixteenth-century embellishment treatises were commonly borrowed from the embellishment techniques of contemporaneous composers and performers, therefore serving as a good proxy for the prevailing embellishment practice based on the theorist’s understanding.

Figure 1.4.1 Inter-relationship of three types of sixteenth-century embellishment examples



---

<sup>41</sup> Ian Pritchard, “Keyboard Thinking: Intersections of Notation, Composition, Improvisation, and Intabulation in Sixteenth-Century Italy,” Phd. diss. University of Southern California, 2018, 12.

Whether theoretical prescription of embellishment procedure was actively replicated in practice is, however, a matter of debate. First, the effect of theoretical prescription in sixteenth-century embellishment treatises on contemporaneous embellishment practice is to current knowledge largely indeterminate.<sup>42</sup> Even if one were to assume that pre-existing embellishment techniques had undeniably influenced compositional and improvisational activities of the Venetian keyboardists, it is far from certain knowledge that this prescriptive effect was binding. In addition, some modern scholars opine that what is now retrospectively labelled as theoretical prescription was in fact the product of an observational study of the prevailing style of embellishment techniques.<sup>43</sup> In other words, the overlapping of the notated and improvised examples with their prescribed counterparts was not the result of the former replicating the latter, but the latter summarising the former. This argument is likely given that many theoretical works were published after, not before, their stylistically related musical compositions and improvisational activities, rendering the presumed prescription effect chronologically unlikely, especially in a period of fast advancing embellishment techniques. Further, many argue that the rigorous regularity of theoretical prescription was rarely replicated in practice.<sup>44</sup> The systematic collation of embellishment examples that one observes in a theoretical study is not mirrored in practice, for which a diverse range of techniques abounds due to a myriad of factors such as the national school, prevailing taste of ornamentation, musical genre and composer idiosyncrasy.

Another area of contention is the extent of fidelity shown by the improvising keyboardist to the notated score on the spur of the moment. While it is nearly impossible to ascertain the extent of improvisational deviation from the notated score in absence of sound evidence, modern scholars note the close relationship between the improviser and composer who are either the same person or collaborate in proximity.<sup>45</sup> In fact, the notation of stereotyped embellishments and omission of ‘non-standard’ embellishment techniques by sixteenth-century keyboard composers is often perceived as a deliberate invitation to the improvising keyboardist, who was presumably apt at adapting the notated embellishments to the sound capabilities of the instrument and acoustics of the performance space.<sup>46</sup> In the opposite direction, some of the improvised examples deemed of superior quality, were inevitably kept in written record by the diligent hands of composers, which may inspire future experimentation of embellishment techniques.

---

<sup>42</sup> McDermott, “The Canzoni d’Intavolatura,” 75.

<sup>43</sup> *Ibid.*, 98.

<sup>44</sup> Sachs and Mesureux, *Anthology of Early Keyboard Methods* (Cambridge: Gamut Publications Ltd, 1981), 5.

<sup>45</sup> Mayer Brown, *Embellishing Sixteenth-Century Music*, 36.

<sup>46</sup> McDermott, “The Canzoni d’Intavolatura,” 159.

Despite the problematic inter-relationships between the three areas of creative practice, the validity of the proposed embellishment system depends on whether there likely existed a prevailing embellishment system that was part of the common knowledge of Venetian keyboardists during the studied period. In other words, whether embellishment techniques sourced from the surviving treatises and works are sufficiently homogeneous to serve as the basis of a codified system of improvisation. The answer is likely. McDermott argues that the appearance of the diverse and idiosyncratic diminution styles of sixteenth-century theorists and composers does not negate the effect of an established ornamentation procedure on the compositional process.<sup>47</sup> The ingenious embellishment of virtuosic late-sixteenth-century composers such as Claudio Merulo are likely to have been creatively adapted from a pre-existing school of ornamentation. Bradshaw notes the unlikelihood of the assumption that toccata writing constitutes a mere notational record of the periodic improvisatory practice with limited compositional input.<sup>48</sup> In addition, the considerable overlapping between the pedagogical examples and notated examples by various esteemed sixteenth-century tutors and theorists lends support to the notion of a probable standardised embellishment practice and body of stereotyped embellishments, as such uniformity would be highly unlikely without the existence of one.

### 1.4.3 Surviving repertory

Central to this analytical study are the notated embellishment examples contained in the currently surviving repertory of mid-century Venetian keyboard intonations and toccatas.<sup>49</sup> As seen in Table 1.4.1, the majority of the said repertory are sourced from three collections of sixteenth-century Venetian keyboard works (i.e. BERTOLDO1591, GABRIELI1593, PADAVANO1594) and one pedagogical treatise (i.e. DIRUTA1593). Featured in these works are embellishments notated by key members of the Venetian keyboard school, such as Annibale Padovano (1527–1575), Sperindio Bertoldo (c. 1530–1570), Girolamo Diruta (1546–1624), Andrea Gabrieli (1532–1585) and Giovanni Gabrieli (1557–1612).

---

<sup>47</sup> Ibid., 161.

<sup>48</sup> Bradshaw, *The Origin of the Toccata*, 16–17.

<sup>49</sup> The scope of this study is limited to notated embellishments in the toccata sections of these works. The *ricercar* sections, if any, and the notated embellishments therein are not examined.

Table 1.4.1 Surviving repertory of mid-century Venetian keyboard intonations and toccatas

Composer	Title	Psalm Tone <sup>50</sup>	Transposition	Length <sup>51</sup>	Collection <sup>52</sup>
G. Gabrieli	<i>Intonzione del Primo Tono</i>	I	none	5	GABRIELI1593
G. Gabrieli	<i>Intonzione del Primo Tono Trasportado alla</i>	I	up fourth	5	GABRIELI1593
G. Gabrieli	<i>Intonzione del Terzo &amp; Quarto Tono</i>	IV	none	8	GABRIELI1593
G. Gabrieli	<i>Intonzione del Terzo e Quarto Tono</i>	IV	up fourth	8	GABRIELI1593
G. Gabrieli	<i>Intonzione del Quinto Tono</i>	V	none	8	GABRIELI1593
G. Gabrieli	<i>Intonzione del Quinto Tono Trasportado alla</i>	V	up fourth	8	GABRIELI1593
G. Gabrieli	<i>Intonzione del Sesto Tono</i>	VI	none	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Sesto Tono Trasportado alla</i>	VI	up fourth	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Settimo Tono</i>	VII	none	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Settimo Tono Trasportado alla</i>	VII	down fifth	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Ottauo Tono</i>	VIII	none	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Ottauo Tono Trasportado alla</i>	VIII	up fourth	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Nono Tono</i>	IX	none	8	GABRIELI1593
G. Gabrieli	<i>Intonzione del Nono Tono Transportado all</i>	IX	down fifth	8	GABRIELI1593
G. Gabrieli	<i>Intonzione del Decimo Tono</i>	X	none	9	GABRIELI1593

---

<sup>51</sup> number of bars

<sup>52</sup> It is noted that the publication date of the collection, to which a particular work belongs, acts as an unreliable guide of its composition date as many works were published posthumously.

Composer	Title	Psalm Tone <sup>50</sup>	Transposition	Length <sup>51</sup>	Collection <sup>52</sup>
G. Gabrieli	<i>Intonzione del Decimo Tono Trasportado alla</i>	X	up fourth	9	GABRIELI1593
G. Gabrieli	<i>Intonzione del Vndecimo Tono</i>	XI	none	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Vndecimo Tono</i>	XI	down fifth	7	GABRIELI1593
G. Gabrieli	<i>Intonzione del Duodecimo Tono</i>	XII	none	8	GABRIELI1593
G. Gabrieli	<i>Duodecimo Tono Tasportao alla Quinta</i>	XII	down fifth	8	GABRIELI1593
A. Gabrieli	<i>Intonzione del Primo Tono</i>	I	none	16	GABRIELI1593
A. Gabrieli	<i>Intonzione del Secondo Tono</i>	II	none	13	GABRIELI1593
A. Gabrieli	<i>Intonzione del Terzo Tono</i>	III	none	14	GABRIELI1593
A. Gabrieli	<i>Intonzione del Quarto Tono</i>	IV	none	16	GABRIELI1593
A. Gabrieli	<i>Intonzione del Quinto Tono</i>	V	none	17	GABRIELI1593
A. Gabrieli	<i>Intonzione del Sesto Tono</i>	VI	none	15	GABRIELI1593
A. Gabrieli	<i>Intonzione del Settimo Tono</i>	VII	none	17	GABRIELI1593
A. Gabrieli	<i>Intonzione del Ottauo Tono</i>	VIII	none	12	GABRIELI1593
A. Gabrieli	<i>Toccata del Quinto Tono</i>	V	down fourth	18	GABRIELI1593
A. Gabrieli	<i>Toccata del Sesto Tono</i>	VI	none	68	GABRIELI1593
A. Gabrieli	<i>Toccata del Ottauo Tono</i>	VIII	none	45	GABRIELI1593
A. Gabrieli	<i>Toccata del Nono Tono</i>	IX	none	74	GABRIELI1593
S. Bertoldo	<i>Tocata Prima</i>	I	none	42	BERTOLDO159 1

Composer	Title	Psalm Tone <sup>50</sup>	Transposition	Length <sup>51</sup>	Collection <sup>52</sup>
S. Bertoldo	<i>Tocata Seconda</i>	VI	none	30	BERTOLDO159 1
G. Gabrieli	<i>Tocata</i>	I	none	24	DIRUTA1593
G. Gabrieli	<i>Tocata</i>	II	none	36	DIRUTA1593
G. Gabrieli	<i>Tocata</i>	VI	none	38	DIRUTA1593
C. Merulo	<i>Tocata</i>	III	none	46	DIRUTA1593
A. Gabrieli	<i>Tocata</i>	VI	none	50	DIRUTA1593
G. Gabrieli	<i>Tocata</i>	II	none	27	DIRUTA1593
L. Luzzaschi	<i>Tocata</i>	IV	none	23	DIRUTA1593
A. Romanini	<i>Tocata</i>	VIII	none	25	DIRUTA1593
P. Quagliati	<i>Tocata</i>	VIII	none	36	DIRUTA1593
V. Bell'Havere	<i>Tocata</i>	I	none	52	DIRUTA1593
G. Guami	<i>Tocata</i>	II	none	24	DIRUTA1593
A. Gabrieli	<i>Tocata</i>	X	none	33	DIRUTA1593
G. Diruta	<i>Tocata</i>	XI, XII	none	29	DIRUTA1593
A. Gabrieli	<i>Tocata del Quinto Tono</i>	V	none	18	GABRIELI1593
A. Gabrieli	<i>Tocata del Sesto Tono</i>	VI	none	68	GABRIELI1593
A. Gabrieli	<i>Tocata del Ottavo Tono</i>	VIII	none	45	GABRIELI1593
A. Gabrieli	<i>Tocata del Nono Tono</i>	IX	none	74	GABRIELI1593

Composer	Title	Psalm Tone <sup>50</sup>	Transposition	Length <sup>51</sup>	Collection <sup>52</sup>
A. Padovano	<i>Toccata del Primo Tono</i>	I	none	125	PADOVANO15 94
A. Padovano	<i>Toccata del Sesto Tono</i>	VI	none	54	PADOVANO15 94
A. Padovano	<i>Toccata del Ottavo Tono</i>	VIII	none	50	PADOVANO15 94
anon.	<i>Tocatta del Primo d'Incerto</i>	I	none	32	PADOVANO15 94
anon.	<i>Toccata del Primo et Secondo Tono d'Incerto</i>	I, II	-	37	PADOVANO15 94
anon.	<i>Toccata del Terzo et Quarto Tono d'Incerto</i>	III, IV	-	32	PADOVANO15 94
anon.	<i>Toccata del Sesto Tono d'Incerto</i>	VI	-	81	PADOVANO15 94
anon.	<i>Toccata del Sesto Tono d'Incerto</i>	VI	-	24	PADOVANO15 94

## Chapter 2      Analysis of notated embellishments in surviving repertory

This chapter contains an analysis of the stereotyped embellishing techniques in mid-sixteenth-century psalm-based Venetian keyboard writing. Chapter 2.1 surveys the general characteristics of the notated embellishments in an exemplary work. The ensuing three sections discuss in detail the harmonic function, rhythmic and figurative constructs of three types of notated embellishments, namely the stationary embellishments (Chapter 2.2), non-cadential embellishments (Chapter 2.3) and cadential embellishments (Chapter 2.4).

## 2.1 General characteristics

If one marvels at the splendour and completeness of the embellishment procedure as demonstrated in late-sixteenth-century Venetian keyboard works, one is better served to be reminded of the brevity and uniformity of its mid-sixteenth-century counterparts only several decades earlier. Composed at the onset of the exploration of instrumental embellishment techniques, mid-sixteenth-century Venetian keyboard intonations and toccatas displayed a great degree of stylistic and figurative homogeneity that was largely upheld by the standardised treatment of the *cantus firmus* and ample notation of stereotyped embellishments (see Chapter 1.3).

The conservatism by mid-sixteenth-century composers and pedagogues in their treatment of *cantus firmus* is reflected in both their limited structural adaption and harmonic exploration. Despite the ongoing abandonment of the early-sixteenth-century vocal prototype, the chief function of the mid-sixteenth-century embellishment procedure on the keyboard remained the delineation and accentuation of the underlying vocal monody.<sup>53</sup> The added embellishments were rarely intrusive upon the harmonic and structural confinements as set by the original vocal prototype. As evident in the surviving repertory, modification of the *cantus firmus* (i.e. psalm tone) was often modest and did not go further than simple omission or truncation of certain sections (e.g. introduction, recitation). In addition, the clear demarcation between the recitations and their accompanying cadences along the progression of a psalm tone was rarely sacrificed, thanks to the frequent notation of stereotyped cadential embellishments.

Harmonic conservatism is reflected in the composer's reluctance to deviate from the tonal centre and challenge the harmonic structure of the underlying vocal prototype.<sup>54</sup> Despite their superfluous complexity, the notated embellishments in mid-sixteenth-century Venetian keyboard works make use of few embellishment ideas, all which seemingly contribute to the upholding of consonance not only at the changeover of neighbouring *tactus*, but also midway through a *tactus* (see Chapter 3). The outcome that results from such tentative embellishing efforts on the keyboard is a great deal of reinforced harmonic stagnation around the tonal centre as determined by the choice of underpinning psalm tone.

Example 2.1.1 and Example 2.1.2 respectively provide the original embellished version and modified unembellished version of a mid-sixteenth-century keyboard intonation of the first psalm

---

<sup>53</sup> Mayer Brown, *Embellishing Sixteenth Century Music*, 25.

<sup>54</sup> Bradshaw, *The Origin of the Toccata*, 38.

tone. Apart from fidelity to the pitch of the *cantus firmus*, the default time of an embellishment through the psalm tone is largely kept consistently at a semibreve, with the occasional use of *minim tactus* at cadences due to the acceleration of harmonic rhythm (e.g. bars 4, 10, 11, 12 and 14 in Example 2.1.1, coloured in red). As the psalm tone approaches its two cadences, namely the *mediant* and *termination*, there is a gradual decline in the note values comprising the embellishments. In Example 2.1.1, the first half of the psalm tone (bars 1–8) starts with a recitation that is embellished with a combination of minims, dotted minims and semiminims and ends with a *mediant* that is embellished with *fusas* and *semifusas*. The second half of the psalm tone (bars 9–16) starts with a second recitation that is embellished by a steady stream of *fusas* and ends with a *termination* that is embellished by a combination of *fusas* and *semifusas*.

The figurative construct of the embellishments in Example 2.1.1 displays several characteristics. First, *passaggi* are for the most part of stepping motion and devoid of repeating pitch. As seen in Example 2.1.1, any leaping motion typically takes place at the first half of a *tactus*, often upon arrival of a new harmony in the underlying vocal polyphony (bars 3, 5, 8, 9, 10 and 15). A leaping movement is typically followed by either a stepping movement (bar 3) or a leaping movement of a smaller size in the opposite direction (bars 8 and 15). An exception to this observation occurs when the composer elaborates the diatonic triad to accentuate the tonal centre of the surrounding passage (bars 9 and 10). In rare instances, small-scale motivic ideas of stepping motion are featured in the notated embellishment (bar 4). Second, *cadential groppi* typically follow the formulaic eight-note figuration with an ending turn (bars 4, 12 and 15) with occasional variations (bar 10). Last, *tirati* are frequently used to signify harmonic changes of the underlying vocal polyphony (bars 10 and 13). The length of *cadential tirati* is generally proportional to the importance of the embellished cadence, with the lengthiest being reserved for the composition–ending *termination* (bars 13 and 14).

Example 2.1.1 Andrea Gabrieli, *Intonazione del Primo Tono*, GABRIEL1593

Measures 1-3 of the musical score. Measure 1 is marked with a '1' and an 'R' above the staff. Measure 2 is marked with a '2' above the staff. Measure 3 is marked with a '3' above the staff. The score consists of a vocal line (top staff) and a lute accompaniment (bottom two staves). The vocal line features a long, sustained note in measure 1, followed by a melodic line in measure 2, and a final note in measure 3. The lute accompaniment provides a harmonic foundation with chords and moving lines in both hands.

Measures 4-6 of the musical score. Measure 4 is marked with a '4' and an 'M' above the staff. Measure 5 is marked with a '5' above the staff. Measure 6 is marked with a '6' above the staff. The vocal line continues with a melodic line in measure 4, a long sustained note in measure 5, and a final note in measure 6. The lute accompaniment features a complex rhythmic pattern in measure 4, followed by sustained chords in measures 5 and 6.

Measures 7-9 of the musical score. Measure 7 is marked with a '7' above the staff. Measure 8 is marked with an '8' above the staff. Measure 9 is marked with a '9', an 'R' above the staff, and a 'T' above the staff. The vocal line has a long sustained note in measure 7, followed by a melodic line in measure 8, and a final note in measure 9. The lute accompaniment continues with moving lines in measure 7, sustained chords in measure 8, and a final chord in measure 9.

10 11 12

Musical score for measures 10-12. The top staff (treble clef) contains a single melodic line with a long slur over measures 10 and 11, and a final note in measure 12. The bottom staff (grand staff) features a complex piano accompaniment with sixteenth-note runs in the right hand and block chords in the left hand.

13 14

Musical score for measures 13-14. The top staff (treble clef) has a long slur spanning both measures. The bottom staff (grand staff) shows a piano accompaniment with a steady eighth-note bass line in the left hand and a more active right hand with sixteenth-note patterns.

15 16

Musical score for measures 15-16. The top staff (treble clef) has a long slur spanning both measures. The bottom staff (grand staff) features a piano accompaniment with a steady eighth-note bass line in the left hand and a right hand with sixteenth-note patterns.

Example 2.1.2 Andrea Gabrieli, *Intonazione del Primo Tono*, GABRIEL1593 (unembellished)

Measures 1-3 of the first system. Measure 1 is labeled '1 RA'. The notation consists of a single treble clef staff with a whole note chord. Measures 2 and 3 are connected by a slur and contain a whole note chord. The piano accompaniment is shown in grand staff notation (treble and bass clefs) with chords in each measure.

Measures 4-6 of the second system. Measure 4 is labeled '4 M'. The notation consists of a single treble clef staff with a whole note chord. Measures 5 and 6 are connected by a slur and contain a whole note chord. The piano accompaniment is shown in grand staff notation with chords in each measure.

Measures 7-9 of the third system. Measure 7 is labeled '7'. Measure 8 is labeled '8'. Measure 9 is labeled '9 RB' and 'T'. The notation consists of a single treble clef staff with a whole note chord. Measures 8 and 9 are connected by a slur and contain a whole note chord. The piano accompaniment is shown in grand staff notation with chords in each measure.

10 11 12

Musical score for measures 10-12. The top staff (treble clef) contains a melodic line with notes G4, A4, B4, C5, and D5. The middle and bottom staves (piano accompaniment) feature chords and single notes in both hands, including a prominent G4 in the right hand and a D4 in the left hand.

13 14

Musical score for measures 13-14. The top staff (treble clef) features a long, sweeping melodic line that spans across both measures. The middle and bottom staves (piano accompaniment) provide harmonic support with chords and single notes, including a G4 in the right hand and a D4 in the left hand.

15 16

Musical score for measures 15-16. The top staff (treble clef) features a long, sweeping melodic line that spans across both measures. The middle and bottom staves (piano accompaniment) provide harmonic support with chords and single notes, including a G4 in the right hand and a D4 in the left hand.

## 2.2 Stationary embellishments

When compared to their late-sixteenth-century counterparts, mid-sixteenth-century keyboard composers and improvisors seem far less concerned with the possible monotony resulting from the simple repetition of identical harmony in consecutive tactus. After all, the primary liturgical function of a sixteenth-century keyboard intonation was to intone the congregation by firmly establishing the tonal centre of a succeeding vocal work.<sup>55</sup> An accompanying, albeit plausibly unintended, benefit of the resulting harmonically stable musical context is the conducive environment that is created for the exploration and innovation of embellishment techniques.<sup>56</sup>

Example 2.2.1 is a collation of the commonly notated harmonically stationary embellishments (hereafter referred to as “I–I embellishments”) in the surviving repertory.<sup>57</sup> The figurative constructs of these examples feature motion sustained by equal-valued notes. The leaping action is primarily reserved for the displacement of pitch (e.g. bar 35) or as part of a stereotypical construct (e.g. bar 21). The occasional inclusion of small-scale motifs (e.g. bars 5 and 29) can be considered as an extension of the scalar construct, which is now formed by the first note of each repetition of the motif.

One direct effect from such pervasive application of I–I embellishments on the melodic notes is the prolongation of the cantus firmus. Under the common practice of a *paired-tactus*, a characteristic construct in sixteenth-century instrumental music,<sup>58</sup> the length of each melodic note is doubled through a simple repetition of the same harmony for a second time, effectively forming a paired tactus of two disparate embellishments corresponding to the same melodic note. In the surviving repertory, this simple technique of harmonic repetition is applied on both standalone melodic notes in isolation and several connecting melodic notes in succession. In Example 2.2.2, this technique is used in bar 29 on the last melodic note of the termination of the second psalm tone so that its transposed tonal centre is repeated and emphasised. In Example 2.2.3, the same technique is used on all melodic notes comprising the mediant of the sixth psalm tone, doubling them in length from a semibreve to a breve.

