City Research Online

City St George's, University of London

Citation: Percival, R. (2021). Top B, or Not Top B, and Is That the Question? Creating a new repertoire of idiomatic and challenging arrangement for historical wind instruments. (Unpublished Doctoral thesis, Guildhall School of Music and Drama)

This is the accepted version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: https://openaccess.city.ac.uk/id/eprint/29593/

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to City Research Online policy.

City Research Online: http://openaccess.city.ac.uk/ publications@citystgeorges.ac.uk

Top B, or Not Top B, and Is That the Question? Creating a new repertoire of idiomatic and challenging arrangements for historical wind instruments

Robert Percival

DMus

Guildhall School of Music and Drama

Department of Research

August 2021

Abstract

The six-part Harmonie of clarinets, horns and bassoons, despite being a popular ensemble in the 18th century, has only a small repertoire suitable for modern concert performance. The logical solution is to extend the tradition of arrangement associated with the ensemble to expand its repertoire. However, previous approaches to scoring for historical winds and brass by modern editors and arrangers have often resulted in writing that is unidiomatic to the instruments.

In this project, I use practice-based research and analysis to develop a new approach to writing for historical wind instruments. Analysis of examples of historical writing for the clarinet, horn and bassoon, and examination of historical practices by the leading creators of Harmoniemusik in the early-19th century is used to understand how to write idiomatically for the instruments. Study of virtuoso solo repertoire from the same period is used as the basis for expanding the range of possibilities to allow the arrangement of more challenging works than was typical at the time.

The possibilities raised by this study are then explored and developed through three substantial new arrangements of works by Mozart and Beethoven. Each arrangement illustrates different facets of the arranging process and the creative re-imagining of the source work, further elaborated by accompanying commentaries. I argue that this method of research offers a new understanding of the capabilities of historical wind instruments that is of future value to both composers and musicologists.

CONTENTS

Table of Figures	vi
Acknowledgements	x
Terminology and Conventions	xi
Introduction	**1**
CHAPTER 1	**7**
Historical Background	7
'Creating a new repertoire…'	15
'… idiomatic and challenging…'	18
'… arrangements…'	23
'… historical wind instruments'	31
A note on discussing ranges and the *ambiti* of wind instruments	36
CHAPTER 2	**43**
Part I: On Writing for the Horn	43
The two (or three) types of horn player	47
How the horn works	48
The players	57
Method	58
Preliminary study	60
Some preliminary findings	62
Towards an understanding	66
Part II: An Index of Adjacencies; or Horn Pitch Usage	76
Horn Usage Examples which demonstrate specific tonalities	78
CHAPTER 3	**79**
On the clarinet (and the bassoon, too, a bit later)	79
Definitions	79
Now the clarinet	80
Historical Practice	88
Back to context	94
Mozart	95
Beethoven	96
Krommer	97
Tausch	98

Weber and Crusell 99
Choice of Clarinet 101
Conclusions for My Practice 104
Postscript: The Bassoon **109**
CHAPTER 4 **119**
On arranging and arrangements 119
First Considerations 125
My practice and techniques of arrangement 141
CHAPTER 5 **147**
A new arrangement of Mozart's Symphony no. 40 in G minor K550 147
The versions of the arrangement of the G minor Symphony 153
Discussion of specific problems and solutions in this arrangement 159
W A Mozart Symphony no. 40 in G minor K550 arranged for six-part Harmonie 189
CHAPTER 6 **235**
Arranging Beethoven's String Quartet op. 18 no. 1: creating Chamber Music for Harmonie 235
Commentary on arrangement of Beethoven's op. 18 no. 1 244
Ludwig van Beethoven String Quartet op. 18 no. 1 for Harmonie 253
CHAPTER 7 **307**
On arranging Beethoven's Grande Sonate op. 7 for six-part Harmonie 307
A digression: the anonymous arrangement of the Sonate Pathétique 312
Commentary on arrangement of Beethoven's op. 7 322
Ludwig van Beethoven Grande Sonate op. 7 for six-part Harmonie 341
CONCLUSION **419**
APPENDIX **423**
Index of Horn Pitch Adjacencies 425
Horn Usage Examples 449
Clarinet Usage Examples 495
BIBLIOGRAPHY **517**

ELECTRONIC APPENDIX

the following files are included electronically:

1. Sound Files for Chapter 5
2. Top B Or Not Top B data – Excel spreadsheet
3. Pdf score of Beethoven arr. anon *Sonate Pathétique*
4. Pdf score of Mozart arr. Triebensee Symphony no. 39, 1st movement
5. Video files of performances of the arrangements in Chapters 5, 6, & 7

Table of Figures

i.1 Register names for the natural horn xi

1.1 Joseph Triebensee (1772–1846) 11

1.2 Josef Triebensee's *Miscellanées de Musique*, contents of Jahrgang I, Oevuvre 1 and 2, 1808 12

1.3 The issues of the Chemische Druckerei's *Journal für neunstimmige (und sechsstimmige) Harmonie* 1810–1814 13

1.4 Steiner's advert for Beethoven's Seventh & Eighth Symphonies, and the *Wellingtons Sieg*, showing the range of available arrangements 24

1.5 Mozart, Serenade in C minor K388, mvt. I, bb. 209–214, clarinet 2 34

1.6 Lefèvre's impossible figures, nos. 29–40, from his Méthode 35

1.7 Mozart, Serenade in B-flat 'Gran Partita' K361, examples 35

1.8 J.F. Reichardt, *Brenno*: extract of aria '*Dei di Roma*' 38

2.1 *Cor d'orchestre c*.1820 by D. Jahn, Paris (*fl*. 1816–1859) 44

2.2 Natural horn crooks and their types 45

2.3 The natural horn's harmonic series 48

2.4 Treatises and Methods for the horn, 1764–1824 51

2.5 Roeser's scale for the horn, including his extra, hand-stopped pitches 52

2.6 Mozart's pitch use in the horn quintet K407, and the piano and wind quintet K452 52

2.7 Mozart Attwood lessons British Library 53

2.8 W.A. Mozart's recommended scale for the horn 53

2.9 From Dauprat's Grand Table 54

2.10 Horn pitch use in Reicha's quintets 56

2.11 The pitches in Reicha's quintets, ordered by their frequency of use 56

2.12 Krommer Partita op. 69, Horn 2, 1st mvt.; and Pitch Counting file extract derived from it 60

2.13 Screenshot of the output from the Sibelius Pitch Counter plug-in for Mozart K452 1st mvt. 61

2.14 Screenshot of Excel spread sheet (extract) showing pitch data for Mozart K452 61

2.15 Weber Concertino op. 45; Horn in E, pitches used, with the number of occurrences of each pitch 62

2.16 Weber Concertino op. 45; Horn in E, pitches ordered by frequency of use, with their percentage of the total 63
2.17 Beethoven Sextet for 2 horns & strings op. 81b; Horns 1 & 2 in E-flat, pitches used, with the number of occurrences of each pitch 63
2.18 Beethoven Sextet for 2 horns & strings op. 81b; Horn 1 in E-flat, pitches ordered by frequency of use, with their percentage of the total 64
2.19 Beethoven Sextet for 2 horns & strings op. 81b; Horn 2 in E-flat, pitches ordered by frequency of use, with their percentage of the total 64
2.20 Krommer: pitches used in the movements for solo crooks from nine partitas, and their number of occurrences 65
2.21 Krommer: nine partitas, mvts. for Horn 1 in D, E-flat, or F, pitches ordered by frequency of use, with their percentage of the total 65
2.22 Krommer: nine partitas, mvts. for Horn 2 in D, E-flat, or F, pitches ordered by frequency of use, with their percentage of the total 66
2.23 An observed scale for the natural horn, including all enharmonic pitches 68
2.24 The 12 ‘best-connected’ pitches 69
2.25 Dauprat's suggestions and Reicha’s use of crook by tonality 71
2.26 Possible hand positions for the observed scale 73
3.1 The clarinet’s range and registers 80
3.2 Five- and 10-keyed clarinets 81
3.3 Transcription of *Gamme de Clarinette* 83
3.4 The clarinet’s problematic pitches 87
3.5 Mozart Serenade in E-flat (a 6) K375: pitches employed in clarinet parts 88
3.6 Pitch use for clarinets in 9 Krommer Partitas 89
3.7 Pitch use in Weber’s concertante works for clarinet 91
3.8 Pitch use in Crusell’s concertante works for clarinet 91
3.9 Percentage use of the most common six pitches in select clarinet parts 92
3.10 The most & least frequently used pitches in classical clarinet writing 92
3.11 Percentage of use of the least common pitches in select clarinet parts 93
3.12 Recommended use of clarinet by tonality 101
3.13 Register usage for the clarinet as a percentage of total notes 106
3.14 The author’s bassoon 110
3.15 Examples of bassoon high-note usage 112

3.16 Works analysed that feature the bassoon 113
3.17 Analysed bassoon works: number of uses of highest and lowest pitches 113
3.18 Haydn, Symphony no. 103, 'Drum Roll', bassoon 1, mvt. I, 1–13 114
3.19 Percentage usage of the four registers of the bassoon 115
4.1 Mozart Symphony no. 39 in E-flat K543, in short score, and Triebensee's arrangement of it in 10 parts, b.289–294 121
4.2 Beethoven Septet op. 20: modern score by Breitkopf & Härtel and m/s of Carl Czerny's arrangement in 6 parts, showing the last 7 bars of the finale 127
4.3 Beethoven: *Egmont* Overture bars 1–7. Arrangement for 9-part Harmonie by Friedrich Starke (*c.*1812) and first edition of orchestral score 128
4.4 Krommer Symphony op. 12: orchestral original (transposed) and Triebensee's arrangement, b.27–36 133
4.5 Krommer Symphony op. 12: orchestral original (transposed) and Triebensee's arrangement, b.62–75 134
4.6 Krommer Symphony op. 12: orchestral original (strings only, transposed) and Triebensee's arrangement, b.78–92 136
4.7 Krommer Symphony op. 12: orchestral original (transposed) and Triebensee's arrangement, b.94–123 137
5.1 Clarinet transpositions, tonalities and key signatures in minor keys 150
5.2 Timeline and summary of versions of arrangement of Mozart Symphony no. 40 in G minor 153
5.3 Historical horn crooks in movements/works in G minor 155
5.4 Mozart Symphony no. 40 in G minor K550: original text and arrangement in six parts; mvt. I, 1–16 159
5.5 Mozart Symphony no. 40 in G minor K550: arrangement, mvt. I, 1–10 162
5.6 Mozart Symphony no. 40 in G minor K550: arrangement, Version 5 & 7; mvt. I, 196–214 163
5.7 Mozart Symphony no. 40 in G minor K550: original and arrangement, mvt. III: Trio 166
5.8 Mozart Symphony no. 40 in G minor K550: original text, mvt. IV, 1–32 171
5.9 Mozart Symphony no. 40 in G minor K550: arrangement, Version 1, mvt. IV, 1–32 172
5.10 Mozart Symphony no. 40 in G minor K550: arrangement, Version 4, mvt. IV, 1–32 173
5.11 Mozart Symphony no. 40 in G minor K550: arrangement, Version 7, mvt. IV, 1–31 175

5.12 Mozart Symphony no. 40 in G minor K550: arrangement, Version 1 & 7, mvt. IV, 71–101 176
5.13 Mozart Symphony no. 40 in G minor K550: arrangement, Version 1 & 7, mvt. IV, 247–277 180
5.14 Mozart Symphony no. 40 in G minor K550: arrangement, Version 1 & 7, mvt. IV, 287–308 184
6.1 attrib. Triebensee/Haydn *Variationen über das Volkslied: Gott erhalte der Kaiser* (extract) 236
6.2 Mozart String Quintet in E-flat K614; and Stumpf *Grande Serenade tiree des oeuvres de Mozart*: mvt. II, 75–78 237
6.3 Beethoven Quartet op. 18 no. 1, Scherzo, b.90–94, original version and possible arrangements 242
7.1 Beethoven, *Sonate Pathétique*: piano original and anonymous 9-part arrangement, mvt. I, 4–7 313
7.2 Beethoven, *Sonate Pathétique*: piano original and anonymous 9-part arrangement, mvt. I, 10–18 315
7.3 Beethoven, *Sonate Pathétique*: piano original and anonymous 9-part arrangement, mvt. I, 188–200 317
7.4 Beethoven, *Sonate Pathétique*: piano original and anonymous 9-part arrangement, mvt. II, 1–6 319
7.5 Beethoven, *Sonate Pathétique*: piano original and anonymous 9-part arrangement, mvt. II, 59–66 320
7.6 Beethoven, *Grande Sonate* op. 7, arrangement, mvt. I, 291–295, version 1 328
7.7 Beethoven, *Grande Sonate* op. 7, arrangement, mvt. I, 291–295, version 2 328
7.8 Beethoven, *Grande Sonate* op. 7, arrangement, mvt. I, 291–295, version 3 329

Acknowledgments

This project would not have been possible were it not for the gracious and forgiving support of all the members of Boxwood & Brass, who continue to bear my stumbling attempts at entertaining them with the utmost good humour. Special thanks must go to Anneke Scott and Fiona Mitchell for their forbearance and willingness to answer the most inane questions. Thanks also to Dr. Martin Lawrence for his invaluable advice on the dark arts of the low horn. Without Continuo Foundation and John-Henry Baker in the most trying times, the concerts where my arrangements were recorded and first performed would not have happened. This project has been more than 30 years in the making, since my first taste of Harmoniemusik with Lyndon Hilling and what was then the Northamptonshire Schools County Wind Dectet, for which experience I continue to be grateful, and for the opportunities this most excellent music education service has given me. I would, of course, like to thank both my supervisors, Prof. Julian Philips and Prof. John Irving for their help and guidance through this long journey, and all at GSMD, not least for their generous financial aid, and also Jane Booth for the initial experiences in France of the wonderful world of the classical bassoon. I thank my parents for their support, financial and emotional, throughout this process and my entire career. Finally utmost thanks to my partner, Dr. Emily Worthington, without whom this project would have literally been impossible: her willingness to listen to and play anything I put in front of her, and her continuing help, support, advice and encouragement have kept me going through many dark times.

The School Librarian may, at their discretion, allow this thesis to be copied in whole or in part without further reference to the author. This permission covers only single copies made for study purposes, subject to normal conditions of acknowledgement.

This permission does not extend to any performing rights relating to the arrangements contained within this thesis. For these and for any performing materials please contact the author.

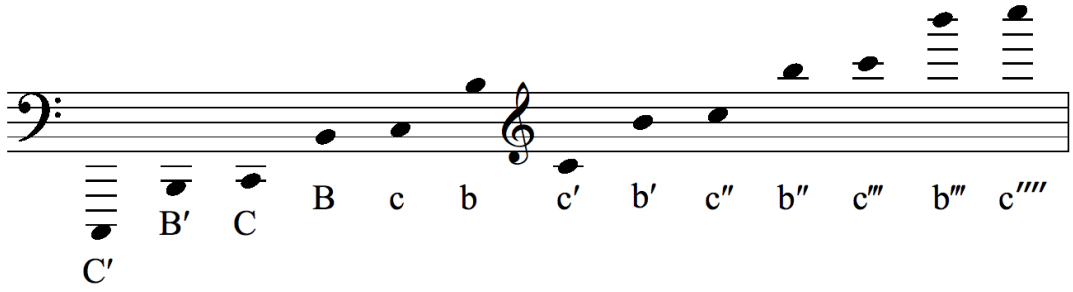
Terminology and Conventions

Nominal Pitches

Transposing instruments, the various sizes of clarinet and the horn crooks, are referred to in this dissertation by their nominal pitch, i.e. a clarinet or horn in A produces a sounding A when a written C is played; the horn in D produces a sounding D a seventh below its written C. Except for the horn in the bass clef as discussed below, the sounding pitch is always below the written pitch. (This is not the case for the smaller clarinets, e.g. the clarinet in E-flat, some transposing flutes, and some trumpet crooks, which sound higher than the written pitch, but I will not be discussing these instruments here.) The horn in C and B-flat *alto* sound at the unison or a tone lower; C and B-flat *basso* (and also A and A-flat) sound at the octave and the ninth lower. When referring to pitch names, and sometimes to save space in tables, I will use symbols, such that B-flat is B♭.

Pitch Names

In general in this dissertation I will use the system of pitch notation that is used by *Grove Music Online*, a modified version of Helmholz:



To better understand their characteristics, for transposing instruments I usually refer to written pitches rather than sounding ones. However, this presents a number of challenges with the natural horn:

- The horn is nearly always a transposing instrument.
- Each crook transposes differently (obviously).
- When using *old* or pre-20th century notation, pitches in the bass clef are notated in the octave below their sounding pitch (e.g. for horn in F, a pitch in bass clef sounds *up* a fourth rather than down a fifth), meaning there can be an apparent jump of an octave in what is actually a continuous scale.

I will use old notation when writing in the bass clef because it was the common practice in the period I am discussing. It is also, in my experience, the notation that players prefer, and I have found that because using this system low notes are evidently low on the stave there is less room for ambiguity. This means for the horn, however, that in Helmholz notation the pitch C below written middle C (c′) can be written as both c and C depending on the clef used.

Therefore in discussing the horn I will use a method, as shown below, where each octave of the horn's register is called in sequence *bottom*, *low*, *middle*, *high*, and *top*. Thus, middle C is still middle C, and the C below that is low C regardless of its clef. Because this describes a pitch in relation to the instrument rather than its musical notation, it will, I hope, be unambiguous, particularly in the troublesome area where notes may be notated in either treble or bass clef. It will also give a clearer understanding of the *sound* of the pitch being described.

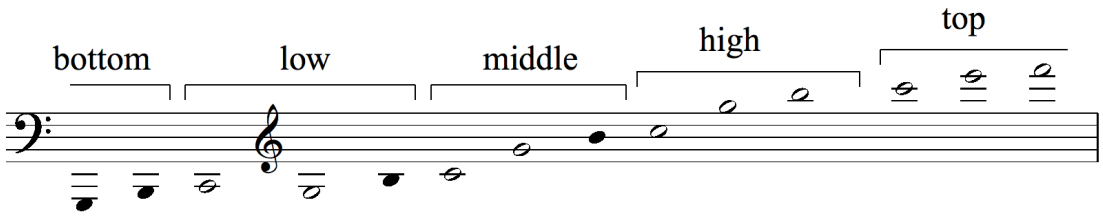


Figure i.1 Register names for the natural horn.

It is not possible to conveniently divide the bassoon or clarinet's range into octaves called low, middle, and high as with the horn, so I generally give the written pitch names when referring to notes. I will as a matter of convenience, however, and where there is no risk of ambiguity, occasionally refer to, for example, *bottom* E, F, and G, and *throat* A♭ for the clarinet, and *bottom* or *top* B♭ and C for the bassoon.

Introduction

I am, amongst other things, a bassoonist,[1] specialising in historical instruments, particularly of the late-18th and 19th centuries. As a performer, I play with and co-direct the wind ensemble, or Harmonie, *Boxwood & Brass*. Boxwood most often takes the form of a sextet of pairs of clarinets, horns, and bassoons, but for specific projects we add oboes, contrabassoon or double bass, and for really special occasions, trumpet or other players. In this way we can perform the entire large repertoire of Harmoniemusik.

However, as I will show below, despite being a very effective ensemble, with substantial works composed for it by Mozart and Beethoven, both recorded many times, the sextet with clarinets otherwise has a very small repertoire of pieces suitable for concert performance.

Throughout my performing career I have always created new arrangements for the ensembles of which I have been a member, tailor-made for the members of those groups: the complete list currently runs in excess of 100 items, ranging from small-scale educational works to complete symphonies. Additionally, I have prepared a similar number of performing editions for these ensembles, working from manuscript or early sources, or re-setting poor or unusable modern editions. These arrangements and editions are in addition to my work as a freelance editor and music processor, in particular working on new compositions for Faber Music, including substantial pieces by Jonathan Harvey and Thomas Adés.

Arrangements, most often of opera but also drawing on other genres, are a central feature of Harmoniemusik, and historically these were made by the members of the ensembles, writing for themselves and their colleagues, so an historically appropriate solution to the repertoire problem for Boxwood would be for me to make new arrangements.

However, after several attempts at playing my version of Beethoven's Fourth Symphony, with substantial revisions after each attempt, I gained a growing awareness

[1] Whether this is still the case in a post-Covid, post-Brexit world remains to be seen.

of my lack of relevant knowledge about the capabilities of our instruments, and the acceptable demands I could put on the players. Modern wind instruments are relatively easy to score for: beyond some balance considerations, almost the only challenge is finding creative ways to combine them. But with historical instruments before you get to the combinations you have to consider if the horn can even play the pitch in question, or if a particular scale is achievable on a five-key clarinet. After much enquiring of players, I began to get a better sense of what is possible, but even after they had approved a certain passage (sometimes grudgingly) I would find that it still didn't sound right, and began to speculate that this is a problem of *idiom*: regardless of if it can be played, a piece of writing for historical instruments will still sound, and as importantly to the performer, *feel* 'wrong' if it does not conform to historical practice.

This problem is expressed in a nutshell in the first part of my title: *Top B, or Not B, and Is That the Question?* All instruments have a 'top' B, the B that is the highest in their compass. Trivially, I *can*, therefore, write a top B. But top B for the horn, for the clarinet, and for the bassoon are rather different propositions, so the question perhaps becomes *may* I write top B? But, *how* may I write a top B, in what circumstances? For the clarinet, which B *is* 'top' B? Even if top B is part of an instrument's range, in which contexts is it used, if ever: by soloists only, or in an orchestral context too? By specialist players, depending on their reed or mouthpiece, or their make or design of instrument, or more widely and by a range of players? If historical composers and arrangers never wrote top B but my modern colleagues tell me they can play it, should I use it? Is its dynamic limited: is it only loud, or a little squeak? Is it a pitch which is easy to play in isolation, or is difficult to produce even if it is slurred from the A adjacent to it? Can it be played 'in tune', whatever that means? For the clarinet and horn, of course, as transposing instruments, top B needn't even be a B, but rather one of several other pitches, depending on instruments and crooks. So in this case, perhaps, no: not top B!

The difficulty, and the reason for this project, is how to assimilate this knowledge. Orchestration treatises were not developed until after the peak of Harmoniemusik, by which time instrumental technology had moved on from the instruments that Boxwood use, as indeed had the paradigm of instrumental usage. Early treatises for the horn and clarinet, e.g. Roeser in 1764, do recognise that these are new, novel instruments and provide advice to composers wishing to write for them, but later writers are usually

more concerned with the mechanics of the instruments only from the players' or teachers' perspective. Modern writing on historical Classical instruments (e.g. Lawson, Humphries) tends to focus on basic guidance for the modern player who wants to try historical instruments. I found it necessary, therefore, to develop a new research approach based on the examination of historical practice as opposed to theory. Ross[2] is the only study into the practice of arranging for Harmonie, but after briefly covering the 'idiosyncrasies of period instruments' in only three pages,[3] she states 'while there is much to be learned from the arrangements of the Classical period, an arranger today might make different choices based on a study of Mozart's original works and taking into account the performance context of today'[4] and thereafter ignores historical practice, e.g. in chord voicing and scoring, in order to 'provide a fuller *tutti* sound.'[5]

The study that follows outlines in Chapter One the historical background of Harmoniemusik, and dissects my title in order to explain the rationale for my method of research. Chapters Two and Three explore historical practice in writing for the clarinet and horn using this method, and also discuss the bassoon in a little less detail. This thesis is not a manual of orchestration, but is rather a reflection and account of my journey through a process of discovery, and so, as the bassoon is my own instrument, my knowledge of how to write for it is rather more embodied than learnt and so did not require the same level or type of investigation as the other instruments. As a result of my study I will suggest procedures and strategies for writing for historical wind instruments in an historically appropriate way but which might go beyond existing examples of Harmoniemusik. Chapter Four contains a brief discussion of historical practice in arranging and scoring for Harmonie, and also my own approach. Finally I present and discuss three substantial new arrangements that illustrate possible approaches to arranging a symphony, a string quartet, and a piano sonata. I have placed the scores of these arrangements at the end of the relevant chapters as I consider them not to be an adjunct to my presentation, but central to it: the notation I have chosen to put on each of their pages says at least as much about my practice as anything I can

---

[2] Marie Ross, 'A Guide to Arranging Late 18th and Early 19th Century Harmoniemusik in an Historical Style', DMA thesis, University of Texas, 2015.
[3] Ross, *Guide*, 48–50.
[4] Ross, *Guide*, 50.
[5] Ross, *Guide*, 51.

express in words. Also included are high-quality video recordings of performances of the arrangements that illustrate how they each sounded on a single occasion in June 2021.

There is much that this study does not attempt to be. Whitwell,[6] Gasche,[7] and particularly Stoneham, Gillaspie, and Clark[8] give much insight into the history, social function, and phenomenology of Harmoniemusik, although without analysis of the repertoire beyond the circumstances of its creation. The latter three authors' monumental work in their *Wind Ensemble Catalog*[9] has been of central importance in this study. On arranging and arrangements Blomhert[10] investigates a single arrangement in manuscript, and its possible relationship with Mozart; Thormählen[11] writes specifically about Viennese string arrangements and domestic music-making; Ross,[12] as discussed, is cursory in her historical approach; Heckl[13] has done significant work in collecting and presenting Classical arrangements of Mozart, but the reader is largely left to draw their own conclusions about the arrangers' practices. Hoeprich,[14] Rice,[15] Lawson,[16] Humphries,[17] Piddocke,[18] and Kopp[19] all write extensively on matters of

---

[6] See David Whitwell, *The History and Literature of the Wind Band and Wind Ensemble* (9 volumes), (Northridge, CA: Winds, 1982–1984), in particular vol. 4 *The Wind Band and Wind Ensemble of the Classical Period*, and vol. 5 *The Nineteenth-Century Wind Band and Wind Ensemble*.

[7] David Gasche, 'La Musique de Circonstance pour Harmoniemusik a Vienne (1760–1820)', PhD dissertation, University of Vienna, 2009.

[8] Stoneham, Marshall, Jon A. Gillaspie, and David Lindsey Clark, *The Wind Ensemble Sourcebook and Biographical Guide* (Westport, CT: Greenwood, 1997).

[9] Jon A. Gillaspie, Marshall Stoneham, and David Lindsey Clark, *The Wind Ensemble Catalog* (Westport, CT: Greenwood, 1998).

[10] Bastiaan Blomhert, 'The Harmoniemusik of "Die Entführung aus dem Serail" by Wolfgang Amadeus Mozart: Study About its Authenticity and Critical Edition', PhD dissertation, University of Utrecht, 1987.

[11] Wiebke Thormählen, 'Playing with Art: Musical Arrangements as Educational Tools in van Swieten's Vienna', in *Journal of Musicology*, Vol. 27, No. 3 (Summer 2010), 342–376.

[12] Ross, *Guide.*

[13] Peter Heckl, *W. A. Mozarts Instrumentalkompositionen in Bearbeitungen für Harmoniemusik vor 1840* (Hildesheim: Georg Olms, 2014) 2 vols.

[14] Eric Hoeprich, *The Clarinet* (New Haven: Yale University Press, 2008).

[15] Albert R. Rice, *The Clarinet in the Classical Period* (Oxford: OUP, 2003).

[16] Colin Lawson, *The Early Clarinet, a Practical Guide* (Cambridge: CUP, 2000); and Lawson, ed., *The Cambridge Companion to the Clarinet* (Cambridge Core ebook, Cambridge: CUP, 2011).

[17] John Humphries, *The Early Horn, a Practical Guide* (Cambridge: CUP, 2000).

organology but provide limited detail on how the instruments were used; Jerrold[20] surveys a wide range of primary sources but takes historical criticisms about instrumental technology at face value without interrogating composers' and performers' actual practice. Frame,[21] Harlow,[22] and Murray[23] all provide valuable studies of single composers or arrangers, but again largely within a biographical, historical, and catalogical framework, discussing their subjects' outputs in the context of broad analyses rather than practical arranging techniques.

What my study does, on the other hand, attempt is to discover, formulate, and codify a practice, method, or technique of arranging for an ensemble of historical clarinets, horns, and bassoons that though individual and distinct to me forms a sort of facsimile of historical knowledge and practices, enabling my outputs to be performed on a particular sort and set of historical instruments. In this respect Beethoven's practice of scoring or chord spacing are not important in so far as I am not attempting to emulate him, or Mozart, or Krommer, or Triebensee. I am not they. Boxwood's clarinettists are not Stadler, or Sedlak, or Baermann. Our instruments are not the same as theirs, and our listeners are not their listeners. The repertoire I want to arrange now is not the repertoire that was being arranged then: if it were, there would be no need for this study.

A note on the impact of the pandemic on the project

As with everything else in our society, the Covid 19 pandemic of 2020–21 had a profound impact on the progression of this project. Lockdown occurred just at the point at which I was organising repertoire sessions and workshops to evaluate the progress of my arrangements. Recording players remotely in their own bedrooms and studies using multi-tracking and click-tracks proved most unsuccessful in our case, but the brief

---

[18] Melanie Piddocke, 'Theodor Lotz: A Biographical and Organological Study', PhD dissertation, University of Edinburgh, 2011.
[19] James B. Kopp, *The Bassoon* (New Haven: Yale University Press, 2012).
[20] Beverly Jerold, *The Complexities of Early Instrumentation* (Turnhout: Brepols, 2015).
[21] Damian A. Frame, 'The Harmoniemusik of Georg Druschetzky (1745–1819)', PhD dissertation, Queens University, Belfast, 1992.
[22] Martin Harlow, 'The Transcriptions for Wind Harmonie of Wenzel Sedlak (1776–1851)', Masters dissertation, University of Sheffield, 1996.
[23] Sterling E. Murray, *The Career of an Eighteenth-Century Kapellmeister: The Life and Music of Antonio Rosetti* (Rochester, NY: University of Rochester Press, 2014).

relaxation of restrictions in September 2020 did allow a single, very socially-distanced attempt at playing together in the same, large room. Boxwood where then unable to meet again until June 2021 when, in part due to a very generous grant from *Continuo Foundation*, we were able to mount a short series of concerts in front of a limited audience. I was fortunate indeed that the members of Boxwood were willing to include my arrangements in those performances. The circumstances were, perhaps, not ideal: these were the first concerts of any kind most of us had done for 15 months, let alone as an ensemble, rehearsal time was limited due to accommodation restrictions, and further travel and isolation restrictions meant that we could not have entirely our normal group of players. Taken together with the social distancing on stage and in the venue I am delighted with the resulting performances and recordings.

Chapter 1

Historical Background

In November 1781, Mozart wrote to his father:

> At eleven o'clock at night I received [a performance of] a NachtMusick with two clarinets, two horns and two bassoons – and in fact of my own composition… The six men who executed [exequirn] it are poor devils [arme schlucker] who nevertheless play quite nicely together, in particular the first clarinet and the two horns… These musicians had the front door opened for them, and when they had formed in the courtyard, they gave me, just as I was about to undress for bed, the most delightful surprise in the world with the opening E-flat chord.
>
> [auf die Nacht um 11 uhr bekamm ich eine NachtMusick von 2 clarinetten, 2 Horn, und 2 Fagott – und zwar von meiner eigenen composition… die 6 Herrn die solche exequirn sind arme schlucker, die aber ganz Hüpsch [Hübsch] zusammen blasen; besonders der erste clarinettist und die 2 Waldhornisten… die Herrn also haben sich die hausthüre öfnen lassen, und nachdemm sie sich mittem im Hof rangirt, mich, da ich mich eben entkleiden wollte, mit dem Ersten E B accord auf die angenehmste art von der Welt überrascht.][1]

This '*NachtMusick*', or serenade, was the original version of K375, which Mozart had '*vernünftig geschrieben*' (written carefully, or neatly) for a performance at which he knew the music-loving chamberlain of the Emperor would be present, and who therefore was someone worth cultivating and impressing.[2]

In August 1809, Beethoven sent to the publisher Breitkopf & Härtel his wind sextet, also for clarinets, horns and bassoons, along with two songs, in part as payment for some books and copies of his works that Breitkopf had already published.

> The *Sextet* is from my early things and, what's more, was written in one night. Nothing more can be said about it than that it was written by a *composer* who has since produced at least a few better works; however, to some people, such works are the best.[3]

---

[1] Wilhelm A. Bauer, Otto Erich Deutsch, and Joseph Heinz Eibl (eds), *Mozart: Briefe und Aufzeichnungen* (Kassel: Barenreiter, 1962–2005) vol. 2, 171, Letter 638, 3 November 1781. NB. *Schlucker* also translates as 'eaters', 'swallowers' or 'gobblers', and so may be a now-untranslatable vernacular. However, note that *schluch* (with an h instead of a k) translates as 'sobbing'. The clarinettist may have been Anton Stadler, who had recently arrived in Vienna and was without a post.

[2] Simon P. Keefe, *Mozart in Vienna: The Final Decade* (Cambridge: CUP, 2017), 50.

[3] Emily Anderson (ed.), *The Letters of Beethoven* (London: Macmillan, 1961) vol. 1, 224.

Breitkopf published the sextet (op. 71) in January 1810, but sketches for the minuet suggest the piece was probably composed prior to 1796, and certainly refute Beethoven's suggestion that the piece was produced 'in one night'. His employer at this time was the Emperor's brother, Maximilian Franz, Elector and Archbishop of Cologne, and the composer's colleagues included the horn player, and future publisher, Nicolaus Simrock, and Anton Reicha, later composer of wind quintets. Further arguing against Beethoven's attempts to diminish the significance of the work is that the only known performance of it, nearly a decade after its composition and five years before the attempt at publication, was in April 1805 at a benefit concert for the violinist Ignaz Schuppanzigh. A review in the *Allgemeine musikalische Zeitung* described it as 'a composition which shines resplendent by reason of its lively melodies, unconstrained harmonies, and a wealth of new and surprising ideas.'[4]

Harmonien and Harmoniemusik

The compositional circumstances of Mozart's Serenade and Beethoven's Sextet are typical of Harmoniemusik, and between 1770 and 1830 many wealthy patrons and nobles in German-speaking lands employed a *Harmonie*. The term, in part applied retrospectively, is a broad one, denoting an ensemble of five to fifteen players, usually, but not limited to, pairs of oboes and/or clarinets, horns and bassoons, sometimes with the addition of flutes, cors anglais, trumpets, trombone, double bass, contrabassoon or other instruments.

These ensembles were status symbols, particularly following the formation of the kaiserlisch-königlich (Imperial) Harmonie in 1782 as an octet of oboes, clarinets, horns and bassoons,[5] although Piddocke shows that here there was at least occasionally also a contrabassoon.[6] Other nobles emulated the Emperor,[7] and in some places the wind players may also have provided the added benefit of making up a professional core for

---

[4] Ludwig van Beethoven, *Sextett Es-Dur op. 71, Marsch WoO 29*, ed. Egon Voss (Munich: Henle, 2011), V.

[5] See Martin Harlow, 'The Transcriptions for Wind Harmonie of Wenzel Sedlak (1776–1851)', Masters dissertation, University of Sheffield, 1996, for a history of the ensemble.

[6] Melanie Piddocke, 'Theodor Lotz: A Biographical and Organological Study', PhD dissertation, University of Edinburgh, 2011, 301–303.

[7] Damian A. Frame, 'The Harmoniemusik of Georg Druschetzky (1745–1819)', PhD dissertation, Queens University, Belfast, 1992, 6.

an orchestra with locally employed amateur string players. At about same time the octet also became the standard military band in Austria and Britain, albeit with added trumpets. Depending on the demands of their employer, the members of Harmonien could be liveried servants with limited musical skills and with many additional duties, or they could be full time musicians dividing their time between orchestra, Harmonie and opera.[8]

The surviving repertoire reflects the differing roles of the Harmonie: a mix of arrangements and original compositions in the various forms of marches and other military pieces, partitas, suites, serenades and divertimentos. Gillaspie et al's *The Wind Ensemble Catalog*, currently the most complete inventory of the known surviving repertoire, lists 'more than 13,000 works by more than 2,400 composers and arrangers'.[9]

'Performances' by historical Harmonien were probably as diverse as the ensembles themselves. Certainly the modern stereotype of bands functioning as jukeboxes providing background music during dinner happened, but even this is a developing area of research in terms of what these relatively formal occasions actually looked like: Whitwell for instance details several accounts that suggest Harmonien were as likely to perform after the meal to listeners as during it to diners.[10] Whitwell also quotes examples of bands giving regular open air concerts as early as 1774,[11] and numerous sources detail groups performing in concerts in theatres, including for the Tonkünstler-Societät, and on stage or in front of the curtain during the interval of opera performances. Opportunities to hear Harmonien were perhaps as varied and frequent as any other ensemble of the time, and it is difficult to imagine any number of works, including echo-partitas with spatially divided ensembles, or concerto-like works with keyboard soloists, as well as the extremely virtuosic pieces by Krommer or Triebensee as anything other than music to be played for listeners.

---

[8] Frame, *Druschetzky*, 5–6.
[9] Marshall Stoneham, Jon A. Gillaspie, and David Lindsey Clark, *The Wind Ensemble Sourcebook and Biographical Guide* (Westport, CT: Greenwood, 1997), vii.
[10] David Whitwell, *The History and Literature of the Wind Band and Wind Ensemble* (Austin, Tex.; Whitwell Publishing, 2012), Vol. 4 *The Wind Band and Wind Ensemble of the Classical Period*, 12–16.
[11] Whitwell, *Classical Period*, 96–97.

Arrangements were central to Harmoniemusik in the period 1775–1830. Arrangers, some of them highly prolific, produced large libraries of music, initially for the ensembles that they led or played in. Some subsequently published their works, or made them available in manuscript to other groups for copying. Most of the music arranged was contemporary, selections made up from operas being particularly popular: Gillaspie et al list more than 150 separate surviving versions of individual movements and suites from Mozart's operas;[12] approximately 130 arrangements from 27 operas by Rossini;[13] and more than twenty versions of Weber's *Der Freischutz*, including one version in 21 movements.[14] Instrumental music was arranged less often, possibly for reasons of market economics, but versions of piano music, Haydn's string quartets, and symphonies by Beethoven and Haydn were all created, as well as the overtures to many of the operas.

Because of the variety and breadth of repertoire he transcribed, possibly the most important figure in Harmoniemusik arranging was Joseph Triebensee (1772–1846). His journals *Harmonien Sammlung* (1803–1804) and *Miscellannées de Musique* (1808–1813) comprise arrangements of opera (both individual numbers and multi-movement sets), piano works, chamber and orchestral music, and original compositions (variations, marches, dances and larger-scale partitas). Through these and other individual works Triebensee created a large repertoire for Harmonie, ranging from eight to ten parts, although the trumpet and contrabassoon parts in the larger ensembles often seem to have been considered to be optional.[15]

---

[12] Jon A. Gillaspie, Marshall Stoneham, and David Lindsey Clark, *The Wind Ensemble Catalog* (Westport, CT: Greenwood, 1998), 402–405.
[13] Gillaspie et al., *Wind Ensemble Catalog*, 417–421.
[14] Gillaspie et al., *Wind Ensemble Catalog*, 434–435.
[15] Stoneham et al., *Wind Ensemble Sourcebook*, 28–29.

Figure 1.1 Joseph Triebensee (1772–1846) (Österreichische Nationalbibliothek digital library)

Joseph and his father, George (1746–1813), were both oboists: George was a founder member of the Imperial Harmonie, along with Johann Wendt (Went, Vent, Wend, Wenth, Venti) (1745–1801), who was the ensemble's leader, and a prolific and capable arranger.[16] Because orchestra lists of the time usually only give surnames there is often some confusion over which of the Triebensees took part in any particular performance: Edge for instance, lists Joseph as having taken part in opera performances in the early-1780s, at the age of 9 or 10, which seems unlikely.[17] It is unclear, therefore, whether father or son played in the premiere of Beethoven's Quintet op. 16 with the composer in 1797, but Joseph did play in the first performances of Mozart's *Die Zauberflöte* in 1791. At around the same time he first played in a wind octet formed by Prince Liechtenstein, and in 1794 he was appointed as *Kapellemeister* and leader of the Liechtenstein

[16] Harlow calls him the 'most prolific': Harlow, *Sedlak*, 2.

[17] Dexter Edge, 'Mozart's Viennese Orchestras', in *Early Music*, Vol. 20, No. 1, Performing Mozart's Music II (Feb., 1992), 72–73

Harmonie, a position he held until the group was disbanded in 1809.[18] Triebensee then held a number of other positions until he succeeded Weber as Director of the Prague Opera, a post he held from 1816 until his retirement in 1836.[19]

Figure 1.2 shows the contents of the first two volumes of the *Miscellannées*, demonstrating the wide variety of music Triebensee arranged: three symphonic movements; two orchestral movements and four marches from operas; two chamber works; and the rest operatic vocal numbers.

	Oeuvre 1	Oeuvre 2
1	Mozart Symphony no. 39 in E-flat K543: 1st mvt.	Paer *Sofonisbe* overture
2	Pleyel Piano Sonata (Piano Trio B444: ii. 'Air Ecossais': Adagio ma non troppo)	Beethoven Piano Quintet op. 16: Andante
3	Seyfried *Alamor der Mauer* Marcia	Weiss *Amphion* Allegretto
4	Diabelli Tambourin Solo der Mademoiselle Neumann	J.B. Cramer 4 Divertimentos op. 17 no. 3/I Maestoso (as Marsch)
5	Paer *Sofonisbe* duet	Seyfried *Mitternacht* duet
6	Maurer *Arlequin und Columbine auf der Alpes* pas de deux (Niederlanden Bauern)	Weiss *Amphion* Pas de deux
7	J. Weigl *Kaiser Hadrian* march	Méhul *L'Irato* aria
8	Grétry *Zemire et Azor* Spiegel Terzett	Mozart Symphony no. 36 in C K425 *Linz*: 2nd mvt.
9	Anton Fischer Das Singspiel auf dem Dache aria	Lesueur *Ossian* Marsch 'Der Kaledonier'
10	Cherubini *Anacréon* Grossen Tanz Aria	Haydn Symphony 102: Finale, Presto

Figure 1.2 Josef Triebensee's Miscellanées de Musique, contents of Jahrgang I, Oevuvre 1 and 2, 1808

There is much research still to be done with this huge collection of music (at least 32 issues, each containing ten or more movements, spread over twelve or sixteen pages per part, all issued in manuscript) but Stoneham et al. suggests that between 1808 and 1813 there were three issues per year, each of two Oeuvres, timed to fit the movements and

[18] It was reformed three years later under Wenzel Sedlak's leadership.
[19] See Stoneham et al., *Wind Ensemble Sourcebook*, 314–315; and Harlow, *Sedlak*, 10–14.

activities of the courts.[20] The music included was initially selected according to the needs of the season following the issue, so for instance pieces suitable for outdoor serenading in the summer, or appropriate for winter social events. Opera selections reflected the current popular favourites, but also responded to the publications of other publishers and arrangers: later oeuvres focus almost exclusively on opera, which may coincide with the beginnings of the Chemische Druckerei *Journal für neunstimmige (und sechsstimmige) Harmonie*, each volume of which was dedicated to a single large-scale opera arrangement.

1	Joseph Weigl	*Der Schweizerfamilie*
2	Ignaz von Seyfried	*Saul, Konig von Egypt*
3	Gasparo Spontini	*La Vestale*
4	Nicolò Isourard (Nicolo)	*Cendrillon* (in 2 volumes)
5	Gasparo Spontini	*Fernand Cortez*
6	Adrien-François Bouildieu	*Jean de Paris*
7	Louis Duport	*Zephir*
8	J N Hummel	*Die Eselshaut*

Figure 1.3 The issues of the Chemische Druckerei's *Journal für neunstimmige (und sechsstimmige) Harmonie* 1810–1814

The reasons that arrangements of opera are such a feature of Harmonie repertoire are various and difficult to tease out, but may have much to do with the historical popularity of the medium, its entertaining nature, and because the relative simplicity of the music – an obvious theme, relatively static harmonically, with simple accompaniment textures – made it easier and faster to arrange. Many of the arrangers were the same musicians who performed these operas, and so they had ready access to the source materials, including piano scores, from which to make their arrangements. Performances of orchestral music happened rather less frequently than opera, with shorter rehearsal periods, and composers guarded the performing materials rather more jealously. Opera was ephemeral, and 'all evidence seems to suggest that Harmoniemusik transcriptions [of opera], enabling the nobility to rehear popular melodies of the day, were on the whole produced fairly rapidly after the original opera and ballet productions… once in

[20] Stoneham et al., *Wind Ensemble Sourcebook*, 29–31.

the public domain there would appear to have been a rush to produce the first transcription of a popular new opera or ballet.'[21]

Today, as Stoneham et al. acknowledge, the best-known Harmonie scoring is probably the octet or nonet favoured by Triebensee, by Mozart for two of his serenades, and by Beethoven and Krommer for their partitas.[22] This was not the case during the heyday of Harmoniemusik. The sextet of two clarinets, two horns, and two bassoons was established at least by the 1770s and continued well into the nineteenth century, Stoneham et al. arguing that this was 'the commonest form' of wind ensemble[23] and 'was adopted earlier than the octet, and for many purposes outlasted [it]'.[24] Printed journals of Harmoniemusik focused on the sextet 'as a core band, with extra instruments optional to some degree, [and] this remained the standard core military (and often civilian) band throughout Europe until the 1840s, despite the attraction of octets.'[25] Both the octet/nonet and sextet were standard until at least 1820, but after this 'new arrangements for [sextet] had disappeared, although such bands continued to play in small towns throughout the Austrian Empire until World War I.'[26]

The reasons for the modern dominance of the 'octet' over the sextet are to do with canon – the works by Mozart and Beethoven – as well as the popularity of Krommer's partitas and the accident of history that meant that because of popularity of the octet in classical Vienna this ensemble offered the greatest amount of readily available repertoire to researchers and performers prior to the fall of the Iron Curtain.

The octet is not *better* than the sextet any more than the string quintet or sextet is better than the string quartet. The octet by dint of having more players arguably provides greater opportunities and sonic possibilities for the arranger or composer, but by that argument the ensemble of Mozart's 'Gran Partita' K361 should be even more successful, and that piece is unique in its scoring. (It is also, arguably, not

---

[21] Harlow, *Sedlak*, 4.
[22] Stoneham et al., *Wind Ensemble Sourcebook*, 343.
[23] Stoneham et al., *Wind Ensemble Sourcebook*, 343.
[24] Stoneham et al., *Wind Ensemble Sourcebook*, xviii.
[25] Stoneham et al., *Wind Ensemble Sourcebook*, 21.
[26] Stoneham et al., *Wind Ensemble Sourcebook*, 64.

Harmoniemusik as no single Harmonie has been identified for which it can have been composed.) Any suggestion that the sextet is somehow lacking as an ensemble because of its lack of tonal variety must fail when compared with the, on the face of it, single colour of the string quartet.

As a performer and arranger, I find the sextet to be an inherently intimate ensemble, capable of creating chamber music, with enough parts to allow interesting and varied textures and colours. The three pairs of instruments, each with a range approaching three octaves, biased towards the alto and tenor ranges, are all relatively soft-toned, but are also flexible and versatile, blending easily. Each pair of instruments also has their own clearly defined character, further expanded when using historical instruments by the availability of different crooks for the natural. With six players, discussion during rehearsal is constructive and democratic: there are enough people for debate, but they are grouped into only three instrumental camps. There are not so many opinions that someone is required to be in charge to make interpretive decisions, as is the case with larger ensembles.

These are the reasons Boxwood & Brass, the Harmonie of which I am a member and for which I arrange, is predominantly a sextet.

The composition of Mozart's K375 in 1781 and the long life of Beethoven's Sextet op. 71 (composed *c.*1796; performed 1805; published 1810) demonstrate a continuing mainstream interest in the sextet during the classical era, as also do the publication of Castil-Blaze's Sextet no. 1, op. 18 in 1832, and the dual scorings of the Chemische Druckerie *Journal*. Like every other form of wind ensemble, the reasons that the sextet, which emerged at the same time as the string quartet, was *not* adopted as an accepted chamber music medium are complicated, but have nothing to do with its efficacy as a grouping.

'Creating a new repertoire…'

To begin working through 'creating a new repertoire of idiomatic and challenging arrangements for historical wind instruments', the limitation of the sextet as a modern ensemble that performs concerts (rather than the historical ensembles with multiple roles) is the small number of original compositions for it by so-called canonical

composers. Besides Mozart's Serenade and the Sextets of Beethoven and Castil-Blaze, there is also Weber's rather less substantial Adagio and Rondo of 1808 (perhaps separate movements rather than a single piece), a number of pieces by their less well-known contemporaries (e.g. Franz Krommer, Ignaz Pleyel and Georg Druschetzky), and many arrangements. But most of these arrangements are of opera extracts, and many of these, especially those made after 1800, are by-products, reductions of nine-part versions, as with the *Journals für neunstimmige (und sechsstimmige) Harmonie*.[27] There are a handful of six-part arrangements of non-operatic instrumental music: an anonymous version of Mozart's horn quintet K407 published by Breitkopf & Härtel *c.*1805; his string quintet in E-flat K614 as Stumpf's *Grand Serenade*, 1799; and Carl Czerny's arrangement of Beethoven's Septet op. 20. But potentially important advertised arrangements in six parts of Beethoven's Seventh and Eighth Symphonies, and Mozart's C minor Serenade (all listed in Gillaspie et al.) were either never completed, haven't so far re-surfaced, or haven't survived.

For modern audiences opera arrangements can give an opportunity to re-discover works by composers once immensely popular but who are now no longer recognised, for example by Boieldieu, Paer, Weigl, Winter or Wranitzky. Wendt's and Triebensee's eight-part arrangements of Mozart's mature operas are performed and recorded quite frequently, but my experience of playing later arrangements (e.g. by Sedlak, or those issued by Chemische Druckerie) suggests they often show much less individuality, personality, and concern for instrumental colour and technique than the works of Triebensee or Krommer. These arrangements possibly work better in circumstances that mirror their original performances than in modern concert programmes, with listeners that are perhaps also enjoying a drink, or even quiet conversation, rather than in rapt silence sat in serried rows.

This difference between the outputs of Triebensee and Sedlak begins to touch on the difference between *transcription* and *arrangement*. Transcription implies transfer with little intervention, the original's textures and lines being preserved as far as possible. The transcriber places each line unchanged into a part that can more or less play it, creating something which is arguably faithful to the original. I would counter, however,

---

[27] Stoneham et al., *Wind Ensemble Sourcebook*, 31.

that by having the original lines played by different instruments the transcriber creates a thing which is *less* like the original. The clarinet is not the same as the violin, despite having similar ranges. A transcription might give a satisfying impression, or simulacrum, of the original, but it will remain a transcription for Harmonie. An arrangement, on the other hand, will show a more careful, nuanced and individualistic handling of each instrument, and perhaps a willingness to be free with the text to create a more satisfying piece for Harmonie, preserving the spirit of original that is lost in the more literal transcription. 'Good music arranged for wind may not be good wind music. The idiomatic use of wind harmony as a proper medium in its own right characterizes the best wind music.'[28]

The six-part Harmonie is, then, an historically important and effective ensemble, but one with a very small repertoire. There was at least one historical performer-arranger who worked with a sextet: the clarinettist Václav Havel (*c.*1778–post 1826) produced more than 70 different compositions, reductions and arrangements, mostly for sextet but occasionally also with an optional trumpet part. These arrangements are typically of string quartets by Krommer and Pleyel, or reductions of pieces for larger wind ensembles, and a number of these are available in modern editions, but these suggest that Havel utilised a relatively crude (but possibly common) working method, forgoing a score and copying straight from source parts to his new parts, making changes as he went. This method inevitably leads to errors, and Havel often omitted important instrumental lines, and very often left out the dynamics and articulation, perhaps assuming his players would supply them in performance. The arrangements of Krommer's op. 57 and four movements from Mozart's K361, for instance, give the impression of having been prepared quickly; they are basic and workmanlike, and require considerable (additional) editorial input before and during rehearsal to be effective. I have, though, found that with enough intervention Havel's arrangements can be made into useful concert repertoire.

What the sextet lacked historically was a figure like Joseph Triebensee, an arranger who produced high-quality arrangements sourced from a variety of genres. This is the role I am aiming to fill, creating new, concert-appropriate repertoire for wind sextet through

---

[28] Stoneham et al., *Wind Ensemble Sourcebook*, 9.

new arrangements. In doing this I am largely mirroring the practices of the historical performer-composer-arranger: creating a repertoire tailor-made for my ensemble and for the players within it, and which is unique to Boxwood & Brass.

'… idiomatic and challenging…'

Central to this research project is the question of how to make both the arrangements and the writing for wind instruments they contain idiomatic. Idiom may be defined as 'a characteristic mode of expression in music or art.' Idiomatic is 'using, containing or denoting expressions that are natural to a native speaker' or 'appropriate to the style of art or music associated with a particular period, individual, or group.'[29] Therefore I am aiming to be idiomatic both to the style of the period *and* to the instruments I might expect to find in the ensemble.

It is important to be as idiomatic as possible because the limitations of historical instruments demand it, but so also do the expectations of the players. Player expectations are in part generated by their training, but fundamentally there is little point writing for historical instruments and the people that play them if one then ignores the very experiences, knowledge and capabilities that they bring.

Some features of instrumental writing that might define 'idiomatic' in writing for historical instruments:

- Tonalities typical for the instrument.
- Written range appropriate for both the model of instrument (number of keys; national style) and the period of the music.
- Written range appropriate for the role the instrument plays in a given piece/ensemble: concerto soloist and accompanist are different roles with different ranges, however these roles may be subverted for effect.
- Written tessitura that matches historical examples.

Therefore, questions to be considered when examining historical wind writing might include:

[29] Definitions from Oxford Languages, retrieved via Google.co.uk.

- Are any pitches or registers typically avoided, and for what reasons or in which circumstances?
- What are the instrumental clichés that are typically employed?
- In ensemble writing, how does a pair of instruments operate together: is there independence of part-writing, or do they only always function in parallel thirds and sixths, or octaves?
- Do a pair of players each have clear roles, each perhaps limited to a single register, as, for instance, do the horns?
- Is there, in fact, a norm to conform to, or is there no 'typical' but rather a composer's own individual style?

Consideration of what is idiomatic quickly raises the issue of whether something is truly unidiomatic, or merely *difficult*.

Difficulty comes from, *inter alia*:

- The unfamiliar: finger patterns; rhythms; intervals, leading to unexpected pitching or voicing; articulation patterns.
- Velocity: either in terms of finger movement, even when an 'easy' pattern, or of speed of tonguing.
- Demanding tone control: slow music; long phrases; extremes of dynamic.
- The mechanically or technically awkward, caused by the required finger movements on the instrument.
- Pushing against the limits of the technology of the instrument: the number of notes per second; or the limits of stability of the instrument, so that pitches cannot, or do not get the opportunity to sound before the next one is required to start; unstable or flexible pitches (i.e. the acoustically poor notes on the instrument) making shaky platforms from which to leap to the next pitch.
- Pushing the reliability of the instrument, so that the ability to replicate a pattern is limited by the instrument rather that the player: typically 'primitive' key work not guaranteeing a hole will be fully sealed unless the player is able to carefully and fully depress the key.
- The player's limits of strength, stamina, focus, or flexibility.

- Interval leaps, which the acoustics of the tube might fight against: moving between extremes of length of bore, particularly short tube to long, and especially descending – relaxing is more difficult than tensioning; or between two pitches which share the same or very similar fingerings and are part of the same harmonic series.

If something is familiar, then it already exists. And if something exists in historical examples, can it be unidiomatic? Well, yes, and there are also many examples of 'bad' writing: the vague period of 'the historical' wasn't some idyllic utopia where every composer could write well for every instrument, any more than they never wrote consecutive fifths.

The problem is separating the *difficult*, which can be alleviated given enough practice, from the *unfamiliar*, the *unidiomatic*, or the *badly written*, and the distinction between these three is not always clear.

Unfamiliar finger patterns, rhythms, voicing, and articulations can all be learnt and made familiar. But learnt finger patterns can still be awkward and unidiomatic. For many notes or patterns on woodwind instruments there are 'tricks', alternative fingerings or hand positions that facilitate the otherwise difficult, but usually at the expense of tone quality or perfect intonation.

Velocity can be overcome and learnt, to an extent, limited by instrumental resistance and shaky platforms. Tone control comes with practice, again unless limited by the instrument. Instrumental limitations will remain, and here perhaps lies the unidiomatic.

Consider the following:

Idiomatic		Unidiomatic
Challenging		Difficult
Rewarding		Frustrating

The difficult can still be idiomatic, but in this model difficult becomes challenging and rewarding, and thereby, hopefully more pleasurable for the player.

The music I am arranging, the repertoire I am creating, is not about virtuosity for its own sake. If, even within an otherwise idiomatic part, a player has to concentrate all their energies on only playing the notes, or on coaxing their instrument to perform miracles, they have less capacity available to them for musical communication with their colleagues and the audience: I need to leave space for the expressive music making that my chosen repertoire demands.

Here Mooney's model of the frameworks and affordances that tools and other technologies bring to music making is helpful.[30] An *affordance* is what an environment offers the individual, and Mooney gives the simple example of a cup, which affords both drinking and smashing. Smashing is easy, drinking less so because it requires knowledge and experience. Space travel, using a cup, is impossible. This range of affordances forms a spectrum. Any object, concept, or tool that contributes to the performance or creation of music forms part of a framework of affordances, all exerting an influence on the end result. For the composer/arranger, for example, the process of getting notes on the page, and therefore the resulting composition, changes if one is physically writing using a quill pen and iron-gall ink, where a mistake requires either the crossing out of whole passages or the careful scraping away of paper, a pencil[31], or computer software with infinite possibilities for copy and paste. For the player of a wind instrument there is a framework created by the physiology of the mouth, throat, chest etc., the reed set-up they find physically most comfortable, the sound they wish to make, and the fingerings that will work well or not at all on their instrument. However, by choosing one framework over another we do not 'subscribe ourselves to one single predictable outcome, but rather to a range of possible outcomes that are enabled by the affordances of that framework.'[32] For the performer, the further up the spectrum of affordances in the instrument/player framework they are required to operate, i.e. the

---

[30] James R. Mooney, 'Frameworks and affordances: Understanding the tools of music-making', in *Journal of Music, Technology and Education*, 3(2/3) (2010), 141–154.
[31] With all its myriad sharpening possibilities: see David Rees, *How to Sharpen Pencils* (Brooklyn, NY: Melville House, 2013).
[32] Mooney, *Frameworks*, 151.

more difficult the part, or the more the part demands of their instrument, the more 'effort' is expended on achieving the extreme, and therefore the less space within the framework is available for music-making.

With 'modern' instruments, the 'best' players are those that find ways, either through natural ability or long hours of practice, to overcome the remaining problems on their technology. With historical instruments, however, these limits are much harder, or impossible, to overcome: they cease to be 'problems' or 'limits' and are fixed characteristics of the instrument. These are what set the limits of the idiomatic, not the abilities of the player.