One would be remiss to assume that this simple technique of harmonic repetition halts at two consecutive tactus. Later works of the mid-sixteenth century saw the application of this technique

---

<sup>55</sup> Apel, *History of Keyboard Music*, 95.

<sup>56</sup> Murray C. Bradshaw, *The Falsobordone*, 125.

<sup>57</sup> A catalogue of stationary embellishments is found in Appendix 1 of this dissertation.

<sup>58</sup> Anne Smith, *Performance of Sixteenth-Century Music: Learning from the Theorists*, (Oxford University Press, 2011), 78.

to multiple consecutive tactus of identical harmony, which led to both the greater prolongation of the cantus firmus and a more elaborate style of writing. In Example 2.2.4, the mediant pitch of the psalm tone continues for six consecutive tactus, from halfway through bar 29 to halfway through bar 32, in unaltered harmony and propelled by the lengthy stepping motion of the notated embellishments.

Example 2.2.1 Commonly notated I-I embellishments in surviving repertory

The image displays a musical score for piano, consisting of 19 measures of music. The score is written in a common time signature (C) and is divided into two systems. The first system contains measures 1 through 8, and the second system contains measures 9 through 19. Each measure is numbered at the beginning. The music features a variety of I-I embellishments, including eighth-note runs, sixteenth-note patterns, and dotted rhythms. The bass line is consistently simple, often consisting of a single note or a simple chord. The treble line is more complex, with many measures featuring rapid sixteenth-note passages. The overall style is characteristic of early keyboard music.

20 21 22 23

24 25 26 27

28 29 30

31 32 33

34 35

36 37 38

Example 2.2.2 Sperindio Bertoldo, *Toccata Seconda*, bars 28–30, BERTOLDO1591

Musical score for Example 2.2.2, Sperindio Bertoldo, *Toccata Seconda*, bars 28–30. The score is in G major (one sharp) and 3/4 time. It consists of three staves: a single treble clef staff at the top and a grand staff (treble and bass clefs) below. Bar 28 features a whole note chord in the treble and a whole note chord in the bass. Bar 29 has a long melodic line in the treble staff, starting with a half note and followed by a series of eighth notes, with a slur over the entire line. The bass staff has a whole note chord. Bar 30 has a whole note chord in the treble and a whole note chord in the bass.

Example 2.2.3 Andrea Gabrieli, *Toccata del Sesto Tono*, bars 3–7, GABRIELI1593

Musical score for Example 2.2.3, Andrea Gabrieli, *Toccata del Sesto Tono*, bars 3–7. The score is in G major (one sharp) and 3/4 time. It consists of three systems of staves. The first system (bars 3–5) has a treble staff with a melodic line starting on bar 3, marked with an 'M' above it, and a grand staff below. The second system (bars 6–7) has a treble staff with a melodic line starting on bar 6, marked with an 'R' above it, and a grand staff below. The bass staff in both systems features a continuous eighth-note accompaniment.

Example 2.2.4 Andrea Gabrieli, *Toccata del Ottavo Tono*, bars 29–32, GABRIELI1593

The musical score is presented in three systems. The first system contains bars 29 and 30. The vocal line (top staff) features a long melisma starting on bar 29 with a fermata over a whole note, marked with 'R' (ritardando) above the staff. The melisma continues through bar 30, marked with 'M' (morendo) above the staff. The keyboard accompaniment (middle and bottom staves) consists of a right hand with a continuous sixteenth-note pattern and a left hand with a similar pattern, both featuring a fermata over the final notes of bar 30. The second system contains bars 31 and 32. The vocal line continues the melisma from bar 30, marked with 'R' above the staff. The keyboard accompaniment continues with the same patterns, featuring a fermata over the final notes of bar 32.

### 2.3 Non-cadential embellishments

As alluded to in Chapter 2.2, the compositional ideal of harmonic stagnation around the tonal centre of the cantus firmus is largely upheld by the pervasive application of I–I embellishments on consecutive tactus of unaltered harmony. Contrary to what one may be inclined to believe, the realisation of this ideal is additionally aided by well-placed temporary harmonic deviations from the tonal centre, which often reinforces the principal harmony rather than obfuscates it. The I–V embellishment is one such non-cadential embellishment that initiates a harmonic excursion away from the tonal centre.

Example 2.3.1 is a collation of the commonly notated I–V embellishments in the surviving repertory. The figurative construct of these embellishments is not dissimilar to those in Example 2.2.1— non-cadential, unfailingly stereotyped, dominated by stepping motion rather than leaping motion, free of melodic motifs and any unnecessary points of inflection that may prove too distracting for the presentation of the cantus firmus. In addition, many notated examples (e.g. bars 4, 17 and 32 in Example 2.3.1) are comprised of notes of progressively smaller time values due to their intended effect of a gradual departure from the already established tonal centre.

There are two common scenarios in which an I–V embellishment is invoked. In the first scenario, the motivation for invoking an I–V embellishment is to prolong the time value of the embellished melody note, be the recitation tone or a note part of a cadential motif, through a fleeting harmonic excursion and immediate return from a pre-established tonal centre. The I–V embellishment is invariably paired with a V–I embellishment (see Chapter 2.4), which may or may not immediately succeed the I–V embellishment. In Example 2.3.2, the insertion of a I–V embellishment in the second half of bar 2 is followed by the preservation of V in bar 3 and resolved by a V–I embellishment in the first half of bar 4, allowing the opening recitation in C to continue in a total of eight tactus. It is noted that, in this usage, the degree of complexity and length of this pair of embellishments is typically correlated with the importance of the embellished melodic note. In Example 2.3.3, the composition–ending final note of the termination undergoes an I–V–I progression that features the relentless stepping motion of a lengthy string of demisemifusas. In the more developed works of the studied period, the use of this note-lengthening technique tends to be obscured by the ostensible figurative complexity of added embellishments. It may take an astute reader to notice that the harmonic rhythm of Example 2.3.4

Example 2.3.4 is no different to that of Example 2.3.2. In the second scenario, the prioritised function of the I–V embellishment is no longer to preserve and lengthen the status-quo harmony but to depict a harmonic changeover. The I–V embellishment is invoked in the transitional tactus connecting two sub-sections of the psalm tone (i.e. from recitation to cadence), and unresolved by a paired non-cadential V–I embellishment. Compared to its none-lengthening counterpart, the figurative construct of this second type of I–V embellishments is more likely to feature notes of uniform time value (as opposed to gradual reduction in note values) and unrelenting stepping motion (e.g. bars 4, 16, 28 in Example 2.3.1), which are designed to create a sense of precipitated resolution of the status-quo harmony. In many instances, a single I–V embellishment suffices to enable the sectional transition (bar 29 in Example 2.2.4). In other instances, a more elaborate sectional change is realised using multiple consecutive I–V embellishments. In

Example 2.3.5, the recitation is presented in a total of six tactus (i.e. bars 1–3) with the first four in unchanging harmony, and the last two employing two consecutive I–V embellishments to enable the completion of a sectional transition from the recitation to the mediant.

A common alternative to the non-cadential I–V embellishment is an I–IV embellishment. The note-lengthening method described in Chapter 2.3 by way of an I–V–I progression can be executed similarly by an I–IV–I progression. In Example 2.3.6, the last note of the termination (f) is lengthened in an I–IV–I progression.

Example 2.3.1 Commonly notated I–V embellishments in surviving repertory<sup>59</sup>

The image displays 20 numbered musical examples of I–V embellishments, arranged in five rows. Each example consists of a treble and bass staff. The bass staff in all examples contains a simple harmonic accompaniment of two chords: a tonic triad (I) and a dominant triad (V). The treble staff shows various melodic ornaments that begin on the tonic and conclude on the dominant. Examples 1 through 11 feature more complex, multi-measure ornaments with various rhythmic patterns and melodic contours. Examples 12 through 18 show simpler, often two-measure ornaments. Examples 19 and 20 are the simplest, each consisting of a single melodic line that moves from the tonic to the dominant.

---

<sup>59</sup> All examples have been transposed to C.

21

22

23

24

25

26

27

28

29

30

31

32

Example 2.3.2 Andrea Gabrieli, *Toccata del Quinto Tono*, bars 1–4, GABRIELI1593

Musical score for Example 2.3.2, bars 1–4. The score is written for three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 1 is marked with a fermata and the letter 'RA'. Bar 2 shows a melodic line in the treble staff and a bass line in the bass staff. Bar 3 features a complex rhythmic pattern in the treble staff and a bass line with a fermata. Bar 4 continues the treble staff melody and the bass line with a fermata.

Example 2.3.3 d'Incerto, *Toccata del Terzo et Quarto Tono*, bars 30–33, BERTOLDO1591

Musical score for Example 2.3.3, bars 30–33. The score is written for three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 30 is marked with a fermata. Bar 31 shows a melodic line in the treble staff and a bass line with a fermata. Bar 32 features a complex rhythmic pattern in the treble staff and a bass line with a fermata. Bar 33 continues the treble staff melody and the bass line with a fermata.

Example 2.3.4 Andrea Gabrieli, *Toccata del Ottavo Tono*, bars 7–10, GABRIELI1593

Musical score for Example 2.3.4, bars 7–10 of *Toccata del Ottavo Tono*. The score is presented in two systems. The first system covers bars 7 and 8, and the second system covers bars 9 and 10. Each system consists of three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 7 is marked with a '7' and an 'M' above the treble staff. Bar 8 is marked with an '8'. Bar 9 is marked with a '9' and bar 10 with a '10'. The music features complex rhythmic patterns, including sixteenth-note runs and sustained chords, with various articulations and dynamics.

Example 2.3.5 Andrea Gabrieli, *Toccata del Primo Tono*, bars 1–4, GABRIELI1593

Musical score for Example 2.3.5, bars 1–4 of *Toccata del Primo Tono*. The score is presented in two systems. The first system covers bars 1 and 2, and the second system covers bars 3 and 4. Each system consists of three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 1 is marked with a '1' and an 'RA' above the treble staff. Bar 2 is marked with a '2'. Bar 3 is marked with a '3' and bar 4 with a '4'. The music features a mix of sustained chords and moving lines, with various articulations and dynamics.

Example 2.3.6 Andrea Gabrieli, *Toccata del Sesto Tono*, bars 12–15, GABRIELI1593

The image displays a musical score for Example 2.3.6, consisting of two systems of staves. The first system covers bars 12 and 13, and the second system covers bars 14 and 15. Each system includes a single treble clef staff at the top and a grand staff (treble and bass clefs) below. Bar 12 is marked with a 'T' above the treble staff. Bar 13 features a long horizontal line in the treble staff, indicating a sustained note. The grand staff in the first system shows a complex rhythmic pattern in the right hand and a more rhythmic accompaniment in the left hand. The second system continues these patterns, with bar 15 ending with a double bar line and repeat signs in both the treble and bass staves.

## 2.4 Cadential embellishments

The return to the tonal centre of the cantus firmus in most surviving sixteenth-century works is marked by the notation of a stereotypical cadential groppo. In the surviving repertory, many of the V–I embellishments notated at the two main cadential points of a psalm tone (i.e. mediant and termination) correspond to a perfect authentic cadence (i.e. a V–I cadence), ending on the recitation of the psalm tone.

Example 2.4.1 is a collation of the commonly notated cadential V–I embellishments in the surviving repertory. A cursory review of these cadential embellishments reveal some common characteristics. First, a cadential groppo, in V–I progression or otherwise, typically consists of two halves, namely the preparation and resolution. Second, the resolution of a cadential groppo is typically notated in the stereotypical trill-and-turn formation. The beginning note of the trill is either the top note of the ending chord (e.g. bars 6, 14, 23) or a lengthened third degree of the starting chord (e.g. bars 1, 5, 17). Third, the preparation generally consists of longer notes than the resolution, effecting a sense of precipitation through the groppo (e.g. bars 3, 14, 22). While a groppo typically ends in quick succession of semifusas, it often starts with fusas and semiminims. Last, any leaping motion observed in a V–I groppo is likely to occur in its preparation, the resolution is typically devoid of leaping motion which can disrupt the effect of a complete resolution.

As seen in Example 2.4.1, the disparity between the notated V–I cadential groppi largely stems from the preparation, not the stereotyped resolution. One factor that influences the choice of cadential embellishments by keyboard composers and improvisors is the strength of the embellished cadence. In most cases, the stronger the embellished cadence is, the greater the need for a more elaborate cadential groppo (i.e. a more elaborate preparation). For example, the notated embellishment for the mediant has a less elaborate preparation than that for the termination (cf. bars 4 and 6 in Example 2.1.1). For example, the mediant is generally decorated by a less elaborate groppo than that for the termination (cf. bars 4 and 6 in Example 2.1.1).

In addition to choosing an appropriately elaborate preparation for the cadential groppo, a V–I cadence can be accentuated by the addition of embellished tactus around the cadential tactus. Example 2.4.2 demonstrates a general tendency among late-sixteenth-century composers to alter the cadential melody of the psalm tone in order to include a greater number of embellished tactus of preparation that precede the cadential tactus in bar 65. As alluded in Chapter 2.2 and Chapter

2.3, the length of the final melodic note of the composition—ending cadence is often prolonged by the addition of an I–I embellishment or an I–V embellishment on the final melodic note (Example 2.3.3). Conversely, a V–I cadence can be weakened through choosing either a V–I embellishment with a weak preparation or one of non-cadential construct. In

Example 2.4.3, the notated V–I embellishment in the second tactus of bar 20 is figuratively non-cadential and corresponds to a weak termination, which is immediately followed by the recitation of a second statement of the psalm tone. It is noted that a V–I embellishment does not have to be cadential in construct. The V–I embellishment (see Chapter 2.3), that immediately follows an I–V embellishment and returns the harmony to the tonal centre, is often non-cadential in construct.

While the majority of the cadential points in the surviving repertory take the form of a perfect authentic cadence, there also exists some plagal cadences, mostly authentic, that are embellished by a VI–I embellishment. Example 2.4.4 is a collation of the commonly notated VI–I embellishments in the surviving repertory. Similar to their V–I counterparts in Example 2.4.1, these exemplary IV–I cadential constructs feature predominately stepping motion, varied preparation, stereotyped resolution ending on the root note of the final chord, and typically a gradual reduction in note values along its progression. In addition, as shown in Example 2.4.5 and Example 2.4.6, which juxtapose the same embellished VI–I cadence in an intonation and a toccata, the degree of complexity of the employed cadential embellishment varies based on the length and overall embellishment style of the composition.

Example 2.4.1 Commonly notated V–I cadential embellishments<sup>60</sup>

The image displays a musical score for 25 measures of V-I cadential embellishments, numbered 1 through 25. The score is written in a grand staff (treble and bass clefs) and is transposed to C major. Each measure consists of a treble clef staff and a bass clef staff. The bass clef staff contains a simple harmonic accompaniment, typically a triad or dyad. The treble clef staff contains the melodic line, which features various embellishments such as grace notes, mordents, and trills. The embellishments are numbered 1 through 25, with some measures containing multiple variations of the same ornament.

Example 2.4.2 Andrea Gabrieli, *Toccata del Sesto Tono*, bars 60–65, GABRIELI1593

<sup>60</sup> All examples have been transposed to C.

60 R T 61

62 63

64

Example 2.4.3 Andrea Gabrieli, Toccata del Nona Tono, bars 17–21, GABRIELI1593

17 T 18 19

20 21RA

Example 2.4.4 Commonly notated IV–I cadential embellishments<sup>61</sup>

The image displays a musical score for piano, consisting of 12 measures of music. The score is organized into four systems, each with two staves (treble and bass clef). The first system contains measures 1, 2, and 3. The second system contains measures 4, 5, and 6. The third system contains measures 7 and 9, with measure 8 positioned between them. The fourth system contains measures 10, 11, and 12. Each measure features a specific cadential embellishment in the treble clef, while the bass clef provides a harmonic accompaniment with chords and moving lines. The embellishments are numbered 1 through 12, indicating different variations of the IV-I cadence.

---

<sup>61</sup> All examples have been transposed to C.

Example 2.4.5 Andrea Gabrieli, Intonazione del Quinto Tono, bars 15–17, GABRIELI1593

Musical score for Example 2.4.5, bars 15–17. The score is in three staves: a vocal line (top), a right-hand piano line (middle), and a left-hand piano line (bottom). The vocal line starts with a tenor clef (T) and a common time signature. Bar 15 contains a whole note G4. Bar 16 contains a whole note A4. Bar 17 contains a whole note B4. The right-hand piano line features a melodic line with eighth notes in bar 15, a sixteenth-note run in bar 16, and a final chord in bar 17. The left-hand piano line consists of sustained chords in bar 15, which are held over into bar 16, and a final chord in bar 17.

Example 2.4.6 Andrea Gabrieli, Toccata del Quinto Tono, bars 17–18, GABRIELI1593

Musical score for Example 2.4.6, bars 17–18. The score is in three staves: a vocal line (top), a right-hand piano line (middle), and a left-hand piano line (bottom). The vocal line starts with a tenor clef (T) and a common time signature. Bar 17 contains a whole note G4. Bar 18 contains a whole note A4. The right-hand piano line features a complex melodic line with sixteenth-note runs in bar 17 and a final chord in bar 18. The left-hand piano line consists of sustained chords in bar 17, which are held over into bar 18, and a final chord in bar 18.

## Chapter 3 Proposed system of improvised embellishments

Following the analysis of the notated embellishment examples in Chapter 2 and consultation of sixteenth-century embellishment treatises, the author hereby proposes a system of improvised embellishments. The main objective of this system is to provide the improvising keyboardist with a practical guide with which to embellish any given psalm tone (see Table 1.1.1) in a style congruent with the surviving repertory.

To facilitate a clear discussion on the figurative construct of embellishments, key terms are expressly defined (Chapter 3.1). These definitions are either borrowed directly from historical embellishment treatises or construed by the author. Rules of embellishment are delivered in two groups, namely the “hard rules” (Chapter 3.2) and “soft rules” (Chapter 3.3). The former pertains to the foundational harmonic and figurative construct of embellishments and are assumed to have been tacitly upheld by all composers of the surviving repertory. The latter concerns the stylistic and artistic considerations of the embellishment style which, albeit not invariably adhered to, were likely to be frequently heeded by contemporaneous composers. In addition, corollaries (Chapter 3.4), in the form of adjunct propositions and improvisational advice, are provided with direct reference to the relevant rules of embellishment from which they are derived.

### 3.1 Definitions

D<sub>1</sub>. An embellishment is comprised of good notes and bad notes. A *good note* is one that falls on the strong beat within a tactus. A *bad note* is one that falls on the weak beat within a tactus. The goodness and badness of a note is referred to as the *polarity* of the note.

The definition of the polarity of notes highlights the opposition and co-existence of the strong and weak elements of the duple metrical structure, a constant and important feature of sixteenth-century keyboard compositions. Example 3.1.1 illustrates the pairing of a good note (in red) and a bad note (in blue) in various rhythmic divisions of a tactus. In tandem with the definition of note polarity, in which Diruta further prescribes that good notes be taken with the good fingers (i.e. index finger and ring finger) and bad notes be taken with the bad fingers (i.e. thumb, middle finger, and fifth finger).<sup>62</sup>

D<sub>2</sub>. Consonance refers to either or both perfect consonance and imperfect consonance. A *perfect consonance* refers to an interval of the unison, fifth, and any multiples thereof. An *imperfect consonance* refers to an interval of the third and sixth, and any multiples thereof.<sup>63</sup> *Dissonance* refers to an interval of the second, fourth, augmented fourth, diminished fifth and seventh, and any multiples thereof.

D<sub>3</sub>. The root note of the starting chord of an embellishment is called the *initial root note* of the embellishment, that of the ending chord the *final root note* of the embellishment.

In Example 3.1.2, the initial root of the first embellishment is f. The final root note of the first embellishment, or the initial root of the second embellishment, is c. The final root note of the second embellishment, or the initial root note of the third embellishment is G. The final root note of the third embellishment, or the initial root note of the fourth embellishment is d.

---

<sup>62</sup> Diruta, *Il Transilvano*, 35.

<sup>63</sup> *Ibid.* 33.

Example 3.1.1 Good notes and bad notes in various rhythmic division of a tactus

Musical notation for Example 3.1.1, showing rhythmic divisions of a tactus. The notation is presented in four staves, each containing four measures. The notes are color-coded: red for 'good notes' and blue for 'bad notes'. The measures are numbered 1 through 16. The notation illustrates various rhythmic divisions of a tactus, including quarter, eighth, and sixteenth notes, and rests.

Example 3.1.2 Andrea Gabrieli, *Intonazione del Settimo Tono*, bars 10–11, GABRIELI1593

Musical notation for Example 3.1.2, showing bars 10–11 of *Intonazione del Settimo Tono*. The notation is presented in three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. The top staff shows two whole notes, labeled 'T' and 'RB'. The grand staff shows a complex rhythmic pattern in the right hand and a bass line in the left hand. The notes in the grand staff are color-coded: red for 'good notes' and blue for 'bad notes'.

Example 3.1.3 Andrea Gabrieli, *Intonazione del Primo Tono*, bars 5–8, GABRIELI1593

Musical notation for Example 3.1.3, showing bars 5–8 of *Intonazione del Primo Tono*. The notation is presented in three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. The top staff shows four whole notes, labeled 'M', and '8'. The grand staff shows a complex rhythmic pattern in the right hand and a bass line in the left hand. The notes in the grand staff are color-coded: red for 'good notes' and blue for 'bad notes'.

D<sub>4</sub>. The *time value of the embellishment* is defined as the summation of the time values of all its comprising notes. A *semibreve-embellishment* is one whose time value is a semibreve. A *minim-embellishment* is one whose time value is a minim.

Unless otherwise stated, the standard time value of an embellishment is a semibreve (see H<sub>1</sub> in Chapter 3.2).

D<sub>5</sub>. The time value of the embellishment is subdivisible into four quadrants of equal time value, namely the *first quadrant*, *second quadrant*, *third quadrant*, and *fourth quadrant*. The starting note of each quadrant is called the *anchor note*. Specifically, the anchor note of each of the four quadrants is called the *first anchor note*, *second anchor note*, *third anchor note*, and *fourth anchor note* respectively.

In Example 3.1.2, the time value of each embellishment (i.e. a semibreve) is divisible into four quadrants, each of which is comprised of four semifusas. The first semifusa at the commencement of each quadrant is the anchor note. For example, the four anchor notes in the first embellishment are c'', d'', a and d''.

D<sub>6</sub>. The *direction of an embellishment* is defined as the direction of the melodic interval to which the embellishment corresponds. An *ascending embellishment* is one that corresponds to an ascending melodic interval. A *descending embellishment* is one that corresponds to a descending melodic interval. A *stationary embellishment* is one that corresponds to a unison melodic interval.

In Example 3.1.3, the directions of the eight embellishments are stationary (a' to a'), descending (a' to d'), ascending (d' to b'), stationary (b' to b'), descending (b' to e'), ascending (e' to c'), descending (c'' to c') and ascending (c' to a') respectively.<sup>64</sup>

D<sub>7</sub>. The *embellishment range* is the directional size of the melodic interval formed by the starting and ending note of the embellishment.

The embellishment ranges of the eight embellishments in Example 3.1.3 are unison (0), descending fifth (-5), ascending sixth (+6), unison (0), descending fifth (-5), ascending sixth (+6), descending eighth (-8) and ascending sixth (+6) respectively.<sup>65</sup>

---

<sup>64</sup> The ending note of the last embellishment (a') is not in view of the excerpt.

<sup>65</sup> The first note in bar 9 (a') is not in view of the excerpt.

D<sub>8</sub>. The top and bottom note of the embellishment range of an embellishment is called *the upper limit and lower limit of the embellishment*. If the melodic interval is unison, the upper limit and lower limit refer to the same note.

By this definition, the upper limits and lower limits of the eight embellishments in Example 3.1.3 are a' and a', d' and a', b' and d', b' and b', b' and e', c' and e', c'' and c', and a' and c' respectively.<sup>66</sup>

D<sub>9</sub>. The *leap degree* of a note is defined as the directional interval formed by itself and its immediately preceding note. A *step note* is a note of leap degree of ascending second or descending second. A *leap note* is one which is not a step note.

In Example 3.1.4, the eight fusas comprising the first embellishment have the following leap degrees: descending second (-2)<sup>67</sup>, ascending eighth (+8), descending third (-3), ascending second (+2), ascending second (+2), ascending second (+2), descending third (+3) and ascending second (+2).

D<sub>10</sub>. A *good leap* is a leaping motion that starts on a bad note and ends on a good note. A *bad leap* is a leaping motion that starts on a good note and ends on a bad note.

Example 3.1.5 is a right-hand finger exercise for the good leaps (in red) and bad leaps (in blue) provided in Diruta's treatise.<sup>68</sup>

---

<sup>66</sup> The upper limit of the eighth embellishment (a') is not in view of the excerpt.

<sup>67</sup> The immediately preceding note (d') in bar 2 is not in view of the excerpt.

<sup>68</sup> Diruta, *Il Transilvano*, 64.

Example 3.1.4 Giovanni Gabrieli, *Intonazione del Primo Tono*, bar 3, GABRIELI1593

Musical score for Example 3.1.4, bar 3 of *Intonazione del Primo Tono* by Giovanni Gabrieli. The score is in three staves: a vocal line with a 'T' (Tenor) clef and a '3' above it, and two piano staves. The piano part features a complex rhythmic pattern in the right hand and sustained chords in the left hand.

Example 3.1.5 Examples of good leaps and bad leaps

Musical score for Example 3.1.5, showing examples of good and bad leaps. The score consists of four staves of music, each with a treble clef. The notes are numbered 1 through 24. Red and blue markings indicate specific leaps.

Example 3.1.6 Andrea Gabrieli, *Intonazione del Primo Tono*, bars 9–10, GABRIELI1593

Musical score for Example 3.1.6, bars 9–10 of *Intonazione del Primo Tono* by Andrea Gabrieli. The score is in three staves: a vocal line with a 'RB' (Renaissance Bass) clef and a 'T' (Tenor) clef, and two piano staves. The piano part features a complex rhythmic pattern in the right hand and sustained chords in the left hand.

D<sub>11</sub>. A *consecutive leap* occurs when there are in succession two or more connecting leap notes. A *non-consecutive leap*, or a *standalone leap* occurs when a leap is not immediately succeeded by another leap. A leap note which forms part of the former is further qualified as a *consecutive leap note*. A leap note which forms of the latter is further qualified as a *non-consecutive leap note* or *standalone leap note*. If a consecutive leap is made of leap notes that leap in similar direction, it is referred as a *consecutive leap in similar direction*. If a consecutive leap is made of leap notes that leap in opposite direction, it is referred as a *consecutive leap in opposite direction*.

Connecting leap notes belonging to the same consecutive leap may move in either similar or opposite directions. Their usage commonly serves stereotypical ends. A consecutive leap in similar direction is stereotypically employed to accentuate the arrival of a new harmony. To this end, the number of leap notes comprising a consecutive leap may vary. In Example 3.1.6, both the second and third embellishments feature the use of a two-note consecutive leap at their commencement, though to different leap degrees. By comparison, in

Example 3.1.7, a five-note consecutive leap forms a sequential motif which is used to propel the embellishment through a simple harmonic progression. A consecutive leap in opposite direction is used as part of a stereotyped paired figurative construct which effectively disrupts a scalar construct. In Example 3.1.8, the descending scalar motion of the second embellishment and fourth embellishment is disrupted by a consecutive leap in the opposite direction.

D<sub>12</sub>. In an embellishment, the note which immediately succeeds either the first anchor note or the third anchor note is defined as a *guide note*. Specifically, the note which immediately succeeds the first anchor note is defined as the *primary guide note*, and the note which immediately succeeds the third anchor note is defined as the *secondary guide note*.

The rationale for singling these two notes out of all those comprising an embellishment is that they often serve to guide the pitch direction and leaping motion of all succeeding notes in their respective half of the embellishment. It is noted that, depending on the rhythmic division of the embellishment (see H<sub>1</sub> in Chapter 2.2), a guide note can be either a good note or a bad note. In Example 3.1.9, the polarities of the primary guide notes of all eight embellishments are: bad, bad, good, bad, bad, bad, good, good.

Example 3.1.7 Andrea Gabrieli, *Toccata del Settimo Tono*, bars 14–15, GABRIELI1593

Musical score for Example 3.1.7, bars 14–15 of *Toccata del Settimo Tono*. The score is in treble clef with a common time signature. Bar 14 is marked with a 'T' and contains a whole note chord. Bar 15 is marked with a '15' and contains a whole note chord. The piano accompaniment consists of two staves: the right hand plays a series of eighth notes in a descending sequence, and the left hand plays a series of eighth notes in an ascending sequence. Red dots are placed above the notes in the piano accompaniment to indicate fingerings.

Example 3.1.8 Andrea Gabrieli, *Toccata del Quinto Tono*, bars 9–10, GABRIELI1593

Musical score for Example 3.1.8, bars 9–10 of *Toccata del Quinto Tono*. The score is in treble clef with a common time signature. Bar 9 is marked with a '9' and contains a whole note chord. Bar 10 is marked with a '10' and contains a whole note chord. The piano accompaniment consists of two staves: the right hand plays a series of eighth notes in a descending sequence, and the left hand plays a series of eighth notes in an ascending sequence. Red dots are placed above the notes in the piano accompaniment to indicate fingerings.

Example 3.1.9 Andrea Gabrieli, *Toccata del Sesto Tono*, bars 11–14, GABRIELI1593

Musical score for Example 3.1.9, bars 11–14 of *Toccata del Sesto Tono*. The score is in treble clef with a common time signature. Bar 11 is marked with a '11' and contains a whole note chord. Bar 12 is marked with '12 RA' and contains a whole note chord. Bar 13 is marked with '13 M' and contains a whole note chord. Bar 14 is marked with '14' and contains a whole note chord. The piano accompaniment consists of two staves: the right hand plays a series of eighth notes in a descending sequence, and the left hand plays a series of eighth notes in an ascending sequence. Red dots are placed above the notes in the piano accompaniment to indicate fingerings.

D<sub>13</sub> An *inflection note* is a note that alters the general direction of a scalar portion of an embellishment. In particular, a *high inflection note* is one which redirects the general direction of the scalar portion of the embellishment from ascending to descending, a *low inflection note* is one which redirects the general direction of the scalar portion of the embellishment from descending to ascending.

By this definition, a high inflection note is generally the note of highest pitch relative to its surrounding notes in the scalar construct, and a low inflection note is the note of the lowest pitch in its vicinity. In Example 3.1.10, which features a total of six minim-embellishments in rapid succession, the third anchor note of the first embellishment (g) is a low inflection note, the third anchor note of the second embellishment (d´) is a high inflection note, the second anchor note of the third embellishment (c´) is a low inflection note, the third note of fourth embellishment (e´) is a high inflection note, the tenth note of the fourth embellishment (d´) is a low inflection note.

It is noted that, based on the given definition, there are two categories of notes that are not to be confused with inflection notes. The first category encompasses notes which form part of a small-scale motivic construct, and do not contribute to the alteration of the “general direction” of the embellishment. In Example 3.1.11, the small-scale motivic construct at the onset of the second embellishment is free of inflection notes, high or low, as none of them serves to effectively alter the descending direction of the embellishment. The second category includes the leap notes which reset the pitch level of their surrounding notes but nevertheless fail to alter the general direction of the embellishment. In Example 3.1.12, the primary guide notes of both embellishments (F and c) are descending leap notes which serve to effectively lower the pitch level of the ensuing notes in their respective embellishment. However, neither serves to alter the ascending direction of the embellishment.

Example 3.1.10 d'Incerto, *Toccata del Primo et Secondo Tono*, bars 15–16, PADOVANO1594

15 RA

16 X

Example 3.1.11 Andrea Gabrieli, *Toccata del Quarto Tono*, bar 7, GABRIELI1593

7 T

Example 3.1.12 Andrea Gabrieli, *Toccata del Sesto Tono*, bar 14, GABRIELI1593

14

D<sub>14</sub>. A *non-cadential construct* is the portion of an embellishment which does not lead to an effect of resolution. A *cadential construct* is the portion of an embellishment that does.

Figuratively speaking, a non-cadential construct is open-ended and typically features a continuous linear stepping motion that is occasionally interspersed with a leaping motion, and a cadential construct is closed-ended and typically includes stereotyped cadential formulas. Example 3.1.13 demonstrates the transition from a non-cadential construct (bar 6) to a cadential construct (bar 7), both of which are used to embellish the termination of the third and fourth psalm tone. These two definitions are given to contrast two different types of figurative construct in an embellishment and do not relate to the nature of the embellished melodic section. In other words, both constructs may be used to embellish any given section of the cantus firmus, whether it is cadential or non-cadential.

Example 3.1.13 Giovanni Gabrieli, *Intonazione del Terzo et Quarto Tono*, bars 6–8, GABRIELI1593

The image shows a musical score for three staves. The top staff is a single treble clef staff. The middle and bottom staves are a grand staff (treble and bass clefs). The score is divided into three measures, labeled 6, 7, and 8. In measure 6, the treble staff has a long note (a half note) on a high pitch. In measure 7, the treble staff has a whole rest. In measure 8, the treble staff has a note on a high pitch. A large bracket under the treble staff spans from the beginning of measure 6 to the end of measure 8. The grand staff shows a complex melodic line in the right hand and a bass line in the left hand. The right hand has a series of eighth notes in measure 6, followed by a series of eighth notes in measure 7, and a series of eighth notes in measure 8. The left hand has a series of eighth notes in measure 6, followed by a series of eighth notes in measure 7, and a series of eighth notes in measure 8.

## 3.2 Hard rules

H<sub>1</sub>. The time value of an embellishment corresponds to the time value of the embellished note, whose standard value is a semibreve.<sup>69</sup>

While the time value of an embellishment remains consistent throughout most musical works, it may change to reflect a temporary change in the time value of the embellished melodic notes. In Example 3.2.1, where the harmonic rhythm at the termination quickens in bar 3 and the first half of bar 4, the time value of the embellished notes and accompanying embellishments is halved from a semibreve to a minim.

H<sub>2</sub>. The rhythmic division of an embellishment is limited to one of the nine common types.

Example 3.2.2 enumerates nine most common types of rhythmic division of a semibreve tactus notated in surviving repertory. In the order of descending frequency with which they appear, the time value of a single semibreve is divided into sixteen semifusas (9), eight fusas (3), four fusas followed by eight semifusas (5), and one fusa followed by fourteen semifusas (8), two fusas followed by fourteen semifusas (6) and another fusa followed by another six semifusas (7), one semiminim followed by six fusas (2), and five fusas followed by six semifusas (4) and four semiminims (1). If the embellished note is of a different time value (e.g. a minim or a whole note), the provided embellishments can be scaled accordingly. In Example 3.2.3, the standard time value of an embellishment is reduced from a semibreve to a minim, in which case the time value of the notes comprising the embellishment is halved proportionally.

H<sub>3</sub>. In four-part texture, only the soprano or the bass is embellished.

Example 3.2.4 is a short intonation composed firmly within the framework of four-part vocal polyphony. Its notated embellishments are, without exception, applied to either the soprano or the bass, and only one part at a time. This clear juxtaposition of the soprano-embellishments and bass-embellishments does not preclude circumstances where an embellishment flows from the soprano to the bass, or vice versa, within a single tactus, as shown in bar 6 in Example 3.2.4.

---

<sup>69</sup> Some sixteenth-century composers use the minim as the standard value of an embellishment, which is considered an anomaly by the author. In the ensuing discussion, unless otherwise noted, the time value of an embellishment is assumed to be a semibreve.

Example 3.2.1 Giovanni Gabrieli, *Intonazione del Secondo Tono*, bars 1–5, GABRIELI1593

Musical score for Example 3.2.1, showing five bars of music. The top staff is a vocal line with notes labeled RB, T, and 3. The middle and bottom staves are piano accompaniment.

Example 3.2.2 Commonly notated rhythmic divisions of a semibreve tactus

Musical score for Example 3.2.2, showing nine measures of rhythmic divisions of a semibreve tactus. The notes are grouped into three measures of three, three measures of four, and three measures of six.

Example 3.2.3 Commonly notated rhythmic divisions of a minim tactus

Musical score for Example 3.2.3, showing nine measures of rhythmic divisions of a minim tactus. The notes are grouped into three measures of three, three measures of four, and three measures of six.

H<sub>4</sub>. The first anchor note of an embellishment is in consonance with its initial root note. The third anchor note of an embellishment is in consonance with either its initial root note or final root note.

Sancta Maria highlights the practical function of a tactus in the context of choir performance by defining it as a time unit which enables all voices to converge in consonance at the same time.<sup>70</sup> This vocal tradition of all parts converging in consonance at the changeover of neighbouring tactus did not go unheeded in the mid-sixteenth-century embellishment procedure for psalm tones. In Example 3.2.5, all first anchor notes (in red) are in perfect consonance with the corresponding root notes (in pink) and all third anchor notes (in blue) are in consonance, perfect or imperfect, with the corresponding initial root notes and final root notes. Additionally, this unfailing adherence to consonance with root notes is kept by most of the second anchor notes (in orange) and fourth anchor notes (in orange) in this example.<sup>71</sup>

One common exception to this rule occurs when the anchor notes form part of a lengthy scalar construct. In Example 3.2.6, the third anchor note of both embellishments in bar 61 (b, d'' in red) are in dissonance with their respective root notes (c in blue). This violation of the consonance rule is softened by the fleeting effect of the dissonance, which is disguised in the rapid ascension and ensuing descension of the lengthy tirata.

---

<sup>70</sup> Thomas de Sancta Maria, *Libro Llamdo Arte de Tañer*, 1565, trans. Sion M. Honea, 5.

<sup>71</sup> see S<sub>1</sub> in Chapter 3.3.

Example 3.2.4 Giovanni Gabrieli, *Intonazione del Terzo et Quarto Tono*, bars 6–8, GABRIELI1593

Musical score for Example 3.2.4, bars 6–8. The score is in three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 6 is marked with a 'T' above the treble staff. Bar 7 is marked with a '7' above the treble staff. Bar 8 is marked with an '8' above the treble staff. The treble staff contains a single note in bar 6, which is tied to a whole note in bar 7, and another whole note in bar 8. The grand staff contains complex rhythmic patterns in both hands, including sixteenth and thirty-second notes, and rests.

Example 3.2.5 Andrea Gabrieli, *Intonazione del Primo Tono*, bars 5–9, GABRIELI1593

Musical score for Example 3.2.5, bars 5–9. The score is in three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 5 is marked with an 'M' above the treble staff. Bar 6 is marked with a '6' above the treble staff. Bar 7 is marked with a '7' above the treble staff. Bar 8 is marked with an '8' above the treble staff. Bar 9 is marked with '9 RB' and 'T' above the treble staff. The treble staff contains a single note in bar 5, which is tied to a whole note in bar 6, and another whole note in bar 7. The grand staff contains complex rhythmic patterns in both hands, including sixteenth and thirty-second notes, and rests. Some notes in the grand staff are highlighted with colored circles (red, blue, orange, purple).

Example 3.2.6 Andrea Gabrieli, *Toccata del Quinto Tono*, bars 61–62, GABRIELI1593

Musical score for Example 3.2.6, bars 61–62. The score is in three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 61 is marked with a 'T' above the treble staff. Bar 62 is marked with a '62' above the treble staff. The treble staff contains a single note in bar 61, which is tied to a whole note in bar 62, and another whole note in bar 62. The grand staff contains complex rhythmic patterns in both hands, including sixteenth and thirty-second notes, and rests.

H<sub>5</sub>. Leaping motion most frequently occurs on bad notes rather than on good notes. Among all the bad notes in an embellishment, leaping motion is most likely to occur on the primary guide note, followed by the secondary guide note.

Notated examples in the surviving repertory feature predominantly bad leaps rather than good leaps (see D<sub>10</sub> in Chapter 3.2), to the extent that they may be signalling to the improvising keyboardist to avoid the use of good leaps entirely. In Example 3.2.7, the first embellishment, a non-cadential construct, contains two leap notes, namely its primary guide note (g) and secondary guide note (G<sub>,</sub>), both of which are followed by an immediate succession of semifusas in step motion. The second embellishment, a cadential construct, features leaping motion exactly once on its primary guide note (G<sub>,</sub>).

There are two scenarios which contribute to the rare occurrences of good leaps. First, in the formation of a consecutive leap (see D<sub>11</sub> in Chapter 3.2), leaping motion occurs on connecting notes of opposing polarity, which guarantees the occurrence of at least one good leap. For example, in the third embellishment of Example 3.1.6, the primary guide note (e<sup>˘</sup>), a bad note of a leap degree of descending eighth, is immediately followed by a good note (c<sup>˘</sup>) of a leap degree of descending third. Second, leaping motion can take place on the first (good) note of each motif in an embellishment featuring small-scale motivic ideas. In Example 3.2.8, all first notes of each of the three octave motifs (F, G and F) are good leap notes.

Example 3.2.7 Giovanni Gabrieli, *Intonazione del Settimo Tono*, bars 5–7, GABRIELI1593

Musical score for Example 3.2.7, bars 5–7. The score is in three systems. The first system (bar 5) has a treble clef with a whole note chord marked 'T' and a bass clef with a sixteenth-note descending scale. The second system (bar 6) has a treble clef with a whole note chord and a bass clef with a sixteenth-note descending scale. The third system (bar 7) has a treble clef with a whole note chord and a bass clef with a sixteenth-note descending scale. A large oval in the treble clef of the first system encompasses the first two systems.

Example 3.2.8 Andrea Gabrieli, *Toccata del Sesto Tono*, bar 5, GABRIELI1593

Musical score for Example 3.2.8, bar 5. The score is in three systems. The first system (bar 5) has a treble clef with a whole note chord. The second system has a treble clef with a whole note chord. The third system has a bass clef with a sixteenth-note descending scale.

Example 3.2.9 Andrea Gabrieli, *Intonazione del Settimo Tono*, bars 10–11, GABRIELI1593

Musical score for Example 3.2.9, bars 10–11. The score is in six systems. The first system (bar 10) has a treble clef with a whole note chord marked 'T' and a bass clef with a sixteenth-note descending scale. The second system has a treble clef with a sixteenth-note descending scale and a bass clef with a sixteenth-note descending scale. The third system has a treble clef with a sixteenth-note descending scale and a bass clef with a sixteenth-note descending scale. The fourth system (bar 11) has a treble clef with a whole note chord marked 'RB' and a bass clef with a sixteenth-note descending scale. The fifth system has a treble clef with a sixteenth-note descending scale and a bass clef with a sixteenth-note descending scale. The sixth system has a treble clef with a sixteenth-note descending scale and a bass clef with a sixteenth-note descending scale.

H<sub>6</sub>. The leap degree of the primary guide note is no less than that of the secondary guide note. The leap degree of the primary guide note is no less than that of all ensuing notes in the first and second quadrant of the embellishment. The leap degree of the secondary guide note is no less than that of all ensuing notes in the third and fourth quadrant of the embellishment.

In Example 3.2.9, the four embellishments contain a total of eight guide notes (a', g'', f', a', g', e', g', e'), whose leap degrees are a third, a second, a second, a third, an eighth, a third, and a second and a fourth respectively. The leap degrees of these eight guide notes are not exceeded by those of the ensuing notes in the corresponding two quadrants of their belonging.

There are two common exceptions to this rule. The first exception is attributable to the gradual emergence of small-scale motivic ideas within a single embellishment in late sixteenth century (see Chapter 5.2). In Example 3.2.10, the second embellishment starts with a stepping primary guide note (C, leap degree = 1), and runs into several falling thirds (A, A, B, leap degree = 3) that form part of a small-scale motivic sequence. A second exception results from the general acceptance of certain stereotyped figurative constructs that contain leaping motion. In Example 3.2.11, the eight fusas comprising the first embellishment is a commonly notated figurative construct, in which the leap degree of the primary guide note (g', leap degree = 4) is surpassed by that of the secondary guide note (c', leap degree = 8).

Example 3.2.10 Andrea Gabrieli, *Toccata del Sesto Tono*, bar 4, GABRIELI1593

Musical score for bar 4 of *Toccata del Sesto Tono*. The score is in three staves: Treble, Alto, and Bass. The Treble staff contains a whole rest, marked with a '4' and an 'M'. The Alto staff contains a whole rest. The Bass staff contains a continuous eighth-note pattern with red accents on the notes.