Performers on historical instruments have typically spent many years training on their chosen instrument, once as a modern performer, and then again on the historical version of it. For many of us there are multiple 'historicals': baroque, classical, and 'romantic'. Each of these can be subdivided into different national types (French, German, Viennese, English…) and further time periods, and each has a different associated instrument, mouthpiece, reed, and set of fingerings. And each of these specialisms also has an associated performance style in which we try to be expert, but in which we also constantly strive to increase our knowledge. These are the driving factors behind many historical specialists' choice of field: we relish the mix of the academic and artistic. But a major reason we play these instruments is because we enjoy the historical style of writing. Other styles on the same instruments feel unidiomatic to the players and so therefore sound ineffective and work against our performance practice paradigms. Modern instruments can do (nearly) anything, and players are trained to practice, or attempt, most things. It is, however, very difficult on stable and 'in tune' modern instruments to make the sort of phrasing shapes and dynamic contours that we make easily using historical instruments. The *point* of historical instruments, the reason we play them, is their colours, their flexibility, and indeed their limitations.

However, those same twenty-first century training methods mean that players of historical instruments, even given the instruments they have chosen to play, have a different idea of what is possible on their instruments, and even of what 'possible' means, than existed around 1810. In a new work for historical instruments, be it an arrangement or a new composition, my experience is that a modern historical performer

will usually attempt to play it regardless of whether it is playable or not. The performers of Boxwood have always made valiant efforts to play any new material I have presented to them, even practising a passage for several days: they have always succeeded on some level, putting down any inaccuracies to their own perceived deficiencies, rather than the fact that what I have written is unsuitable or unidiomatic for their instrument. But if the orchestration is outside the idioms of historical usage, if there is no parallel for it in the literature, then the nature of our instruments is that an unidiomatic passage will sound 'wrong'.

For these reasons new arrangements should, in general, be of repertoire that is appropriate for our instruments, dating from about the same period (1780–1830), and should also be created so that they can be performed *and sound well* on historical instruments. To function satisfactorily as chamber music, they should also be technically and expressively satisfying to play.

'… arrangements…'

Arrangements were very much part of musical culture at the beginning of the 19th century, particularly in Vienna. This was the highpoint of the potpourri in Vienna: immensely popular entertainments based on existing opera scores or selections of unconnected arias, transformed into pantomimes with new, light-hearted librettos. Orchestral works were typically advertised in versions for string quintet, piano trio, piano duet, piano solo, and various sizes of wind ensembles (see Figure 1.4). These arrangements had a number of different 'functions', including: generating income directly for the publisher (the composer usually only received a fee for the initial piece); providing publicity for the 'main' version of the piece in question; serving as educational tools for the betterment of the growing middle classes; and providing study aids and teaching material or analyses, for example the 'parolisations' of Beethoven symphonies and Mozart string quartets etc.[33]

[33] see particularly Myron Schwager, 'Some Observations on Beethoven as an Arranger', in *Musical Quarterly*, vol. 60 no. 1, (Jan. 1974), 80–93; and Wiebke Thormählen, 'Playing with Art: Musical Arrangements as Educational Tools in van Swieten's Vienna', in *Journal of Musicology*, Vol. 27, No. 3 (Summer 2010), 342–376.

Anhang.

Meteorologische Beobachtungen der k. k. Universitäts-Sternwarte.

	Zeit d. Beobachtung.	Therm. nach Reaumür.	Barometer.	Wind.	Witterung.
Den 7. März	10 Uhr Abends.	7 1/2 Grad über 0	27 Z. 11 L. 2 P.	S. schwach.	Trüb.
— 8. » »	8 Uhr Morgens.	6 1/4 » » über 0	28 — 0 — 1 1/2 —	W. stark.	— —
	3 Uhr Nachmittag.	5 3/4 » » über 0	27 — 11 — 9 —	W. schwach.	Regen.

Angekommene Ausländer und Inländer.

Den 7. März.

Hr. Wenanfon, Russisch-kaiserl. General, aus Meiland, (wohnt in der Stadt Nr. 1026).
Hr. Joan Nekulau, Türkischer Handelsmann, von Ofen, (Wohnung unbekannt).
Graf Daun, Major von E. H. Carl Infanterie, von Krems, (St. Nr. 1205).
Fürst Ahremberg, von Prag, (St. Nr. 962).
Graf Waldstein, Fähnrich von Alexander Infanterie, von Prag, (Alserkaserne).
Hr. v. Dedovich, k. k. G. F. M. L., von Brünn, (Wohnung unbekannt).
Gräfinn Klenau, k. k. Generals Gemahlinn, von Brünn, (St. Nr. 145).

Abgereiset.

Den 7. März.

Hr. v. Marzipany, Edelmann, nach Ofen.
Hr. Angeli, Wachshandler, und Hr. Guttmann, Handelsmann, beyde nach Pest.
Hr. Hopf, Handelsmann, nach Brünn.

Kundmachung.

Da die Maurer- und Zimmermanns-Arbeiten bey dem Abbrechen des Laurenzer Klostergebäudes im Wege einer am 9. d. M. Nachmittag um 4 Uhr bey der Stadthauptmannschaft abzuhaltenden neuerlichen Lizitazion werden behandelt werden, so wird solches zu dem Ende kund gemacht, damit die Maurer- und Zimmermeister, welche diese Arbeiten übernehmen wollen, sich bey der Lizitazion einfinden mögen.

Von der k. k. Stadthauptmannschaft.
Wien am 6. März 1816.

Sebastian Angermayer,
k. k. Nied. Oesterr. Regierungsrath.

Kunst und Literatur.

Bey S. A. Steiner und Comp.,
k. k. privil. Kunsthändler und Inhaber der priv. Chemie-Druckerey, zu Wien am Graben Nr. 612 im Paternostergäßchen,
ist ganz neu erschienen:

Wellingtons Sieg,
oder
die Schlacht bey Vittoria.

In Musik gesetzt
von
Ludwig van Beethoven.
9tes Werk.

Unserm Versprechen gemäß ist nun dieses klassische Tonwerk, das bey den Produkzionen Freunde und Kenner der Tonkunst durch den kühnen Schwung harmoniereicher Entwickelungen in Erstaunen setzte, und ihre Achtung für Beethovens Genie bis zur Bewunderung steigerte, in unserm Verlage bereits erschienen. Nicht verkennen wird man unser Bestreben, die Ausgaben, die wir hievon veranstalteten dem innern hohen Werth gemäß, nach Möglichkeit auch im Aeussern gefällig, ja wir könnten sagen: sehr schön, ausgestattet zu haben. Für die Korrektheit spricht mehr als jede andere Empfehlung, daß Herr van Beethoven selbst die unmittelbare Revision sämmtlich nachbezeichneter Ausgaben besorgte. — Die P. T. Herrn Subskriventen belieben ihre vorgemerkten Exemplare gegen Erlag des bestandenen Pränumerazionspreises in Empfang zu nehmen.

Für alle übrigen P. T. Herrn Abnehmer treten nunmehr folgende Preise ein.

1) Für die vollständige Partitur 20 fl.
2) Für das ganze Orchester in einzelnen Auflagstimmen 30 fl.
3) Für das Quintett für 2 Violin, 2 Violen und Violonzello 7 fl.
4) Für das Pianoforte mit Begleitung einer Violin und Violonzell 7 fl.
5) Für das Pianoforte auf 4 Hände 7 fl.
6) Für das Pianoforte allein mit einem sehr schönen Titelkupfer 7 fl.
7) Für vollständige türkische Musik 20 fl.

Ferner wird Pränumerazion angenommen,
auf
zwey neue grosse Sinfonien
(in A. und F. dur)
von
Ludwig van Beethoven,
welche im k. k. priv. Kunst- und Musikverlag der Unterzeichneten, in unten bemerkten Ausgaben erscheinen werden.

Der Nahme des genialischen Herrn van Beethoven bürgt gewissermassen schon für den hohen Werth der hier angekündigten zwey neuen grossen Sinfonien desselben. Aber auch ohne Vorsetzung seines Nahmens würde jeder im Gebiete der Tonkunst Eingeweihte, den Schöpfer dieser Meisterwerke nicht verkennen. Denn so wie Herr van Beethoven anerkannt der grösste Compositeur unserer Zeit ist, eben so gehören auch diese Sinfonien — welche hier in Wien bey den zum Besten wohlthätiger Zwecke veranstalteten Concerten unter eigener Leitung dieses verehrten Compositeur mit ausserordentlichem Beyfall ausgeführt wurden — unter die gelungensten Schöpfungen seines reichen tiefbegründeten Genies.

Originalität ist ihr Hauptcharakter, und der systematische Wechsel von blühender Harmonie, von Zartgefühl und Kraft, Lieblichkeit und kühnen ergreifenden Modulazionen, herzlichen Melodien und frappanten Tonfällen stempelt sie zu grossen Kunstwerken. Oft staunt selbst das geübte Ohr bey den tiefen Mysterien ihrer seltsamen Fantasien, doch enthusiastische Begeisterung ergreift es, wenn bey wiederholtem Hören der Tonsatz krystallrein in himmlischer Klarheit sich entfaltet.

Um nun alle Freunde der Tonkunst in dem Genusse dieser herrlichen Kunstwerke, — welche wir kaufich als Eigenthum an uns gebracht — zu setzen, haben wir uns entschlossen, eben solche Ausgaben, wie bey dem bereits in unserm Verlage erschienenen mit dem seltensten Beyfall aufgenommenen Meisterwerke Beethovens, betitelt: Wellingtons Sieg — zu veranstalten, nämlich:

(Pränumerazions-Preis in W. W.)

1) Vollständige Partitur 25 fl.
2) Vollständiges grosses Orchester in Auflagstimmen 30 fl.
3) In neunstimmiger Harmonie 20 fl.
4) In Quintett für 2 Violinen, 2 Violen und Violoncello 10 fl.
5) In Trio für das Pianoforte, mit Violin und Violonzello 10 fl.
6) Für das Pianoforte auf 4 Hände 10 fl.
7) Für das Pianoforte allein 6 fl.

Sämmtlich diese Ausgaben werden unter der unmittelbaren Revision ihres Schöpfers: Herrn Ludwig von Beethoven, vollendet. — Wir werden keine Kosten sparen, um selbe dem innern Werthe angemessen auch im Aeussern schön und korrekt auszustatten, daher auch Stich, Papier und Druck derselbe wie bey der Ausgabe von Wellingtons Sieg seyn wird.

Zur Beseitigung aller unrechtmässigen und unrichtigen Bearbeitungen werden wir alle diese obangeführten Bearbeitungen an ein und denselben Tag ausgeben.

Figure 1.4 Steiner's advert for Beethoven's Seventh & Eighth Symphonies, and the *Wellingtons Sieg*, showing the range of available arrangements. Wiener Zeitung 9/iii/1816, p.3; retrieved from: anno.onb.ac.at

Beethoven issued a number of notices in the public press denying that various arrangements of his works had anything to do with him, and in 1802 he wrote to Breitkopf & Härtel saying:

> The *unnatural mania*, now so prevalent, for transferring even *pianoforte compositions* to stringed instruments, instruments which in all respects are so utterly different from one another, should really be checked. I firmly maintain

> that only *Mozart* could arrange for other instruments the work such as he composed for the pianoforte; and *Haydn* could do this too — And without wishing to force my company on these two great men, I make the same statement about *my own pianoforte sonatas also*, for not only would whole passages have to be entirely omitted or altered, but some would have to — be added; and there one finds the nasty stumbling block, to *overcome which one must either be the composer himself* or at any rate possess the same *skill and inventiveness*.

Characteristically, having criticized the whole business of arrangements, despite previously having suggested any number of possible combinations for which his Septet op. 20 could be arranged, and suggesting only Mozart and Haydn were capable of making arrangements of their own piano music, he continues:

> I have arranged only one of my sonatas for string quartet, because I was so earnestly implored to do so; and I am convinced that nobody else could do the same thing with ease.[34]

setzen / arrangé / für

In July 1782 Mozart wrote a letter to his father that includes reference to an arrangement of *Die Entführung aus dem Serail* (or so it is widely accepted to be) he was rushing to complete:

> Nun habe ich keine geringe arbeit. - bis Sonntag acht täg muß meine Opera auf die Harmonie gesetzt seyn - sonst kommt mir einer bevor - und hat anstatt meiner den Prosit davon; und soll nun eine Neue Sinphonie auch machen! - wie wird das möglich seyn! - sie glauben nicht wie schwer es ist so was auf die harmonie zu setzen - daß es den blaßinstrumenten eigen ist, und doch dabey nichts von der Wirkung verloren geht…[35]

This letter has generated a lot of discussion in Harmoniemusik research[36] and is normally translated as:

> Well, I am up to my eyes in work, for by Sunday week I have to arrange my opera for wind instruments. If I don't, someone will anticipate me and secure the

---

[34] Anderson, *Letters of Beethoven*, vol 1, 74–5, letter 59.

[35] Bauer et al. *Mozart Briefe* vol. 2, 213, Letter 677, 20 July 1782.

[36] see in particular Bastiaan Blomhert, 'The Harmoniemusik of "Die Entführung aus dem Serail" by Wolfgang Amadeus Mozart: Study About its Authenticity and Critical Edition', PhD dissertation, University of Utrecht, 1987; Roger Hellyer, 'The Transcriptions for "Harmonie" of "Die Entführung aus dem Serail"', in *Proceedings of the Royal Musical Association* vol. 102 (1975–1976), 53–66, etc.

> profits… You have no idea how difficult it is to arrange a work of this kind for Harmonie so that it suits these instruments and yet loses none of its effect.[37]

Regardless of the identity of the opera in question, or indeed the existence or authenticity of any existing candidate arrangements, the interesting point for me here is that Mozart uses the terms *gesetzt* and *setzen* to describe the activity that he is doing to his opera. Rather than *arrangement* this translates more as *set for*, as in setting a text to music for a song.[38] *Setzen* is also the term Mozart used when writing to his father apparently about *composition* for Harmonie:

> der Junge fürst liechtenstein [sic], er will es aber noch nicht wissen lassen: dieser will eine Harmonie Musick aufnehmen, zu welcher ich die stücke setzen soll…
>
> the young Prince Liechtenstein would like to collect a Harmonie (though he does not want it to be known), for which I should write [*setzen*] the music…[39]

Similarly, the title pages of Steiner's publications (e.g. the string or piano versions of Beethoven's Seventh) use either the form '*für* [ensemble] *eingerichtet*', i.e. *furnished*, or possibly *set in the correct order,* or lack any modifier and are simply *for* Harmonie, as in '*Siebente Sinfonie für neunstimige Harmonie von Ludw. van Beethoven*'. The term *arrangé*, however, is used when the title page uses French, as in Starke's *Egmont* Overture, or the *Sonate Pathétique* arrangement, both also published by Steiner *c.*1810.

This suggests to me that these re-workings were not seen *merely* as 'arrangements' but rather other, parallel versions, a fact reinforced by the frequency with which they have different bar-counts and inter-movement key relationships than the 'original' versions. In the case of Beethoven's Seventh and Eighth Symphonies I have already shown (Figure 1.4) how multiple versions of a work could be marketed and advertised with the same level of importance.

Mozart made arrangements of his own works and of Bach, Handel, and others, including in the music for the on-stage Harmonie in *Don Giovanni*. Even these,

---

[37] Translation from Hellyer, *Transcriptions*, 55.

[38] I am grateful to Dr. Katy Hamilton for her assistance with the historical German.

[39] Bauer et al., *Mozart Briefe* vol. 2, 194, Letter 660, 23 January 1782. Translation from Harlow, *Sedlak*, 10. Possibly so as not to pre-empt the Emperor, Liechtenstein did not in fact form his Harmonie until some time later, under the leadership of Triebensee.

however, generate polarised opinions. Writing about Mozart's own arrangement, or perhaps better *re-working,* of the C minor Serenade K388 for string quintet (as K406) Alfred Einstein considered that 'the transcription was made purely for "business" reasons'[40] and 'Mozart himself transformed it from "open-air music" to chamber music, even though it lost much thereby in power and beauty'.[41] Barry Cooper considers that 'Mozart made a transcription that is almost mechanical, even to the extent of including figuration that does not particularly suit strings'.[42] Radice, however, writes that Mozart felt that the original Serenade was

> too good to let pass by the wayside after only a few hearings. Indeed the version for string quintet is so thoroughly convincing that one must question whether, perhaps, Mozart envisioned the string quintet scoring of the piece even as he wrote the serenade version. The formal complexity of the score and its contrapuntal richness – exceptional in music for wind ensembles at the time – would certainly suggest this view.[43]

The heyday of Harmoniemusik was close to the beginnings of the emergence of the concept of the 'musical work', and arrangements for wind ensembles repeatedly emphasise how weak this idea still was at this time.[44] Steiner's nine-part version of Beethoven's Seventh Symphony, for example, compared to the composer's orchestral version presents both a radically different proportion between the movements — the first and second are essentially complete, but the scherzo is then two thirds the length of the original and the finale is three quarters — and a different key-relationship between the scherzo and other movements: a major third below the others in the original, but a major second in the arrangement. Operas, also, were constantly subjected to revision and change: the use of insertion arias was widespread, a practice that was largely performer- rather than composer-based, and Mozart composed them for his own and for others' operas. For more general revisions, for example for revivals in new venues, some composers were happy to allow a proxy to do all the work: in 1843 Donizetti wrote to Mercadante concerning the opera *Caterina Cornaro*:

---

[40] Alfred Einstein, *Mozart, His Character, His Work* (Google ebook, Oxford: OUP, 1962), 194.
[41] Einstein, *Mozart*, 196.
[42] Barry Cooper, *Beethoven* (Google ebook, Oxford: OUP, 2008), 63.
[43] Mark A. Radice, *Chamber Music: An Essential History* (Ann Arbor: University of Michigan Press, 2012), 50.
[44] see also Thormählen, *Playing with Art*, 348–350 for discussion of the myriad 'authentic' sources for Haydn's *The Creation*, and also its history of composer-led performances with ensembles ranging in number from 32 to 180.

> Correct all the mistakes in my score, keep a watchful eye on my opera, do anything you deem useful with it – in the strongest sense of the word: add to the instrumentation, rewrite the instrumentation, lighten it, shorten, lengthen, transpose, in short: make it your own work.[45]

On the other hand, Beethoven closely supervised the work of those that made arrangements of his works: in 1815 he wrote to his publisher, Steiner:

> Therefore you must see to these arrangements yourself. But they must all be checked by me and, wherever necessary, corrected.[46]

And a note to Carl Czerny from 1817 reads:

> Please come to breakfast with me tomorrow… There is something I must talk to you about. Please bring the arrangement of the symphony in F [i.e. number eight].[47]

So from a historical perspective, in making arrangements I am performing an activity that was recognised and accepted by many composers in the classical era: taking an original piece of music, and transforming, tailoring and re-shaping it for a different ensemble; using a different configuration of instruments to capture or create similar colours and inflections to the original.

Later in the 19th century Robert Schumann wrote: 'all artistic attempts are approximate; there is no work of art that is not capable of being improved.'[48] And the pianist, composer and arranger Busoni further expanded on this in 1910 when he wrote,

> notation is itself the transcription of an abstract idea. The moment the pen takes possession of it the thought loses its original form… The composer is obliged to decide on the form [of the work] and the key and they determine more and more clearly the course to be taken and the limitations. Even if much of the idea is original and indestructible and continues to exist this will be pressed down from the moment of decision, into the type belonging to a class.[49]

Busoni continues, thereby justifying his arrangements:

---

[45] Walter, 'Die Oper ist ein Irrenhaus', 235, quoted in Peter Szendy, *Listen: A History of Our Ears*; (orig. *Ecoute: une histoire de nos oreilles*) trans. Charlotte Mandell (New York: Fordham University, 2008), 42.

[46] Anderson, *Letters of Beethoven* vol. 2, 495.

[47] Anderson, *Letters of Beethoven* vol. 2, 733.

[48] *Kommet* December 1833, quoted in Szendy, *Listen*, 42.

[49] Ferruccio Busoni, 'The Value of Arrangement' (Berlin, 1910), in *The Essence of Music and Other Papers* transl. Rosamond Ley (London: Rockliff, 1956), 87–88.

> this is already an arrangement of the original. From this first transcription [idea to composition] to the second [composition to arrangement] is a comparatively short and unimportant step. Yet, in general, people make a fuss only about the second. In doing so they overlook the fact that a transcription does not destroy the original; so there can be no question of loss arising from it… For the musical work of art exists whole and intact before it has sounded and after the sound is finished.[50]

Berio covers similar ground when he says that transcription

> implies the possibility of transforming and even abusing the text's integrity so as to perform an act of constructive demolition on it. Transcription seems to get drawn to the very core of the formative process, taking joint and full responsibility for the structure of the work. It is not the sound that is being transcribed, therefore, but the idea.[51]

Although I am not demolishing Mozart and Beethoven in the way that Berio does Mahler and Schubert,[52] I, like my historical antecedents, am not averse to sometimes-significant changes to the fabric (cutting single bars, or entire episodes, or developments) as well as subtler re-fashioning of smaller details. For me the end result still should obviously represent the source, otherwise it ceases to be an arrangement, even given Busoni's view that the idea continues to exist regardless of process.

Discussions of literary translation also illuminate this issue. Berio asks 'Can observations on literary translation be applied, by analogy, to translation in music, in other words to transcription?' and answers 'Definitely, yes',[53] although this approach had already been suggested by Liszt some 150 years earlier in the preface to his transcriptions of Beethoven's symphonies (Rome, 1835): 'I will be satisfied if I have accomplished the task of an intelligent engraver, the conscientious translator, who grasps the spirit of a work along with the letter'.[54] From the same period in which I centre my work, no less a figure than Goethe could remark 'I do not read my *Faust* any

---

[50] Busoni, *Arrangement*, 88.

[51] Luciano Berio, 'Translating Music', in *Remembering the Future* (The Charles Eliot Norton Lectures 1993), (Harvard University Press, 2006), 45.

[52] For example the third of movement of the *Sinfonia* (1969) creates a collage effect around the Scherzo third movement from Mahler's Symphony No. 2; *Rendering* (1990) fills in the gaps around Schubert's sketches for a tenth symphony in D major; and *Quattro versioni originali della "Ritirata notturna di Madrid"* (1975) superimposes different versions by Boccherini of the same movement.

[53] Berio, *Translating Music*, 32.

[54] Quoted in Szendy, *Listen*, 47.

more in German, but in this French translation all seems again fresh, new, and spirited.'[55]

Szendy believes[56] that arrangers are creating a transcription of their hearing or listening of a work, and suggests 'the original and the arrangement are complementary, contiguous in their incompleteness and their distance from the essence of the work'.[57] He draws on various ideas from literary translation, in particular Walter Benjamin, suggesting that an original contains both *text* and *meaning*. The *meaning* is unknowable, or at least open to many interpretations. A translation can represent the *text*, albeit of necessity a changed version of it, but provides only a new window on the *meaning*. In doing this it performs an important or vital function, both contributing to a wider understanding of the *meaning* and allowing the *text* to change, evolve and therefore continue to survive.

An important idea for me as a historical performer and arranger is Szendy's view, paraphrasing Benjamin, that 'translation is possible only because the original needs to be transformed in order to survive'.[58] As the use of historical instruments and (in theory) historical performance practices has reinvigorated and in some ways reinvented the music of the past, so my arrangements provide a different, but also historically accurate way of experiencing repertoires and performance practices that are quite different to the modern paradigm.[59]

As the pianist and scholar Robert Levin has written:

> Mozart presented himself to the public in the guise of performer *as composer;* if modern performers tried to adopt the posture of performer *as composer*, Mozart's music would be played more profoundly, more expressively and above all more spontaneously – for spontaneity is an essential element of his art.[60]

---

[55] Moorhead, J.K., John Kirkby, eds, *Conversations of Goethe with Johann Peter Eckermann*, trans. John Oxenford (London: Dent, 1930), Sunday 3 January 1830, online facsimile retrieved from Google Books 14 Feb. 2018.
[56] Szendy, *Listen*, 36.
[57] Szendy, *Listen* 38.
[58] Szendy, *Listen* 52.
[59] Although there is increasing debate about the cherry-picking and historical accuracy of some of these practices.
[60] Levin 'Improvisation and Embellishment in Mozart's Piano Concertos', *Musical Newsletter* 5/2 (1975): 3, quoted in Keefe, *Mozart in Vienna*, 50 n. 74.

Levin's forms of composition are his improvisations and embellishments, and his completions of Mozart's torsos. Mine is the act of arrangement, and through the versions, the reflections both *of* and *on* the original, the analyses, the interpretations and representations I create, I am able to bring new and different life and means of expression to the works that I want to, in ways that I want to, and with the colleagues that I want to.

'… historical wind instruments'

My Harmonie, Boxwood & Brass*,* uses what are now usually called historical instruments, which for us means bassoons and clarinets both with five to ten keys, and natural, crooked horns. I will go into detail in Chapters 2 and 3 about the specific capabilities of these instruments, but broadly they represent technology similar to that in use in Vienna around 1810. This was the peak period of Harmoniemusik, and also a golden age of wind writing, the point at which instrumental technology reached a sort of classical apex before the developments required for romantic music got under way. These styles of instruments also marked a certain period of stability as many players seem to have chosen to remain with their late classical technology for some time rather than adopting the new key-systems: very few surviving instruments of this period do not show signs of having been shortened or their tone holes enlarged in order to keep up with rising pitch standards, suggesting they were played over decades rather than only years. In Paris the oboist Auguste-Gustave Vogt (1781–1870) continued to play the four-keyed oboe for his entire career,[61] and as late as *c.*1850 the German firm of J.A. Heckel, now known exclusively for their bassoons, still advertised clarinets with five keys.[62] This historical practice is born out by the fact that in modern HIP usage it is not unusual to see these models of early-19th century instrument being used for the performance of Mendelssohn and Schumann.

At the time of submission the players of Boxwood are using clarinets and bassoons that are copies of instruments by Heinrich Grenser; earlier clarinet copies after Theodor

---

[61] Philip Bate, *The Oboe* (London: Ernest Benn, 3rd edition, 1975), 65 & 207–8.
[62] Eric Hoeprich, *The Clarinet* (New Haven: Yale University Press, 2008), 179, quoting the Marcus Archive.

Lotz; and a variety of models of natural horn, both originals and copies, and pitched at A430, which is not inappropriate for Vienna, *c*.1810.[63] From personal experience, there is no question that many original 200-year-old bassoons sound 'better' than the recent ones that purport to be their copies, but aside from the ethical considerations connected with using instruments that should in some way be preserved for posterity, fully working old examples at a pitch that matches other players are difficult to find. It is worthwhile considering that historical players were also not using instruments that were 200 years old: theirs were recently built, possibly by a craftsman in the city in which they were also working.

As a matter of course Boxwood's clarinettists use wooden mouthpieces which are copies of Viennese or German originals, with string ligatures and soft reeds modelled after the German style. They all play with the reed on the lower surface of the mouthpiece, but this was a practice already known in Vienna before 1800, as Rice suggests when describing the surviving Lotz clarinet.[64] Most bassoon players' modern methods of reed making differ from the few historical instructions, but this can be attributed to the fact that reed cane in the early 19th century seems to have been rather softer and less dense than it is now. In my experience, as far as it is possible to duplicate historical methods using modern cane, I have found the results are not dissimilar to certain styles of 'modern' reeds in terms of response and timbre. Early instructions to place the reed on the crook at an oblique angle seem to be part of making early styles of reed function better. The few surviving bassoon crooks from the period have curves that now feel very steep and uncomfortable, possibly to allow for this reed/embouchure combination, but also because methods of supporting the bassoon were rather different, typically using a ribbon attached to the instrument and hooked over a button on the player's jacket or coat, and therefore placing the bassoon differently in relation to the player's body. Boxwood's horn players use a variety of mouthpieces, originals and copies, and of designs from the late-18th century to the present day.

---

[63] Bruce Haynes, *A History of Performing Pitch*, (Lanham, Md: Scarecrow, 2002), 339: 'Beethoven's 8th Symphony was first performed in 1814 and his 9th in 1824; the two might have been at slightly different levels, but both would have been bracketed by 430 to 440. This was apparently the same pitch as Mozart's performances at Vienna, Haydn's at Esterháza, and Schubert's throughout his life.'

[64] Albert R. Rice, *The Clarinet in the Classical Period* (Oxford: OUP, 2003), 52.

As with the methods of arranging I use and the choice of size and constitution of ensemble, it is important to remember that in this project I am not trying exactly to follow historical precedents: I am writing for and with the players of Boxwood & Brass, an ensemble *now*. The instruments, reeds, and mouthpieces we use are those that are available to us and are currently (as of 2022) widespread amongst historical instrument specialists, especially in the UK. The instrument/reed/mouthpiece frameworks we use are all historical models, but they also have to be pragmatic choices governed by players' training, their other work, perhaps with modern orchestras, and with how many different historical instrument combinations they have to contend. These choices will affect the timbres we produce on our instruments, but that is the sound of Boxwood & Brass that I am working with, and in-so-far as it is possible to know what a Harmonie sounded like *c.*1810, and I don't believe it is, these choices allow us to do quite a good job performing the original repertoire for our ensemble.

I choose to specialise in historical instruments because I like the sound they make and the way they can make the music sound. For my instrument the bassoon, the classical era is the richest in terms of repertoire, and is the period in which it achieved its greatest independence, particularly in the writing of Mozart, Haydn and Beethoven. The solo repertoire of Weber, Hummel, Crusell, Krommer and many of the virtuoso-composers dates from the early-19th century and sounds best, in my opinion, on the instruments for which it was written. With certain caveats, the classical bassoon has almost the same capabilities as the modern instrument, but with more variety and flexibility in the sound. A useful simile is that of a classic sports car compared to a modern family saloon: the sports car is more difficult to drive, and requires more maintenance, but the experience of using it is much more enjoyable, visceral, and emotional.

From the point-of-view of the composer, however, there is little (possibly no) recent writing about historical classical instruments that doesn't assume knowledge of their modern counterparts. Existing recent literature focuses on general instrument history (Hoeprich, and Lawson for the clarinet; Kopp for the bassoon) or organology (particularly Rice on the clarinet) or basic practical guides for the modern player who wants to try historic instruments (the *Cambridge Practical Guides* for clarinet and horn by Lawson and Humphries respectively).