Example 3.2.11 Andrea Gabrieli, *Intonazione del Sesto Tono*, bar 9, GABRIELI1593

Musical score for bar 9 of *Intonazione del Sesto Tono*. The score is in three staves: Treble, Alto, and Bass. The Treble staff contains a whole rest, marked with a '9' and a 'T'. The Alto staff contains a melodic line with red accents on the notes. The Bass staff contains a whole rest.

Example 3.2.12 Andrea Gabrieli, *Toccata del Quinto Tono*, bars 14–18, GABRIELI1593

Musical score for bars 14–18 of *Toccata del Quinto Tono*. The score is in three staves: Treble, Alto, and Bass. The Treble staff contains whole rests for bars 14 and 15, marked with '14 RB' and '15'. The Alto staff contains whole rests for bars 14 and 15, and a melodic line with red accents for bars 16, 17, and 18. The Bass staff contains a continuous eighth-note pattern with red accents for bars 14 and 15, and a melodic line with red accents for bars 16, 17, and 18.

H<sub>7</sub>. An inflection note is typically a good note, rarely a bad note.

Example 3.2.12 features a variety of types of rhythmic division of the embellished melodic note. However, the inflection notes of all embellishments in this example are good notes: g in the first embellishment, f' in the second embellishment, b in the third embellishment, c in the fourth embellishment, d' in the fifth embellishment, c' in the sixth embellishment, c in the seventh embellishment, g'' and f' in the eighth embellishment, and b in the ninth embellishment.

H<sub>8</sub>. The total number of inflection notes in an embellishment is zero, one, or two.

Excessive fluctuation within a single embellishment is rarely observed in the surviving repertory. Irrespective of the direction of an embellishment (i.e. stationary, ascending, descending), the total number of inflection notes within a single embellishment is generally capped at two. This restriction is to both sustain the continuous flow of the embellishments and reduce their potential obfuscation of cantus firmus. In Example 3.2.13, the clear presentation of the cantus firmus (i.e. fifth psalm tone) is aided by the judicious use of inflection points within a single embellishment, with most of the notated embellishments having either zero or one inflection note.

Example 3.2.13 Andrea Gabrieli, *Toccata del Quinto Tono*, bars 1–17, GABRIELI1593

The musical score is presented in five systems, each consisting of a vocal line and a piano accompaniment. The vocal line is written in a single staff with a treble clef and a common time signature. The piano accompaniment is written in two staves, with a grand staff (treble and bass clefs) and a common time signature. The score is divided into measures, with bar numbers 1 through 17 indicated. The vocal line is labeled with 'RA' at the beginning, 'M' at measure 5, 'RBs' at measure 10, and 'T' at measure 15. The piano accompaniment features complex rhythmic patterns, including sixteenth and thirty-second notes, and rests. The score is arranged in five systems, each with a vocal line and a piano accompaniment. The vocal line is labeled with 'RA', 'M', 'RBs', and 'T' at various points. The piano accompaniment features complex rhythmic patterns and textures.

H<sub>9</sub>. A high inflection note is above the upper limit of the embellishment. A low inflection note is below the lower limit of the embellishment.

In Example 3.2.14, the stepping motion of the first embellishment rises above its upper limit (c'') exactly once and falls below its lower limit (f') exactly once. The lone high inflection note (g') represents the greatest deviation from its upper limit and the lone low inflection note (d) represents the greatest deviation from its lower limit.

In Example 3.2.15, the modified embellishment rises above the upper limit (c'') exactly twice and does not fall below its lower limit (f'). Compared to the original embellishment, the presence of a second high inflection note (e'') serves to not only disrupt the forward momentum of the embellishment but also to compromise the harmonic certainty against the initial and final root note (F). In addition, the range of the embellishment is significantly reduced by the replacement of the low inflection note (d) with a high inflection note (e') in the modified embellishment, which results in an awkward M-shaped motion within a narrow pitch range.

In Example 3.2.16, the approximate S-shape of the original embellishment is kept intact, with a high inflection note (e') being followed by a long descent to a low inflection note (b) before a final turn in the ascending direction. This modified example is considered appropriate by the author for its elegance and simplicity.

H<sub>10</sub>. Repeated notes are to be avoided in an embellishment.

While repeated notes were a common vocal embellishment during the sixteenth century, comparable usage is not observed in notated embellishments in the surviving keyboard repertory.

Example 3.2.14 Andrea Gabrieli, *Toccata del Quinto Tono*, bar 8, GABRIELI1593

8 T

Example 3.2.15 Andrea Gabrieli, *Toccata del Quinto Tono*, bar 8, GABRIELI1593 (modified)

8 T

Example 3.2.16 Andrea Gabrieli, *Toccata del Quinto Tono*, bar 8, GABRIELI1593 (modified)

8 T

### 3.3 Soft rules

$S_1$ . The second anchor note of an embellishment is in consonance with its initial root note. The fourth anchor note of an embellishment is in consonance with its final root note.

While the consonance requirement for the second and fourth anchor notes is generally less stringent than it is for the first and third anchor notes (see  $H_4$  in Chapter 3.1), best effort should be made, where figuratively possible, to preserve both the consonance between the second anchor note and initial root note, and that between the fourth anchor note and final root note.

In Example 3.3.1, not only do the four embellishments comply with the consonance requirement on the first anchor note and third anchor note ( $H_4$ ), but also that for the second anchor note (in red) and fourth anchor note (in red). In the first embellishment, the second anchor note (a<sup>^</sup>) is in perfect consonance with the initial root note (d) and the fourth anchor note (d<sup>^</sup>) is in perfect consonance with the final root note (g). In the second embellishment, the second anchor note (d<sup>^</sup>) is in perfect consonance with the initial root note (g) and the fourth anchor note (g) is in perfect consonance with the final root note (c). In the third embellishment, the second anchor note (e) is in imperfect consonance with the initial root note (c) and the fourth note (c) is in perfect consonance with the final root note (g). In the fourth embellishment, the second anchor note (b) is in imperfect consonance with the initial root note (g), and the fourth anchor note (c) is in perfect consonance with the final root note (g).<sup>72</sup>

There are two common scenarios in which the adherence to  $S_1$  may become less stringent. First, analogous to a common exception to  $H_4$  in Chapter 3.2, an extended stretch of scalar construct in one or several embellishments is considered a sufficient excuse for non-compliance of  $S_1$ . Second, compliance with  $S_1$  may be excused to accommodate the continuation of small-scale motivic ideas within an embellishment. In Example 3.3.2, the general adherence to  $S_1$  is disrupted by the second anchor note of the third embellishment (g<sup>^</sup>), which forms part of a small-scale motivic sequence. This second type of deviation from  $S_1$  became gradually more commonplace in the ending decades of the sixteenth century (see Chapter 5).

---

<sup>72</sup> The final root note of the fourth embellishment is not in view of the excerpt.

Example 3.3.1 Andrea Gabrieli, *Intonazione del Settimo Tono*, bars 13–14, GABRIELI1593

Musical score for Example 3.3.1, bars 13–14. The score is in treble and bass clefs. Bar 13 is marked with a 'T' above the treble clef. Bar 14 is marked with a '14' above the treble clef. The treble clef part consists of two whole notes in bar 13 and two whole notes in bar 14. The bass clef part consists of two staves of music, each with a series of eighth notes and sixteenth notes, with some notes highlighted in red.

Example 3.3.2 Annibale Padovano, *Toccata del Primo Tono*, bars 13–15, PADOVANO1594

Musical score for Example 3.3.2, bars 13–15. The score is in treble and bass clefs. Bar 13 is marked with 'RB1' above the treble clef. Bar 14 is marked with '14' above the treble clef. Bar 15 is marked with '15' above the treble clef. The treble clef part consists of two long, flowing lines of music, each spanning two bars. The bass clef part consists of two staves of music, each with a series of eighth notes and sixteenth notes, with some notes highlighted in red.

Example 3.3.3 Andrea Gabrieli, *Intonazione del Settimo Tono*, bars 13–17, GABRIELI1593

Musical score for Example 3.3.3, bars 13–17. The score is in treble and bass clefs. Bar 13 is marked with '13' above the treble clef. Bar 14 is marked with '14' above the treble clef. Bar 15 is marked with '15' above the treble clef. Bar 16 is marked with '16' above the treble clef. Bar 17 is marked with '17' above the treble clef. The treble clef part consists of two staves of music, each with a series of eighth notes and sixteenth notes, with some notes highlighted in red. The bass clef part consists of two staves of music, each with a series of eighth notes and sixteenth notes, with some notes highlighted in red.

S<sub>2</sub>. The arrival of a new harmony is typically emphasised by an “event” in the notated embellishment, such as a lengthened anchor note, a leaping guide note, or consecutive leaps.

While not every harmonic change is accompanied by a purposeful deviation of the stereotyped stepping motion of the embellishment style, many are. In

Example 3.3.3, a myriad of embellishing devices is used throughout the excerpt to accentuate the harmonic progression preceding the impending termination: the first and seventh embellishment both employ a leaping motion on their respective primary guide notes; the third, fourth and fifth embellishment all commence with a consecutive leap; the sixth embellishment features a lengthened first anchor note.

S<sub>3</sub>. The use of stepping motion is generally preferred to that of leaping motion in the preparation part of a cadential group at major cadences.

The rationale of this soft rule is motivated by the gradual retardation of the harmonic rhythm and growing impetus towards resolution at major cadences. In Example 3.3.4, in embellishing the termination, the relentless step motion of the tirati in bar 65 and bar 66 precede the gradual stabilisation of the harmony in bar 67 and final resolution in the Lydian mode in bar 68.

S<sub>4</sub>. If a guide note is a leap note, its degree is limited to, in descending order of frequency, a fourth, an eighth, a third and a fifth.

This soft rule is applicable to both the primary guide note and secondary guide note and highlights the disuse of a guide note with a leap degree of a sixth and a seventh in the surviving repertory. The high frequency of guide notes with a leap degree of a fourth or an eighth is attributed to a frequently notated consecutive leap at the beginning of a scalar construct. For example, the primary guide note (a´) of the first embellishment in bar 13 of Example 3.3.1 has a leap degree of a descending fourth (-4) and is succeeded by a note with a leap degree of an ascending third (+3); the primary guide note (c´) of the embellishment in Example 3.1.4 has a leap degree of an ascending eighth (+8) and is succeeded by a note (a´) with a leap degree of a descending third (-3).

Example 3.3.4 Andrea Gabrieli, *Toccata del Sesto Tono*, bars 65–68, GABRIELI1593

Musical score for Example 3.3.4, bars 65–68. The score is in three systems. The first system (bars 65–66) features a vocal line with a long note in bar 65 and a half note in bar 66. The piano accompaniment consists of a treble clef with a sixteenth-note arpeggiated pattern and a bass clef with a long note in bar 65 and a sixteenth-note arpeggiated pattern in bar 66. The second system (bars 67–68) features a vocal line with a long note in bar 67 and a half note in bar 68. The piano accompaniment consists of a treble clef with a long note in bar 67 and a half note in bar 68, and a bass clef with a sixteenth-note arpeggiated pattern in both bars.

Example 3.3.5 Andrea Gabrieli, *Toccata del Sesto Tono*, bars 5–7, GABRIELI159373

Musical score for Example 3.3.5, bars 5–7. The score is in three systems. The first system (bars 5–6) features a vocal line with a long note in bar 5 and a half note in bar 6. The piano accompaniment consists of a treble clef with a long note in bar 5 and a half note in bar 6, and a bass clef with a sixteenth-note arpeggiated pattern in both bars. The second system (bar 7) features a vocal line with a long note. The piano accompaniment consists of a treble clef with a long note and a bass clef with a sixteenth-note arpeggiated pattern.

<sup>73</sup> B<sup>b</sup> is not in view of the excerpt.

S<sub>5</sub>. A guide note that leaps in the opposite direction to that of the embellishment is frequently used to create space for an embellishment with a small embellishment range.

In reference to H<sub>5</sub> in Chapter 3.2, the two guide notes, especially the primary guide note, are the most likely notes, among all notes comprising an embellishment, to feature a leaping motion. In Example 3.3.5, the second embellishment in bar 6, whose embellishment range is a descending fifth (C to F<sup>♯</sup>), features a primary guide note (c<sup>♯</sup>) with a leap degree of an ascending eighth (+8); the second embellishment in bar 7, whose embellishment range is a descending fifth (F to B<sup>b</sup>), features a primary guide note (c<sup>♯</sup>) with a leap degree of an ascending fifth (+5). The large leap degrees of both primary guide notes afford sufficient space for the descending scalar motion in the remainder of the respective embellishments.

S<sub>6</sub>. If a step-moving embellishment contains exactly one inflection note, it is located in the first two quadrants of the embellishment.

The preferred location of a lone inflection note within a single embellishment, similar to the location of leaping motion and lengthened notes, reflects the sixteenth-century musical tradition of placing greater emphasis upon the commencement of a tactus rather than its ending. Example 3.3.6, juxtaposes two embellishments, each featuring step motion only and containing a lone inflection note, that corresponds to a melodic interval of an ascending fifth and a descending fifth. The two embellishments that place the lone inflection note in the first half of the tactus (bars 1 and 3) are more commonly notated than their counterparts (bars 2 and 4). In Example 3.3.7, which has eight step-moving embellishments in minim tactus, the second anchor note, or centre of the first two quadrants of the embellishment, serves as the lone inflection note in the first, second, third, fifth, sixth and seventh minim-embellishment.

Example 3.3.6 Location of a lone inflection note in a step-moving embellishment<sup>74</sup>

Musical score for Example 3.3.6. It consists of two systems of piano accompaniment. The first system shows two measures of a steady eighth-note accompaniment in the bass clef. The right hand has a whole note followed by a sixteenth-note embellishment starting on the second measure. The embellishment consists of a sequence of notes: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. A red dot is placed under the G4 note in the second measure, indicating a lone inflection note. The second system continues the accompaniment and the embellishment, with another red dot under the G4 note in the fourth measure.

Example 3.3.7 Sperindio Bertoldo, *Toccata Seconda*, bars 7–10, BERTOLDO1591

Musical score for Example 3.3.7, showing bars 7–10 of Sperindio Bertoldo's *Toccata Seconda*. The score is in three systems. The first system shows bar 7 with a whole note 'RA' in the right hand and a complex bass line. Bar 8 shows a whole note in the right hand and a complex bass line. The second system shows bar 9 with a whole note 'M' in the right hand and a complex bass line. Bar 10 shows a whole note in the right hand and a complex bass line. Red dots are placed under the G4 note in bar 7 and the G4 note in bar 10, indicating inflection notes.

<sup>74</sup> This example is made by the author for illustration purposes.

S<sub>7</sub>. If a step-moving embellishment contains exactly two inflection notes, they are located in the first and third quadrant of the embellishment respectively.

Similar to S<sub>6</sub>, S<sub>7</sub> is designed to safeguard the balance and elegance of the figurative construct of a step-moving embellishment. The preferred location of the two inflection notes highlights the relative importance of the first quadrant over the second quadrant, and that of the third quadrant over the fourth quadrant. In Example 3.3.8, regardless of the direction of the embellished interval, the first inflection note is placed within the first quadrant of the embellishment, and the second inflection note is placed within the third quadrant of the embellishment. It is in fact figuratively impossible to place the first inflection note in the second quadrant of the embellishment and still allow the step-moving embellishment to contain two inflection notes.

S<sub>8</sub>. In the preparation part of a cadential groppo, a stereotyped four-note motif featuring two ascending steps and a descending third is often used.

Small-scale motivic writing, which eventually became an integral component of the keyboard embellishment language in the late sixteenth century (see Chapter 5.2), first appeared in a four-note motivic construct which frequently preceded the stereotyped mid-sixteenth-century cadential construct at its resolution. In Example 3.3.9, the usage of the said four-note motif in the second half of bar 5 and first half of bar 6 was well suited to the depiction of growing momentum that precedes the final resolution of the cadential groppo.

Example 3.3.8 Location of two inflection notes in a step-moving embellishment<sup>75</sup>

The image shows a musical score for a piano. It consists of two systems of staves. The first system has a treble clef staff with a whole note and two eighth-note runs, labeled '1' and '2'. The second system has a treble clef staff with a whole note and two eighth-note runs, labeled '3' and '4'. The bass clef staff in both systems contains a series of chords, each marked with a circled '8'.

Example 3.3.9 Giovanni Gabrieli, *Intonazione del Sesto Tono*, bars 5–7, GABRIELI1593

The image shows a musical score for three staves. The top staff is a treble clef staff with a whole note, a half note, and a whole note, labeled '5', '6', and '7' respectively. The middle staff is a treble clef staff with a series of eighth notes, a whole note, and a whole note. The bottom staff is a bass clef staff with a series of eighth notes, a whole note, and a whole note. The notes in the bottom staff are marked with red dots.

<sup>75</sup> This example is made by the author for illustration purposes.

### 3.4 Corollaries

C<sub>1</sub>. Odd-degree intervals (i.e. unison, third, fifth, seventh, ninth) can be embellished with eight consecutive step notes in immediate succession. Even-degree intervals (i.e. second, fourth, sixth, octave) cannot.

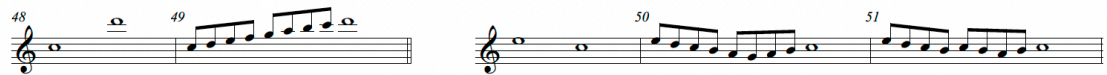
This corollary is a useful observation given the abundance of odd-degree melodic intervals in sixteenth-century vocal polyphony. Example 3.4.1 is a collation of the commonly notated eight-note embellishments in stepping motion corresponding to odd-degree intervals, namely unison, ascending and descending third, ascending and descending fifth, and ascending and descending seventh. Note that this is not a combinatorically exhaustive list of all possible eight-note embellishments in stepping motion for a particular interval.

The curated examples have a few shared characteristics. First, the eight-note formation is generally absent of motifs and cannot be divided into two halves of figuratively identical four-note formation. Second, the embellishment is far more likely to feature trills (e.g. E–D–E–D) than “reverse-trills” (e.g. D–E–D–E). Third, the last note and penultimate note of the embellishment are in the same direction (e.g. bars 18, 34, 47 and 69 in Example 3.4.1). Last, the embellishment generally contains at most one inflection note (e.g. bars 19, 33 and 56 in Example 3.4.1) unless the embellishment is in S-shape (e.g. bars 6 and 25 in Example 3.4.1).

There are two rhythmic divisions of a semibreve-tactus for which this corollary is particularly helpful. First, if the tactus were to be divided into eight fusas (bar 2 in Example 3.2.2), the embellisher can simply select a notated embellishment in Example 3.4.1. Second, if the tactus were to be divided into sixteen semifusas (bar 9 in Example 3.2.2), it is possible to first divide the semibreve-tactus into two minims, each corresponding to an odd-degree melodic interval, and then select an eight-note formation for each. Note that H<sub>4</sub> in Chapter 3.2 prescribes that the third anchor note is generally consonant with the starting and ending note of the embellishment.

Example 3.4.1 Commonly notated eight-note step embellishments for odd-degree melodic intervals

The image displays 34 numbered measures of musical notation, each illustrating an eight-note step embellishment for an odd-degree melodic interval. The notation is presented in a single staff with a treble clef and a common time signature. Each measure begins with a whole note representing the interval, followed by an eighth-note pattern that fills the interval with stepwise motion. The intervals shown are: 1. Second, 2. Third, 3. Fourth, 4. Fifth, 5. Sixth, 6. Seventh, 7. Eighth, 8. Ninth, 9. Tenth, 10. Eleventh, 11. Twelfth, 12. Thirteenth, 13. Fourteenth, 14. Fifteenth, 15. Sixteenth, 16. Seventeenth, 17. Eighteenth, 18. Nineteenth, 19. Twentieth, 20. Twenty-first, 21. Twenty-second, 22. Twenty-third, 23. Twenty-fourth, 24. Twenty-fifth, 25. Twenty-sixth, 26. Twenty-seventh, 27. Twenty-eighth, 28. Twenty-ninth, 29. Thirtieth, 30. Thirty-first, 31. Thirty-second, 32. Thirty-third, 33. Thirty-fourth, and 34. Thirty-fifth. The eighth-note patterns are consistently notated as eighth notes with stems pointing up, except for measures 17 and 18 where the stems point down.



C<sub>2</sub>. A standalone leap note, or a consecutive leap in opposite direction, does not alter the direction of the scalar construct surrounding it.

In Example 3.4.2, the embellished soprano features a lengthy procession of equal-value step notes that are interspersed with some standalone leap notes that fail to alter the general direction of the scalar construct. For example, the ascending bad leap in the second embellishment in bar 5 (a'' to d') is preceded and succeeded by a descending scalar construct; the descending bad leap in bar 6 (c'' to a'') is preceded and succeeded by an ascending scalar construct. In bar 8 of Example 3.4.2, the consecutive leap in opposing direction (c'' to g', g' to b'') does not alter the direction of the scalar construct that it is part of.

C<sub>3</sub>. A high inflection note can only be succeeded by a low inflection note. A low inflection note can only be succeeded by a high inflection note.

This corollary follows from D<sub>12</sub> in Chapter 3.1 and observes that an inflection note of a certain polarity can only be succeeded by an inflection note of the opposite polarity. In Example 3.4.3, there exists a total of four inflection notes, namely a high inflection note (a'') in the first embellishment, a low inflection note (d') in the second embellishment, a high inflection note in the third embellishment (g'') and a low inflection note (d') in the fourth embellishment (d'). Note the sequence of the alternating polarity of the inflection notes.

C<sub>4</sub>. If the primary guide note of an embellishment is a step note, all notes in the remainder of the embellishment (including the secondary guide note) are step notes.

This corollary follows from H<sub>6</sub> in Chapter 3.2, which stipulates that the leap degree of the primary guide note sets an upper limit on that of all notes comprising the embellishment. It is therefore true that a stepping primary guide note is bound to be followed by only step notes for the remainder of the embellishment. This observation contributes to the prevalence of lengthy scalar passages through several consecutive embellishments, as is the case in Example 3.4.4.