As I will discuss further below, an important source of information to establish what was the common practice of scoring and arranging when historical instruments were just called 'instruments' would seem to be the historical sources, treatises for the various instruments. But many of these were written for the expanding market of post-revolutionary France, or to promote the ideas of instrument makers and their agents,[65] and so the information they contain is either suitable only for the French style of instruments and playing style, or to the advantages supposedly offered by other maker's latest innovations. As Jerold has pointed out writers have always cautioned against certain pitches for reasons of intonation, or certain patterns of notes for technical reasons. [66] And yet time and again it is possible to see composers and arrangers, who were writing for the capabilities and personalities of people they knew and worked with, in some cases every day, using these very patterns and pitches, thereby apparently ignoring the advice of the contemporary 'experts'.

By way of example, Figure 1.5 shows an extract from the clarinet 2 part of Mozart's C minor Serenade K388: this is effectively a solo, but all of the notes under the slurs are fingered using either the thumb or first finger of the left hand, or a combination of both. This is very close to figure number 29 of 'figures that are impossible to execute'[67] in Lefèvre's treatise of 1802, Figure 1.6, and Mozart's inclusion of B♭ within the figure possibly increases the difficulty.

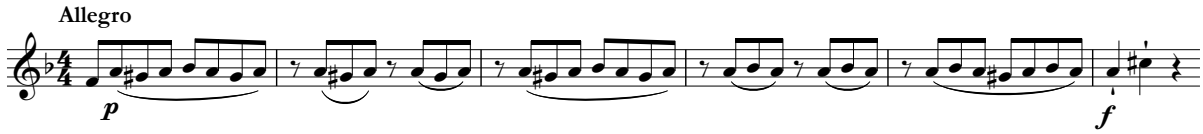


Figure 1.5 Mozart, Serenade in C minor K388, mvt. I, bb. 209-214, clarinet 2

[65] for example Carl Almenraeder's, *Die Kunst des Fagottblasens, oder Vollständige theoretisch praktische Fagottschule* (Mainz: B. Schötts Söhne, n.d. [1842], plate number 6783) contains a number of references to his new improved bassoon, available to buy from Schötts, the publisher of *Die Kunst*.

[66] Beverly Jerold, *The Complexities of Early Instrumentation* (Turnhout: Brepols, 2015).

[67] '*... quelques traits impossibles à executer et qui conséquemment ne doivent jamais être employés.*' Jean Xavier Lefèvre, *Méthode de Clarinette* (Paris: Le Roy, 1802) online facsimile retrieved from imslp.org, 17–18.

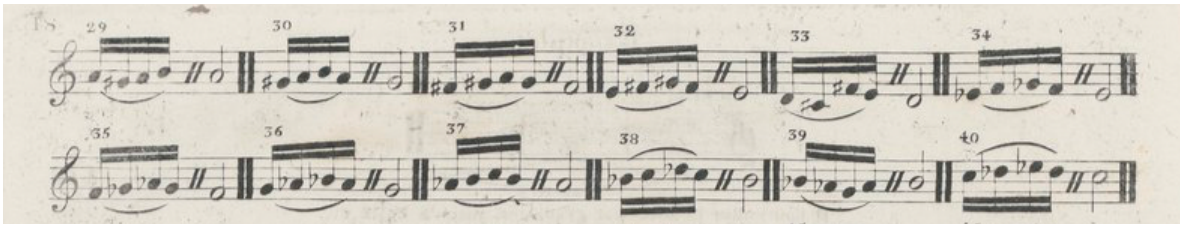


Figure 1.6 Lefèvre's impossible figures, nos. 29–40, from his *Méthode* p. 18

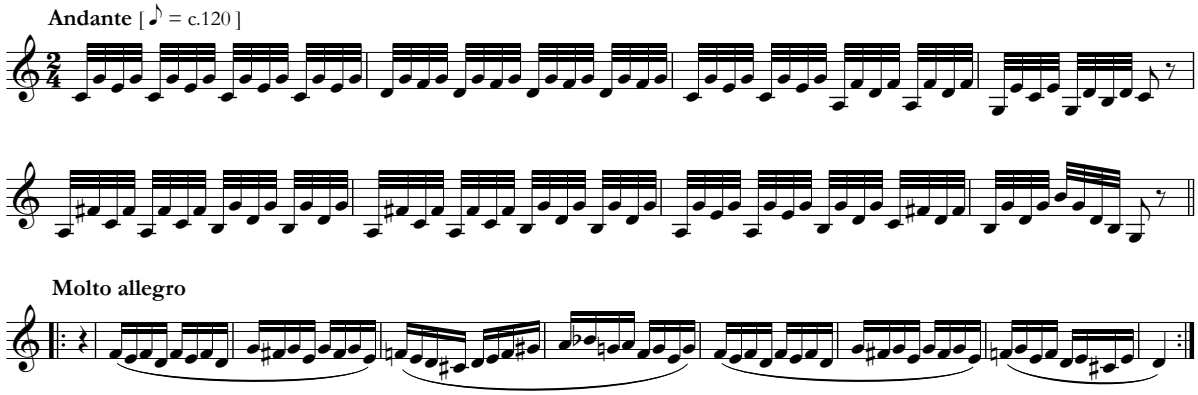


Figure 1.7 Mozart, Serenade in B-flat 'Gran Partita' K361, mvt. VI, Var. III, bb. 9–16, clarinet 2; and mvt. VII bb.64.ii–72.i, clarinet 2

The first of the examples in Figure 1.7 from Mozart's Serenade in B-flat K361 starts well, all of the figures anchored on the open pitch G. But the continuation, from the fifth bar, is terrible: F♯ is a pitch that rarely sounds well, and low B♮ is a note that many of Mozart's contemporaries would have avoided. The second example, from the finale, is even worse. Played as the featured solo with clarinet 1 an octave higher (so this figure has to be in tune) with the exception of the C♯ (another very poor note) all of these pitches are played with the left hand alone, except for the closing of any extra right hand holes to try and improve tone or tuning. F to G♯ in the third bar is very awkward because of the shift of thumb position and the first-beat pattern in the fourth bar is doomed to failure at high speed. In all of these cases it is almost as if either Mozart, as in other works, has written something almost deliberately unplayable as a joke at (or with) the performer, who he would almost certainly have known personally, or he knew that his performer had a particular facility or trick for a certain passage that he could therefore employ.

The solution to this apparent problem of theory and practice not matching is to study the outputs of the historical composers and arrangers, the actual music that sounds so

effective, and use that as a model. But whilst some Harmoniemusik makes greater demands on the players than most orchestral repertoire, and greater even than some concertos, there are no historical models for writing in a complex, widely modulating style, such as is required when arranging late Mozart, for many works by Beethoven and for 19th century repertoire generally. The missing element is the range of tonalities that exist in non-Harmonie music: in orchestral repertoire the wind stop playing in the 'difficult' keys; Harmoniemusik simply doesn't modulate to them.

The extreme virtuosity evident in the solo concertante repertoire of Weber, Crusell, Spohr, and various performer-composers might provide a useful model for a sort of historical extended technique, but this sort of writing for the same instruments is very rarely evident in Harmoniemusik, and nowhere in the Viennese repertoire is there a parallel for the sort of technical demands made for the whole ensemble in the string quartets of Beethoven. The wind quintets of Anton Reicha, however, and other Parisian chamber music for winds of the 1810s and 1820s do often demonstrate a remarkable level of individual virtuosity, and so I do draw on these for examples, particularly in my discussion of the horn, despite their style of composition often being quite removed from that of Harmoniemusik.

A note on discussing ranges and the *ambiti* of wind instruments

Throughout Chapters 2 and 3 as part of my analyses of historical practice I make extensive use of figures showing the pitches used in the pieces under discussion, along with the data showing the number of times each pitch is used, and also what percentage of the total this represents. Why is it important to include both the data and percentages?

Rice at the beginning of the second half of *The Clarinet in the Classical Period* states that his 'intent is to characterize… the use and evolution of writing for the clarinet regarding range, tonality, prominence of the part, and instrumentation.'[68] In his brief discussion of the eight-part version of Mozart's Serenade in E-flat K375, which he claims has 'almost identical' parts to the six-part version[69] (actually, there are more than 300 fewer notes in the two clarinet parts for the octet compared to the sextet, and at

[68] Rice, *Clarinet*, 109.
[69] Rice, *Clarinet*, 266 n. 22.

least 600 differences in pitch use between the two versions) he says '[t]he compass for both clarinets is wide, g to e♭^{3} and e to c^3 [i.e. g to e♭‴ and e to c‴], with both clarinet and chalumeau registers employed frequently.'[70]

For me, this simple statement of the range employed fails to illustrate the very important subtleties in Mozart's use of the clarinet. Yes, that *is* the range of the second part, but Mozart omits bottom F♯ and G♯. More significantly, there is but a single bottom E and F, and both are used for striking effect: the E in the first movement as the third in a paused chord (bar 112), also containing a bottom B♭ for the bassoon, marking the end of the development; the F as the final note in the Adagio (bar 89). This movement also has the work's single b♮ (bar 49), lasting a mere semiquaver. Clarinet 1 uses none of these pitches, and also not bottom A, and in fact strays below c′ only seven times, hardly frequent use of the chalumeau register.

Further illustrating the dangers of generalisation, Levin[71] in his book describing his process in reconstructing the original version of Mozart's Concertante K297b goes into rather more detail, giving scales of pitches for the woodwinds and horns used in various works and by a range of composers writing for specific players. However, he makes no distinction as to how and when those pitches are employed. For example, in discussion of a putative bassoon part fitting within the capabilities of the bassoonist Ritter, the player for whom Mozart wrote the 'Four-Wind Concertante', Levin seems to assume that because Mozart wrote a single high b♭′ for the bassoon in his concerto, not composed for Ritter, and another in an aria from *Idomeneo* which was, this pitch may be used widely in other circumstances. This neglects the fact that the B♭ in the concerto forms the peak, the focus, the literal high-point of the first movement (bar 149), and moreover is accompanied only be a held chord in oboes and horns, allowing considerable freedom of both rhythm and dynamic. The two repeated B♭s in *Idomeneo* (Aria no. 11 '*Se il padre perdei'* bar 86) are in unison with, and are therefore supported or covered by, the second violins.

---

[70] Rice, *Clarinet*, 201.

[71] Robert D. Levin, *Who Wrote the Mozart Four-Wind Concertante?* (Stuyvesant: Pendragon, 1988), 137 et seq.

Levin also takes the lack of low notes in the *Idomeneo* aria and in Ritter's own quartets for bassoon and strings as evidence that he did not play in the bottom register. And yet in an obligato aria *'Dei di Roma'* from Johann Friedrich Reichardt's *Brenno* identified as written for Ritter,[72] the bassoon descends to a sustained bottom A′, a semitone below the instrument's normal lowest pitch (Figure 1.8).[73] This pitch is certainly unusual, but it does feature in some early fingering charts, and is obtained by lipping or bending down B♭.[74]

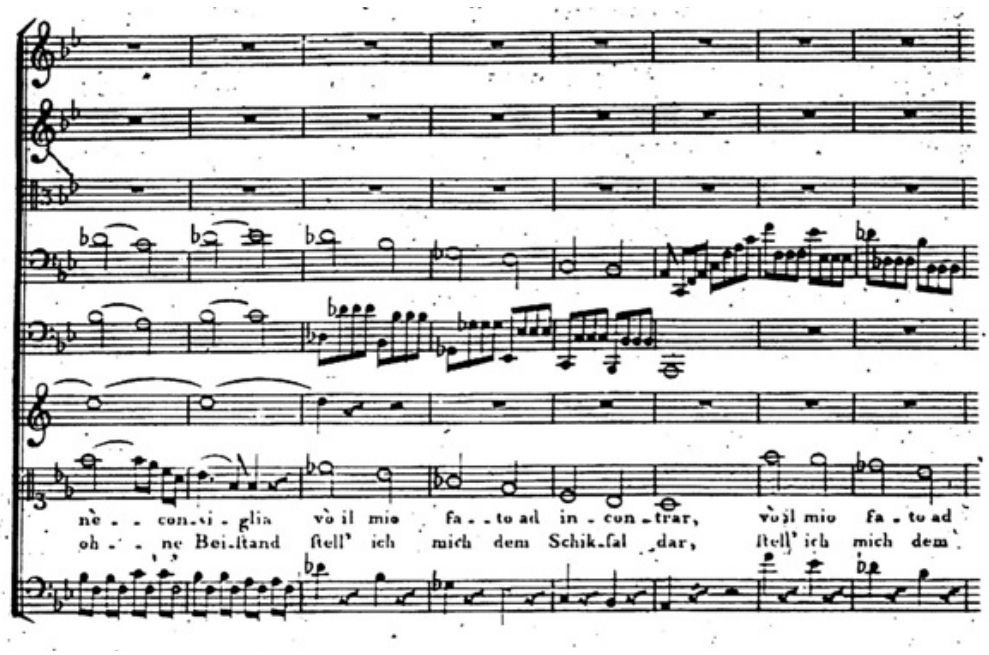


Figure 1.8 J.F. Reichardt, *Brenno*: extract of aria '*Dei di Roma*' showing bassoon low A on the fifth stave

With pitch use context is everything, and the pitches whose contexts need to be examined are only revealed through detailed analysis of parts in a way that is not possible when speaking only of ranges. A composer using a particular pitch only once in a complete work is a significant fact, and it is important to identify this and to understand the context and reasons for the pitch's use. The same composer using another pitch several times, but making up only 0.2% of the total number of notes is also significant, but for different reasons. Making an analysis in this way is important to

[72] Lipori, Daniel, 'Georg Wenzel Ritter (1748–1808) and the Mannheim bassoon school', DMA dissertation, University of Arizona, 1997, 89, which incorrectly states the lowest used pitch is F.
[73] Act III, Scene 6, p. 290 of score retrieved from http://www.jimstockigtinfo.com/arias_with_obbligato_bassoon/Reichardt_Brenno.php on 11 Jan. 2021.
[74] Paul J. White, 'Early Bassoon Fingering Charts', in *Galpin Society Journal*, vol. 43 (Mar. 1990), 68–111, 77.

be able to properly gauge the reasons for any pitch's occurrence and use. I feel that recording this information on scales as I have is more musical than using tables, and graphs are not useful given the very wide range of some of the data involved (from 1 to 2500 items in some cases), even when using a logarithmic scale.

This analysis also reveals composers' different distribution of notes across the registers of the instruments, in particular the clarinet, and also the concept that classical wind instruments have a 'normal' highest note, and then a range of high notes beyond that that may be used as special features.

Ideas of instrumental capabilities (looking for 'allowed' technical patterns and examples of writing in 'remote' keys) will be drawn from the concertante works and Harmoniemusik of (amongst others) Weber, Crusell and Beethoven, and in particular Weber's solo works for clarinet, horn and bassoon.

Throughout my study, and this thesis, I draw heavily on the wind music of Franz Krommer (1759–1831). A violinist who also played the oboe, piano, and cimbalon, Krommer seems to have had a relatively unremarkable career in the service of various princes and counts, until he arrived in Vienna at some point in the 1790s. Here he became well-respected as a composer, and published, mostly through the firm of André, over 100 *opoi*, often of multiple works, including nearly 80 string quartets, 35 string quintets, concertos for violin, flute, oboe, and clarinet, and nine symphonies. He eventually became a member of the Imperial court, which allowed him to tour Europe with the Emperor, and in 1818 was promoted Court Composer and Master of the Imperial Chamber Music, when he also became a member of the *Vienna Gesellschaft der Musikfreunde.* Krommer's music was very popular in his lifetime and was published and copied throughout Europe, but whilst most of his oeuvre is not now part of mainstream programming, Stoneham et al. describe him as 'a composer of major importance for his music for winds, and one who wrote some of the most idiomatic and original wind harmony in the late classical and early romantic periods.'[75] Of the 13 partitas with opus numbers in nine or ten parts, published between 1803 and 1810, they say they

[75] Stoneham et al., *Wind Ensemble Sourcebook*, 213.

> contain splendid music, imaginative in rhythm and structure. Particularly memorable are the driving rhythms, the dramatic changes of key and sonority, and the vivacity and wit in these compositions… Krommer's writing for the instruments is highly idiomatic, showing his experience as oboist and band director. He exploits technical developments too, as seen from the confident clarinet writing…[76]

In Whitwell's opinion

> These works are quite above average in quality, some ranking with the very best of this genre. They represent an entirely new generation in the partita, for now the clarinet, rather than the oboe, is usually chief soloist. They are also more advanced harmonically than the works of the late eighteenth century and can be said, I believe, to be a genuine harbinger of Romanticism. In addition, the Partitas of Krommer have much more advanced technical demands for each instrument, which offers a valuable insight, one which can not be found in the orchestral music of this period, namely that these players were of a technical level equal to the very best players today.[77]

These works remain very popular with wind players today, and the skill that Krommer bought to their composition makes them immensely satisfying and rewarding to perform, although challenging when using historical instruments. As such, I believe them to be a good model for the sort of idiomatic writing I aspire to produce.

As discussed above, there is a marked lack of surviving arrangements in six parts of non-operatic repertoire, which makes study of historical practices in arranging for the ensemble difficult. The versions of Mozart's horn quintet K407 and string quintet in E-flat K614 (Stumpf's *Grand Serenade*), and Carl Czerny's arrangement of Beethoven's Septet op. 20 provide important insights into reworking large-scale, chamber pieces. For Harmonie versions of substantial orchestral works it is necessary to look outside the sextet repertoire and so I will examine a handful of nine- and ten-part arrangements by Triebensee and anonymous others of various symphonies of Mozart and Haydn, and the monumental versions of Beethoven's Seventh Symphony and his *Sonate Pathétique*.

---

[76] Stoneham et al., *Wind Ensemble Sourcebook*, 215–216.

[77] David Whitwell, *The History and Literature of the Wind Band and Wind Ensemble* (Northridge, CA: Winds, 1982–1984), vol. 5 *The Nineteenth-Century Wind Band and Wind Ensemble*, 183.

With this repertoire of knowledge of the historical usage of wind instruments I will be in a position to create new arrangements that are as idiomatic, and therefore I hope as successful in performance, as possible.

Chapter 2

Part I: On Writing for the Horn

'*Of all the orchestral instruments, the horn is the least known and the most difficult to understand.*'[1]

A brief history of the natural horn, or, as it used to be called, the horn

A complete history of the natural horn is not necessary here,[2] but a knowledge of the salient points of construction and theory is helpful in gaining an understanding of how to write for and play the instrument.

By 1810 (the nominal date of focus of this study, based on the instruments used by Boxwood & Brass, and taking this as the peak of popularity of Harmoniemusik) the orchestral horn had developed a long way from its hunting horn antecedents. No longer fixed in length, and therefore also pitch and key, a number of strategies had been developed to allow differing lengths or combinations of tube, or 'crook' to be inserted into the instrument, allowing the horn to play in a wide range of tonalities. Ultimately, composers called on crooks in C alto (i.e. sounding at concert pitch), B-flat alto, A, G, F, E, E-flat, D, C basso (i.e. sounding one octave below written pitch), and B-flat basso. Other pitches were used more rarely, e.g. F-sharp by Haydn in his Symphony No. 45 in F-sharp minor *Farewell*, D-flat briefly by Berlioz in *Romeo et Juliette*, or B basso by Brahms in the slow movement of his second symphony.

The valve for brass instruments was invented *c.*1815, although when it was actually applied to the horn is not clear. The first orchestral use of a valve horn is widely cited[3] as 1835 in Halévy's *La Juive*, however, its use in Berlin may have been as early as

---

[1] Louis Francois Dauprat, *Method for Cor Alto and Cor Basse: Complete English translation of the first edition published by Zetter, ca. 1824*, ed. [and trans.] Viola Roth (Bloomington, IN: Birdalone Music, 1994), 370.

[2] see John Humphries, *The Early Horn, a Practical Guide* (Cambridge: CUP, 2000) chapters 2 and 3, 7–50, in particular, for a more detailed overview.

[3] John Ericson, *Horn Articles Online* at http://www.public.asu.edu/~jqerics/la_juive.htm retrieved 19 June 2020.

1817, probably as a novelty in works now lost.[4] Players and makers in German-speaking countries quickly adopted valves, although Brahms as late as 1869 could complain 'I write for the most beautiful *Waldhorn* [i.e. natural horn] and D-flat trumpets, but I don't expect to hear them.'[5] In France the natural horn remained dominant, at least officially in the Conservatoire, until the turn of the 20th century.

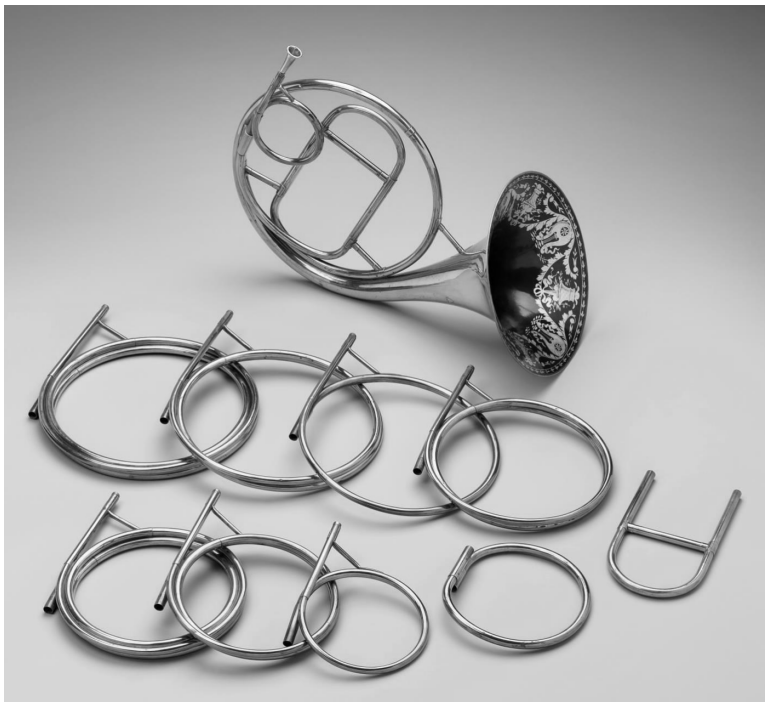


Figure 2.1 *Cor d'orchestre c.*1820 by D.Jahn, Paris (*fl.* 1816–1859) (Collection of the Museum of Fine Arts, Boston)

Figure 2.1 shows a fine French *Cor d'orchestre* with painted bell, eight 'terminal' crooks which fit between the mouthpiece and body, or *corpus,* of the instrument, a coupler, and a second tuning slide, perhaps used to play at an alternate pitch. The coupler here allows the C basso crook to be extended to B-flat basso, thereby obviating the need to carry an additional long and expensive crook. Other designs make use of fewer crooks but a greater number of couplers that can be connected in different combinations to achieve all the keys, or the *Inventionshorn* or similar *Cor solo* where the crooks are inserted in the location of the tuning slide of the *Cor d'orchestre*. All of these designs (and they are all variously in use by players now) require compromise:

[4] Ericson, *Articles* http://www.public.asu.edu/~jqerics/vh_first_works.htm retrieved 19 June 2020.

[5] Letter of Brahms to Ferdinand Hillier, February 1869, in Styra Avins, *Johannes Brahms: Life and Letters* (Oxford/London: OUP, 1997), 379; quoted in Anneke Scott, 'Brahms and the orchestral horn: a study in inauthentic performance?', in *Historic Brass Society Journal 23* (2003), 110–133, 130.

using terminal crooks means carrying round a large quantity of heavy brass tubing; the coupler system means that the instrument is held further and further from the face as the combinations get longer and lower; and because of the design, only the medium length mid-range crooks are available on the *cor solo*.

Too many crooks

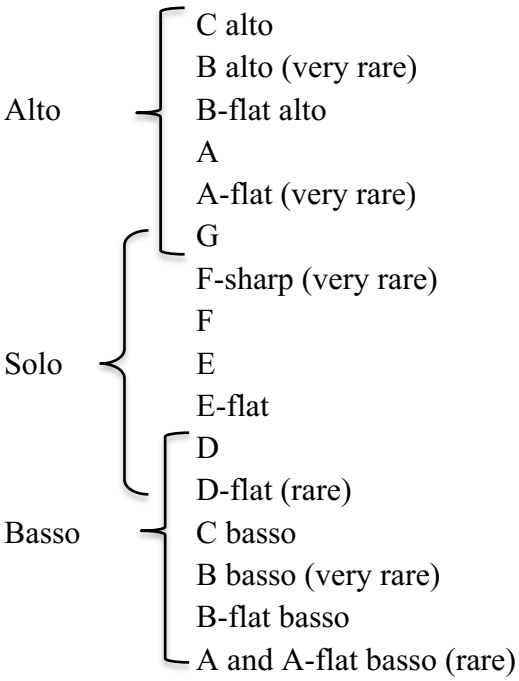


Figure 2.2 Natural horn crooks and their types

Conventionally, the crooks are grouped into three somewhat overlapping categories: alto, solo and basso. Alto crooks are high and basso low, and alto are also markedly brighter in timbre: C alto and B-flat alto play in the same register as the trumpet, and produce the brilliant, penetrating sound familiar from early Haydn symphonies; C basso and B-flat basso play in the same octave as the bassoon or trombone, and their extreme length of tube and air column, 18 feet or 5.5 metres for B-flat basso, makes them slow to respond, with a 'dark, almost muddy tone'.[6] The three categories are a continuum rather than clearly defined groups: in its brightness and volume G has many of the characteristics of an alto crook; D and D-flat have the flexibility of the other solo crooks but with the increasing heaviness of the basso. The differing crook lengths affect the amount of the harmonic series that each can obtain: whilst alto crooks can more easily

[6] Humphries, *Early Horn*, 31.

reach the lowest written pitches, their short lengths and relative inflexibility mean they are usually limited to little more than tonic and dominant in their written mid-range; whilst the basso can more easily reach the higher harmonics, these sit very close to each other, making the pitches treacherous to find; the solo crooks have the greatest flexibility, sitting in a 'Goldilocks zone' of not too high, and not too low. Each crook also has its own colour, which 19th century writers attempted to describe, although they are not always in agreement, and it is sometimes difficult to separate the described colour of the crook from the long-established ideas of colour for each tonality. For the French soloist Dauprat in his *Méthode*:

> Since each particular crook shares some qualities with those which come immediately before or after, one cannot be absolute in defining the character relationship of any of them. It is always a subjective judgement whether a crook is sad and sombre, brilliant and clear, or whether it has one or another of these qualities… Thus, one might say that the horn, on its low crooks, is majestic, austere, religious, or melancholy; that on the high crooks, on the contrary it is joyous, lively, loud, and brilliant; and on the middle crooks it combines sweetness with brilliance, vivacity with majesty, and the simplicity of song with the exuberance of passagework.[7]

My main concern in this project is establishing which crook best suits the tonality in which I have chosen to write or matches the requirements of the piece I am arranging, so I am not going to concern myself here with any perceived difference between the timbres of the crooks beyond the distinction of shorter equating to brighter, louder and more brilliant, and longer equating to darker, more resonant and heavier to respond.

In most circumstances outside of solo repertoire, horns come in pairs and crooked in the same key. Typically, a composer aimed to have as many open notes from the harmonic series (see below) available as possible and so would write for the horns using the crook of the tonic of the piece: a movement in F major would use horns in F. Very occasionally, usually in a middle movement, the composer would choose the crook of the dominant or subdominant of the tonic, so that for a movement in B-flat they would write for horns in F or E-flat. This might be to avoid a change of crook from the previous movement, or because a certain crook better suited the tonality of a solo for the horn, particularly if the movement would otherwise demand one of the basso crooks. Where a composer had four horns available, they might write for two crooked in the

[7] Dauprat ed. Roth, 371.

tonic and two in the dominant or subdominant. For music in minor keys a pair of horns might use different crooks, so in Mozart's 40th symphony in G minor K550 he used one in the tonic (in G) and one in the key signature (B-flat alto). In orchestral music, crook changes during a movement are very rare, but where they do happen the composer usually allows plenty of time: Beethoven in the first movement of his *Eroica* symphony allows the first horn 41 bars (and seconds too, based on the metronome mark) to change crook from E-flat to F, and 89 bars to change back. In opera (and some Harmoniemusik) composers were rather less considerate: depending on the action on stage, the crook changes for the onstage band during the dinner scene in Mozart's *Don Giovanni* need to happen within just 5 seconds, which might possibly suggest the players in the opera were still using fixed-length horns without crooks and could simply swap instruments.[8]

The two (or three) types of horn player

Horn players themselves come in two varieties or *genres*. Often, where an explicit distinction was made, they were called First or *Premier*, and *Second.*[9, 10] Dauprat (1824), 'because these terms have always carried an ambiguity which has been to the detriment of the "second horn", making people believe that this title […] implies a degree of inferiority in the player's talent' and because both players 'are equally valuable in the performance of music' and cannot 'switch parts without being hindered by the insufficiency of their abilities'[11] adopts the terms *cor alto* and *cor basse*. In historical practice the second player, as well as playing the low notes, was also the specialist in rapid arpeggios, called *batteries du second cor*,[12] and in hand stopping technique, as this was required for the pitches their parts contained. The first player produced the high notes, although not in the classical era necessarily with the *clarino* technique demanded by J.S. Bach. A player's genre was fixed early in their study, and they each used a specialist mouthpiece suited to their role. First and second players had

[8] Theatre directors and music conductors often ignore the practicalities, and the evidence of historical pacing, that crook changes require: no, it is not possible in *Figaro* to go *attacca* from the overture (in D) to the first number (in F); nor between consecutive movements in any number of symphonies.

[9] Frédéric Duvernoy, *Méthode pour le Cor* (Paris: Le Roy, 1802) online facsimile retrieved from imslp.org.

[10] Heinrich Domnich, *Méthode de Premier et de Second Cor* (Paris: Le Roy, 1808) online facsimile retrieved from imslp.org.

[11] Dauprat ed. Roth, 14–15.

[12] Domnich, *Méthode*, vi.

their lessons together, and some treatises included studies for both to be played together. The identities and roles of the *cor alto* and *cor basse* are very much part of the character of the horn.

There was also, particularly in France, a third genre, the *cor mixte*, a player skilled at hand-stopping, who, using a *cor solo* and only the solo crooks, transposed any parts written for high or low crooks, omitting the highest and lowest notes and changing any other pitches that they could not produce. This style of playing was widely criticised, particularly as it changed the composers' choice of crooks and of stopped and open tones.

Almost all of the late-classical and early-romantic virtuoso performers could be now be characterised as *cor basse*: for example Joseph Leutgeb (1732–1811) for whom Mozart wrote his concertos; Giovanni Punto (1748–1803) the first performer of Beethoven's sonata; and Dauprat. But many of these historical players clearly transcended these labels, as the works written for and by them often show them to be comfortable at the top of the horn's range as well as the middle and bottom: while high G was the usual highest note for a *cor basse*, solo works often rise to top C or further. Players today are still categorised as a high or low specialist, although the limits of their ranges will be wider than those expected historically.

How the horn works

Like other un-valved brass instruments, the player of the natural horn depends only on the notes of the harmonic series to obtain their pitches.

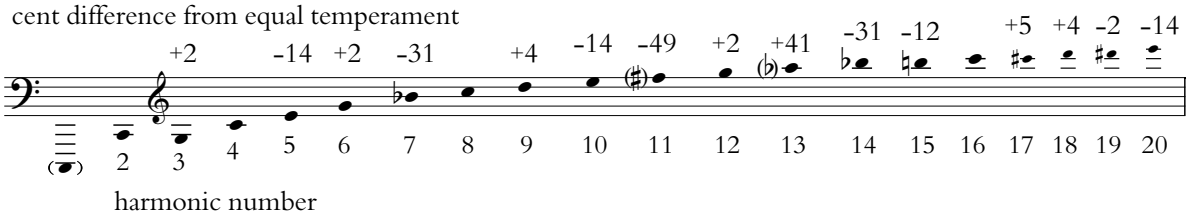


Figure 2.3 The natural horn's harmonic series

Figure 2.3 shows the harmonic series as a horn player reads it, i.e. notes in the bass clef are written an octave lower than would be expected, so that harmonic numbers 2 and 3

are only a fifth apart. On the horn the fundamental tone of the tube (the bracketed lowest C) is usually considered achievable only on the alto crooks, but some very skilled low specialists can produce it on the longer ones too. The numbers above the pitches show how far each harmonic is from its equally tempered equivalent in a theoretical model of just intonation, and therefore what the tendency of each pitch will be on the natural horn. Although the degree of difference can change a lot depending on the bore and design of the horn, this gives some idea of how much the player might have to use their embouchure or hand to adjust the pitches when playing. Another mitigating factor is that HIP ensembles rarely (if ever) aim to play in equal temperament, more often using a historical keyboard temperament, or something approaching just intonation. Because B♭ is 31 cents 'flat', almost a third of a semitone, it will in almost all circumstances be too flat, and as we shall see, this suggests why this pitch is very rarely used in historical practice: it cannot normally function as a minor third, which should be approximately 18 cents sharp in a justly tuned chord, or as a root in a chord of B♭. Harmonic 11 is almost exactly a quarter-tone flat of an F♯, and so could as equally be called a sharp F♮. Similarly, harmonic 13 is either a very sharp A♭, or a very flat A♮. As I will show below, because it is relatively easy to tune harmonic 11 down to F, typical classical practice favours F♮ over F♯. The same harmonic can produce a relatively in-tune F♯ if the player takes the hand completely out of the bell. A♮ is rather more problematic to produce, but also occurs relatively more frequently in classical practice than A♭/G♯. Therefore, where I make a distinction between those pitches that are and are not part of the harmonic series, I will call harmonics 11 and 13 F♮ and A♮ respectively.

The pitches in between

The final facet of the natural horn is perhaps its most distinctive feature: hand stopping. By the middle of the 18th century players had discovered that by shaping their hand inside the bell of the instrument to varying and very subtle degrees, they were able to flatten the open pitches of the harmonic series, in some cases by as much as a third. Coupled with the further changes in pitch both up and down that are possible using the embouchure, the horn became something like a fully chromatic instrument, although, as

Humphries points out,[13] hand stopping in orchestral settings remained rare until after 1800. Many historical treatises after 1800 include instructions for the hand position required to produce each pitch but, as Morley-Pegge[14] shows, almost the only positions these agree on are for the open pitches of the harmonic series. Historically players either attempted to blend the sonorities of the stopped and open tones together to make something approaching a homogenous scale, or revelled in the differences between the different pitches, and this depended on date, geographic location, and personal artistic choice. Blending the scale is achieved by the player tuning a little sharp so that the open pitches need to be bought down a little with the hand, with the advantage that open pitches that would otherwise be too low (e.g. B♭ harmonic 11, or 'open' low A♭) may be more easily used. Ultimately, a player's hand position will depend on the size of their hand, the diameter of the bore of the horn, and how much they humour the pitch of a note with their embouchure.

A note on the discussion of horn pitches

In this, and in all tables that follow, I use white note heads to show the notes which are (almost) part of the harmonic series, the (mostly) open notes on the natural horn, and black note heads for those that can be obtained only by pitch bending and hand stopping.

How did 'they' know how to do it; or, which pitches may I write, and how?

My aim is to establish a vernacular for the natural horn, in effect determining which pitches of the horn's complete scale are appropriate for today's players, and are idiomatic or within a context of early-19th century composition. This is, however, a complex challenge. As discussed, each crook, by virtue of its length, makes available to the player a different section of the harmonic series, and each genre of player (high, or low) also has different limits on their ranges. And then there is the question of establishing which are the extra pitches facilitated by hand stopping.

---

[13] Humphries, *Early Horn*, 11.

[14] Reginald Morley-Pegge, *The French Horn* (London: Benn, 1960), 'Comparative table of stopped notes according to eight different authorities' (n.p.).

So why not turn to the historical treatises and methods, written by or with players, and often leading soloists on their instrument?

Do-as-I-do, not do-as-I-say

The following is a chronological list of horn treatises up until the publication of Dauprat's, drawn from Scott[15] and Humphries[16].

Winch, Christopher (attrib.) (*fl.* 1739–1755)	*The Compleat Tutor for the French Horn*	London, 1746, & 1756
Roeser, Valentin (1735–1832)	*Essai d'Instruction à l'usage de ceux qui composent pour la clarinette et le cor*	Paris, *c.*1764
Francoeur, Louis-Joseph (1738–1804)	*Diapason Générale de Tous les Instruments à vent*	Paris, 1772
Punto, Giovanni (1748–1803)	*Étude ou Exercice Journalier Ouvrage Périodique pour le Cor*	Paris, 1793
Hampel, Anton Joseph (*c.*1710–1771) & Punto	*Seule et vraie Méthode*	Paris, 1794
Vandenbroek, Othon (1758–1832)	*Méthode Nouvelle et raisonnée pour apprendre à donner du Cor*	Paris, *c.*1797
Duvernoy, Frédéric Nicolas (1765–1838)	*Méthode pour le Cor*	Paris, 1802
Domnich, Heinrich (1767–1844)	*Méthode de Premier et de Second Cor*	Paris, 1808
Fröhlich, Joseph (1780–1862)	*Vollständige theoretisch-pracktische Musikschule: Vom Horn*	Bonn, 1811
Dauprat, Louis-François (1781–1868)	*Méthode de Cor Alto et Cor Basse*	Paris, 1824

Figure 2.4 Treatises and Methods for the horn, 1764–1824

None of these sources were published in Vienna, the centre of the repertoire I am studying and arranging. The first German-language instructions (Fröhlich), whilst detailed, only appeared in 1811 as part of a larger, 4-volume general work covering the voice and all the standard orchestral instruments. Punto is the author here probably most associated with Vienna, and 'the most celebrated of all eighteenth-century horn players'[17], but unfortunately, for such an important figure, 'neither source gives much

[15] Anneke Scott, *The Natural Horn, vol. 1* (London: Plumstead Peculiar Press, 2019) (proof copy).
[16] Humphries, *Early Horn*, 51 et seq.
[17] Humphries, *Early Horn*, 12.

information as to how to play the horn, instead they consist of numerous exercises, based on a repetitive harmonic scheme.'[18]

Domnich is a good match for date, but after quite brief instructions on how to produce every pitch on the instrument – and he considers the horn to be fully chromatic from bottom G for a full four octaves – he quickly moves on to pages of exercises almost exclusively in C major, followed by rather more adventurous etudes, but which are all for horn crooked in F.

Roeser (1764), the earliest of the French publications, is rather more of an orchestration manual than a tutor. It includes[19] a full scale for the horn (Figure 2.5) including 'four to five' further tones that can be made with the hand in the bell, although Roeser cautions that they must be used carefully, and in association with the tone adjacent to them, shown in Figure 2.5 with a slur.[20] He states ranges by player type and crook, as do all of the methods, but also gives brief instruction about passages that are difficult or easy: for example scales or arpeggios are easier ascending than descending, and whilst the first horn finds jumping up or down the octave between middle and high G easy, the second horn can easily make other octave jumps.[21]

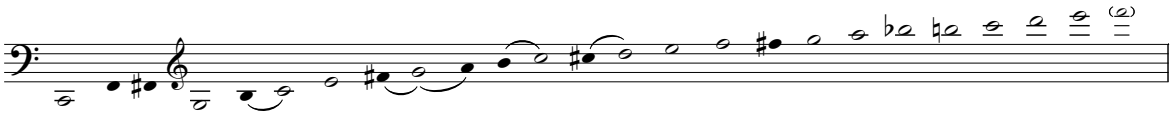


Figure 2.5 Roeser's scale for the horn, including his extra, hand-stopped pitches

Roeser's scale is a good fit for Mozart's use of the solo horn in chamber music.

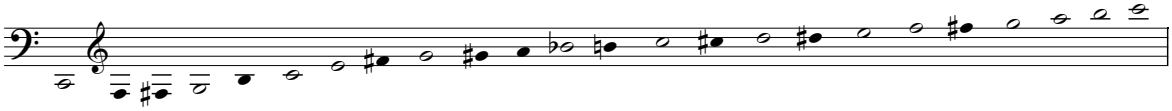


Figure 2.6 Mozart's pitch use in the horn quintet K407, and the piano and wind quintet K452

[18] Scott, *Natural Horn*, 93.
[19] Valentin Roeser, *Essai d'instruction à l'usage [...] pour la clarinette et le cor* (Paris: Mercier, 1764) online facsimile retrieved from imslp.org, 14.
[20] Roeser, *Essai*: 14 '*Il y a encore quatre à cinq tons à faire sur le Cor par le moyen de la main, mais on doit agir prudemment, si l'on veut s'en servir.*'
[21] Roeser, *Essai*, 18–19.

The quintet for horn and strings K407 (1782) and the quintet for piano and winds K452 (1784) both use the E-flat crook, and it is striking how close Mozart's scale in Figure 2.6 is to Roeser's: the only additions are the middle G♯/A♭ and B♭, and the high D♯/E♭, and he excludes only Roeser's high B♭. It is outside the scope of this research project, but it is interesting to speculate if perhaps Mozart was aware of Roeser's work following his visit to Paris in 1777–78.

This solo use is quite different to Mozart's use of the horn in orchestral music, which is entirely typical of the period, and often exactly matches the brief notes of Thomas Attwood's composition lessons[22] from 1785–87:

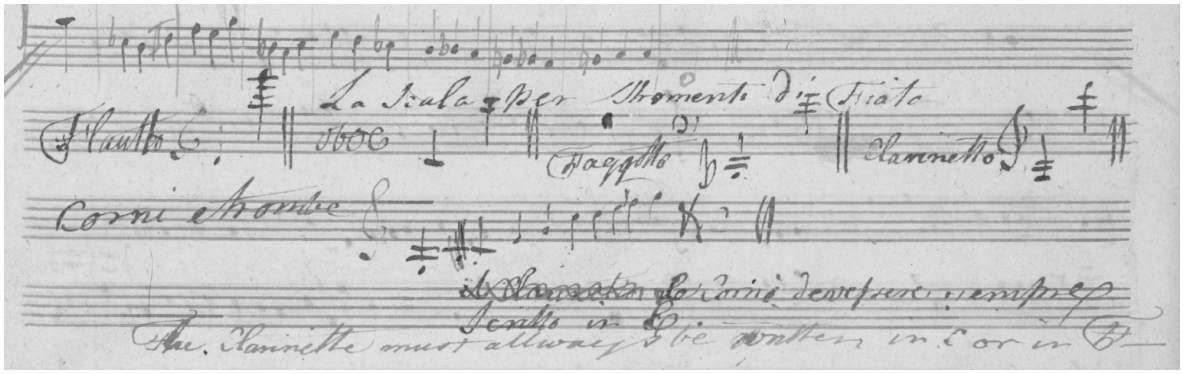


Figure 2.7 Mozart Attwood lessons British Library Add MS 58437 folio 80v; detail

This can be transcribed as in Figure 2.8.[23]

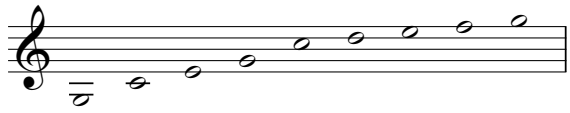


Figure 2.8 W.A. Mozart's recommended scale for the horn

But there is quite a difference in the requirements of musical language between Mozart in the 1780's and the repertoire of the 1810's.

Dauprat's *Méthode* of 1824 is 'the high point in horn literature – and one of the finest and most thorough instruction books written for any instrument'.[24] This huge treatise, in

[22] http://www.bl.uk/manuscripts/Viewer.aspx?ref=add_ms_58437_fs001r retrieved 10 June 2020.
[23] Space doesn't allow here, but I believe the NMA make a number of errors in their transcription of this extract.

three parts, covers some 470 pages in total, and Part Three, 100 pages alone, is entitled *For Young Composers* and gives

> Instructions on the horn and its different crooks or interchangeable parts, on the resources of the instrument and the way they may be used in solos and in simple and obbligato accompaniment both of the voice and of other instruments, and in music for several horns, whether unaccompanied or within the orchestra.[25]

At the end of book is a 'Table of the general range of the horn […] and of the series of notes that each crook produces',[26] a foldout sheet approximately three pages wide, with a further two pages of notes and explanation. As well as showing all the pitches that can be produced on all the crooks, Dauprat's table shows the practical range by player and for orchestral usage, and includes all the enharmonic chromatic pitches, with different hand positions for each enharmonic.

In a somewhat simpler form, omitting some crooks, the enharmonic spellings, and all indications of hand position, this table can be summarised as follows:

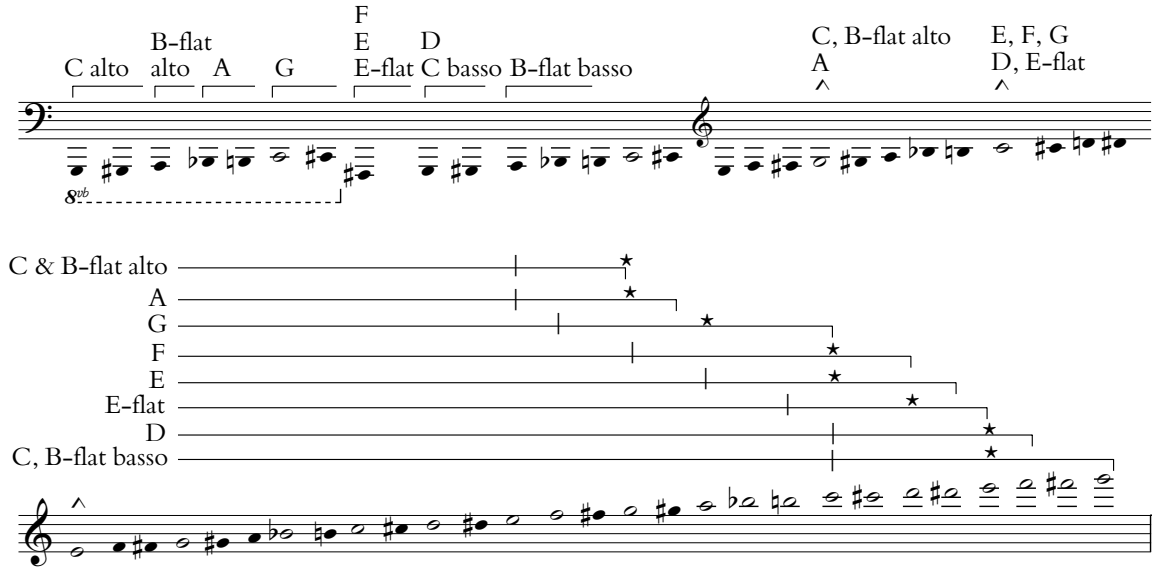


Figure 2.9 From Dauprat's Grand Table: all available pitches; and by crook and player the extreme limits of range; and ^ the lowest pitch for *cor alto*, and the highest pitches in orchestral use for | *cor basse* and * *cor alto*.

What Figure 2.9 shows, for example for the E-flat crook, is that Dauprat considers the full range of the crook, regardless of player genre, is from bottom F♯ to top E; that the

---

[24] Humphries, *Early Horn*, 5.

[25] Dauprat ed. Roth, 369.

[26] Dauprat ed. Roth, 465.

lowest playable pitch for a *cor alto* is middle C; that the highest pitch for a *cor basse* is top B♮; and that the highest pitch a *cor alto* should be given in orchestral usage is top D. Dauprat seems to assume that a *cor basse* can always reach down to the lowest available pitch. The table also shows, contradicting Domnich, that there are two 'holes' in the scale: between bottom (*8vb*) C♯ and F♯, and low D and D♯/E♭.

The problem with Dauprat is that whilst he gives an enormous amount of advice (indeed, too much to assimilate) on crook selection for colour and tonality, and gives many examples of the diatonic scales that can be obtained on each crook, he gives little guidance on how to move around within a scale. I come away with the impression, born out by the exercises in Parts One and Two of the *Méthode*, that Dauprat expects the player to be able to move effortlessly from one pitch to another across the entire range of the horn, whilst most writers caution composers do not make them jump around too much. But comparing this with music written *for* Dauprat, by someone that knew him well, this does not represent what was probably Dauprat's own practice.

Between 1818 and 1821 Antoine Reicha (1770–1836) composed his 24 published wind quintets (opp.88, 91, 99 and 100) for an ensemble of the leading wind players from the Paris *Opéra*, including Dauprat, and the quintets remain extremely challenging today for all five players. Dauprat had studied composition with Reicha, and he mentions the composer many times in his *Méthode* and always as a model of good horn writing. He thought so highly of Reicha's quintets that he made (or caused to be made) four volumes, more than 1,300 pages, of manuscript scores of the complete set, which he later donated to the *Conservatoire*.[27] The quintets are written in a wide range of tonalities, but the horn parts throughout are very skilfully constructed to fit only the solo crooks (D, E-flat, E, F, and G) and the horn often plays in keys other than its tonic.

An analysis of thirteen of the quintets, with more than 25,000 notes in total for the horn, shows the pitches that Reicha uses. (A description of the method of collecting the data follows below.)

[27] https://catalogue.bnf.fr/ark:/12148/cb449152205 retrieved 18 June 2020.

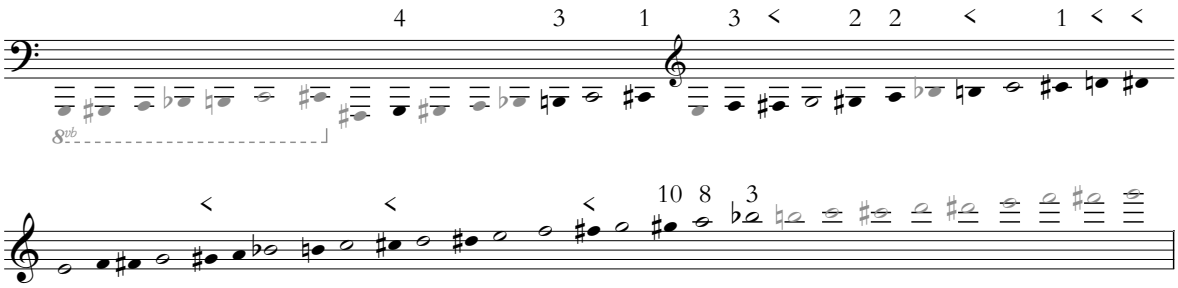


Figure 2.10 Horn pitch use in Reicha's quintets opp.88, opp.99, and in op. 91 no. 2

Figure 2.10 again shows Dauprat's complete scale for the horn, as in Figure 2.9, but, from the thirteen quintets only those pitches used by Reicha are shown in black (grouping together enharmonic equivalents). The unused pitches from Dauprat's scale are in grey. (As we shall see later, the remaining eleven quintets contain at least one example of a top C, but further analysis of these pieces does not greatly add to this current discussion.) To show how infrequently Reicha uses some pitches, where he uses a pitch fewer than ten times, the number of uses is shown. So across 52 movements there is a single middle C♯/D♭. Additionally, the pitches marked with < (a less-than sign) make up less than one per cent (i.e. fewer than 250 occurrences) of the total.

Figure 2.11 shows only those pitches used by Reicha, but now ordered by their frequency of use, most to least.

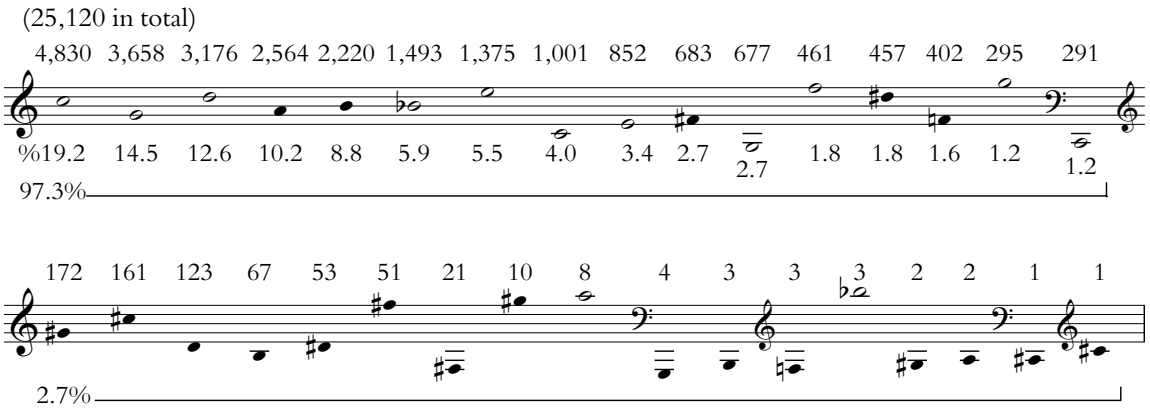


Figure 2.11 The pitches in Reicha's quintets opp.88, opp.99 and op. 91 no. 3, ordered by their frequency of use

This figure shows the number of occurrences of every pitch, and for the most common the percentage of the total this represents. As we might perhaps expect, high C is used the most often, 4,830 notes out of 25,120, making 19.2% of the total (after rounding). The pitches on the upper stave, i.e. the pitches of the harmonic series from low C to high G plus five stopped tones, make up 97.3% of the total notes used. On the lower

stave, the 17 least-used pitches, just over half the number of pitches used, represent together just 2.7% of the total number of notes.

How to understand Reicha's pitch use? Middle A and B♮ (on the stave) are both stopped tones, and yet are the fourth and fifth most-frequently used pitches, rather more often than the open Es above and below them. Middle F♯ is used 13 times more frequently than the one an octave higher (683 uses against 51). Some pitches, for example low C♯/D♭, are used almost vanishingly infrequently. In fact, this C♯, actually a D♭, and the one an octave higher are both from the same solo (see *Usage Examples* no. 234), and looking ahead, this is the only low D♭ I found anywhere in my study, and one of only two middle D♭s. The four bottom Gs all come from a single movement that uses the G crook, despite, according to Dauprat, this pitch being available on all the solo crooks, and there are no bottom F♯s, or any of the other pitches below low C that Dauprat allows the solo crooks. Reicha also omits more of the stopped pitches below middle C than Dauprat suggests, and, with the exception of middle A and B, is generally conservative with stopped notes, using them infrequently.

Here then, in a microcosm, is the problem of learning to understand how to write for the horn: the composer Reicha's writing is markedly different from the player and theorist Dauprat's detailed instructions. Looking through the horn parts for all the quintets, in the matter of pitch choice, information I might have expected to learn from Dauprat, Reicha is rather more conservative than Dauprat; but in the way that he uses those pitches, at least in soloistic and melodic writing, Reicha is rather adventurous.

The players

There is also the consideration of the performer for whom I am writing. I am not writing for historical players, but rather for players *now*, most of who initially trained on the modern valve horn and continue to perform on it when asked. Whereas performers in the early 19th century might have had one instrument for their entire careers, a player of historical horns today might perform on many different instruments: 'baroque' (for J.S. Bach); English baroque (Handel); 'classical', possibly with separate instruments for Haydn, later-Viennese, and French repertoire; early valve-system (Schumann); later German or Vienna valve-systems (Mahler); piston valves for later French or English repertoire (Debussy, Elgar). They have to decide whether to use a single mouthpiece for

all of these instruments, making the transition between each of them and their modern instrument as easy as possible, or to use a different (sometimes distinctly so) historical design for each one. The separation of the roles of players between high and low specialists, and the expectations of the range of notes one player might be required to play, are markedly different now to historical practice. Performers are also playing with and within rather different performance paradigms than the ones that existed when the various historical treatises and methods were written. So, ironically for musicians working in the field of Historical Performance, a style of playing that was described in 1820 might not currently be considered appropriate (by colleagues, conductors, or listeners) even if it exactly matches in date and place with the repertoire being performed.

Ah: Vienna

It is perhaps an obvious conclusion, but perhaps the best way to gain a proper insight into Viennese practice in writing for the natural horn *c.*1810 is to study the horn parts of Vienna *c.*1810. Using this material has the added advantage that it is the basis of the repertoire that most of us study and play professionally: the Parisian operas of the 1820s that Dauprat was preparing his students to perform are not now so popular in the concert hall as the works of Beethoven and Mozart.

Method

My aim is to establish which pitches I may, or may not write, and how those pitches may be approached: in what context they may be used. To do this I have analysed a selection of horn parts, from solo, orchestral, chamber and Harmoniemusik repertoires, largely already known to me, but some on recommendation from horn players.

The works I looked at are largely limited to German and Viennese repertoire with prominent horn writing in the period 1780–1820. With very limited exceptions I have not included orchestral parts as they are in the most part self-evidently conservative in style, and those by Beethoven and Mozart that I did examine confirm this. I also did not include wind arrangements in this analysis phase to avoid skewing the data by introducing possibly non-typical or extreme usage. I also did not include works written by horn players as they might deliberately display virtuosity and novelty.

Where possible I have used early editions to best examine actual practice by historical players. Mozart's Serenade in E-flat K375 is a good example: Bärenreiter's *Urtext* edition focuses solely on the composer's manuscript as a source, ignoring two very early editions that present a number of alternative, less extreme, and arguably more idiomatic readings. I suggest that these are likely to stem from performer-based sources, which have been changed or *improved*, possibly in consultation with the composer. Moreover, *c.*1810 K375 was *not* performed using the composer's manuscript score, but rather with these printed editions.

The examples are not exhaustive. There are certainly further solo and orchestral works that demonstrate pitches and circumstances I have not found here, but the fact that these pitches are not here possibly demonstrates in itself how rare the use of them was and would be. For example, in my study low E occurs *only* in Ries's Sonate op. 34 (*c.*1811), a work that I was directed towards only quite late in my surveying. Spohr's Octet op. 32 (*c.*1814) for clarinet, 2 horns and strings also demonstrates a number of unique examples of pitch usage, and indeed horn players tell me that his horn writing (rather like his clarinet writing, on which, see Chapter 3) is non-typical and unidiomatic. But this piece is on the fringes of standard repertoire, and is to a certain extent studied by players, thereby becoming part of modern common practice, and for these reasons I have not excluded it. Similarly, I decided quite late to include Reicha's quintets in the body of the study because although they were written specifically for Dauprat in Paris, Reicha was a Bohemian with the same early experiences in Bonn and Vienna as his friend Beethoven, and the 24 quintets are a remarkable body of unified writing in an advanced style providing important examples in many more tonalities and circumstances than would otherwise be available.

The full list of repertoire I studied is listed in the Bibliography, but in short consists of concertante works by Weber and Crusell; chamber works with strings or piano by Mozart, Beethoven, Spohr, Ries, von Krufft, and Danzi; orchestral works by Mozart, Beethoven, and Berlioz; and Harmoniemusik by Beethoven, Krommer, Triebensee, Mozart, and Pleyel. I did not include Mozart's horn concertos as preliminary examination showed they duplicate the pitches included in other works.

Preliminary study

My first task was to establish which are the pitches worth pursuing further. For many of the works I have my own pre-existing editions made with the Sibelius notation software, but where I do not I created files consisting of only a string of the pitches, omitting any rhythms.

Figure 2.12 shows an extract of the raw data for Krommer's Partita op. 69. Only the pitches are relevant here: the rests are arbitrary and serve only as reference points back to the original part should additional study be warranted. I included any original slurs, as these are unusual in horn parts and their presence might become significant, and similarly trills and other ornaments. In inputting the pitches, I did not repeat tied notes, and I usually abbreviated multiple repeats of the same pitch as one in four or six: repeated pitches are typically those that are already the most prevalent.