Example 3.4.2 Andrea Gabrieli, *Intonazione del Primo Tono*, bars 5–8, GABRIELI1593

Musical score for Example 3.4.2, bars 5–8 of *Intonazione del Primo Tono* by Andrea Gabrieli. The score is in 3/4 time and consists of three systems. The first system (bars 5–6) features a vocal line with a melisma on the letter 'M' and a piano accompaniment with a rhythmic pattern of eighth notes. The second system (bars 7–8) features a vocal line with a melisma on the letter 'K' and a piano accompaniment with a similar rhythmic pattern. The piano accompaniment consists of a treble clef staff with eighth notes and a bass clef staff with chords.

Example 3.4.3 Andrea Gabrieli, *Intonazione del Settimo Tono*, bars 10–11, GABRIELI1593

Musical score for Example 3.4.3, bars 10–11 of *Intonazione del Settimo Tono* by Andrea Gabrieli. The score is in 3/4 time and consists of three systems. The first system (bars 10–11) features a vocal line with a melisma on the letter 'T' and a piano accompaniment with a rhythmic pattern of eighth notes. The second system (bars 11–12) features a vocal line with a melisma on the letter 'RB' and a piano accompaniment with a similar rhythmic pattern. The piano accompaniment consists of a treble clef staff with eighth notes and a bass clef staff with chords.

Example 3.4.4 d'Incerto, *Toccata del Primo et Secondo Tono*, bars 25–29, PADOVANO1594

The image displays a musical score for three systems of music, corresponding to bars 25, 26, 27, 28, and 29. Each system consists of two staves: a treble clef staff and a bass clef staff. The first system (bars 25-26) features a treble staff with a whole rest in bar 25 and a whole note in bar 26, and a bass staff with a continuous sixteenth-note pattern. The second system (bars 27-28) shows a treble staff with a whole rest in bar 27 and a whole note in bar 28, and a bass staff with a sixteenth-note pattern in bar 27 and a more complex rhythmic pattern in bar 28. The third system (bar 29) has a treble staff with a whole rest and a bass staff with a sixteenth-note pattern.

C<sub>5</sub>. If a step-moving embellishment contains exactly one inflection note, the lone inflection note of an ascending embellishment is a low inflection note, the lone inflection note of a descending embellishment is a high inflection note.

This corollary follows from S<sub>7</sub> in Chapter 3.3, which positions the lone inflection note of an embellishment in the first half of the embellished tactus. In fact, it is figuratively impossible to construct an ascending step-moving embellishment with a lone high inflection note in the first two quadrants of the embellishment, or a descending step-moving embellishment with a lone low inflection note in the first two quadrants of the embellishment.

C<sub>6</sub>. If a step-moving embellishment contains exactly two inflection notes, they exceed opposite limits of the embellishment range.

This corollary follows from S<sub>8</sub> in Chapter 3.3, which positions the first inflection note in the first quadrant and the second inflection note in the third quadrant of the step-moving embellishment. In Example 3.3.8, the first inflection note (a') falls below the lower limit of the embellishment range (c'), the second inflection note (b'') rises above the upper limit of the embellishment range (g').

C<sub>7</sub>. The total number of inflection notes in an embellishment determines its shape. If it is zero, the embellishment is of I-shape; if one, the embellishment is of V-shape (low inflection) or inverted V-shape (high inflection); if two, the embellishment is of S-shape.

This corollary is related to H<sub>8</sub> in Chapter 3.2 and S<sub>8</sub> in Chapter 3.3. In Example 3.4.4, there is a total of ten minim-embellishments with the following number of inflection notes and shapes in parentheses: 1 (V), 1 (inverted V), 1 (inverted V), 1 (V), 1 (inverted V), 0 (I), 2 (S), 0 (I), 2 (S) and 0 (I). This corollary enables practitioner to visualise the shape of an embellishment before the attempted improvisation.

## Chapter 4     Demonstrative examples

This chapter demonstrates the utility of the proposed system of improvised embellishments in Chapter 3. This chapter is divided into three parts: a description of an exemplary music work from the surviving repertory (Chapter 4.1); a comparative score analysis of three modified examples of the selected work (Chapter 4.2), and a free-composition example based on a modified harmonic schema (Chapter 4.3). In all three sections, wherever possible, discussion is made with reference to relevant rules of embellishments in Chapter 3.

### 4.1 Selected work

Example 4.1.1 and Example 4.1.2 respectively provide the embellished and unembellished version of a keyboard toccata composed based on the fifth psalm tone by Andrea Gabrieli. In this work, the cantus firmus of the fifth psalm tone is stated twice, first in bars 1–11 with relatively simple embellishments, and a second time in bars 12–18 in a more elaborate style. A quick survey of the selected work shows its consistency with the stereotyped embellishment style of its period (see Chapter 2.1) — predominance of step motion, limited pitch range, restriction of embellishments to either soprano or bass, stereotyped cadential resolution (bars 15 and 17 in Example 4.1.1), gradual reduction of note values throughout a musical phrase (bars 3–6 in Example 4.1.1), invariable upholding of consonance at the changeover of neighbouring tactus.

Example 4.1.1 Andrea Gabrieli, *Toccata del Quinto Tono*, GABRIELI1593

The musical score is presented in three systems, each consisting of a vocal line and a piano accompaniment.

- System 1 (Measures 1-3):** Labeled RA1 and M1. The vocal line consists of three whole notes. The piano accompaniment features a steady eighth-note bass line in the left hand and chords in the right hand.
- System 2 (Measures 4-6):** Labeled RB1. The vocal line has three measures. The piano accompaniment is more active, with the right hand playing sixteenth-note runs and the left hand playing chords.
- System 3 (Measures 7-9):** Labeled T1. The vocal line has three measures. The piano accompaniment continues with complex textures, including sixteenth-note runs in both hands.

RA2 M2

Musical score for measures 10-12. The top staff (treble clef) contains two whole notes, labeled RA2 and M2. The middle staff (treble clef) contains measures 10, 11, and 12, featuring a melodic line with eighth notes and a slur over measures 11 and 12. The bottom staff (bass clef) contains accompaniment for measures 10, 11, and 12, including a descending eighth-note line in measure 10 and block chords in measures 11 and 12.

RB2

Musical score for measures 13-15. The top staff (treble clef) contains two whole notes, labeled RB2. The middle staff (treble clef) contains measures 13, 14, and 15, featuring a melodic line with eighth notes and a slur over measures 14 and 15. The bottom staff (bass clef) contains accompaniment for measures 13, 14, and 15, including a descending eighth-note line in measure 13 and block chords in measures 14 and 15.

T2

Musical score for measures 16-18. The top staff (treble clef) contains two whole notes, labeled T2. The middle staff (treble clef) contains measures 16, 17, and 18, featuring a melodic line with eighth notes and a slur over measures 17 and 18. The bottom staff (bass clef) contains accompaniment for measures 16, 17, and 18, including a descending eighth-note line in measure 16 and block chords in measures 17 and 18.

Example 4.1.2 Andrea Gabrieli, *Toccata del Quinto Tono*, GABRIELI1593 (unembellished)

RA1 2 3 M1

Musical notation for measures 1-3. Measure 1: Treble clef has a whole note chord (RA1). Bass clef has a whole note chord. Measure 2: Treble clef has a whole note chord (2). Bass clef has a whole note chord. Measure 3: Treble clef has a whole note chord (3 M1). Bass clef has a whole note chord.

4 5 RB1 6

Musical notation for measures 4-6. Measure 4: Treble clef has a whole note chord (4). Bass clef has a whole note chord. Measure 5: Treble clef has a whole note chord (5 RB1). Bass clef has a whole note chord. Measure 6: Treble clef has a whole note chord (6). Bass clef has a whole note chord.

7 T1 8 9

Musical notation for measures 7-9. Measure 7: Treble clef has a whole note chord (7 T1). Bass clef has a whole note chord. Measure 8: Treble clef has a whole note chord (8). Bass clef has a whole note chord. Measure 9: Treble clef has a whole note chord (9). Bass clef has a whole note chord.

10 11 12 RA2 M2

Musical score for measures 10-12. Measure 10: Treble clef, whole note G4. Bass clef, whole note chord (C3, E3, G3). Measure 11: Treble clef, whole note chord (G4, B4). Bass clef, whole note chord (C3, E3, G3). Measure 12: Treble clef, whole note chord (G4, B4, D5). Bass clef, whole note chord (C3, E3, G3). Measure 13: Treble clef, whole note chord (G4, B4, D5). Bass clef, whole note chord (C3, E3, G3).

13 14 RB2 15

Musical score for measures 13-15. Measure 13: Treble clef, whole note G4. Bass clef, whole note chord (C3, E3, G3). Measure 14: Treble clef, whole note chord (G4, B4). Bass clef, whole note chord (C3, E3, G3). Measure 15: Treble clef, whole note chord (G4, B4, D5). Bass clef, whole note chord (C3, E3, G3).

16 17 T2 18

Musical score for measures 16-18. Measure 16: Treble clef, whole note G4. Bass clef, whole note chord (C3, E3, G3). Measure 17: Treble clef, whole note chord (G4, B4). Bass clef, whole note chord (C3, E3, G3). Measure 18: Treble clef, whole note chord (G4, B4, D5). Bass clef, whole note chord (C3, E3, G3).

## 4.2 Modification of notated embellishments

This section contains a comparative score analysis of three modified examples (Example 4.2.1, Example 4.2.2, Example 4.2.3) of the selected work (Example 4.1.1). Embedded within the same psalm-based harmonic schema (see Example 4.1.2) as the selected work, the varying complexity of the added notated embellishments in the three examples is intended to reflect the chronological evolution of keyboard embellishment techniques through the studied period.

Out of the three examples, the added notated embellishments in Example 4.2.1 are the most conservative in respect of its harmonic exploration and figurative construct. First, throughout this example, the consonance requirements placed upon the four anchor notes (see  $H_4$  in Chapter 3.2 and  $S_1$  in Chapter 3.3) of an embellishment are invariably upheld, resulting in no challenges on the psalm-based harmonic schema set out in Example 4.1.2. Second, with the exception of the opening section (bars 1–5 in Example 4.2.1), the rhythmic division of the standard semibreve tactus (see  $H_2$  in Chapter 3.2) is for the most part limited to one of two figurative types, namely the sum of four fusas and eight semifusas (bar 5 in Example 4.2.1) or a succession of sixteen consecutive semifusas (bar 9 in  $H_3$  in Chapter 3.2). At the start of each statement of the cantus firmus, Example 4.2.1 makes use of relatively long embellishment note values, which renders the depiction of growing momentum towards its cadence through a gradual reduction of embellishment note values more self-evident. For example, in Example 4.2.1, the embellishments for the first statement of the cantus firmus starts with minims and semiminims (bars 1–4 in Example 4.2.1) and ends with fusas and semifusas (bars 5–11 in Example 4.2.1). Third, leaping motion is scarcely notated and only applied on the primary guide notes (see  $D_{12}$  in Chapter 3.1 and bars 7, 12, 16 in Example 4.2.1) of an embellishment. In equal scarcity are cases where an embellishment exceeds the boundaries set by the upper and lower limits (bars 6 and 10 in Example 4.2.1) of its embellishment range (see  $D_7$  in Chapter 3.2). Fourth, the melodic interval formed by the starting and ending root note of each embellishment is accentuated by the judicious placement of inflection notes (see  $H_8$  in Chapter 3.2), strict adherence of pitch requirements on high and low inflection notes (see  $H_9$  in Chapter 3.2), and the absence of excessive fluctuation and small-scale motifs. Last, while not all sectional ends are marked by a cadential construct (see  $D_{14}$  in Chapter 3.2), those that typically feature a stereotyped resolution construct (bars 8, 13 and 17 in Example 4.2.1).

Compared with Example 4.2.1, the consonance requirement is less stringently enforced in Example 4.2.2. For example, in the second tactus of bar 6 in Example 4.2.2, the consonance

requirement placed upon the third anchor note ( $d'$ ) against the root note of the embellishment (c) is excused by the lengthy scalar construct of which the anchor note is part (see  $H_4$  in Chapter 3.2). Figuratively, compared to the nearly uninterrupted flow of step-moving *passaggi* in Example 4.2.1, notated embellishments in Example 4.2.2 feature leap motion at a much higher frequency. A most reliable source of leaping motion is the type of leaping guide notes (bars 4, 5, 6, 7, 13, 14 and 15 in Example 4.2.2) that are often used as a rhythmic device to accentuate the arrival of a new harmony (see  $S_2$  in Chapter 3.3). In some cases, such accentuating leaping guide notes are used in consecutive *tactus* (bars 4–7 in Example 4.2.2) to prelude an impending cadence. A secondary source of leaping motion stems from the notation of small-scale motifs comprising of both step notes and leap notes, either in a non-cadential embellishment (bars 8 and 12 in Example 4.2.2), or in the preparation of a cadential *grosso* (see  $S_9$  in Chapter 3.3, bar 18 in Example 4.2.2). In addition, compared with Example 4.2.1, Example 4.2.2 features a less consistent attempt to mark a sectional end with a stereotyped cadential construct. For example, the termination of the first statement of the *cantus firmus* in Example 4.2.2 (bar 11 in Example 4.2.1) is softened by a non-cadential construct (see  $D_{14}$  in Chapter 3.2). Last, compared with Example 4.2.1 and Example 4.1.1, the emphasis on moderate scalar motion is somewhat relaxed in Example 4.2.2, as evidenced by the greater distance by which an inflection note exceeds the limit of the embellishment range (bars 6 and 7 in Example 4.2.2).

In comparison with Example 4.2.1 and Example 4.2.2, Example 4.2.3 features a greater variety of rhythmic and figurative constructs in its notated embellishments. First, a greater number of standard rhythmic divisions of a semibreve *tactus* (see  $H_2$  in Chapter 3.2) are deployed, along the notation of nuanced rhythmic expression such as dotted rhythm (bar 3, 9, 15 in Example 4.2.3) and smaller note values in the more elaborate cadential embellishments (e.g. bar 17 in Example 4.2.3). With regard to leaping motion, in addition to a higher frequency of notation of standalone leaps in passagework, Example 4.2.3 features frequent notation of consecutive leaps (see  $D_{11}$  in Chapter 3.1), either in isolation (bars 6 and 15 in Example 4.2.3) or part of a sequential small-scale motif (bar 10, 11 in Example 4.2.3). In addition, compared with Example 4.2.1 and Example 4.2.2, the small-scale motivic ideas in Example 4.2.3 are repeated for a greater number of times (bar 10 and 11 in Example 4.2.3), which reflects a seemingly waning concern for the embellishment-related obscurement of the *cantus firmus*. Last, a greater variety of resolution constructs, other than the stereotyped formation, are notated (bars 14 and 15 in Example 4.2.3). With a greater number of options available, the stereotyped construct tends to be reserved for the more important cadences such as the termination of the second statement of the *cantus firmus* (bar 17 in Example

4.2.3). The characteristics of the notated embellishments in all three examples are summarised in Table 4.2.1.

Table 4.2.1 Summary characteristics of notated embellishments in three modified examples

	Modified Example 1	Modified Example 2	Modified Example 3
Note value	minims, semiminims, fusas, semifusas	semiminims, fusas, semifusas,	semiminims fusas, semifusas, demisemifusas
Rhythmic division	equal-valued	mixed-valued	nuanced
Step motion	interminable	predominant	sectioned
Leap motion	occasional	limited	common
Consonance	strict	expected	relaxed
Resolution figure	invariable	stereotyped	varied
Length of tirati	short	medium	long
Motivic writing	rare	some	frequent
Pitch range	narrow	controlled	widened

Example 4.2.1 Modified Example 1

1 RA1 2 3 M1

4 5 RB1 6

7 T1 8 9

10 11 12 RA2 M2

13 14 RB2 15

16 17 T2 18

Example 4.2.2 Modified Example 2

The musical score is presented in three systems, each with a vocal line and a piano accompaniment. Measure numbers 1 through 9 are indicated above the vocal line. Performance instructions are placed above the vocal line: 'RA1' above measure 1, '2' above measure 2, '3 M1' above measure 3, '4' above measure 4, '5 RB1' above measure 5, '6' above measure 6, '7 T1' above measure 7, '8' above measure 8, and '9' above measure 9. The piano accompaniment consists of two staves (treble and bass clef). Measures 1-3 feature a simple harmonic accompaniment with quarter and half notes. Measures 4-6 feature a more complex accompaniment with sixteenth-note patterns in the right hand and block chords in the left hand. Measures 7-9 continue with similar sixteenth-note patterns in the right hand and block chords in the left hand.

10 11 12 RA2 M2

13 14 RB2 15

16 17 T2 18

Example 4.2.3 Modified Example 3

The musical score is presented in three systems, each with a vocal line and a piano accompaniment. Measure 1 is marked with '1 RA1'. Measure 2 is marked with '2'. Measure 3 is marked with '3 M1'. Measure 4 is marked with '4'. Measure 5 is marked with '5 RB1'. Measure 6 is marked with '6'. Measure 7 is marked with '7 T1'. Measure 8 is marked with '8'. Measure 9 is marked with '9'. The piano accompaniment features a complex rhythmic pattern in the right hand, often consisting of sixteenth-note runs, and a more stable harmonic accompaniment in the left hand.

10 11 12 RA2 M2

Musical score for measures 10-12. Measure 10: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Measure 11: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Measure 12: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Labels RA2 and M2 are above measure 12.

13 14 RB2 15

Musical score for measures 13-15. Measure 13: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Measure 14: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Measure 15: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Label RB2 is above measure 14.

16 17 T2 18

Musical score for measures 16-18. Measure 16: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Measure 17: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Measure 18: Treble clef has a whole note chord; Bass clef has a rhythmic pattern. Label T2 is above measure 17.

### 4.3 Modification of harmonic schema

In the three examples given in Chapter 4.2, the harmonic schema of the selected work in Chapter 4.1 is kept intact. In the more complex example in this section, a modified harmonic schema (Example 4.3.2) derived from the same cantus firmus as the selected work (i.e. psalm tone V) is first devised prior to the addition of notated embellishments (Example 4.3.1). This new example is intended to reflect a more mature and elaborate style of the embellishments towards the end of the studied period.

In comparison with its original counterpart (Example 4.1.2), the modified schema features moderately longer melodic notes along various structural points of the fifth psalm tone. For example, the termination of the second statement of the psalm tone ( $T_2$ ), which proceeds in semibreves and minims under the original schema (bars 17–18 in Example 4.1.2), is delivered in breves under the modified schema (bars 19–22 in Example 4.3.1). In addition, the second recitation of the second statement of the psalm tone ( $RB_2$ ) (bars 15–18 in Example 4.3.1) is lengthened under the modified schema by way of the insertion of the non-cadential I–I embellishments and I–V–I embellishments (see Chapters 2.2 and 2.3).

The lengthened cantus firmus under the modified schema affords the space for the demonstration of a more elaborate style of notated embellishments. First, leaping motion, the subject of many limitations per rules of embellishments in Chapter 3, is afforded great liberty in Example 4.3.2. This higher frequency of notation of leaping motion is due to both the greater usage of small-scale motifs involving some leap notes (bars 4, 6–7, 11, 12, 13, 19 and 20 in Example 4.3.2), and faster harmonic rhythm under the modified schema that may be best portray by some leaping motion (see  $S_2$  in Chapter 3.3). In the latter case, serial notation of leaping motion in consecutive tactus (bars 10–12 in Example 4.3.2) is an effective tool in the depiction of the accelerating harmonic rhythm and growing momentum towards the end of a cadence. Second, a more refined style of embellishments is realised by the notation of varied rhythmic constructs such as the dotted rhythm (bars 4, 6, 7, 12, 13 and 17 in Example 4.3.1), syncopation (bars 6, 7, 12 in Example 4.3.1) and small note values (bars 13 and 22 in Example 4.3.1) Also notated with a higher degree of rhythmic precision are single-note embellishments (see Chapters 1.3) such as tremoletti (bars 2, 3 and 22 in Example 4.3.1) and mixed groppi (bar 13 in Example 4.3.1). Third, compared to small-scale motifs notated in the three examples in Chapter 4.2, sequential motifs notated in Example 4.3.2 are longer and more complex, which often result from the need to accommodate lengthened melodic notes

(e.g. bars 16 and 17 in Example 4.3.1). Last, cadential constructs (see  $D_{14}$  in Chapter 3.2), while still stereotyped, display greater variety in both rhythmic and figurative constructs (bars 17 and 22 in Example 4.3.1) and are not solely reserved for marking sectional ends (bar 9 in Example 4.3.1).

Example 4.3.1 Modified harmonic schema of the selected work

The musical score is presented in four systems, each consisting of a vocal line (top staff) and a piano accompaniment (bottom two staves). The measures are numbered 1 through 12, with specific labels above the vocal line: RA1 (measure 1), M1 (measure 3), RB1 (measures 5 and 6), and T1 (measure 8). The piano accompaniment features complex chordal textures, often with multiple notes beamed together and held across measures. The vocal line is primarily composed of sustained notes, with some rests and melodic movement.

13 RA2 14 M2 15 RB2

Musical score for measures 13, 14, and 15. Measure 13 is labeled 'RA2', measure 14 is 'M2', and measure 15 is 'RB2'. The score consists of three systems of staves. The first system has a single treble clef staff with a whole note. The second system has a grand staff (treble and bass clefs) with a whole note in the treble and a whole note in the bass. The third system has a single bass clef staff with a whole note.

16 17 18

Musical score for measures 16, 17, and 18. Measure 16 is labeled '16', measure 17 is '17', and measure 18 is '18'. The score consists of three systems of staves. The first system has a single treble clef staff with a whole note. The second system has a grand staff with a whole note in the treble and a whole note in the bass. The third system has a single bass clef staff with a whole note.

19 T2 20

Musical score for measures 19 and 20. Measure 19 is labeled '19 T2' and measure 20 is '20'. The score consists of three systems of staves. The first system has a single treble clef staff with a whole note. The second system has a grand staff with a whole note in the treble and a whole note in the bass. The third system has a single bass clef staff with a whole note.

21 22

Musical score for measures 21 and 22. Measure 21 is labeled '21' and measure 22 is '22'. The score consists of three systems of staves. The first system has a single treble clef staff with a whole note. The second system has a grand staff with a whole note in the treble and a whole note in the bass. The third system has a single bass clef staff with a whole note.