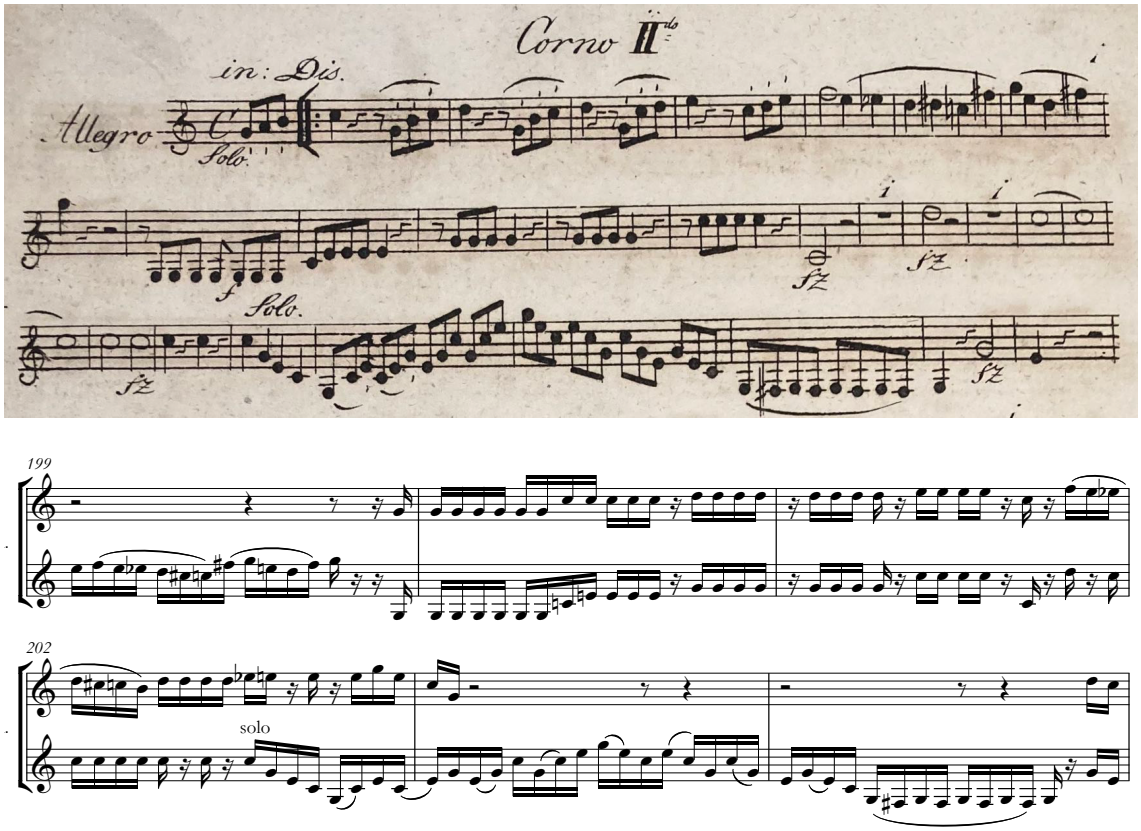


Figure 2.12 Krommer Partita op. 69, Horn 2, 1st mvt., opening; and Pitch Counting file extract derived from it

Figure 2.12 shows the opening of the horn 2 part for Krommer's op. 69 Partita in the first edition by *Magasin de l'imprimerie chimique* (Vienna, pn 877, 1808) and the

Sibelius file that records its data: horn 2 is the lower stave, and the first note of b.199 is the final note of the fourth full bar of the original.

Next, for each movement and each horn part I used Sibelius's *Pitch Counter* plug-in to return the number of uses of each written pitch.

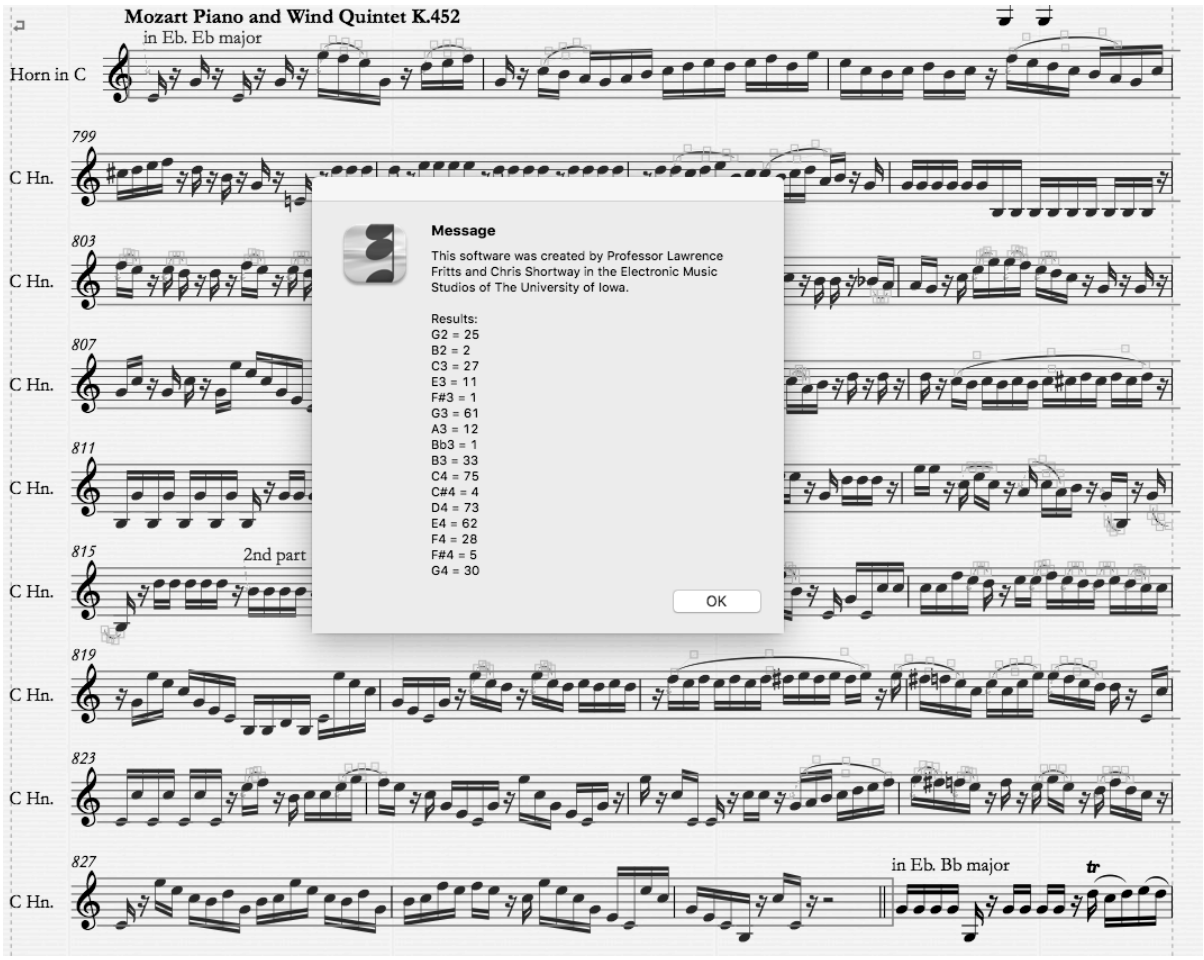


Figure 2.13 Screenshot of the output from the Sibelius *Pitch Counter* plug-in for Mozart K452 1st mvt.

I then entered the numbers returned from *Pitch Counter* into the *Horn Pitch Data* tab of the Excel spreadsheet included as part of the Appendix.

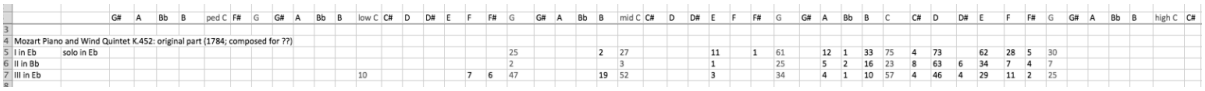


Figure 2.14 Screenshot of Excel spread sheet (extract) showing pitch data for Mozart K452

This method quickly and clearly shows which pitches are used, which are used often, and which are not used at all. In a number of the more interesting, varied cases, I carried

out further statistical analysis to determine the relative popularity of pitches within a part, by placing pitches in ranking order, most frequent to least, as in Figure 2.11 above. This further highlights which pitches are part of common usage, and which are exceptional.

Some preliminary findings

Weber's *Concertino* op. 45 for horn and orchestra (composed 1806, revised 1815) 'presents players with enormous challenges'[28] and 'is regarded as one of the most difficult in the whole horn repertoire'.[29] It is also, with the possible exception of Robert Schumann's *Konzertstück* op. 86 for four horns and orchestra, the best-known concertante work composed between those of Mozart in the 1780s and Richard Strauss's first concerto op. 11 from *c.*1883. It is a single movement work in E, and written for horn in E, in four linked sections: a slow introduction in the minor; a theme and four variations; a highly dramatic accompanied cadenza, including an astonishing passage requiring the soloist to produce chords; and a final, very virtuosic polonaise.

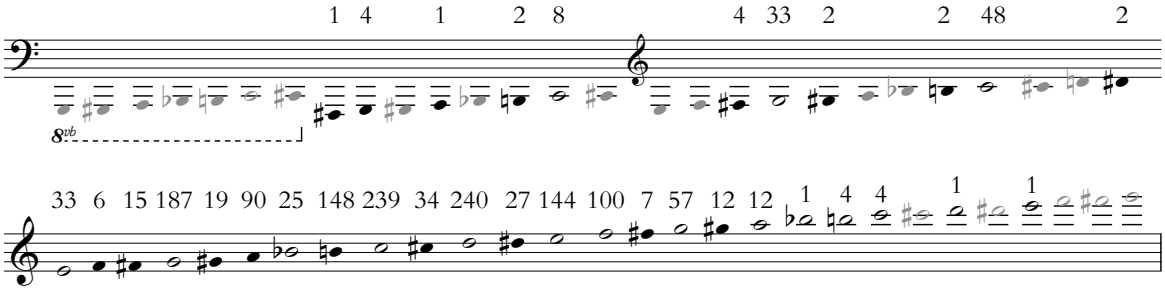


Figure 2.15 Weber *Concertino op. 45*; Horn in E, pitches used, with the number of occurrences of each pitch

Figure 2.15 again shows Dauprat's complete scale, with black note heads for the pitches that Weber used, and grey for those that he did not. The Concertino has a very wide range, from bottom F♯ to top E, but already from this scale we can see that Weber was quite careful with his choice of pitches: only a single semitone either side of low G; and otherwise between low G and middle E only low B♮ and middle D♯/E♭. And the number of uses for pitches outside the harmonic series is generally very low.

[28] Carl Maria von Weber, *Concertino Opus 45 for Horn and Orchestra, Piano Reduction*, ed. Domink Rahmer (Munich: Henle, 2018), preface.
[29] Weber, *Concertino,* Henle.de webpage, retrieved 9 July 2020.

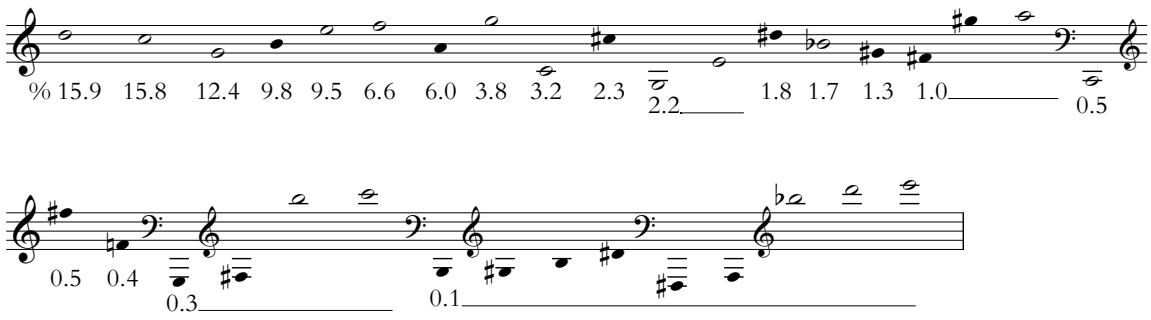


Figure 2.16 Weber *Concertino op. 45*; Horn in E, pitches ordered by frequency of use, with their percentage of the total

In

Figure 2.16 Weber's use of pitch is clearer: the 12 most-used pitches constitute 89.7% of the notes in the Concertino, and consist of the open tones from low G to high G, omitting B♭, but including stopped B, A, and C♯. 22 out of 34 pitches, everything following the middle E on the upper stave, constitute only 10% of the notes Weber wrote.

Beethoven's Sextet in E-flat op. 81b for 2 horns and strings was first published in 1810 by Nikolaus Simrock (1751–1832), but probably dates from rather earlier, around 1795. The composer maintained a close relationship with Simrock and his brother Heinrich (1754–1839) following their time together in the court orchestra in Bonn, where the brothers were both employed as horn players. Thayer quotes a letter, now lost, from Nikolaus to Beethoven in connection with op. 81b, saying 'the pupil had given his master many a hard nut to crack'.[30] Certainly the writing throughout the sextet is challenging for both players, and is an excellent example of the different roles and abilities of the first/high and second/low players.

[30] Alexander Wheelock Thayer, *The Life of Ludwig van Beethoven (Vol. 1–3)*, rev. and ed. Elliot Forbes (Princeton, NJ: Princeton University Press, 1967) retrieved from Google ebooks 9 Aug. 2021, vol. 1, p. 166 (as quoted in Humphries, *Early Horn*, 89, and 117 n. 25).

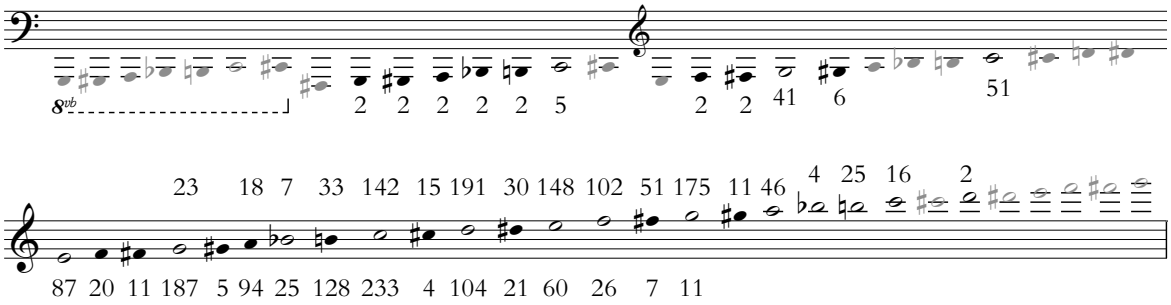


Figure 2.17 Beethoven Sextet for 2 horns & strings op. 81b; Horns 1 & 2 in E-flat, pitches used, with the number of occurrences of each pitch

Again, Figure 2.17 shows Dauprat's scale, with the pitches used by Beethoven shown in black, with the numbers of uses of them above the stave for the first horn, and below for the second. Compared to Weber, Beethoven used all the chromatic pitches below low C, and low F as well as F♯, but not the semitones below middle C or E. Separating the players, the first part does not go below middle G, and the second does not go above high G. The low player uses the stopped pitches between middle G and high C rather more often than the high player.

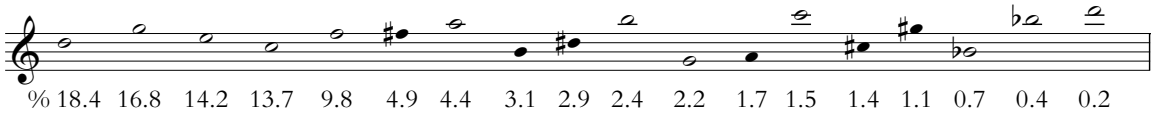


Figure 2.18 Beethoven Sextet for 2 horns & strings op. 81b; Horn 1 in E-flat, pitches ordered by frequency of use, with their percentage of the total

Looking in Figure 2.18 at just player one, the tessiture of this part is rather higher than the Weber, with generally greater use of the pitches above high A, and relatively rather more uses of top C. This, and the lowest pitch used being middle G, clearly mark this as a part for a player who was a *cor alto*. 82.2% of the notes written here come from just seven pitches, of which only one is not part of the harmonic series, although it should be noted that high F♯ may be played as an open note.

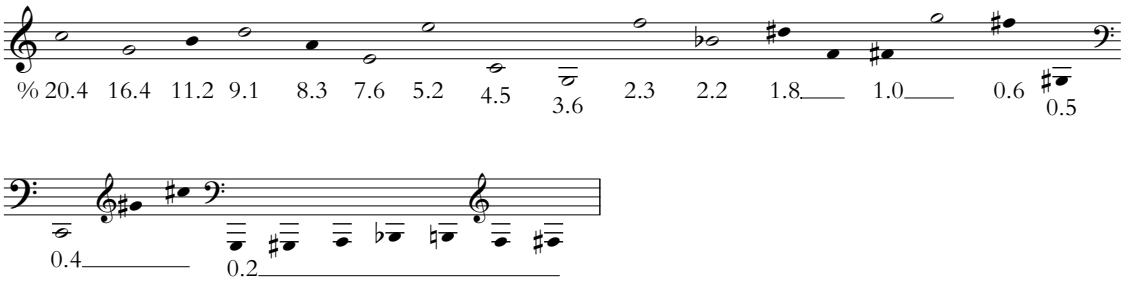


Figure 2.19 Beethoven Sextet for 2 horns & strings op. 81b; Horn 2 in E-flat, pitches ordered by frequency of use, with their percentage of the total

Player two (Figure 2.19), uses rather more pitches than player one: 27 against 18. Here, 90.8% of the notes come from eleven pitches, of which only two, middle B and A, are not part of the harmonic series, and only B♭ is outside C major.

Looking now at a rather larger data set, analysing nine of Krommer's thirteen partitas, there are 26 movements that use one of the solo crooks, D, E-flat, or F. I have limited myself here to these movements as this allows more of a like-for-like comparison with the Weber and Beethoven, and the other partitas and the movements for basso crooks do not greatly change the data.

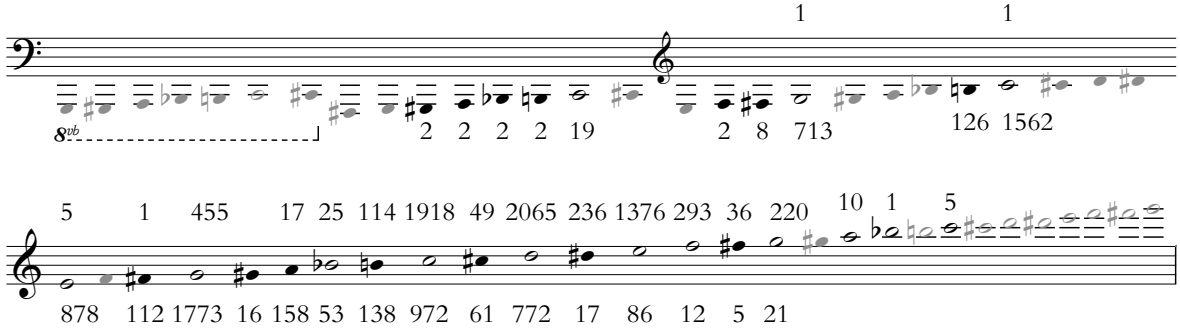


Figure 2.20 Krommer: pitches used in the movements for solo crooks from nine partitas, and their number of occurrences

Again, Figure 2.20 shows Dauprat's scale, with Krommer's pitches in black, with the numbers of uses of them above the stave for the first horn, and below for the second. Compared to Beethoven in his sextet, Krommer's pitch use was quite similar: all the chromatic pitches below low C, omitting only bottom G; both low F and F♯; and whilst he avoided middle D♯/E♭, Krommer did use low B♮ quite widely – in fact he made quite a feature of it in solos for horn 2. Strikingly, Krommer never used middle F. The single top B♭ comes from a particularly effective solo (see *Horn Usage Examples* no. 81). From internal evidence the single middle C and low G for horn 1 could be a printing error and should perhaps be an octave higher. Krommer used the high register in his parts for horn 1 much more sparingly than does Beethoven, and these parts could be described as being written for a *cor basse* player.

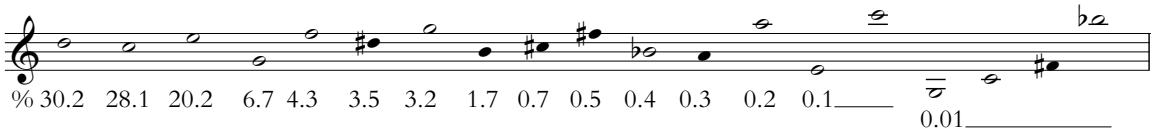


Figure 2.21 Krommer: nine partitas, mvts. for Horn 1 in D, E-flat, or F, pitches ordered by frequency of use, with their percentage of the total

Krommer's parts for player one have a noticeably lower tessitura than Beethoven's, shown by high G being the seventh most popular pitch rather than the second, and middle G being the fourth most popular. However, 96.2% of the total notes are the seven most-used pitches (and a third of these are the single pitch D), 14% more than Beethoven, and Krommer's first stopped pitch is D♯/E♭. The remaining twelve pitches account for less than 4% of the notes.

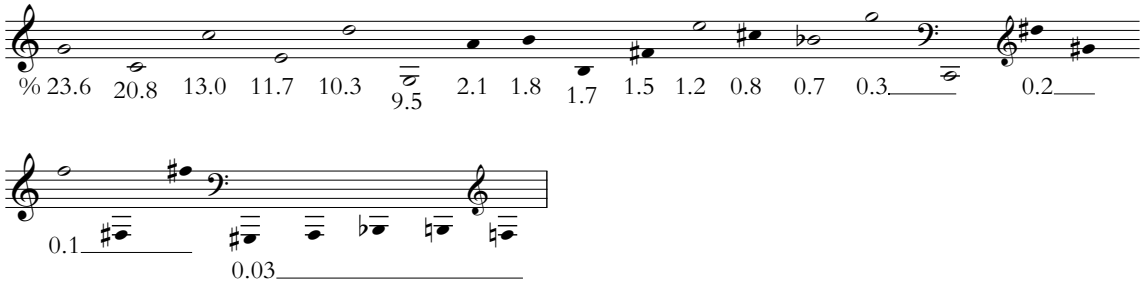


Figure 2.22 Krommer: nine partitas, mvts. for Horn 2 in D, E-flat, or F, pitches ordered by frequency of use, with their percentage of the total

Krommer's second parts also seem to sit lower on the instrument than Beethoven's, but that is because of his much more frequent use of low G and middle C: here 88.9% of the notes used come from just six pitches, none of them outside the harmonic series. 19 pitches account for 11% of notes written.

Towards an understanding

This preliminary study allowed me to begin to gain an insight into those pitches which were typical in standard Viennese classical practice – a two octave C major arpeggio from low G, plus middle D on the fourth line, and stopped A, B, and top-line F – and which were unusual: everything else, the 10%. To investigate further, I assembled a collection of 243 musical examples that particularly employ these least-used pitches. This collection is contained in *Horn Usage Examples* in the Appendix. My aim was not just to understand *which* pitches were used, but more importantly *how* they were used, what the *context* is in which a given pitch is 'allowed' in historical practice.

Having input the musical examples into Sibelius, I could then use its *Find Given Pitch* plugin to isolate every occurrence of every pitch. I made another spreadsheet (the tab *Horn Pitch Examples* in the Excel data file) listing each use of every pitch (except for those that were very frequent), along with the example numbers in which they appear, and recording the pitches that precede and follow it. The example numbers listed in the

spreadsheet are exhaustive where a pitch is uncommon but are more representative in the common cases (C, E, G, D etc.). I also noted the use of ornaments; whether a pitch is the first or last note of a phrase; and examples of where a pitch-usage is scalic, or slurred.

From this spreadsheet I prepared a further Sibelius file, which forms the basis of the *Index of Horn Usage Adjacencies*. This serves as an index of all pitches, including those never used, and for each shows all the pitches that precede and follow it – their *adjacencies* – and lists by number their appearances in the *Usage Examples*.

My intention for the use of this index is that if I want to write, for example, a middle A♭ on the stave, I can quickly consult the index, and then look at actual examples and see in what circumstances this pitch was used in the early-19th century. In this case, I have some 44 examples showing middle A♭ is preceded by eight different pitches and followed by nine. But, with some important exceptions, middle A♭ should normally be adjacent to at least one G.

I feel it is important to always refer to the examples for context, and not simply to use the index alone. There are, however, a number of drawbacks and limitations to this approach.

To reiterate: this is not and cannot be a complete survey of all music written for natural horn. I will have missed some possibly important and otherwise unique examples of pitch use, but I think my survey is wide enough that anything I have missed I can discount as rare enough to be too far outside typical historical practice to form part of my own practice. This survey also generates enough examples that if I want to write something for which I have no precedent, I can still gauge how idiomatic it is likely to be.

I am not attempting to find the rules of a single composer, but rather a general view of a certain possible style of horn writing. The same research approach, however, can be used to define, for example, Beethoven or Brahms's practice, which I have already found very useful and informing when editing or attempting completions of their works.

Horn parts are, almost by definition, written mostly in C major. Historical composers of ensemble music tended to rest the horns in difficult tonalities, or give them only those pitches that are readily available. This means music for the horn written in D major, for example, is very unusual, or that music written in D major for the horn tends to consist only of a string of high Ds. Counter to this, however, music written for the clarinet, horn and bassoon, in solo and in ensemble, tends to be on the flat side of the harmonic circle, so that there is rather more of it in F major than in G major.

A further limiting factor is that pitch choice on the page, certainly post-1800, was increasingly determined by voice-leading and *partimento* rather than by vertical harmonic progressions: flattened pitches fall, and sharpened ones rise. My list of adjacencies could, then, be seen as much as a directory of the allowed intervals in harmonic music centred on C major as a list of the capabilities of the horn. Except that in all of my 243 musical examples there are only two G♭s, both in the high register of the horn, and both preceded and followed by an F. But there are many examples of F♯, and in all three octaves, and these tend to have a G either before or after them, not both. Similarly, whereas E♭ is used rather flexibly, middle D♯ is, with a single exception, always preceded and followed by E.

It ain't what you do, it's the way that you do it

From all this I have begun to draw some generalisations that might begin to be formulated as rules.

The following is the scale of pitches that I have found in my musical examples.

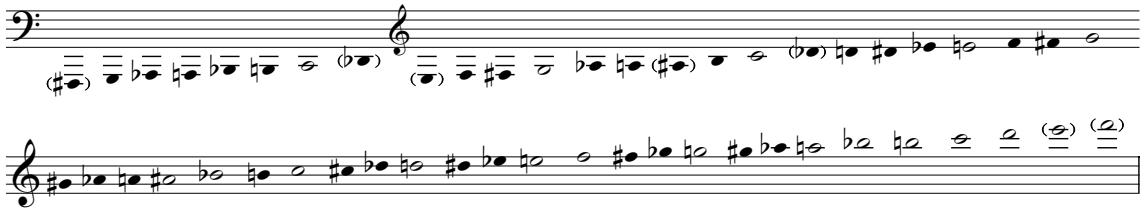


Figure 2.23 An observed scale for the natural horn, including all enharmonic pitches

I have included here all notated enharmonic pitches. Bracketed note heads show pitches that are used very rarely and in strict circumstances. This entire scale can be produced only by an exceptional player, and only on the E-flat or E crooks: more typically, the

separate ranges for high and low players, and considerations about the range of pitches available on each crook must be remembered.

Missing from this scale are four pitches – low D, low D♯/E♭, top C♯/D♭, and top D♯/E♭ — as they are not found anywhere in the studied repertoire. (Dauprat omits low D and low D♯/E♭, but he includes the higher pitches, and continues his scale chromatically up as high as top G, and down for another octave.)

Another five pitches – bottom F♯, low D♭, low E, low A♯, and middle D♭ – are all used only once or twice, or by a single composer, and their enharmonics equivalents are never used, making it questionable to what extent I should include these pitches as part of my practice. I would, perhaps, need to be very 'correct' in my use of these pitches if I were ever to write them.

And another six pitches – bottom G♯, bottom A♯, low G♭, low G♯, middle G♭, and high A♯ – are also not found, whilst their enharmonic equivalents are used relatively frequently.

Top E and F were used only in very specific situations, probably because they are extremely difficult to produce.

The lowest pitches below low C, except for bottom G and B, are used only in descending chromatic or diatonic scales from C.

Figure 2.23 shows 51 pitches in total. Each pitch may be adjacent to up to 50 other pitches before, and 50 after, making a maximum of 100 adjacencies. Of the 51, the following 12 could perhaps be considered *safe* to write in most circumstances, as they have the greatest number of adjacencies.