Example 4.3.2 Modified Example 4

The musical score is presented in a grand staff format, consisting of a treble clef staff at the top and a bass clef staff at the bottom. The score is divided into four systems, each containing three measures. Measure numbers 1, 4, 7, and 10 are placed at the beginning of their respective systems. Fingerings are indicated by numbers 1-5 above notes. Performance markings include accents (RA1, RB1, T1, M1) and dynamic markings (p). The notation includes various note values, rests, and articulation marks such as slurs and accents.

1 RA1 2 3 M1

4 5 RB1 6

7 8 T1 9

10 11 12

13 RA2 14 M2 15 RB2

16 17 18

19 T2 20

21 22

## Chapter 5      Irregularities and later developments

By the end of the sixteenth century, so ravishing and ingenious were the embellishment figurations under the capable hands of Venetian keyboardists that their expressive intensity was in stark contrast with that of the interminable scalar passages of the mid-sixteenth-century keyboard style. This remarkably rapid development of Venetian keyboard music over a short time span of several decades is attributable to three reasons. First, compositional experimentation on the keyboard was gradually emancipated from the underlying vocal prototype. Truncation and restatement, and rearrangement of the vocal *cantus firmus* became increasingly part of standard practice, as additional vocal models (e.g. *ricercars* and *canzoni*) are amalgamated into the mid-sixteenth-century keyboard model. Second, in the second half of the studied period (c. 1560–1570), general accepted embellishment principles such as those detailed in Chapter 3 began to lose their stranglehold on the improvising keyboardist. The stylistic unity that accompanied early experimentation on the keyboard was gradually undone by the irregular notation of un-stereotyped embellishment examples in the surviving repertory that eventually paved the way for later developments. Last, the ongoing specialisation of different instrumental classes during the second half of the sixteenth century allowed for the emergence of an immature but keyboard-specific and innovation-friendly embellishment language. This chapter highlights the innovative embellishment ideas that were notated in the surviving repertory of the studied period (Chapter 5.1, Chapter 5.2 and Chapter 5.3) and describes their role in the further evolution of keyboard-specific embellishment techniques during the remainder of the sixteenth century (Chapter 5.4).

## 5.1 Notation of small-scale motifs

Small-scale motivic ideas can be applied to either a single embellishment or over the course of several connecting embellishments. In the notated examples of the surviving repertory, two types of small-scale motivic writing made irregular appearances. The first type is nested in a tirata-like scalar construct and resembles early attempts of composers to notate secondary embellishments (i.e. “embellishment on embellishment”). This type of small-scale motif is most often used to introduce the stereotyped resolution in a cadential groppo. In Example 5.1.1, the descending scalar construct in the second half of bar 25 is embellished by a two-note motif and ascending scalar construct in the first half of bar 26 is embellished by an eight-note motif, which precedes the stereotyped resolution in the second half of bar 26. In Example 5.1.2, the descending scalar construct in bar 40 and the ascending scalar construct in bar 41 are both embellished by a four-note motif, which precedes the stereotyped resolution in the second half of bar 42.

A second type of scale-scale motivic writing centres on the usage of a harmonically stationary imitating device, often more complex than the motif in the first type, that is passed around between different embellished parts. In Example 5.1.3, the imitating small-scale motif is repeated three times in the soprano and another three times in the bass, which accentuates the accompanying harmonies of the prolonged recitation and mediant pitch. In Example 5.1.4, the imitating small-scale motif is repeated at gradually ascending pitches in bar 14 and the first half of bar 15, which contributes to the depiction of the brewing momentum preceding the resolution at a major cadence.

Example 5.1.1 Andrea Gabrieli, *Toccata del Sesto Tono*, bars 25–26, GABRIELI1593

Musical score for Example 5.1.1, bars 25–26 of *Toccata del Sesto Tono*. The score is in G major (one sharp) and 3/4 time. It consists of three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 25 is marked with a 'T' above the treble staff. Bar 26 is marked with a '26' above the treble staff. The treble staff contains a whole rest in both bars. The grand staff features a complex rhythmic pattern of sixteenth notes in the right hand, with some notes highlighted in red and blue. The left hand provides a harmonic accompaniment with chords and single notes.

Example 5.1.2 Andrea Gabrieli, *Toccata del Ottavo Tono*, bars 39–42, GABRIELI1593

Musical score for Example 5.1.2, bars 39–42 of *Toccata del Ottavo Tono*. The score is in D major (two sharps) and 3/4 time. It consists of three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. Bar 39 is marked with an 'M' above the treble staff. Bar 40 is marked with a '40' above the treble staff. Bar 41 is marked with an 'M' above the treble staff. Bar 42 is marked with an 'R' above the treble staff. The treble staff features a melodic line with a long slur spanning from bar 39 to bar 42. The grand staff features a complex rhythmic pattern of sixteenth notes in the right hand, with some notes highlighted in red and blue. The left hand provides a harmonic accompaniment with chords and single notes.

Example 5.1.3 d'Incerto, *Toccata del Primo Tono*, bars 22–24, PADOVANO1E594

Musical score for Example 5.1.3, bars 22–24. The score is in 3/4 time and features a treble and bass clef. Bar 22 begins with a right-hand (R) melodic line and a left-hand accompaniment. Bar 23 continues the melodic line, marked with a mezzo-forte (M) dynamic, and includes a fermata. Bar 24 concludes the passage with a final melodic note and a left-hand accompaniment.

Example 5.1.4 Andrea Gabrieli, *Intonazione del Settimo Tono*, bars 14–17, GABRIELI1593

Musical score for Example 5.1.4, bars 14–17. The score is in 3/4 time and features a treble and bass clef. Bar 14 begins with a treble clef melodic line marked with a tenuto (T) dynamic and a left-hand accompaniment. Bar 15 continues the melodic line with a fermata and includes a left-hand accompaniment. Bar 16 continues the melodic line with a fermata and includes a left-hand accompaniment. Bar 17 concludes the passage with a final melodic note and a left-hand accompaniment.

## 5.2 Notation of nuanced rhythmic constructs

As alluded to in Chapter 1.3, in the absence of nuanced rhythmic notation, the skilful execution of embellishments on the keyboard is conventionally more rhythmically nuanced than notated. Therefore, in the sporadic instances where the composer makes a deliberate effort to notate rhythmic divisions other than those outlined in H<sub>3</sub>.

One pioneering rhythmic device that was sporadically notated in the surviving repertory that offers an alternative to the standard rhythmic divisions is the dotted rhythm. Similar to the three devices identified in S<sub>2</sub> (i.e. lengthened first anchor note, leaping guide note and consecutive leap notes), a dotted rhythm or a syncopated dotted rhythm is often employed at or near the start of a tactus to accentuate the arrival of a new harmony. In Example 5.2.1, the dotted rhythm applied to the first anchor note of bar 30 (a<sup>˘</sup>) accentuates the harmonic return to the recitation tone from the flexa (g<sup>˘</sup>) in the termination. In Example 5.2.2, the syncopated dotted rhythm on the guide notes of two minim-tactus (a<sup>˘</sup> and g<sup>˘</sup>) in the first half of bar 5, contrasts the preceding scalar motion and reinforces the I–V–I harmonic progression of the mediant. In addition, as shown in Example 5.2.3, the syncopated dotted rhythm can be used as an effective small-scale motivic device that is used to propel an elaborate cadential groppo towards its resolution. Another nuanced rhythmic construct that attained somewhat greater prevalence towards the end of the studied period is the perfect prolation of note values. In Example 5.2.4, a rare notation of triplet rhythm is notated in the preparation of a cadential groppo.

Example 5.2.1 Andrea Gabrieli, *Intonazione del Nono Tono*, bars 28–30, GABRIELI1593

Musical score for Example 5.2.1, bars 28–30 of *Intonazione del Nono Tono* by Andrea Gabrieli. The score is presented in two systems. The first system covers bars 28 and 29. Bar 28 is marked with 'RB' (Ritardando) and features a treble clef with a whole note chord (F4, A4, C5) and a piano accompaniment of eighth notes. Bar 29 is marked with 'T' (Tutti) and 'X' (Crescendo) and features a treble clef with a whole note chord (F4, A4, C5) and a piano accompaniment of eighth notes. The second system covers bar 30. Bar 30 is marked with '30' and features a treble clef with a whole note chord (F4, A4, C5) and a piano accompaniment of eighth notes.

Example 5.2.2 Andrea Gabrieli, *Intonazione del Ottavo Tono*, bar 4–6, GABRIELI1593

Musical score for Example 5.2.2, bars 4–6 of *Intonazione del Ottavo Tono* by Andrea Gabrieli. The score is presented in two systems. The first system covers bars 4 and 5. Bar 4 is marked with '4' and 'M' (Moderato) and features a treble clef with a whole note chord (F4, A4, C5) and a piano accompaniment of eighth notes. Bar 5 is marked with '5' and features a treble clef with a whole note chord (F4, A4, C5) and a piano accompaniment of eighth notes. The second system covers bar 6. Bar 6 is marked with '6' and features a treble clef with a whole note chord (F4, A4, C5) and a piano accompaniment of eighth notes.

Example 5.2.3 Andrea Gabrieli, *Toccata del Nono Tono*, bars 72–74, GABRIELI1593

Musical score for Example 5.2.3, bars 72–74. The score is in treble and bass clefs. Bar 72 is marked with a 'T' (Tritone). The bass line features a sequence of eighth notes, while the treble line has a sequence of eighth notes with some red markings. Bar 73 continues the eighth-note patterns in both hands. Bar 74 shows a final chord in the bass and a whole note in the treble.

Example 5.2.4 Annibale Padovano, *Toccata del Sesto Tono*, bar 50–51, PADOVANO1594

Musical score for Example 5.2.4, bars 50–51. The score is in treble and bass clefs. Bar 50 features a long, sustained note in the treble and a sequence of eighth notes in the bass. Bar 51 shows a sequence of eighth notes in the treble with red markings and triplets, and a sequence of eighth notes in the bass.

### 5.3 Notation of elaborate cadential groppi

The variety and complexity of embellishments corresponding to the recitation portion of a psalm tone is limited by the harmonic stability around its pre-established tonal centre. In the surviving repertory of the studied period, a more elaborate embellishment style is more likely to be observed around the two main cadential points along the progression of a psalm tone. As alluded to in Chapter 5.1 and Chapter 5.2, a lengthened preparation, which features unorthodox figurative and rhythmic constructs and contrasts the stereotyped formation of resolution, is sometimes notated in the surviving repertory to heighten expressive intensity of an embellished cadence. Other comparable devices that are irregularly notated for similar intended effect are detailed as follows.

First, consecutive tirati of alternating direction, decreasing magnitude and embellishment range (see  $D_7$  in Chapter 3.2) is sometimes used in the preparation to describe the gradual stabilisation of harmonic centre at the end of a cadential melody. In Example 5.3.1, the small-scale motivic sequence in bar 41 and the first half of bar 42 is succeeded by several connecting tirati in bar 43 and the first half of bar 44 of progressively shorter length as the mediant draws to a close. Second, the dividing of connecting tactus into progressively smaller rhythmic values of embellishment (cf. *mixed groppo* in Chapter 1.3.5) is a viable tactic for depicting the growing momentum through several connecting embellishments. In Example 5.3.2, the tactical placement of fusas, semifusas, demisemifusas enables the depiction of the growing tension as the cadential melody gallops towards its final resolution. Last, a varied pacing of harmonic rhythm and time value of tactus in the preparation of a cadential groppo can be an effective tool in describing the progression of harmonic uncertainty to harmonic certainty along the cadential melody. In Example 5.3.3, the frequent I–VI–I harmonic oscillation and uncertain time values of the tactus in bars 45–47 is stabilised in bar 48–49, where the cadence comes to an end.

Example 5.3.1 Andrea Gabrieli, *Toccata del Ottavo Tono*, bars 41–45, GABRIELI1593

Musical score for Example 5.3.1, bars 41–45 of *Toccata del Ottavo Tono* by Andrea Gabrieli. The score is in G major (one sharp) and 3/4 time. It consists of two systems of staves. The first system covers bars 41 and 42, and the second system covers bars 43, 44, and 45. The notation includes a vocal line (treble clef) and a keyboard line (grand staff). The keyboard line features a complex texture with rapid sixteenth-note passages in the right hand and sustained chords in the left hand. Bar 41 is marked with a 'M' (Messa). Bar 45 ends with a fermata over the final chord.

Example 5.3.2 Andrea Gabrieli, *Toccata del Sesto Tono*, bar 15–17, GABRIELI1593

Musical score for Example 5.3.2, bars 15–17 of *Toccata del Sesto Tono* by Andrea Gabrieli. The score is in D major (two sharps) and 3/4 time. It consists of two systems of staves. The first system covers bar 15, and the second system covers bars 16 and 17. The notation includes a vocal line (treble clef) and a keyboard line (grand staff). The keyboard line features a complex texture with rapid sixteenth-note passages in the right hand and sustained chords in the left hand. Bar 15 is marked with 'RB' (Ritornello). Bar 16 is marked with a 'T' (Tutti). Bar 17 ends with a fermata over the final chord.

Example 5.3.3 Annibale Padovano, *Toccata del Ottavo Tono*, bars 44–50, PADOVANO1594

The image displays a musical score for Example 5.3.3, Annibale Padovano's *Toccata del Ottavo Tono*, covering bars 44 to 50. The score is presented in three systems, each with a vocal line (treble clef) and a piano accompaniment (grand staff).  
- **System 1 (bars 44-45):** Bar 44 begins with a tenor clef (T) and a whole rest. The piano accompaniment features a dense, sixteenth-note texture in the right hand and block chords in the left hand. Bar 45 shows a vocal line with three quarter notes and a piano accompaniment with a similar sixteenth-note texture.  
- **System 2 (bars 46-47):** Bar 46 has a vocal line with a long note and a piano accompaniment with a sixteenth-note texture. Bar 47 features a vocal line with a long note and a piano accompaniment with a sixteenth-note texture.  
- **System 3 (bars 48-50):** Bar 48 has a vocal line with a whole rest and a piano accompaniment with a sixteenth-note texture. Bar 49 has a vocal line with a long note and a piano accompaniment with a sixteenth-note texture. Bar 50 has a vocal line with a whole note and a piano accompaniment with a sixteenth-note texture.

## 5.4 Later developments

As alluded to in Chapter 1.2, the Venetian keyboard toccata form evolved further in the late sixteenth century under the capable hands of Claudio Merulo (1533–1604). Two major collections of Merulo’s keyboard toccatas published around the turn of the sixteenth century (i.e. MERULO1598, MERULO1604) are scholarly recognised as the epitome of sixteenth-century keyboard compositions.<sup>76</sup> The first collection contained nine toccatas written in the first to the fourth mode. A second collection contained a further ten toccatas written in the fifth to the tenth modes. A quick examination of this body of work (see Table 5.4.1) reveals a great degree of stylistic unity in both compositional structure and embellishment procedure: a sectional structure that juxtaposes polyphonic writing and passagework, greater obscurement of the cantus firmus, continuous usage of repeated and short embellishments notated in greater rhythmic precision, an accelerated harmonic rhythm and greater tolerance of dissonances.

Notwithstanding the ostentatious complexity of Merulo’s keyboard toccatas, contemporary scholars discount the presupposition that Merulo’s elaborate embellishment style was an anomaly that existed outside the prevailing embellishment procedure of his late-sixteenth-century peers. Bradshaw opines that the ingenuity of Merulo lies in the rearrangement and manipulation of the compositional framework of several antecedent forms of vocal music.<sup>77</sup> McDermott highlights the congruences of Merulo’s embellishment style with that of diminution tutors in the mainstream of the late sixteenth-century musical taste, and emphasises that the creativity of Merulo lies not in the reinvention of existing methods of embellishment, but in his personal adaption of standard procedure to the keyboard idiom.<sup>78</sup>

The close relation between Merulo’s embellishment style and that of his predecessors can be gleaned from the figurative similarity between the commonly notated cadential groppi in Merulo’s keyboard toccatas and those notated in preceding periods. Similar to their mid-sixteenth-century counterparts in Example 2.4.1 and Example 2.4.4, Merulo’s notated groppi in Example 5.4.1 are constructed in two halves of equal time duration, namely an introductory passagio that ends in either the final note or its leading note, followed by a stereotyped resolution. The subtle innovation personal to Merulo is primarily engineered in the preparation part of the groppo. First, suspended

---

<sup>76</sup> Perry, “The Development,” 54.

<sup>77</sup> Bradshaw, “Influence of Vocal Music,” 35.

<sup>78</sup> McDermott, “Canzoni d’Intavolatura,” 160–161.

notes (e.g. bars 1, 8, 16, 17, 25, 30, 35, 37, 38,44, 46 and 52 in Example 5.4.1) are now more frequently used to set up the stereotyped resolution. Second, the notation of more nuanced rhythm (e.g. bars 28, 29 and 30 in Example 5.4.1), which had been left to the interpretative freedom of the performer, is suggestive of more precise rhythmic notation. Also featured in the preparation of many a cadential groppo is Merulo's signature addition of tremoletti (e.g. bars 5, 6, 7 and 19 in Example 5.4.1). As regards the stereotyped resolution, which has largely been kept intact by Merulo, the occasional notation of demisemifusas (e.g. bars 26, 27 and 57 in Example 5.4.1) seems to suggest the general reduction of note values in instrumental works and a more elaborate style in cadential embellishments towards the end of the sixteenth century.

Table 5.4.1 Nineteen keyboard toccatas in two collections by Claudio Merulo

Title	Psalm tone	Transposition	Length <sup>79</sup>	Structure <sup>80</sup>
<i>Toccata d'Intavolatura d'Organo, Libro Primo (1598)</i>				
<i>Toccata Prima del Primo Tono</i>	I	-	51	R-T-R-T
<i>Toccata Seconda del Primo Tono</i>	I	-	78	R-T-R-T
<i>Toccata Terza del Secondo Tono</i>	II	up fifth	47	T-R-T
<i>Toccata Quarta del Secondo Tono</i>	II	up fifth	39	T-R-T
<i>Toccata Quinta del Secondo Tono</i>	II	up fifth	38	T-R-T
<i>Toccata Sesta del Terzo Tono</i>	III	up fourth	54	T-R-T
<i>Toccata Settima del Terzo Tono</i>	III	down fifth	64	T-R-T-R-T
<i>Toccata Ottava del Quarto Tono</i>	IV	up fourth	64	T-R-T-R-T
<i>Toccata Nona del Quarto Tono</i>	IV	up fourth	55	T-R-T-R-T
<i>Toccata d'Intavolatura d'Organo, Libro Secondo (1604)</i>				
<i>Toccata Prima del Quinto Tono</i>	V	-	57	T-R-T-R-T
<i>Toccata Seconda del Quinto Tono</i>	V	up fifth	74	R-T-R-T
<i>Toccata Terza del Sesto Tono</i>	VI	-	50	T
<i>Toccata Quarta del Sesto Tono</i>	VI	transposed	62	R-T-R-T
<i>Toccata Quinta del Settimo Tono</i>	VII	up fourth	60	R-T-R-T
<i>Toccata Sesta del Settimo Tono</i>	VII	up fifth	63	T-R-T
<i>Toccata Settima del Ottavo Tono</i>	VIII	-	76	T-R-T-R-T
<i>Toccata Ottava del Ottavo Tono</i>	VIII	up fourth	68	T-R-T
<i>Toccata Nona del Nono Tono</i>	IX	down fifth	74	R-T-R-T
<i>Toccata Decima del Decimo Tono</i>	X	-	86	T-R-T-R-T

<sup>79</sup> number of bars<sup>80</sup> T = toccata section; R = ricercar section.

Example 5.4.1 Commonly notated cadential groppi in Claudio Merulo's keyboard toccatas<sup>81</sup>

The image displays a musical score for 19 measures of a keyboard toccata. The score is written in a grand staff (treble and bass clefs) and is divided into five systems. Each measure is numbered from 1 to 19. The notation features a complex rhythmic pattern in the right hand, consisting of a series of eighth notes followed by a half note, creating a 'groppi' effect. The left hand provides a steady accompaniment of chords. The final measure (19) is a whole note chord in the right hand, indicating the end of the phrase.

---

<sup>81</sup> All examples have been transposed to C.

20 21 22 23

Musical notation for measures 20-23. The right hand features a continuous sixteenth-note pattern, while the left hand provides a steady bass line with chords.

24 25 26 27

Musical notation for measures 24-27. The right hand features a continuous sixteenth-note pattern, while the left hand provides a steady bass line with chords.

28 29 30 31

Musical notation for measures 28-31. The right hand features a continuous sixteenth-note pattern, while the left hand provides a steady bass line with chords.

32 33 34

Musical notation for measures 32-34. The right hand features a continuous sixteenth-note pattern, while the left hand provides a steady bass line with chords. A separate system with a treble clef and a whole note chord is shown to the right.

35 36 37 38

Musical notation for measures 35-38. The right hand features a continuous sixteenth-note pattern, while the left hand provides a steady bass line with chords.

39 40

Musical notation for measures 39-40. The right hand features a continuous sixteenth-note pattern, while the left hand provides a steady bass line with chords.

41 42 43

44 45 46

47 48 49

50 51

52 53 54

55 56 57

## Conclusion

This analytical study provides both a conceptual and practical framework for improvising keyboard embellishments on a vocal monody in the style of sixteenth-century Venetian keyboard writing. To the best of the author's knowledge, no systematic study or codification of the embellishment techniques of this repertory has been attempted in either surviving historical sources or modern research.

On the basis of a critical examination of the notated embellishment examples in both the surviving repertory and contemporaneous embellishment treatises (Chapter 2), this analytical study proposes a system for improvising keyboard embellishments in a style that is congruent with the surviving repertory (Chapter 3). The rules of embellishments stipulated in the said system are devised to elucidate the prevailing mid-sixteenth-century embellishment procedure that was likely followed by members of the Venetian keyboard school (Chapter 1.4). The efficacy of the proposed system is demonstrated by its application to the improvisation of keyboard embellishments in a psalm-based four-part harmonic schema (Chapter 4).

The outcome of this study is expected to be of value to researchers and practitioners with a general interest in the improvisation practices of sixteenth-century keyboard music. It may also be of value to those with an interest in the origin of the keyboard toccata form. Additionally, the proposed system of improvised embellishments could be the subject of learning courses to promote interest in improvisation on historical keyboards.

## References

Apel, Willi. "The Early Development of the Organ Ricercar," *Musica Disciplina* 3 (1949): 139–150.

Apel, Willi. *The History of Keyboard Music to 1700*. Bloomington: Indiana University Press, 1972.

Bradshaw, Murray C. "Tonal Design in the Venetian Intonation and Toccata," *Music Review*, no. 25 (1974): 100–119.

Bradshaw, Murray C. *The Falsobordone*. American Institute of Musicology, Hänssler-Verlag, 1978.

Bradshaw, Murray C. "The Influence of Vocal Music on the Venetian Toccata." *Musica Disciplina*, Vol. 42 (1988): 157–198.

Bradshaw, Murray C. *The Origin of the Toccata*. American Institute of Musicology, 1972.

Bertoldo, Sperindio. *Toccate, Ricercari et Canzoni francese intavolate per sonar d'Organo da Sperindio Bertoldo, Nuouamente Stampati in Venetia*, Appresso Giacomo Vincenti M. D. XCI. RISM A/I B 2130.

Bovicelli, Giovanni Battista. *Regole, passaggi di musica, madrigali, e motetti passeggiati*. Venice: Giacomo Vincenti, 1594. Translated by Jesse Rosenberg in *Historical Brass Society Journal*, 1989.

Dalla Casa, Girolamo. *Il vero modo di diminuir, con tutte le sorti di stromenti I*. Venice: A. Gardano, 1584. Translated by Jesse Rosenberg in *Historical Brass Society Journal*, 1989.

Diruta, Girolamo. *Il Transilvano Dialogo sopra Il Vero Modo di Sonar Organi, et Istromenti da Penna, del R P Girolamo Diruta Perugino, dell'ordine de' Frati Minori Conu, di San Francefco, Organista del Dvomo di Chioggia*, Appresso Venetia Giocomo Vincenti 1593. RISM B/I, 159725. <http://purl.org/rism/BI/1597/25>.

Ganassi, Sylvestro. *La Fontegara*. Venice, 1535. Facsimile, Bologna: Forni Editore, 1980.

Gabrieli, Andrea et Giovanni Gabrieli. *Intonationi d'Organo di Andrea Gabrieli, et Di Gio: Svo Nepote Organisti della Sereniss. Sig. Di Venetia in S. Marco, Libro Primo*, In Venetia Appresso Angelo Gardano 1593. RISM B/I, 159310. <https://www.e-rara.ch/doi/10.3931/e-rara-102883>.

Hughes, Holly Elaine. "A Study of the Keyboard Toccata. Master of Music." MM diss., Texas Tech University, 1977.

Horsley, Imogene. "Improvised Embellishment in the Performance of Renaissance Polyphonic Music," *Journal of the American Musicological Society*, Vol. 4, No. 1 (1951).

Kite-Powell, Jeffery. *A Performer's Guide to Renaissance Music*. Bloomington: Indiana University Press, 2007.

Mayer Brown, Howard. *Embellishing Sixteenth-Century Music*. Oxford University Press, 1976.

McDermott, Charles Michael. "The Canzoni d'Intavolatura of Claudio Merulo: A Guide to the Art of Improvised Ornamentation." Phd. diss., University of California, Berkeley, 1979.

Merulo, Claudio. *Toccate d'intavolatura d'organo di Claudio Merulo da Coreggio organista del Sig. Duca di Parma et Piacenza ecc. Nuovamente da lui date in luce, et con ogni diligenza corette. Libro primo*. In Roma appresso Simone Verovio, 1598 – con licenza de Superiori. RISM A/I M 2376. <https://opac.rism.info/id/rismid/rism990041050>.

Merulo, Claudio. *Toccate d'intavolatura d'organo di Claudio Merulo da Coreggio organista del Sig. Duca di Parma et Piacenza ecc. Nuovamente da lui date in luce, et con ogni diligenza corette. Libro secondo*. In Roma appresso Simone Verovio, 1604 – con licenza de Superiori. RISM A/I M 2377. <https://opac.rism.info/id/rismid/rism990041051>.

Padovano, Annibale, Sperindio Bertoldo et d'Incerto. *Corpus of Early Keyboard Music 34: Compositions for Keyboard*, edited by Klaus Speer. American Institute of Musicology, 1992.

Padovano, Annibale. *Toccate et Ricercari d'Organo del Excellentissimo Annibale Padovano Gia Organista della Serenissima Signoria di Venetia Nouamente Stampate, & date in Luce*. In Venetia Appresso Angelo Gardano. MDCIII. RISM A/I A 1252. <https://opac.rism.info/id/rismid/rism990001253>

Perry, Susan Cotton. "The Development of the Italian Organ Toccata: 1550–1750." DMA diss. University of Kentucky, 1990.

Praetorius, Michael. *Syntagma musicum*. 3 vols. Wittenberg and Wolfenbüttel, 1615–1619.

Pritchard, Ian. "Keyboard Thinking: Intersections of Notation, Composition, Improvisation, and Intabulation in Sixteenth-Century Italy," Phd. diss. University of Southern California, 2018, 12.

Sancta Maria, Fray Tomás de. *Libro llamado arte de tañer fantasia*. 2 vols. Valladolid: F. Fernandez de Cordoua, 1565.

Selfridge-Field, Eleanor. *Venetian Instrumental Music from Gabrieli to Vivaldi*. Courier Corporation, 1994.

Schubert, Peter. *Modal Counterpoint, Renaissance Style*. Oxford University Press, USA, 2007.

Smith, Anne. *Performance of Sixteenth-Century Music: Learning from the Theorists*, Oxford University Press, 2011.

Slim, H. Colin. "The Keyboard Ricercare and Fantasia in Italy c. 1500–1550." Phd. diss., Harvard University, 1960.

Tagliavini, Luigi Ferdinando. "The Art of Not Leaving the Instrument Empty': Comments on Early Italian Harpsichord Playing." *Early Music* 11, no. 3 (1983): 299–308.

Zacconi, Lodovico. *Prattica di musica*. Venice: G. Polo, 1592.

# Embellishment Catalogue

The following catalogue provides a useful tool for the improvisation of mid-sixteenth-century Venetian keyboard intonations and toccatas. So as to highlight the embellishment style of the studied period, only embellishments that satisfy both the hard rules and soft rules as detailed in Chapters 3.2 and 3.3 are collated in this catalogue.

The collated embellishments in this catalogue are first grouped into three sections based on the harmonic progressions (i.e. I–I, I–V, V–I) of the embellished interval. Within each section, a further nine subsections are then created to cater for the harmonic relation (i.e. tonic, mediant, dominant) between the starting note of the embellishment and the starting root note, and that of the ending note of the embellishment and the ending root note. Within each subsection, the catalogued embellishments are ordered by the type of rhythmic division of an embellished note (see H<sub>2</sub> in Chapter 3.2).

Though all embellishments provided in this catalogue correspond to the standard time value of a semibreve and have been transcribed to C, they are scalable in time and transposable to different modes.

i. I-I Embellishments: Tonic to Tonic

The musical score consists of 39 measures, numbered 1 through 39. The notation is in treble and bass clefs. The right hand (treble clef) plays a melodic line with various rhythmic patterns, including quarter notes, eighth notes, and sixteenth notes. The left hand (bass clef) provides a steady accompaniment of chords, primarily consisting of octaves and dyads. The measures are numbered 1 through 39.

40 41 42 43

44 45 46 47

48 49 50 51

52 53 54

55 56 57 58 59

60 61 62 63

64 65 66 67

68 69 70

71 72 73 74 75

76 77 78 79

80 81 82 83

Musical notation for measures 80-83. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

84 85 86 87

Musical notation for measures 84-87. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

88 89 90 91

Musical notation for measures 88-91. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

92 93 94 95

Musical notation for measures 92-95. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

96 97 98 99

Musical notation for measures 96-99. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

100 101 102 103

Musical notation for measures 100-103. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

104 105 106

Musical notation for measures 104-106. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

107 108

Musical notation for measures 107-108. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

ii. I-I Embellishments: Tonic to Mediant

The musical score consists of 38 measures, numbered 1 through 38. The notation is for piano, with a treble clef on the right hand and a bass clef on the left hand. The right hand plays a melodic line that begins with a simple half note and gradually incorporates more complex ornaments, including grace notes and sixteenth-note runs. The left hand provides a steady accompaniment of chords, primarily octaves and dyads, which support the melodic line. The overall texture is light and elegant, characteristic of 18th-century keyboard music.

39 40 41 42

43 44 45 46

47 48 49 50

51 52 53 54

55 56 57 58

59 60 61 62

63 64 65 66

67 68 69 70

71 72 73 74 75

76 77 78 79 80

81 82 83 84

Musical notation for measures 81-84. Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

85 86 87 88

Musical notation for measures 85-88. Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

89 90 91 92

Musical notation for measures 89-92. Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

93 94 95 96

Musical notation for measures 93-96. Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

97 98 99 100

Musical notation for measures 97-100. Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

101 102 103

Musical notation for measures 101-103. Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

104 105 106 107

Musical notation for measures 104-107. Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

iii. I-I Embellishments: Tonic to Dominant

The musical score consists of 39 measures, organized into nine systems of four measures each. The notation is for piano, with a treble clef on the right hand and a bass clef on the left hand. The right hand part features a melodic line with various ornaments and rhythmic patterns, while the left hand provides a steady accompaniment of chords. The measures are numbered 1 through 39.

40 41 42 43 44

45 46 47 48 49

50 51 52 53

54 55 56 57

58 59 60 61

62 63 64 65

66 67 68 69

70 71 72 73

74 75 76 77

78 79 80 81

82 83 84 85

86 87 88 89

90 91 92 93

94 95 96 97

98 99 100 101

102 103 104 105

106 107 108 109 110

111 112 113 114

115 116 117 118

119 120 121 122

123 124 125 126

Musical notation for measures 123-126. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

127 128 129 130

Musical notation for measures 127-130. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

131 132 133 134

Musical notation for measures 131-134. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

135 136 137 138

Musical notation for measures 135-138. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

139 140 141 142

Musical notation for measures 139-142. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

143 144 145 146

Musical notation for measures 143-146. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

147 148 149

Musical notation for measures 147-149. Treble clef with eighth-note runs. Bass clef with chords marked with '8'. Measure 149 ends with a double bar line. A separate system shows a treble clef with a whole note and a bass clef with a chord marked with '8'.

150 151 152 153 154

Musical notation for measures 150-154. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

155 156 157

Musical notation for measures 155-157. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

158 159 160

Musical notation for measures 158-160. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

iv. I-I Embellishments: Mediant to Tonic

The musical score consists of 37 measures, numbered 1 through 37. It is written for piano in a two-staff system (treble and bass clefs). The right hand (treble clef) plays a melodic line, and the left hand (bass clef) plays a steady accompaniment of eighth notes. The piece is titled 'I-I Embellishments: Mediant to Tonic'. The notation includes various note values (quarter, eighth, sixteenth, and thirty-second notes) and rests. The bass line consists of a constant eighth-note pattern, while the treble line features a variety of rhythmic patterns, including eighth-note runs and sixteenth-note passages.

38 39 40 41

Measures 38-41: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

42 43 44 45

Measures 42-45: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

46 47 48 49

Measures 46-49: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

50 51 52 53

Measures 50-53: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

54 55 56

Measures 54-56: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

57 58 59 60

Measures 57-60: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

61 62 63 64

Measures 61-64: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

65 66 67 68

Measures 65-68: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

69 70 71 72

Measures 69-72: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

73 74 75 76

Measures 73-76: Treble clef with a melodic line of eighth notes. Bass clef with a steady eighth-note accompaniment.

77 78 79 80

81 82 83 84

85 86 87 88

89 90 91 92

93 94 95 96

97 98 99 100

101 102 103 104

105 106 107 108

109 110 111 112

113 114 115 116

Musical score for piano, measures 117-153. The score is written in treble and bass clefs. The right hand plays a melodic line with eighth and sixteenth notes, while the left hand provides a steady accompaniment of eighth notes. The measures are numbered 117 through 153. Measure 147 contains a double bar line, and measure 148 begins with a new melodic phrase. Measure 149 continues this phrase, and measure 150 shows a slight variation. Measures 151, 152, and 153 complete the section with a final melodic flourish.

v. I-I Embellishments: Mediant to Mediant

1 2 3 4 5

6 7 8 9 10

11 12 13 14 15

16 17 18 19 20

21 22 23 24

25 26 27 28

29 30 31 32

33 34 35 36

37 38 39 40

41 42 43 44

45 46 47 48

49 50 51

52 53 54 55

56 57 58

59 60 61 62 63

64 65

66 67 68

vi. I-I Embellishments: Mediant to Dominant

The musical score consists of 39 numbered measures, arranged in nine systems of two staves each (treble and bass clef). The notation is as follows:

- Measures 1-5:** Treble clef contains whole notes (1: C4, 2: D4, 3: E4, 4: F4, 5: G4). Bass clef contains octaves of the corresponding notes.
- Measures 6-10:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4, 2: D4-E4-F4-G4-A4, 3: E4-F4-G4-A4-B4, 4: F4-G4-A4-B4-C5, 5: G4-A4-B4-C5). Bass clef contains octaves.
- Measures 11-15:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4-A4, 2: D4-E4-F4-G4-A4-B4, 3: E4-F4-G4-A4-B4-C5, 4: F4-G4-A4-B4-C5, 5: G4-A4-B4-C5). Bass clef contains octaves.
- Measures 16-19:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4-A4, 2: D4-E4-F4-G4-A4-B4, 3: E4-F4-G4-A4-B4-C5, 4: F4-G4-A4-B4-C5). Bass clef contains octaves.
- Measures 20-23:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4-A4, 2: D4-E4-F4-G4-A4-B4, 3: E4-F4-G4-A4-B4-C5, 4: F4-G4-A4-B4-C5). Bass clef contains octaves.
- Measures 24-27:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4-A4, 2: D4-E4-F4-G4-A4-B4, 3: E4-F4-G4-A4-B4-C5, 4: F4-G4-A4-B4-C5). Bass clef contains octaves.
- Measures 28-31:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4-A4, 2: D4-E4-F4-G4-A4-B4, 3: E4-F4-G4-A4-B4-C5, 4: F4-G4-A4-B4-C5). Bass clef contains octaves.
- Measures 32-35:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4-A4, 2: D4-E4-F4-G4-A4-B4, 3: E4-F4-G4-A4-B4-C5, 4: F4-G4-A4-B4-C5). Bass clef contains octaves.
- Measures 36-39:** Treble clef contains eighth-note runs (1: C4-D4-E4-F4-G4-A4, 2: D4-E4-F4-G4-A4-B4, 3: E4-F4-G4-A4-B4-C5, 4: F4-G4-A4-B4-C5). Bass clef contains octaves.

40 41 42 43

Musical notation for measures 40-43. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

44 45 46 47

Musical notation for measures 44-47. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

48 49 50 51

Musical notation for measures 48-51. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

52 53 54 55

Musical notation for measures 52-55. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

56 57 58 59

Musical notation for measures 56-59. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

60 61 62

Musical notation for measures 60-62. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

63 64 65 66

Musical notation for measures 63-66. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

67 68 69

Musical notation for measures 67-69. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

70 71 72

Musical notation for measures 70-72. Treble clef with eighth-note runs. Bass clef with chords marked with '8'.

vii. I-I Embellishments: Dominant to Tonic

1 2 3 4 5

6 7 8 9 10

11 12 13 14 15

16 17 18 19

20 21 22 23

24 25 26 27

28 29 30 31

32 33 34 35

36 37 38 39

40 41 42 43

44 45 46 47

48 49 50 51

52 53 54 55

56 57 58 59

60 61 62 63

64 65 66 67

68 69 70 71

72 73 74 75

76 77 78 79

80 81 82 83

84 85 86

87 88 89 90

91 92 93 94

95 96 97

98 99 100

viii. I-I Embellishments: Dominant to Mediant

1 2 3 4 5

6 7 8 9 10

11 12 13 14 15

16 17 18 19

20 21 22 23

24 25 26 27

28 29 30 31

32 33 34 35

Musical notation for measures 32-35. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody is a sequence of eighth notes, and the bass part consists of chords marked with a double '8'.

36 37 38 39

Musical notation for measures 36-39. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody is a sequence of eighth notes, and the bass part consists of chords marked with a double '8'.

40 41 42 43

Musical notation for measures 40-43. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody is a sequence of eighth notes, and the bass part consists of chords marked with a double '8'.

44 45 46 47

Musical notation for measures 44-47. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody is a sequence of eighth notes, and the bass part consists of chords marked with a double '8'.

48 49 50 51

Musical notation for measures 48-51. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody is a sequence of eighth notes, and the bass part consists of chords marked with a double '8'.

52 53 54 55

Musical notation for measures 52-55. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody is a sequence of eighth notes, and the bass part consists of chords marked with a double '8'.

56 57 58 59

Musical notation for measures 56-59. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody is a sequence of eighth notes, and the bass part consists of chords marked with a double '8'.

60 61 62 63

Musical notation for measures 60-63. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment of eighth notes. The melody is a continuous eighth-note pattern.

64 65 66 67

Musical notation for measures 64-67. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment of eighth notes. The melody is a continuous eighth-note pattern.

68 69 70 71

Musical notation for measures 68-71. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment of eighth notes. The melody is a continuous eighth-note pattern.

72 73 74 75

Musical notation for measures 72-75. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment of eighth notes. The melody is a continuous eighth-note pattern.

76 77 78 79

Musical notation for measures 76-79. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment of eighth notes. The melody is a continuous eighth-note pattern.

80 81 82 83

Musical notation for measures 80-83. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment of eighth notes. The melody is a continuous eighth-note pattern.

84 85 86 87

Musical notation for measures 84-87. Each measure consists of a treble clef staff with a melodic line and a bass clef staff with a rhythmic accompaniment of eighth notes. The melody is a continuous eighth-note pattern.

88 Musical notation for measures 88-90. Measure 88 shows a treble clef with a melodic line and a bass clef with a chordal accompaniment. Measures 89 and 90 continue the melodic line in the treble clef, while the bass clef accompaniment remains consistent.

91 Musical notation for measures 91-94. Measures 91 and 92 show the melodic line continuing in the treble clef. Measures 93 and 94 show the melodic line continuing in the treble clef, with the bass clef accompaniment providing a steady harmonic foundation.

95 Musical notation for measures 95-98. Measures 95 and 96 show the melodic line continuing in the treble clef. Measures 97 and 98 show the melodic line continuing in the treble clef, with the bass clef accompaniment providing a steady harmonic foundation.

99 Musical notation for measures 99-102. Measures 99 and 100 show the melodic line continuing in the treble clef. Measures 101 and 102 show the melodic line continuing in the treble clef, with the bass clef accompaniment providing a steady harmonic foundation.

103 Musical notation for measures 103-106. Measures 103 and 104 show the melodic line continuing in the treble clef. Measures 105 and 106 show the melodic line continuing in the treble clef, with the bass clef accompaniment providing a steady harmonic foundation.

107 Musical notation for measures 107-110. Measures 107 and 108 show the melodic line continuing in the treble clef. Measures 109 and 110 show the melodic line continuing in the treble clef, with the bass clef accompaniment providing a steady harmonic foundation.

111 Musical notation for measures 111-114. Measures 111 and 112 show the melodic line continuing in the treble clef. Measures 113 and 114 show the melodic line continuing in the treble clef, with the bass clef accompaniment providing a steady harmonic foundation.

115

Musical notation for measures 115-116. The right hand has a treble clef and a whole note with a sixteenth-note melody. The left hand has a bass clef and a whole note chord.

116 117

Musical notation for measures 116-117. The right hand has a treble clef and a whole note with a sixteenth-note melody. The left hand has a bass clef and a whole note chord.

118 119 120 121

Musical notation for measures 118-121. The right hand has a treble clef and a whole note with a sixteenth-note melody. The left hand has a bass clef and a whole note chord.

122 123

Musical notation for measures 122-123. The right hand has a treble clef and a whole note with a sixteenth-note melody. The left hand has a bass clef and a whole note chord.

124 125 126

Musical notation for measures 124-126. The right hand has a treble clef and a whole note with a sixteenth-note melody. The left hand has a bass clef and a whole note chord.

127 128 129 130

Musical notation for measures 127-130. The right hand has a treble clef and a whole note with a sixteenth-note melody. The left hand has a bass clef and a whole note chord.

131 132 133

Musical notation for measures 131-133. The right hand has a treble clef and a whole note with a sixteenth-note melody. The left hand has a bass clef and a whole note chord.

ix. I-I Embellishments: Dominant to Dominant

This musical score consists of 38 numbered measures, arranged in nine systems of four measures each. The notation is for a piano, with a treble clef on the upper staff and a bass clef on the lower staff. The right hand (treble clef) plays a melodic line with various rhythmic patterns, including quarter notes, eighth notes, and sixteenth notes, often with slurs. The left hand (bass clef) provides a steady accompaniment of eighth-note chords. The key signature is one flat (B-flat major or D minor), and the time signature is 4/4. The measures are numbered 1 through 38, with the first measure of each system starting with a measure rest.

39 40 41 42

43 44 45 46

47 48 49 50

51 52 53 54

55 56 57 58

59 60 61 62

63 64 65 66

67 68 69

70 71 72

73 74

x. I-V Embellishments: Tonic to Tonic

The musical score consists of 35 numbered measures, arranged in a series of staves. Each measure is numbered from 1 to 35. The score is written in treble and bass clefs. Measures 1-4 show a simple melody with eighth notes. Measures 5-8 show a more complex melody with sixteenth notes. Measures 9-12 show a continuous sixteenth-note pattern. Measures 13-16 show a similar pattern with a slight melodic shift. Measures 17-20 show a continuous sixteenth-note pattern. Measures 21-24 show a similar pattern with a slight melodic shift. Measures 25-28 show a continuous sixteenth-note pattern. Measures 29-32 show a similar pattern with a slight melodic shift. Measures 33-34 show a continuous sixteenth-note pattern. Measure 35 shows a final melodic phrase.