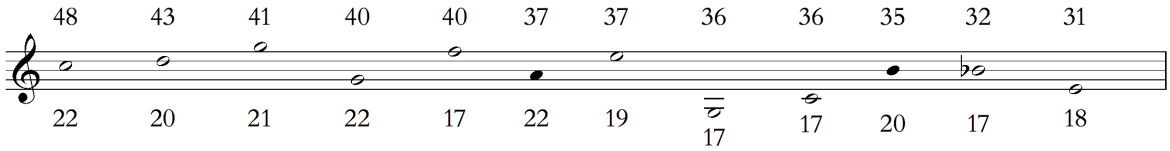


Figure 2.24 The 12 'best-connected' pitches

These 12 comprise the open harmonics up from low G for two octaves, including middle B♭ and high F, with additionally stopped middle A and B♮. The numbers above the stave in Figure 2.24 show in my examples how many adjacencies each of these pitches have in total, so high C, the first pitch, is adjacent to 48 other pitches, or almost half the maximum possible. C is not the most common pitch, that is more typically D, but it is used in the most flexible fashion: it is the 'best-connected'. The numbers below the stave show the number of connections within this set of 12 pitches. 22 is the maximum possible, which high C, and middle G and A have, showing that these may be placed adjacent to any of the other 11 safe pitches. From the data derived from my examples the other pitches are only marginally less well-connected, perhaps for harmonic reasons in the case of the F and B♭, or because of register in the case of low G. As a shorthand, therefore, it is reasonable to expect that any sequence of these 12 pitches is possible, allowing for the first/second horn restrictions, and importantly, that the player can hear and 'pitch' the notes and intervals that are required. The pitches that follow these 12 in order of 'connectedness' (middle E♭, high A, middle F♯, etc., continuing to bottom F♯ with its single connection to bottom G) quickly show a reduction in the number of observed adjacencies, which become either centred on a narrower part of the whole range, or are spread over a less cohesive collection of diverse pitches. This means that the use of pitches outside the safe 12 therefore needs care, with greater reference to the pitch index, examples and other rules.[31]

Other points specific to each pitch, including their use for ornamentation, or to start or end phrases, are included in the adjacencies index.

Top B, or Not Top B?

As Martin Lawrence says and demonstrates in his video on the harmonic series, '[harmonic] 15 is a dead in tune B natural'.[32] My examples and index show that B was used in quite a wide variety of ways in historical repertoire, but only as part of a scale or G major arpeggio. And crook and player requirements dictate that it should only be

[31] The spreadsheet tab *Horn All Adjacencies*, attempts to show each all pitches' interconnections, and perhaps shows how difficult it is to make generalisations in this matter.
[32] Martin Lawrence for the Orchestra of the Age of Enlightenment, 'The Harmonic Series: Illustrated Theory of Music #8' [video], YouTube (uploaded 17 Nov. 2020), https://youtu.be/Qzvp4_igvyw, accessed 19 July 2021, quote at 9:49.

given to a high-note specialist – top B would be beyond the range of some *cor basse* first players – and only on the solo or basso crooks.

Therefore: yes top B, but with care.

More crooks

A final point not so far touched on: how to choose which crook to use in a certain tonality.

	Dauprat's Method, Part III[33]						Reicha's Quintets	
	solo crooks, 1st example		solo crooks, 2nd example		alto & basso crooks			
sounding tonality	crook(s)	written tonality	crooks(s)	written tonality	crooks(s)	written tonality	crooks(s)	written tonality
C major	F & G	G & F	D & E♭	B♭ & G	C	C	F & G	G & F
c minor	E♭	a	F	g	A♭ & B♭	e & d	E♭, F & G	a, g & f
c♯ minor	E	a	D & G	b & f♯	B & A	d & e		
D♭ major			E♭	B♭	A♭	F		
D major	D & G	C & F	E & F	B♭ & A	A	F	D	C
d minor	F	a	D, E♭ & G	c, b & g	C & B♭	d & e	D & F	c & a
E♭ major	E♭	C	F	B♭	A♭ & B♭	G & F	E♭	C
e♭ minor			E♭	c				
E major	E	C	D & G	D & A	A & B	G & F	E	C
e minor	D & G	d & a	F & E	b & c	C	e	E	c
F major	F	C	D, E♭ & G	E♭, D & B♭	B♭ & C	G & F	F	C
f minor	E♭	d	F	c	A♭	a	F	c
F♯ major			E	D	B	G		
f♯ minor	D & E	e & d	G	b	A	a		
G major	G & D	C & F	F & E	D & E♭	C	G	G & D	C & F
g minor	E♭ & F	e & d	G	c	B♭	a	G & E♭	c & e
A♭ major	E♭	F	F	E♭	A♭	C		
A major	D & E	G & F	G	D	A	C	E & D	F & G
a minor	F & G	e & d	E♭ & D	f♯ & g	C	a	D	g
B♭ major	E♭ & F	G & F	G	E♭	B♭	C	E♭ & F	G & F
b♭ minor			E♭	g	A♭	d		
B major	E	G	D	A	B	C	E	G
b minor	D & G	a & e	F & E	f♯ & g	A	d	E	g

Figure 2.25 Dauprat's suggestions and Reicha's use of crook by tonality.

Figure 2.25 summarises Dauprat's very detailed guidance in his Method, and Reicha's actual practice across his 24 wind quintets. To save space I have omitted Dauprat's suggestions for the rather unlikely keys of C♯ and G♭ major, and D♯, G♯, and A♯ minor. Dauprat's first example allows key signatures for the horn of no more than one

[33] Dauprat ed. Roth, 421–432.

accidental; his second example allows two or three accidentals; and then he includes the alto and basso crooks: his suggestions for C and B-flat crooks could employ either alto or basso crooks. So, for example, for C major Dauprat in the first instance recommends horn in F or in G, which will mean the player is playing in G major or in F respectively; in the second instance he suggests horn in D or in E-flat, giving music in B-flat or in G; and if the composer wants to use an alto or basso crook Dauprat suggests horn in C, leading to a part in C major. Reicha in his quintets adopts Dauprat's first suggestion and uses both horn in F and in G.

The choice of crook is always a compromise. Amongst other considerations are: the principal tonalities of the piece, where it starts and where it modulates to; the colours of individual pitches the horn needs to produce, dictated by their different hand positions; and the wide contrasts in overall timbre determined by alto, solo, or basso crooks.

Reicha's quintets offer good examples based on tonality choice. For many movements he used the crook of the tonic: D for D major, E-flat for E-flat major, F for F major etc. But Reicha wrote for Dauprat using only the solo crooks, so for those tonalities that would normally require a basso crook he used the crook either a fourth of fifth above the tonic: horn in F or G for C major, in E-flat or F for B-flat major, in E for B major. A composer's choice when writing in a minor key is more complicated: Reicha's decisions were governed by the fact that he often switches very quickly between the minor and major modes of the same key, and so the horn has to be able to function well in both. Hence, for a movement predominantly only in C minor (op. 91 no. 6, first movement), he used the E-flat crook, to put the horn in A minor, but in a movement that alternates between C minor and major he chose either the F crook to give G minor/major (op. 91 no. 6, last movement), or the G crook for F minor/major (op. 91 no. 1, first movement). Generally, with exceptions (and F minor is a special case), Reicha did not write for the horn in keys with more than two flats or one sharp.

As stated earlier, it is difficult to be specific on the exact hand position for each pitch, and therefore its colour, because this varies by instrument, and by player's hand size, technique and artistic choice. The degree of hand stopping for a pitch also changes depending on the crook being used, and also on the harmonic function of a pitch. However, to gain an impression of how open or covered the sound of each pitch might

be, Figure 2.26 gives possible hand positions for the scale observed in the examples, drawing on Dauprat's Table in the Method,[34] and Humphries.[35] But, to repeat an earlier point, it is possible, particularly in softer dynamics, to homogenise the sound of the scale, smoothing out the differences between open and stopped pitches, although this becomes more difficult as the dynamic increases, so differences between stopped and open tones become more marked as the horn is played more loudly.

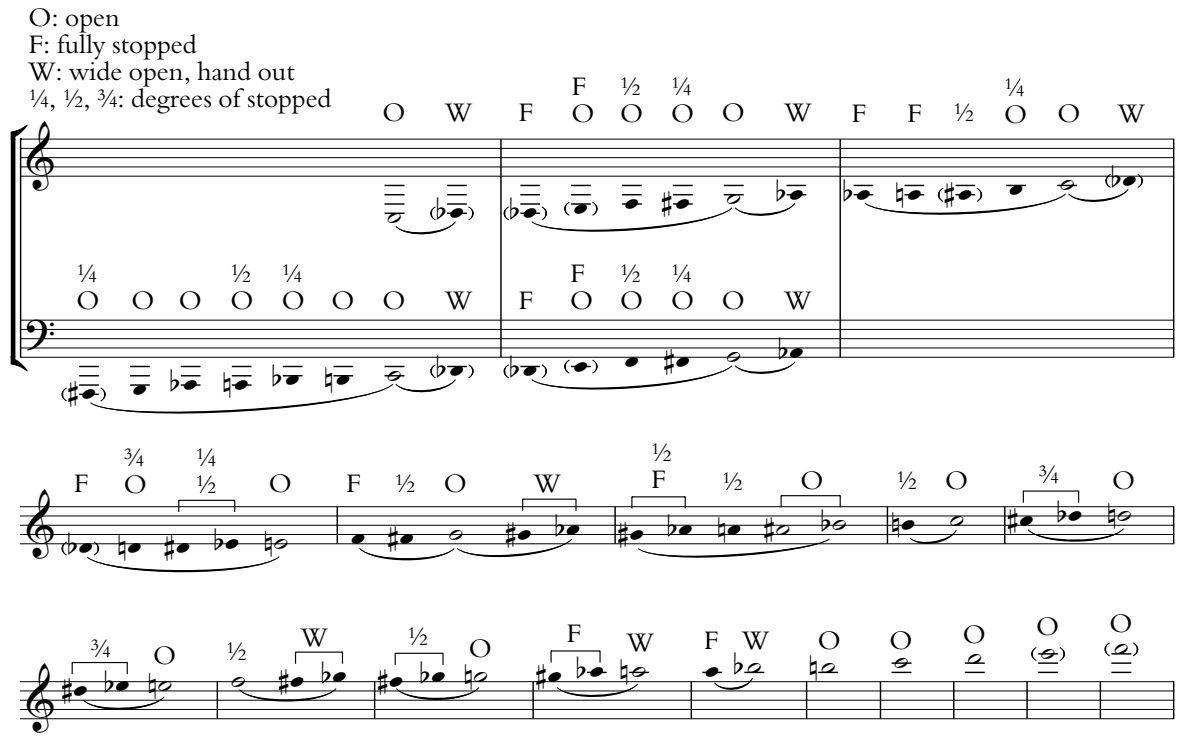


Figure 2.26 Possible hand positions for the observed scale, based on Dauprat and Humphries

This shows each degree of the harmonic series (white note head), and the pitches obtained by manipulating that pitch. The bracketed pitches are very rare in the analysed examples, either because they are harmonically unusual or because they are very difficult to produce. *O* means the normal hand position for open pitches of the harmonic series; *W* means the player completely removes their hand from the bell; *F* means the bell is fully closed with the hand; ¼, ½, and ¾ show increasing degrees of stopped between *O* and *F*. Alternative options are placed one above another.

[34] Dauprt ed. Roth, 464–465.

[35] Humphries, *Early Horn*, 60.

As an example, the first bar shows low C. Pitches down to bottom F♯ can all be produced by making the C increasingly flat using only the embouchure, hence these could all be played open, without moving the hand, although bottom A and B♭ can also be tuned using the hand in increasing amounts. Bottom F♯ is also either simply open, with a very relaxed embouchure, or is a hand-flattened bottom G. Following the C, low D♭ can be produced by a combination of taking the hand completely out of the bell, which raises the pitch a little and gives a very open sound, and also raising the pitch further with the embouchure. The following bar shows that the same pitch, D♭, can also theoretically be produced by fully closing the bell whilst 'playing' a low G, thus forcing down the pitch but resulting in a very muffled sound.

In general, pitches preceding the open harmonics in Figure 2.26 are produced by closing the bell in increasing amounts, and so the further from the harmonic they are the more stopped, covered, or depending on the dynamic muffled or buzzy is their sound. The pitches following the open harmonic are open and bright, tending towards unsubtle, and, because the player is attempting to raise the pitch of quite a stable note, possibly flat in intonation.

The figure also illustrates the problems with high F and A discussed near the start of this chapter: because of the tuning of harmonic 11, F♮ is typically produced by half-stopping, lowering the pitch of the open natural harmonic using the hand; F♯ can either be played very open and bright by raising the open harmonic with the embouchure and taking the hand completely out of the bell, or played slightly stopped by bringing down the G (harmonic 12) with the hand. Similarly A♮, from harmonic 13, is either wide open, or very closed and muffled, but in practice neither of these options is ideal: high A is treacherous to attack, and difficult to play in tune.

In conclusion

There are many additional factors involved in writing for the natural horn that it isn't possible to cover here, including: the use of slurs in horn parts, which is very haphazard in historical sources; the use of two horns together, in the same crook or in different ones; the requirements for bars rest; and historical scoring practice in combining the horn with other instruments. But I will address these as required in the chapters on arranging, and in the critical reflections.

It is worth at this point, though, quoting Domnich at length:

> All instruments in general admit the methodical process of fingering, in which the position of the fingers, once defined for each note, can always give at will and in an invariable way the sound of this note. But the horn is deprived of these advantages. The same applies to the horn as to the voice. Everything that is played on this instrument must have been produced in advance in the imagination; and if it happens that the inner feeling is false, the corresponding sound also becomes false. Since there is no method for teaching how to sing in tune, that is, how to teach the voice to take on a certain intonation, or how to fall in unison with this or that note, there is no method for teaching how to play the horn in tune […] the pupil […] must, before placing his lips on a mouthpiece, have acquired through the exercise of solfeggio the habit of comparing sounds, measuring intervals, and grasping intonations. If for the other instruments this preliminary study is the most useful of all, for the one we are dealing with it is indispensable.[36]

If the player cannot in their head hear, sing, or pitch the note they are about to play, either because, as Domnich says, they do not have the skill or experience, or because they are being asked to play a pitch or interval that makes no sense to them, there is a good chance they will fail.

For the horn, context is all.

[36] Domnich, *Méthode*, 4 trans. DeepL.com and the author.

Part II: An Index of Adjacencies; or Horn Pitch Usage

Included as part of the Appendix is my *Index of Horn Usage Adjacencies*. This index lists, for every chromatic pitch:

- the pitch, including enharmonics
- brief notes on the pitch's use in the *Horn Usage Examples*, or 'no examples' if it does not appear,
- followed by staves that show the principal pitch as a white note head, preceded in pitch order using black note heads by all the pitches that immediately precede it in the examples, and followed by all those that follow it, indexing the examples in *Horn Usage* that use this combination.
- A given adjacency might happen more than once in an example.
- Bracketed note heads show pitches that precede or follow the main pitch, but with a *short* rest between them, usually within the same phrase in the manner of a *quasi-staccato*
- *x.1* means in example *x*, horn *1*; *y.1.2* means in example *y*, horns *1 and 2*
- *etc.* shows a common adjacency
- *many* shows an adjacency too common to comment on.

Horn Usage Examples

The collection of examples is drawn from the horn writing of numerous composers *c.*1780–1820: a full list of composers, works, and sources can be found in the Bibliography. The ordering of the examples is a little haphazard (the numbering here, and in the *Adjacencies Index*, are hand-generated, so it hasn't been possible to revise the ordering) but, broadly, individual composer's and work-types are grouped together: Harmoniemusik and chamber music by Mozart, Beethoven, and Krommer (examples 62–145); Weber's *Concertino;* Beethoven & Mozart works with piano; Crusell, Spohr, Pleyel; Ries, Danzi, and de Krufft sonatas; Berlioz, and Reicha's quintets from example 219 onwards.

Where possible, examples are taken from early editions, and I have duplicated their layout, particularly with respect to the placement of dynamics and articulation. I have

added a handful of bracketed editorial accidentals where there is some doubt in the original.

Multiple examples from a single piece follow one another in order; each piece starts with its composer and title. As well as movement tempos and time signatures, metronome marks are included where appropriate, and also the key of the movement or extract, and the horn crook used. Bar numbers and rehearsal marks are included where they exist in the original edition to aid in location if cross-referencing with the original is required. Each example is numbered and ends with a double bar; extracts are labelled with 1. and 2. to show the part quoted, or with nothing if from a solo part.

Horn Usage Examples **which demonstrate specific tonalities (sometimes briefly)**

C major: many, but particularly: 7, 25, 30 (b.16–21), 36, 38ff, 64, 69, 72–74, 78–80, 84, 85, 91, 94, 97ff, 99, 105, 109, 113, 114, 134ff, 141ff, 142–145, 147, 157, 163ff, 166, 178, 179, 181, 183–187, 196, 219, 220, 222, 223

a minor: 13, 14, 27, 28fff, 29, 164ff, 172, 191ff

G major: 1, 3, 4, 16–18, 23, 31ff, 32ff, 33ff, 35 (b.80–), 45ff (b.37–42), 84 (b.90–), 97 (b.5–), 101, 137, 142 (b.21–), 160ff, 167ff, 182 (b.61–), 187 (b.86–), 193ff, 209ff, 210, 224ff for a large G^7 arpeggio, 235ff, 238ff, 242

e minor: 13, 109 (b.85–), 129ff, 170ff, 232

F major: 41ff, 42 (b.21–24), 44ff, 61, 154, 227ff, 234ff, 243

d minor: 42 (b.25–28 and 33–), 92, 106 (b.35–), 152ff (158–159)

D major: 30 (b.24), 45 (b.42–), 162ff, 168, 169ff

b minor: (none)

B♭ major: 42 (b.29–33), 81ff, 158 (b.60–64)

g minor: 81ff, 82 (b.36–44), 87, 102, 104, 149 (b.109), 150 (b.132), 158ff, 171 (b.356–), 176, 188, 221ff, 236

A major: (none)

f♯ minor: (none)

E♭ major: 146 (b.11), 152 (b.160–161), 165, 171ff (b.345–354), 200, 204, 206, 211, 214

c minor: 34, 35 (b.78–80), 48, 49, 51, 56 (b.196), 112, 127 (b.66–), 130, 132, 135, 143 (b.81–), 146ff, 151, 152 (b.164–), 156 (b.300–303), 161, 174, 177, 190, 199, 207, 213ff, 229, 230ff, 239, 241ff

E major: 195 (b.182–4)

c♯ minor: (none)

A♭ major: 152 (b.162–3), 173ff

f minor: 39, 155, 165 (b.89), 201

Chapter 3

On the clarinet (and the bassoon, too, a bit later)

'*The clarinet… is theoretically deficient from an acoustical point of view*'
(Antony Pay, clarinettist)[1]

This chapter outlines my practice in creating idiomatic writing for the historical clarinet, and some of the process by which I came to it. It is not, does not need to be, and cannot be a complete history of the clarinet, although it does contain a certain amount of detail that I have found is required to understand historical practice.

In short, this chapter will explain the characteristics of the classical instrument, and where its principal problems and difficulties lie. It will not explain how to solve these problems because they are in large part unsolvable and are anyway central to the character of the instrument. Rather, through a collection of examples, it will demonstrate how these flaws can become a feature of the best writing for the clarinet.

Definitions

Until at least 1810, the most popular form of the clarinet had five keys.[2] Five keys is the minimum required to make a clarinet that is fully chromatic over its whole range, and 'five-key clarinets can be played with perfect intonation'.[3] Instruments with more keys always co-existed with the five-key model, but after 1810 makers more often began to offer instruments with as many as twelve or thirteen keys, which became popular with professional players.[4] As I will show, the focus on the five-key clarinet is important since as well as forming the basis of technique on later keyed instruments, it seems to remain the model that composers had in mind, even in the later part of the period when there was an increased chance they were writing for performers who had a greater number of keys on their instruments.

---

[1] Antony Pay, 'The Mechanics of Clarinet Playing', in Colin Lawson, ed., *The Cambridge Companion to the Clarinet* (Cambridge Core ebook, Cambridge: CUP, 2011), 107–122, 121.
[2] Albert R. Rice, *The Clarinet in the Classical Period* (Oxford: OUP, 2003), 13.
[3] Eric Hoeprich, *The Clarinet* (New Haven: Yale University Press, 2008), 91.
[4] Rice, *Clarinet*, 76.

Fairly typically of the population of historical players in the UK, the clarinettists of Boxwood & Brass normally use instruments that are copies of the leading Dresden maker, Heinrich Grenser (1764–1813), with eight or ten keys, but also when appropriate also uses a five-key copy after Theodor Lotz (1746–1792)[5] one of the leading makers active in Vienna at the time of Mozart.

Now the clarinet

For the purposes of further discussion, here are the range and registers of the clarinet:

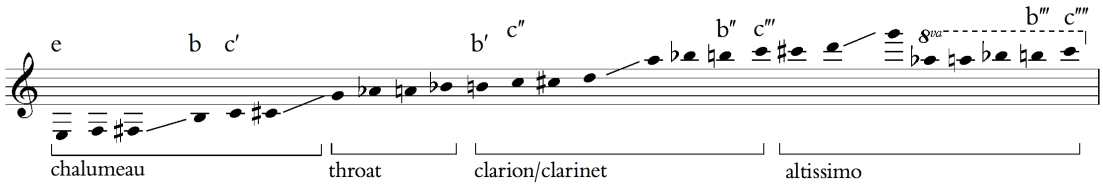


Figure 3.1 The clarinet's range and registers

Already by 1790 the compass of the clarinet was being given as the equivalent of today's 'modern' instrument, up as high as c⁗, although fingerings for the full range were not published until 1802.[6] As shown here, the clarinet's range is conventionally divided into three registers, usually called *chalumeau*, *clarinet* or *clarion*, and *altissimo*. The notes in the upper part of the chalumeau register (and sometimes considered a separate register) are called the throat notes, although there is some disagreement on which is the lowest throat note: for Rice it is f♯′;[7] for Hoeprich it is g′;[8] and some other writers use f′. I choose g′ as the more commonly used limit, and because the fingering for g′ is not used as an over-blown note in the upper register. These divisions of register (arbitrary or not) are important when discussing the clarinet as this is, I have found, how players themselves think of their instruments. The terms themselves also give some impression of the sound of these registers, and also how composers treat the instrument.

[5] Melanie Piddocke, 'Theodor Lotz: A Biographical and Organological Study', PhD dissertation, University of Edinburgh, 2011, 24–26.
[6] Rice, *Clarinet*, 80.
[7] Rice, *Clarinet*, 10.
[8] Hoeprich, *Clarinet*, xvii.

Figure 3.2 Five- and ten-keyed clarinets: finger side, left; thumb side, right.

The five-key clarinet has six finger holes covered by the first three fingers of each hand, a seventh hole for the right little finger, and another for the left thumb. The five keys are the throat A-key for the left first finger; the register (or speaker) key for the left thumb; two keys for the left little finger, one for e and b′, and the other for f♯ and c♯″; and a key for a♭ and e♭″ for the right little finger. Only the E/B key stands open, and so is closed by depressing the lever or touch of the key: the other four all stand normally closed. So even in the simplest system of clarinet, of the nine digits used to play the instrument

(the right thumb, which takes most of its weight, occasionally comes into use: more later), five of them are required to do double duty with hole and key.

A useful resource for the non-playing composer or arranger to gain an idea of what the player has to do with their fingers, and therefore whether a certain passage might be difficult or not, is to consult a fingering chart. For the clarinet there are extant examples dating back to 1732, nineteen of which, dating *c.*1780–1816, are for the five-keyed instrument.[9] Early fingering charts are difficult to use as they tend, for each pitch, to depict the state of the instrument, rather than what the player has to do with their fingers: the reader typically must follow a line from each key and finger hole on an engraving of the instrument across to the chart to establish whether that hole is open or closed, and then work out for themselves what to do with their fingers.

The following is a transcription of a chart, not included in Rice, published by the firm of Schott's, *c.*1794.

[9] Rice, *Clarinet*, and Albert R. Rice, 'Clarinet Fingering Charts, 1732–1816', in *Galpin Society Journal,* Vol. 37 (March 1984), 16–41.

	chalumeau			clarinet			altissimo
e	T ••• E ••• F		b′	ST ••• E ••• F		c♯‴	ST ooo ooo ST o•• E •••
f	T ••• ••• F		c″	ST ••• ••• F		d‴	ST o•• E ••o ST o•• E •o• ST A•o ooo ST Aoo ooo
f♯	T ••• # ••• F		c♯″	ST ••• # ••• F		e♭‴	ST o•• •oo ST o•• E o•o
g	T ••• •••		d″	ST ••• •••		e‴	ST o•• ooo ST o•• E ooo
g♯	T ••• ••• b		e♭″	ST ••• ••• b		f‴	ST ••o ooo ST ••o E •o•
a	T ••• ••o		e″	ST ••• ••o		f♯‴	ST •o• ooo
b♭	T ••• •o•		f″	ST ••• •o•		g‴	ST •oo ooo
b	T ••• •oo T ••• o••		f♯″	ST ••• o••		g♯‴	higher pitches not given
c′	T ••• ooo		g″	ST ••• ooo		a‴	
c♯′	T ••o ••o T ••o •oo		g♯″	ST ••o •oo ST ••o •o•		b♭‴	
d′	T ••o ooo		a″	ST ••o ooo		b‴	
e♭′	T •o• ooo		b♭″	ST •o• ooo		c′′′′	
e′	T •oo ooo		b″	ST •oo ooo			
f′	T o•o ooo		c‴	ST o•o ooo			
f♯′	T ooo ooo o ••o ooo						
g′	o o•o ooo						
g♯′	ST ooo ooo T Aoo ooo						
a′	o Aoo ooo						
b♭′	So Aoo ooo						

Figure 3.3 Transcription of *Gamme de Clarinette no. 482*, Chéz B.Schott à Maience, *c.*1794

legend:

• o	finger hole closed, finger hole open
S	register (speaker) key
T	thumb hole
A	A-key
E	E/B-key
#	F♯/C♯-key
F	F/C hole (a key on later models)
b	A♭/E♭-key

Laid out like this it is easy to see how the clarinet overblows at the twelfth: the fingering for bottom E and low B are the same, with the exception of the register key being open for the latter, and this is basically true for all of the pitches in the clarinet register. It is perhaps also possible to begin to get an idea of the technical challenges of the five-

keyed clarinet: the little-finger slides that have to happen to move from bottom E to F♯, or from c″ to e♭″, or the various contortions and combinations of the left first finger and thumb that have to go on in the throat register.

Other mechanically difficult patterns involve what are called the *cross fingerings* (e.g. low c♯′) where the third finger of the left hand is lifted but fingers from the right hand are also used; and *fork fingerings* (e.g. low B♭, and e♭′ in the chalumeau register) where the middle finger of either hand is lifted. (Some writers and players make no distinction in terminology between cross and fork fingerings.) In each case, repeated back and forth patterns with the pitch a semitone lower (e.g. a to b♭, c′ to d♭′) are awkward to play because of the problems associated with repetitive movements of the second and third fingers: imagine on a piano playing and holding a G with RH2 and at the same time trilling A to B with RH3 and 4. But these patterns are also to a certain extent a fundamental part of what a woodwind player is required to do, and so only become a problem in extreme cases.

We can also see already that for a few pitches, low B, c♯′, f♯′ etc., the Schott chart gives more than one fingering, and d‴ has four alternatives. This is quite typical for charts of this period as, because of the acoustics of the clarinet, there is no single fingering that gives a clear and in-tune note for these pitches.

As Pay so wonderfully expresses:

> The clarinet as an isolated instrument is theoretically deficient from an acoustical point of view… The matter is a bit technical, but essentially it turns out that there is a trade-off between excellence of sound and excellence of intonation. If you design a clarinet to be well in tune between the registers, by fiddling with the bore, you necessarily make the instrument less resonant and responsive. Fiddling with the bore is necessary to make the instrument in tune partly because the clarinet overblows at the twelfth, and an equal-tempered twelfth is slightly different from a natural twelfth; but mostly because the register key or speaker key alters the pitches of the notes of the upper register to a varying degree, since it cannot be in the correct position for all of them simultaneously. On most clarinets it also has to double as a tonehole for the throat B-flat.[10]

[10] Pay, *Mechanics*, in Lawson, ed. *Cambridge Companion*, 121.

Many of the fingerings found in charts simply do not work as they stand. Lawson quotes Joseph Fröhlich (*c.*1810):

> Owing to the different construction and various manners of blowing wind and reed instruments, there are no generally applicable rules of fingering. All one can do is give the usual fingerings and a critique on each note, and, at the same time, to inform the student of the various manner in which the same note can be fingered, in order to make the dark notes brighter and more sonorous, and to improve the bad ones. Consequently, one must really see to it that each player evolves the fingering for himself.[11]

For Hoeprich 'No "standard" fingering system for the clarinet existed at this time… players today need to be as inventive as players in the eighteenth century must have been.'[12]

Essentially, the fingerings on Schott's chart are the absolute basic, and will in all cases give either a closer or more distant approximation of a given pitch. The given fingerings are useful to gauge the technical difficulties of a given passage, but to achieve, clear and perfectly in-tune notes, the player, depending on their instrument, reed and mouthpiece setup, and their preferred playing style, will additionally close or open any number of extra holes and keys further down the instrument away from the lowest open hole of a pitch, the one through which the pitch sounds. Players typically use the term *venting* for this practice, and many will use some form of venting with almost every pitch. On the classical clarinet, for almost every pitch, players will have a *fingering for sound* which will be the most resonant and in-tune, but involve the greatest number of fingers, and a *fingering for speed* where the pitch will be more approximate and the sound possibly rather muffled, but that will allow increased fluency in rapid or complicated passagework.

Some pitches are more reliable (not *better*) than others. In general, all of the notes of the clarinet register are, with the basic fingerings, secure, clear of tone, and reliably in tune, because this is usually the register that the instrument maker will choose to favour in construction. There is a wide range of alternative fingerings available in the altissimo register because of the inherent flexibility of the instrument. With the five-key clarinet, the biggest problems are in the chalumeau register, and Schott, in common with most

[11] Colin Lawson, *The Early Clarinet, a Practical Guide* (Cambridge: CUP, 2000), 1.
[12] Hoeprich, *Clarinet*, 91.

publishers, provides alternatives for the most problematic pitches. But low B♮, and c♯′, e♭′, f♯′, and g♯′, and to a certain extent f′, are all a problem. These pitches are with the basic fingerings barely even present as pitches, some being more than a quarter-tone out of tune, and very covered or muffled in sound. Low c♯′ is little more than a slightly flat d′, and of Schott's two fingerings for low B one is very sharp and one is very flat, and attempting to change the tuning of either with ones throat or embouchure creates a very poor timbre. None of the charts in Rice's survey[13] include the fingering that most of today's players use for B, which is to only half cover the hole for the first finger of the right hand (so-called half-holing). This fingering introduces a whole new level of technical difficulty, and whilst it does not sound clearly, it can at least be tuned accurately.