36 37 38 39

40 41 42 43 44

45 46 47 48 49

50 51 52 53

54 55 56 57

58 59 60 61

62 63 64 65

66 67 68 69

70 71 72 73

74 75 76 77

78 79 80 81

Musical notation for measures 78-81. Treble clef with eighth-note runs. Bass clef with block chords.

82 83 84 85

Musical notation for measures 82-85. Treble clef with eighth-note runs. Bass clef with block chords.

86 87 88 89

Musical notation for measures 86-89. Treble clef with eighth-note runs. Bass clef with block chords.

90 91 92 93

Musical notation for measures 90-93. Treble clef with eighth-note runs. Bass clef with block chords.

94 95 96 97

Musical notation for measures 94-97. Treble clef with eighth-note runs. Bass clef with block chords.

98 99 100 101

Musical notation for measures 98-101. Treble clef with eighth-note runs. Bass clef with block chords.

102 103 104

Musical notation for measures 102-104. Treble clef with eighth-note runs. Bass clef with block chords. Measure 104 has a treble clef change.

105 106 107 108

Musical notation for measures 105-108. Treble clef with eighth-note runs. Bass clef with block chords.

109 110 111

Musical notation for measures 109-111. Treble clef with eighth-note runs. Bass clef with block chords.

112 113 114 115

Musical notation for measures 112-115. Treble clef with eighth-note runs. Bass clef with block chords.

# xi. I-V Embellishments: Tonic to Mediant

This musical score consists of 30 numbered measures, arranged in six systems of five measures each. Each system contains a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The bass staff provides a harmonic accompaniment of sustained chords, while the treble staff features a melodic line with various embellishments. The first measure (1) is a simple tonic triad. Measures 2 through 5 show the tonic triad with increasing complexity in the treble staff, including eighth-note patterns and sixteenth-note runs. Measures 6 through 10 show the progression to the mediant triad, with the treble staff featuring more intricate sixteenth-note patterns. Measures 11 through 14 continue the mediant triad accompaniment with further embellishments. Measures 15 through 18 show the mediant triad with more complex treble patterns. Measures 19 through 22 continue the mediant triad accompaniment. Measures 23 through 26 show the mediant triad with further embellishments. Measures 27 through 30 continue the mediant triad accompaniment with final embellishments.

31 32 33 34

35 36 37

38 39 40

41 42 43 44

45 46 47 48

49 50

51 52 53

xii. I-V Embellishments: Tonic to Dominant

The musical score consists of 23 measures, organized into six systems. Each system contains two staves: a treble clef staff and a bass clef staff. The bass clef staff provides a constant harmonic accompaniment with a series of chords: C major (C-E-G), F major (F-A-C), C major (C-E-G), and F major (F-A-C). The treble clef staff features a melodic line of eighth notes, starting on middle C (C4) and ascending stepwise to G4. The notes are grouped into pairs of beamed eighth notes. Measure 1 begins with a whole rest in the treble staff. Measures 2 through 21 show the melodic line ascending from C4 to G4. Measure 22 shows the melodic line descending from G4 to C4. Measure 23 concludes with a whole rest in the treble staff. A final system on the right shows a whole rest in the treble staff and the final chord in the bass staff.

24 25 26 27 28

29 30 31 32

33 34 35 36

37 38 39 40

41 42 43

44 45 46 47

48 49 50 51

52 53 54 55

Musical notation for measures 52-55. Each measure consists of a treble clef staff with a melodic line of eighth notes and a bass clef staff with a chordal accompaniment. The melody in each measure is a sequence of eighth notes: 52 (C4, D4, E4, F4, G4, A4, B4, C5), 53 (D4, E4, F4, G4, A4, B4, C5, B4), 54 (C4, D4, E4, F4, G4, A4, B4, C5), and 55 (D4, E4, F4, G4, A4, B4, C5, B4). The bass clef accompaniment consists of a constant eighth-note chord: C4, E3, G3, C4.

56 57 58 59

Musical notation for measures 56-59. Each measure consists of a treble clef staff with a melodic line of eighth notes and a bass clef staff with a chordal accompaniment. The melody in each measure is a sequence of eighth notes: 56 (C4, D4, E4, F4, G4, A4, B4, C5), 57 (D4, E4, F4, G4, A4, B4, C5, B4), 58 (C4, D4, E4, F4, G4, A4, B4, C5), and 59 (D4, E4, F4, G4, A4, B4, C5, B4). The bass clef accompaniment consists of a constant eighth-note chord: C4, E3, G3, C4.

xiii. I-V Embellishments: Mediant to Tonic

This musical score consists of 28 numbered measures, arranged in seven systems of four measures each. The notation is for piano, with a treble clef and a bass clef. The key signature has one flat (B-flat), and the time signature is common time (C). The bass line is a simple harmonic accompaniment of chords, while the treble line features various melodic embellishments. Measures 1-4 show a sequence of chords with a single eighth-note melody. Measures 5-8 show a more active eighth-note melody. Measures 9-12 show a continuous eighth-note melody. Measures 13-14 show a similar eighth-note melody. Measure 15 is a single measure with a treble clef and a whole note chord. Measures 16-20 show a sequence of chords with a single eighth-note melody. Measures 21-24 show a sequence of chords with a single eighth-note melody. Measures 25-28 show a sequence of chords with a single eighth-note melody.

29 30 31 32

Musical notation for measures 29-32. The treble clef contains eighth-note runs, and the bass clef contains block chords.

33 34 35 36

Musical notation for measures 33-36. The treble clef contains eighth-note runs, and the bass clef contains block chords.

37 38 39 40

Musical notation for measures 37-40. The treble clef contains eighth-note runs, and the bass clef contains block chords.

41 42 43

Musical notation for measures 41-43. The treble clef contains eighth-note runs, and the bass clef contains block chords. A separate staff for measure 43 is shown to the right.

44 45 46 47

Musical notation for measures 44-47. The treble clef contains eighth-note runs, and the bass clef contains block chords.

48 49 50

Musical notation for measures 48-50. The treble clef contains eighth-note runs, and the bass clef contains block chords.

51 52

Musical notation for measures 51-52. The treble clef contains eighth-note runs, and the bass clef contains block chords.

xiv. I-V Embellishments: Mediant to Mediant

This musical score consists of 29 numbered measures, arranged in seven systems. Each system contains two staves: a treble clef staff and a bass clef staff. The bass staff provides a harmonic accompaniment of chords, while the treble staff features a melodic line with various embellishments. The measures are numbered 1 through 29. Measures 1-10 show a steady progression of eighth-note patterns. Measures 11-15 show a more complex pattern with some rests. Measures 16-19 show a continuation of the eighth-note patterns. Measures 20-24 show a similar pattern with some variations. Measures 25-29 show a final sequence of eighth-note patterns.

30 31 32 33

Musical notation for measures 30-33. The right hand plays a continuous eighth-note pattern, and the left hand plays a steady bass line of quarter notes.

34 35 36 37

Musical notation for measures 34-37. The right hand plays a continuous eighth-note pattern, and the left hand plays a steady bass line of quarter notes.

38 39 40 41

Musical notation for measures 38-41. The right hand plays a continuous eighth-note pattern, and the left hand plays a steady bass line of quarter notes.

42 43 44 45

Musical notation for measures 42-45. The right hand plays a continuous eighth-note pattern, and the left hand plays a steady bass line of quarter notes.

46 47 48 49

Musical notation for measures 46-49. The right hand plays a continuous eighth-note pattern, and the left hand plays a steady bass line of quarter notes.

50 51 52

Musical notation for measures 50-52. Measure 50 continues the eighth-note pattern. Measures 51 and 52 show a change in the right hand's pattern, with a half note followed by eighth notes.

xv. I-V Embellishments: Mediant to Dominant

This musical score consists of 28 measures, organized into seven systems of four measures each. The notation is for piano, with a treble and bass clef. The bass line is constant, providing harmonic support with chords in the left hand. The right hand features various melodic embellishments, including eighth-note patterns, sixteenth-note runs, and trills, all set against a background of sustained chords. The measures are numbered 1 through 28.

Measures 28 and 29 of a piano score. Measure 28 features a whole note chord in the bass clef and a whole note rest in the treble clef. Measure 29 has a treble clef with a sixteenth-note ascending scale starting on G4, and a bass clef with a whole note chord.

Measures 30 and 31 of a piano score. Measure 30 has a treble clef with a whole note rest and a bass clef with a whole note chord. Measure 31 has a treble clef with a sixteenth-note ascending scale starting on A4, and a bass clef with a whole note chord.

Measures 32, 33, 34, and 35 of a piano score. Each measure consists of a treble clef with a sixteenth-note ascending scale and a bass clef with a whole note chord.

Measures 36 and 37 of a piano score. Each measure consists of a treble clef with a sixteenth-note ascending scale and a bass clef with a whole note chord.

Measure 38 of a piano score, consisting of a treble clef with a sixteenth-note ascending scale and a bass clef with a whole note chord.

Measures 39 and 40 of a piano score. Measure 39 has a treble clef with a whole note rest and a bass clef with a whole note chord. Measure 40 has a treble clef with a sixteenth-note ascending scale starting on B4, and a bass clef with a whole note chord.

xvi. I-V Embellishments: Dominant to Tonic

This musical score consists of 27 measures, divided into two systems. The first system contains measures 1 through 12, and the second system contains measures 13 through 27. Each measure is numbered at the beginning of the staff. The notation is for piano, with a treble clef and a bass clef. The right hand (treble clef) features various melodic embellishments, including eighth-note runs, sixteenth-note patterns, and slurs. The left hand (bass clef) provides a harmonic accompaniment with chords, primarily triads and dyads, often with a steady eighth-note or sixteenth-note pulse. The overall style is classical and technical, focusing on the transition from the dominant (V) to the tonic (I).

xvii. I-V Embellishments: Dominant to Mediant

Measures 1-4: The first system of music. Measure 1 is a whole rest in the treble clef and a whole note chord in the bass clef. Measures 2-4 feature a treble clef with a sixteenth-note arpeggiated pattern and a bass clef with a whole note chord. Measure numbers 1, 2, 3, and 4 are placed above the treble clef.

Measures 5-8: The second system of music. Measures 5-8 continue the sixteenth-note arpeggiated pattern in the treble clef and whole note chords in the bass clef. Measure numbers 5, 6, 7, and 8 are placed above the treble clef.

Measures 9-12: The third system of music. Measures 9-12 continue the sixteenth-note arpeggiated pattern in the treble clef and whole note chords in the bass clef. Measure numbers 9, 10, 11, and 12 are placed above the treble clef.

Measures 13-15: The fourth system of music. Measure 13 is a whole rest in the treble clef and a whole note chord in the bass clef. Measures 14-15 feature a treble clef with a sixteenth-note arpeggiated pattern and a bass clef with a whole note chord. Measure numbers 13, 14, and 15 are placed above the treble clef.

Measures 16-19: The fifth system of music. Measures 16-19 continue the sixteenth-note arpeggiated pattern in the treble clef and whole note chords in the bass clef. Measure numbers 16, 17, 18, and 19 are placed above the treble clef.

Measures 20-24: The sixth system of music. Measure 20 is a whole rest in the treble clef and a whole note chord in the bass clef. Measures 21-24 feature a treble clef with a sixteenth-note arpeggiated pattern and a bass clef with a whole note chord. Measure numbers 20, 21, 22, 23, and 24 are placed above the treble clef.

25 26 27 28 29

30 31 32 33

34 35 36 37

38 39 40 41

42 43 44 45

46 47 48 49

50 51 52

xviii. I–V Embellishments: Dominant to Dominant

This musical score consists of 24 numbered measures, arranged in six systems of four measures each. The notation is for piano, with a treble clef and a bass clef. The key signature has one flat (B-flat), and the time signature is common time (C). The bass line is a simple harmonic accompaniment of chords, while the treble line features various melodic embellishments. Measures 1-5 show a sequence of chords with simple eighth-note and quarter-note embellishments. Measures 6-9 introduce sixteenth-note patterns. Measures 10-13 feature more complex sixteenth-note runs. Measures 14-16 show further development of the sixteenth-note patterns. Measures 17-20 continue with similar sixteenth-note textures. Measures 21-24 conclude the sequence with increasingly intricate sixteenth-note passages. A small, separate musical fragment is shown to the right of measure 16, consisting of a single treble clef staff with a whole note chord.

25 26 27 28

29 30 31 32

33 34 35 36

37 38 39 40

41 42 43 44

45 46 47

48 49 50 51

xix. V-I Embellishments: Tonic to Tonic

The musical score consists of 26 numbered measures, arranged in six systems of four measures each. Each system is written for piano with a treble and bass clef. The bass line is a constant tonic chord (C major). The treble line features various melodic embellishments:

- Measure 1: A single quarter note C4.
- Measure 2: A quarter note C4 followed by a quarter rest.
- Measure 3: A quarter note C4 followed by a quarter rest.
- Measure 4: A quarter note C4 followed by a quarter rest.
- Measure 5: A quarter note C4 followed by a quarter rest.
- Measure 6: A quarter note C4 followed by a quarter rest.
- Measure 7: A quarter note C4 followed by a quarter rest.
- Measure 8: A quarter note C4 followed by a quarter rest.
- Measure 9: A quarter note C4 followed by a quarter rest.
- Measure 10: A quarter note C4 followed by a quarter rest.
- Measure 11: A quarter note C4 followed by a quarter rest.
- Measure 12: A quarter note C4 followed by a quarter rest.
- Measure 13: A quarter note C4 followed by a quarter rest.
- Measure 14: A quarter note C4 followed by a quarter rest.
- Measure 15: A quarter note C4 followed by a quarter rest.
- Measure 16: A quarter note C4 followed by a quarter rest.
- Measure 17: A quarter note C4 followed by a quarter rest.
- Measure 18: A quarter note C4 followed by a quarter rest.
- Measure 19: A quarter note C4 followed by a quarter rest.
- Measure 20: A quarter note C4 followed by a quarter rest.
- Measure 21: A quarter note C4 followed by a quarter rest.
- Measure 22: A quarter note C4 followed by a quarter rest.
- Measure 23: A quarter note C4 followed by a quarter rest.
- Measure 24: A quarter note C4 followed by a quarter rest.
- Measure 25: A quarter note C4 followed by a quarter rest.
- Measure 26: A quarter note C4 followed by a quarter rest.

27 28 29

30 31 32 33

34 35 36 37

38 39 40 41

42 43 44 45

46 47 48 49 50

51 52 53 54

55 56 57 58

59 60 61 62

63 64 65 66

67 68 69 70

71 72 73 74

75 76 77

78 79 80 81

Musical notation for measures 82, 83, and 84. The notation is in a grand staff (treble and bass clefs). Measure 82 shows a treble clef with a melodic line of eighth notes and a bass clef with a chord. Measure 83 shows a treble clef with a melodic line of eighth notes and a bass clef with a chord. Measure 84 shows a treble clef with a melodic line of eighth notes and a bass clef with a chord.

Musical notation for measures 85, 86, and 87. The notation is in a grand staff (treble and bass clefs). Measure 85 shows a treble clef with a melodic line of eighth notes and a bass clef with a chord. Measure 86 shows a treble clef with a melodic line of eighth notes and a bass clef with a chord. Measure 87 shows a treble clef with a melodic line of eighth notes and a bass clef with a chord.

xx. V-I Embellishments: Tonic to Mediant

The musical score consists of 24 measures, organized into six systems of four measures each. Each system is a grand staff with a treble and bass clef. The bass line is constant, featuring a tonic triad (C-E-G) in the left hand and a mediant triad (E-G-B) in the right hand. The treble line begins with a whole rest in measure 1. From measure 2 onwards, it features a series of eighth-note runs. Measures 2-5 show a simple eighth-note pattern. From measure 6, the runs become more complex, incorporating sixteenth and thirty-second notes, and eventually reaching a sixteenth-note tremolo in measure 24. Measure numbers 1 through 24 are printed above the treble staff at the beginning of each measure.

25 26 27

28 29 30

31 32 33 34

35 36 37

38 39 40

41 42 43

44 45 46

47 48

49 50 51

Musical notation for measures 49, 50, and 51. Each measure features a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody consists of eighth notes, and the bass part consists of chords.

52 53 54

Musical notation for measures 52, 53, and 54. Each measure features a treble clef staff with a melodic line and a bass clef staff with a chordal accompaniment. The melody consists of eighth notes, and the bass part consists of chords.

xxi. V-I Embellishments: Tonic to Dominant

The musical score consists of 21 measures, organized into seven systems of two staves each (treble and bass clef). The bass clef part provides a steady accompaniment of chords, while the treble clef part features various melodic embellishments. Measure 1 is a whole rest in the treble. Measures 2-3 show eighth-note patterns. Measures 4-6 feature sixteenth-note runs. Measures 7-8 continue with sixteenth-note patterns. Measures 9-10 show a transition with a whole rest in the treble. Measures 11-15 feature eighth-note patterns. Measures 16-18 continue with eighth-note patterns. Measures 19-21 feature sixteenth-note patterns. The score concludes with a double bar line at the end of measure 21.



xxii. V-I Embellishments: Mediant to Tonic

The musical score consists of 23 measures, numbered 1 through 23. It is written for piano in a grand staff (treble and bass clefs). The key signature has one flat (B-flat), and the time signature is common time (C). The bass line is a simple harmonic accompaniment of chords, while the treble line features various melodic embellishments. Measures 1-3 show a half-note chord in the bass and a half-note in the treble. Measures 4-7 feature a half-note chord in the bass and a sixteenth-note melodic line in the treble. Measures 8-12 show a half-note chord in the bass and a quarter-note melodic line in the treble. Measures 13-16 feature a half-note chord in the bass and a sixteenth-note melodic line in the treble. Measures 17-19 feature a half-note chord in the bass and a sixteenth-note melodic line in the treble. Measures 20-21 feature a half-note chord in the bass and a sixteenth-note melodic line in the treble. Measures 22-23 feature a half-note chord in the bass and a sixteenth-note melodic line in the treble.



xxiii. V-I Embellishments: Mediant to Mediant

The musical score consists of 19 measures, numbered 1 through 19. It is written for piano in a two-staff system (treble and bass clefs). The key signature has one flat (B-flat), and the time signature is common time (C). The bass line is a constant accompaniment of a triad (F2, B-flat2, D3) in the left hand and a single note (F3) in the right hand. The treble line features various embellishments: measures 1-4 show simple quarter-note patterns; measures 5-8 show eighth-note patterns; measures 9-11 show sixteenth-note patterns; measures 12-15 show eighth-note patterns with some rests; measures 16-17 show sixteenth-note patterns; measure 18 shows a sixteenth-note pattern; and measure 19 shows a sixteenth-note pattern. The final measure (19) ends with a fermata over the final note.

xxiv. V-I Embellishments: Mediant to Dominant

The musical score consists of 13 measures, numbered 1 through 13. It is written for piano in a two-staff system (treble and bass clefs). The key signature is one flat (B-flat major or D minor). The time signature is common time (C). The bass line is a simple harmonic accompaniment consisting of a constant eighth-note pattern in the left hand and a half-note pattern in the right hand. The treble line features various embellishments: measures 1-4 show a half-note melody with eighth-note grace notes; measures 5-8 show a continuous eighth-note melodic line; measure 9 shows a half-note melody with eighth-note grace notes; measure 10 shows a half-note melody with eighth-note grace notes; and measures 11-13 show a continuous eighth-note melodic line. The piece concludes with a double bar line at the end of measure 13.

xxv. V-I Embellishments: Dominant to Tonic

This musical score consists of 33 measures, organized into 11 systems of two staves each (treble and bass clef). The piece is in a 4/4 time signature. The bass line is a simple harmonic accompaniment of chords, while the treble line features various melodic embellishments. Measures 1-5 show a simple quarter-note melody. Measures 6-9 introduce eighth-note patterns. Measures 10-13 feature sixteenth-note runs. Measures 14-17 continue with more complex sixteenth-note patterns. Measures 18-20 show a descending eighth-note scale. Measures 21-24 feature a more intricate sixteenth-note pattern. Measures 25-28 continue with similar sixteenth-note textures. Measures 29-30 show a descending eighth-note scale. Measures 31-33 conclude with a final sixteenth-note pattern.

xxvi. V-I Embellishments: Dominant to Mediant

The musical score consists of 22 measures, numbered 1 through 22. It is written for piano in a 4/4 time signature. The key signature has one flat (B-flat). The score is divided into several systems:

- Measures 1-4: First system. Measure 1 has a whole note chord in the bass and a whole note rest in the treble. Measures 2-4 show a melodic line in the treble with eighth-note patterns, while the bass continues with chords.
- Measures 5-7: Second system. Similar to the first system, with increasing complexity in the treble line.
- Measures 8-11: Third system. The treble line becomes more active with sixteenth-note patterns.
- Measures 12-15: Fourth system. Measure 12 continues the sixteenth-note pattern. Measures 13-15 show a change in the treble line, with longer note values and some rests.
- Measures 16-19: Fifth system. The treble line returns to a more active eighth-note pattern.
- Measures 20-22: Sixth system. Measure 20 continues the eighth-note pattern. Measures 21-22 show a final melodic flourish in the treble.

xxvii. V-I Embellishments: Dominant to Dominant

Measures 1-4: The first measure (1) contains a whole note G4 in the treble clef and a whole note chord of G2-B2-D3 in the bass clef. Measures 2-4 show a melodic line in the treble clef moving from G4 to A4, B4, and C5, while the bass clef maintains the G2-B2-D3 chord.

Measures 5-8: The melodic line in the treble clef continues from C5 to D5, E5, and F5. The bass clef maintains the G2-B2-D3 chord.

Measures 9-11: The melodic line in the treble clef continues from F5 to G5, A5, and B5. The bass clef maintains the G2-B2-D3 chord.

Measures 12-15: Measure 12 continues the melodic line from B5 to C6. Measures 13-15 show the melodic line moving from C6 to B5, A5, and G5. The bass clef maintains the G2-B2-D3 chord.

Measures 16-18: Measures 16-17 continue the melodic line from G5 to F5, E5, and D5. Measure 18 shows the melodic line moving from D5 to C5. The bass clef maintains the G2-B2-D3 chord.

Measures 19-22: Measures 19-20 continue the melodic line from C5 to B4, A4, and G4. Measures 21-22 show the melodic line moving from G4 to F4, E4, and D4. The bass clef maintains the G2-B2-D3 chord.