The historical solution to both the poor notes in the chalumeau register and the technical difficulties elsewhere on the clarinet was to use the instrument in a very limited range of tonalities, initially never exceeding key signatures with one sharp or two flats. Mozart, for instance, never wrote parts for the clarinet in G major, largely sticking to F and C. This is the reason that clarinets were available in a wide range of tonalities, somewhat akin to the crooks of the horn. Lefèvre in 1802 advocates the use of clarinets (or alternative joints to change the length and thereby the key of the clarinet, called *cors de rechange*) in C, B natural, B-flat, and A, although to all intents and purposes the B clarinet is now no longer available as an option[14] and is anyway used in tonalities that the A clarinet can cover almost as well.

So the five-key clarinet has a number of pitches that set challenges to the player and composer because of technique or fingering, and a further set of pitches that are characteristic because of acoustic restrictions.

[13] Rice, *Fingering Charts*.

[14] The clarinet in B was used by Mozart in *Idomeneo* and *Così fan tutte*, and in some French operatic and chamber repertoire.

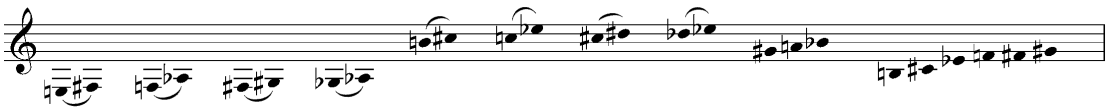


Figure 3.4 The clarinet's problematic pitches

Figure 3.4 shows marked with slurs the four pairs of pitches that are operated by the same little finger, bottom E and F♯, F and A♭ etc., and their overblown equivalents; the throat notes g♯′, a′, and b♭′; and the six pitches which suffer particularly acoustically. It is no coincidence that the addition of keys beyond the standard five was to try and improve the sound and intonation of these six pitches.

According to Lawson:

> By 1808 an anonymous writer in the *Allgemeine musicalische Zeitung* was recommending at least nine keys to avoid scarcely usable chalumeau notes, citing Mozart's Concerto as evidence.[15]

He continues:

> From the various evidence, it seems that a five- to eight-keyed clarinet might be suitable for Mozart whereas for Weber a Heinrich Grenser copy with at least ten keys could be appropriate.[16]

Elsewhere he argues:

> An eight-keyed clarinet will play fluently in all the tonalities commonly used by composers of the period up to 1830, and there remains a dilemma for what repertory to add these two or three extra keys to the classic five-key design… The provision of extra keys needs to be weighed against the characteristic veiled tone-quality produced by cross-fingerings, which can contribute a great deal to the musical expression.[17]

[15] Lawson, *Cambridge Companion*, 137. Eric Hoeprich, '"Regarding the Clarinet": Allgemeine musikalische Zeitung, 1808', in *Early Music* Vol. 37, no. 1 (Feb. 2009), 89–99 identifies the writer as Christian Friedrich Michaelis (1770–1834).

[16] Lawson, *Cambridge Companion*, 138–9.

[17] Lawson, *Early Clarinet*, 25.

Historical Practice

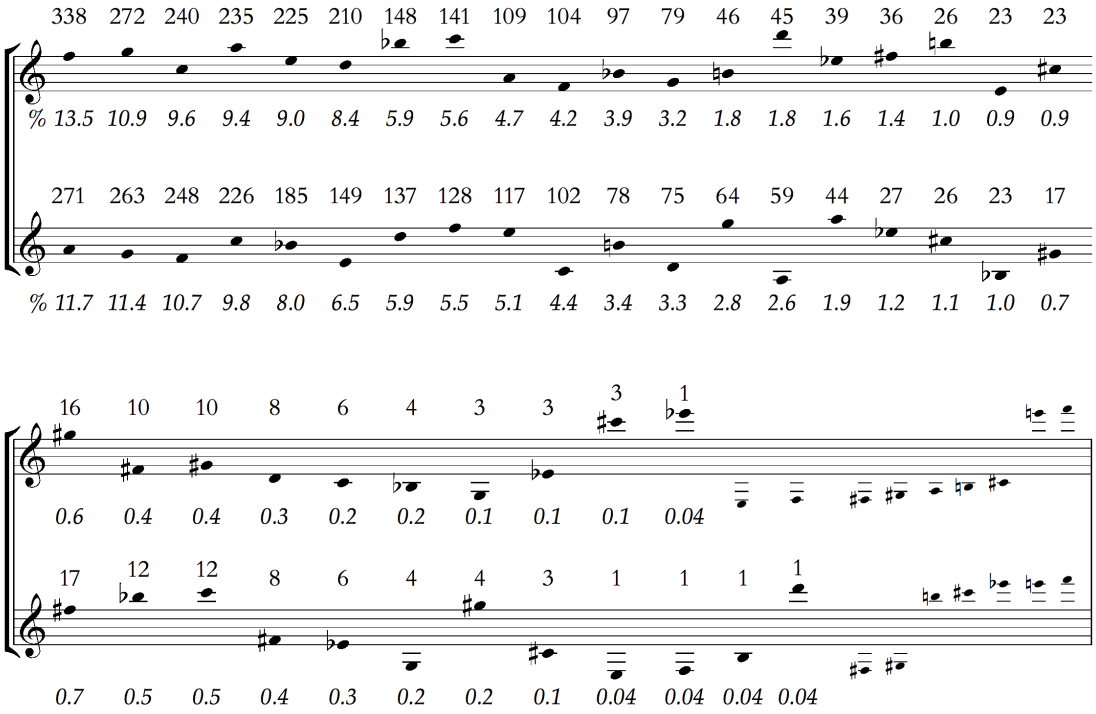


Figure 3.5 Mozart Serenade in E-flat (a 6) K375: pitches employed in 1st and 2nd clarinet parts

Figure 3.5 shows all the pitches used in the sextet version of Mozart's Serenade in E-flat K375. The first clarinet part is on the upper stave, and the second on the lower. The pitches are arranged in order of the frequency with which they are employed, most to least. The small note heads at the end of the second system show those pitches within the clarinet's normal range that are not used at all. The numbers above each stave show the number of times each pitch is used, and the numbers below each stave are the percentage of the total that this represents.

So here, the most common note for clarinet 1 is f″, which is used 338 times, which is 13.5% of the total notes used.

The five movements of K375, *c.*1781, approximately 25 minutes of music without the first movement repeats, are all, with the exception of the two brief trios, written in F major for the clarinets. Because of the date, it seems reasonable to assume Mozart was writing for the five-key clarinet. Mozart's use of the clarinet in K375 is largely consistent with that in his other substantial works utilizing obligato clarinets, i.e. the

wind serenades in B-flat K361 (1781)[18] and C minor K388 (for which a definitive date has yet to be established); the Quintet for piano and winds, K452 (1784); and the Trio K498, *Kegelstatt* (1786). The clarinet quintet and concerto are ignored here as they were written for the so-called basset clarinet, an instrument with an extended low register, and because in the absence of their original sources we cannot be sure how Mozart actually wrote for this instrument.

For a larger, and slightly later set of data, Figure 3.6 shows the same information for nine of Franz Krommer's thirteen partitas (opp.45 nos.1, 2 and 3; 57; 67; 71; 76; 79; 83). Together these nine pieces last approximately three hours, and the 36 movements are largely written in C (14 movements), F (12), or G (6) for the clarinet, but there is also a single movement in D, and significant parts of movements in E major, C minor, D minor and E minor.

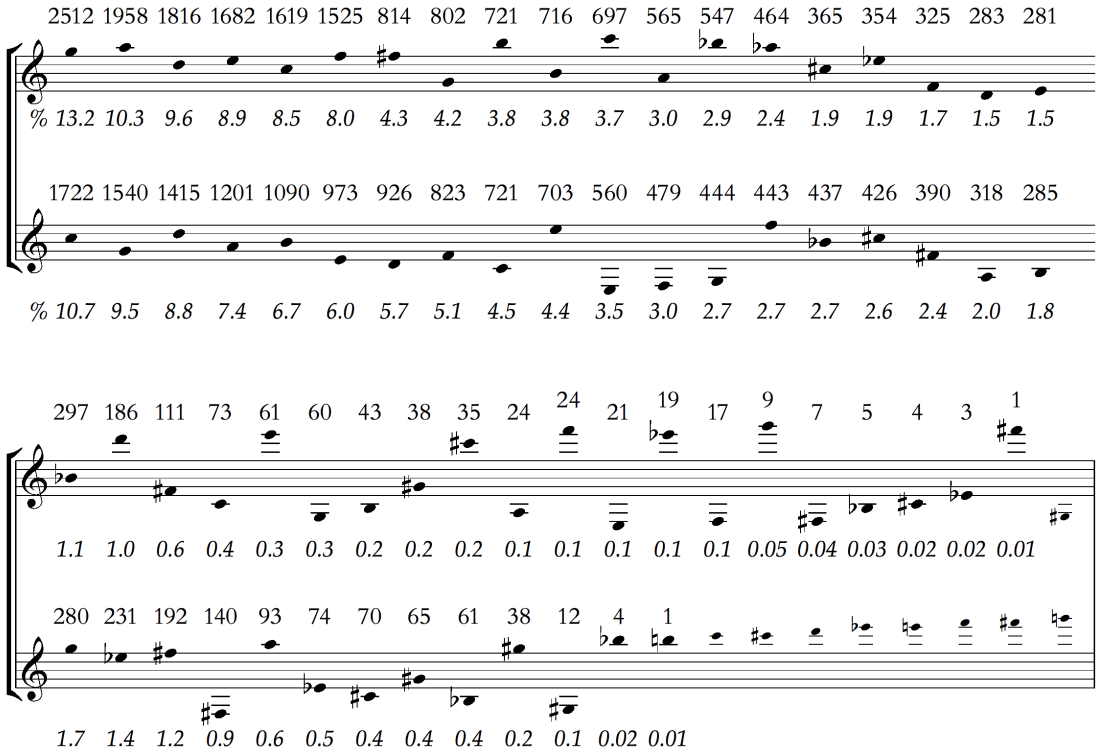


Figure 3.6 Pitch use for clarinets in 9 Krommer *Partitas*

[18] See Roger Hellyer, 'Mozart's "Gran Partita" and the summer of 1781', in *Eighteenth-Century Music* 8/1, (2011), 93–105 for his convincing argument of this date based on the manuscript of K375 re-using a leaf containing a preliminary version of the variation movement from K361.

Krommer's first player has a wider range than in Mozart, now using every pitch from bottom E to high g‴, but still with the exception of bottom G♯. And, as with K375, the pitches below low c′ are used as infrequently as those in the altissimo register. The second player uses the lowest pitches with rather more freedom, but bottom F♯ and G♯ are still rare, as is b♭, perhaps unexpectedly given Krommer's preferred tonalities. These data from the Partitas correspond with those from Krommer's concerto op. 36.

It is difficult to say for certain how many keys Krommer might have *expected* his clarinettists to use. He generally made high technical demands of all his players, and he seems to have expected (as I will show below) his second player to have a reliable and in tune low B♮ and c♯′, sometimes in octaves with the first player where the only way to match the sound between the two parts would be to use keyed versions of those pitches.

Looking now at solo works where we can be sure for which instruments they were written, Figure 3.7 shows data for Weber's Concertino in E-flat op. 26, and two concertos, op. 73 in F minor and op. 74 in E-flat (all 1811);[19] and Figure 3.8 shows Bernhard Henrik Crusell's three concertos, in E-flat op. 1 (*c.*1811), in F minor op. 5 (*c.*1818), and in B-flat op. 11 (*c.*1828). Dating for the Crusell works is here based on dates of publication, allowing for revision of the works, although op. 11 in particular could have been composed rather earlier: Rice quotes Dahlström suggesting 1808, 1815, and 1807 respectively.[20] Weber wrote for Heinrich Baermann, who played a clarinet with ten keys.[21] Crusell was writing for himself, and in 1811 he was probably playing a Grenser B-flat with eleven keys (with a *corp de rechange* for A with eight keys) that still exists in Stockholm.[22] Crusell also owned several other instruments, including perhaps two with as few as five keys. Both Crusell and Baermann had studied in Berlin with Franz Tausch.

[19] Rice, *Clarinet*, 172.
[20] Rice, *Clarinet*, 255 n. 198
[21] Rice, *Clarinet*, 172, and 256 n. 216
[22] Rice, *Clarinet*, 167, and 255 nn. 194, 196, and 197

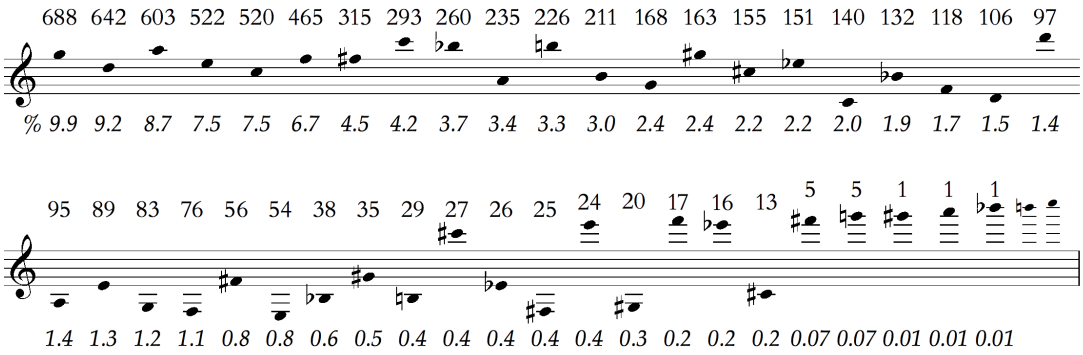


Figure 3.7 Pitch use in Weber's concertante works for clarinet

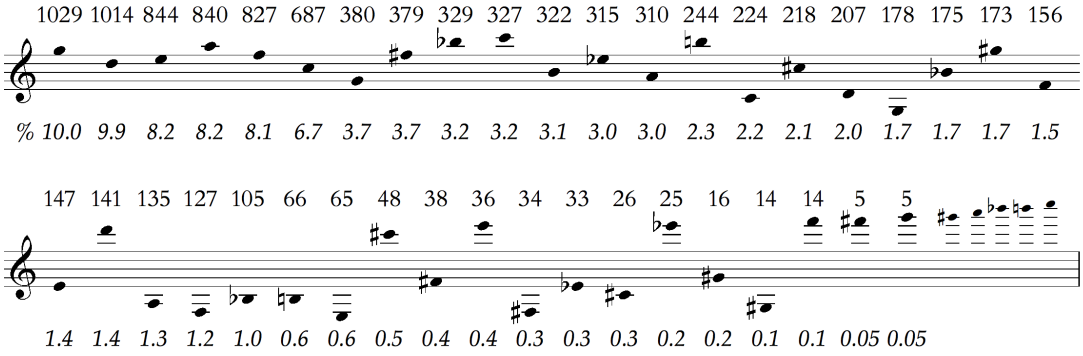


Figure 3.8 Pitch use in Crusell's concertante works for clarinet

Weber wrote chromatically up to high b♭‴, Crusell to g‴. Otherwise it is perhaps noticeable how similar the ordering of these two sets of data are through their entire range, many pitches being within one or two places of each other across each composers' scale.

These four figures (3.4–3.7) show data from pieces composed 1781–*c.*1815 or later, a span of some 35 years of radical development of the clarinet, but looking at them together there are striking similarities between them. The most frequently used pitches in all of the first and solo parts are the six 'white notes' c″ to a″ in the clarinet register (see Figure 3.10).

	c″	d″	e″	f″	g″	a″	total %
Mozart K375 (1st)	13.5	10.9	9.6	6.4	9.0	8.4	57.8
Krommer partitas (1st)	13.2	10.3	9.6	8.9	8.5	8.0	58.5
Beethoven 6tet op. 71 (1st)	7.6	7.6	10.4	15.7	13.6	11.9	66.8
LvB/Czerny op. 20 (1st)	7.2	5.9	6.1	8.5	9	6	42.7
Castil-Blaze 6tet (1st)	7.9	8.1	10.1	9.8	12.2	12.7	60.8
Krommer concerto	6.7	9.9	9.7	12.1	12.4	10.5	61.3
Weber concertos etc.	9.9	9.2	8.7	7.5	7.5	6.7	49.5
Crusell concertos	10.0	9.9	8.2	8.2	8.1	6.7	51.1

Figure 3.9 Percentage use of the most common six pitches in select clarinet parts

Figure 3.9 shows the percentage usage of the most frequently used six pitches for the works in the figures above, and also includes the data from Beethoven's Sextet in E-flat op. 71 (*c.*1796), Czerny's arrangement of Beethoven's Septet op. 20 (1805), the Sextet No. 1 (in E-flat) by Castil-Blaze (published *c.*1832), and Krommer's Concerto in E-flat op. 36 (*c.*1803). The order of these pitches changes depending on the tonalities of the movements included within each set of data, but this hexachord typically makes up at least 50% of the total notes used within the data set of a piece or collection of pieces. The total for the Czerny is a little lower than the others as this part is an arrangement with a slightly higher tessitura that particularly features c‴, which unusually is the third most common pitch.

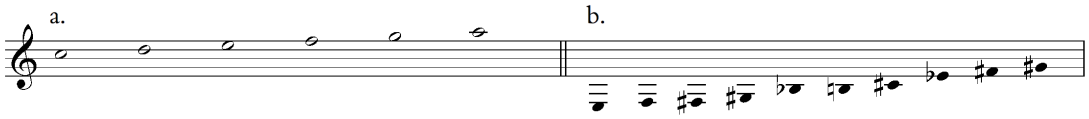


Figure 3.10 The a. most & b. least frequently used pitches in classical clarinet writing

The least frequently used pitches are a little more difficult to narrow down. However, excluding altissimo pitches which are obviously *special*, they will typically all be from the chalumeau register: e, f, f♯, g♯, b♭, b♮, c♯′, e♭′, f♯′, and throat g♯′ (see Figure 3.10).

	e	f	f♯	g♯	b♭	b♮	c♯′	e♭′	f♯′	g♯′	total %
Mozart K375 (1st)	0	0	0	0	0.2	0	0	0.1	0.4	0.4	1.1
(2nd)	0	0	0	0	1	0	0.1	0.3	0.4	0.7	2.5
Krommer partitas (1st)	0.1	0.1	0	0	0	0.2	0	0	0.6	0.2	1.2
(2nd)	3.5	3	0.9	0.1	0.4	1.8	0.4	0.5	2.4	0.4	13.4
Beethoven op. 71 (1st)	0.3	0.4	0	0	0.2	0	0	0	0	0	0.9
(2nd)	0	0.1	0	0	1.3	1.4	0.1	0.2	0.6	1.7	5.4
LvB/Czerny op. 20 (1st)	0.1	0.7	0	0	0.9	1.1	0.4	0.8	0.6	0.5	5.1
(2nd)	0.9	1.7	0.2	0.3	4	1.1	0.5	2.9	0.6	0.4	12.6
Castil-Blaze (1st)	0.1	0.1	0	0	0	0.1	0	0	0	0	0.3
(2nd)	0.6	0.7	0	0.1	0.4	1.3	0.1	0.3	0.1	0.4	4.0
Krommer concerto	0.7	1.1	0.1	0	0.3	0.4	0	0	0.1	0	2.7
Weber concertos etc.	0.8	1.1	0.4	0.3	0.6	0.4	0.2	0.4	0.8	0.5	5.5
Crusell concertos	0.6	1.2	0.3	0.1	1	0.6	0.3	0.3	0.4	0.2	5.0

Figure 3.11 Percentage of use of the least common pitches in select clarinet parts

Figure 3.11 shows the data for these ten pitches in the same pieces as before, but also including the second clarinet parts. These ten pitches typically make up 5% or less of the total in a part. Only Krommer's and Czerny's second clarinet parts significantly exceed this figure, the former because of his use of bottom E and F, and also a higher-than-average use of b♮ and f♯, the latter because of his more frequent use of f, b♭, and e♭′, as required by the arrangement.

These ten may be summarized as the little-finger notes, both low Bs (natural and flat), and the other chromatics. Or alternatively, the notes in the chalumeau register which are *not* relatively rare are G, A, and the naturals c′ to a′.

Bottom E and F are under-used probably because these are the two pitches most likely to be reserved to make a feature within, or form a climax of a phrase. Only Krommer does not avoid E and F, although, as I will show below, his use of these pitches is very characteristic of his style and sound.

The relative avoidance of low B♭, especially by Krommer, is harder to explain, particularly given that so much clarinet music is written in F major, and that the same fingering over-blown gives f″, one of the six most-used pitches. Despite the frequency with which the throat and higher B♭ are used, the under-use of the lowest one is probably a function of the fact that writing for clarinet in its upper register tends to be melodic and scalic, but in the chalumeau register it tends to be more harmonic, chordal or arpeggio based. Therefore, the number of circumstances in which one would write a

low B♭ are limited as it is only likely to be present as the dominant seventh of C, and patterns do not typically include the seventh of a chord below the tonic.

All the composers studied, from Mozart to Weber and Crusell, avoided f♯, g♯, b♮, c♯′, e♭′, f♯′, and throat g♯′. Because the overblown versions of these pitches, with essentially the same fingerings, are all quite commonly used (i.e. c♯″, e♭″, f♯″, g♯″, and b♭″, all in the clarinet register; f♯′ becomes altissimo c♯‴ and g♯′ does not overblow), this restriction is not a technique-based one, but rather confirms that these pitches were considered to be acoustically poor or out of tune. And, significantly, even as the use of chromatic pitches in other octaves increased, the uncommon pitches continued to be underused even after the addition of the extra keys designed solely to improve the production of the weak b♮, c♯′, e♭′, f♯′, and g♯′.

Five-key technique remained the dominant way of writing until at least the early part of the second decade of the 1800s: the new keys were not seen as *improvements*, but rather *facilitations* giving clearer-sounding and better in-tune options, but because of the keys' locations, at a cost of technical facility. The only thing that sets Mozart's writing, relatively early in the existence of the five-key clarinet, apart from Weber and Crusell's who might certainly have expected ten keys, is his more frequent complete avoidance of certain pitches, and the low register in general. Mozart's parts could perhaps be characterized as being written in the range c′ to c‴ with occasional extensions into the lowest pitches. Weber and Crusell extend the *normal* lowest note down to g, and extend the upper maximum to g‴ or higher.

Back to context

As with my discussion of the horn, having identified which pitches require exploration, I now examine them in the context of historical usage. As part of this I have drawn together a set of numbered musical examples, contained in the file *Clarinet Usage Examples*, which can be found in the Appendix to this submission. The following discussion and the examples draw on a representative variety of composers and works, but as the use and repertoire of the clarinet are both wide in the period 1780–1830 I have been selective here, and as with the horn, there will be important examples I have missed. I draw largely on repertoire that will be familiar to players now because I am trying to create parts myself that will be familiar to them. This is one of the reasons that

I have not touched on the quite substantial body of important works by Louis Spohr, which are renowned for their difficult and possibly unidiomatic writing, and which have not so far entered the mainstream repertoire of HIP clarinettists. The discussion and examples are arranged roughly chronologically by composer and by work, as far as dates can be established, to gain some sense of how part writing developed over the period. The selection of examples is governed by:

- the presence of the pitches identified above as rare
- patterns that require slides for the little finger in either register
- figures that make particular use of the throat register
- the use of the altissimo register, particularly above high f‴
- thematic material in the chalumeau register
- distinctive writing for two clarinets
- writing in unusual tonalities
- especially effective solo writing

Some of the examples inevitably cover more than one of these points of interest, and some may not be referenced in the discussion: my intention, as with the horn, is that taken together, the examples form a body of knowledge. Inevitably, these examples form something of a freak show, highlighting difficult and extreme writing. But the circumstances in which I might use the same pitches and patterns are likely also to be extreme, and so, as with the horn examples, these are not a collection of typical historical practice, but are rather precedents, or justifications.

For numbered musical examples, please refer to *Clarinet Usage Examples*, located in the Appendix.

Mozart

Clarinet 1 in K375 contains ten instances of f♯′: six of them are in Ex. 1 and the repeat of this phrase at the recapitulation. In a similar way to writing for the natural horn, Mozart here exploits the tone colour of the f♯′ as a lower auxiliary to g′. Ex. 2, 4, and 6 show in *a)* clarinet 2 as it appears in Mozart's manuscript (and Bärenreiter's *Ürtext*), and in *b)* how the same figures appear in Breitkopf's 1804 print. This edition was created without reference to the manuscript, and therefore can only derive from a set of

performance parts. These alternative readings show how early players were anxious to avoid acrobatics in the throat register or going over the break, which they did either by inserting the word *chalumeau* as an instruction to play a figure an octave lower than written (4b), or by wholesale rewriting of troublesome passagework (6b). Ex. 7–10 from K388 and Ex. 14 from K361, however, all further show Mozart's repeated use of this middle register, and demonstrate why players have become very proficient at navigating these problems, even though they are relatively rare in classical clarinet writing. Ex. 9 and clarinet 2 in Ex. 14 remain very difficult in terms of technique and the correct pitching of the notes: the Serenade in C minor has what might be described as a very throaty part for the second player, the tessitura here perhaps governed by the written tonality of D minor, and by the presence of oboes.

Ex. 10 is an example of where the simplest fork-fingered versions of f′ and f♯′ can be used to reduce the technical problems. Ex. 15 and 17 from K452 show Mozart requiring little finger slides for b′ to c♯′, although this can be avoided if the player has a long enough right thumb that can stretch underneath the instrument to catch the E/B key instead. Ex. 18–20 all show c″–e♭″ slides, for which there is no alternative, with Ex. 20 showing a back and forth motion which is particularly difficult. Ex. 21 is a very typical chalumeau register cliché.

Ironically, given that Mozart is often cited as a good model for clarinet writing, he could be considered to be quite bad at it: there are many little-finger slides, frequent use of the throat notes, and very little use of the chalumeau register. However, what does distinguish him, and this is common in most of his instrumental writing, is almost impeccable voice-leading, which makes his music a delight to play.

Beethoven

Ex. 22 (Sextet op. 71) has many low Bs, but often in relationship with c′, so they feel correct. Ex. 23 shows how much more freedom Beethoven gives clarinet 1 than does Mozart, extending solo virtuoso writing through the entire range of the instrument. This is taken rather further by Czerny in his arrangement of the Septet op. 20, where he confidently and frequently writes up to high f‴ and even g‴ (Ex. 24, 29–31) and also demands high a‴ (Ex. 26), but never outside the idiom of clarinet writing, even though these passages are more-or-less straight transcriptions of the original's violin part. Czerny's repeated use of low B♮ (Ex. 25, both parts) and the confident writing in D

major for clarinet 2 (Ex. 28) suggests the use of at least a seven-key instrument. Beethoven's own writing in his Sixth and Eighth Symphonies, scored notably for the B-flat clarinet rather than the C in a work in F major, leading to a part written in G major, seems also to require more keys, and in the Eighth (and also in the *Missa Solemnis*) he introduces g‴ as his highest pitch (Ex. 34), in demanding circumstances.

Krommer

As discussed in Chapter 1, in general, Krommer's writing for all wind instruments is highly idiomatic, and I have found it difficult to locate negative examples in his clarinet writing. Ex. 35 from the Concerto no. 1 op. 36 illustrates very wide leaps, but particularly a passage in E-flat major/C minor that presents no technical difficulties. Ex. 36 is similar, but now in A-flat major/F minor, exploiting for musical effect the colours of the keyed accidentals, d♭″, e♭″ and a♭″. Krommer takes this further in Ex. 37, where there is only a single little-finger slide (d♭″ to e♭″) in a passage in D♭ major. Ex. 38 perfectly demonstrates the use of the two registers of the clarinet for dramatic effect, the figure in the chalumeau register *anchored* on c′, before the jump to the clarinet register for more wide-ranging virtuosity.

Krommer's writing for clarinet within Harmoniemusik is particularly characterful, the first bar (Ex. 39) of his first published Partita, op. 45 no. 1, showing his distinctive preference for having clarinet 2 play bottom E and F in (written) chords of C and G. Bottom G is rather less common as a feature, and Krommer never uses bottom G♯/A♭ except for clarinet 2 in unison with the bassoons as part of the bass group (Ex. 42), or very occasionally in octaves with clarinet 1. Ex. 53 shows an instance of complete avoidance of the pitch in a figure where it might otherwise have been expected. Clarinet 2 is very often written in the chalumeau register, as a harmony part (Ex. 40, 42–44), or often doubling clarinet 1 in solo or melodic figures at the octave (Ex. 41, 50) or even at the 15th (Ex. 48). Clarinet 1 regularly rises to f‴ (Ex. 43) and g‴ (Ex. 41, 44, 49), but no higher. Krommer demands a high technical proficiency from both players (Ex. 40–44, 49, 50, 54), but rarely writes little finger slides: Ex. 45–47 show rare exceptions to this. The partitas published after 1810 (i.e. op. 73 onwards) do seem to suggest an increased and freer use of low B♮ (Ex. 50–52), and Ex. 50, which requires an in-tune and clear c♯′ for clarinet 2 in octaves with clarinet 1, suggests an increased use of keys. These later

partitas also show a reduction in the role of the second player as low soloist, as solos in the chalumeau register become a feature of clarinet 1 (Ex. 52).

Tausch

Franz Tausch (1762–1817) is included here both for his extraordinary writing for himself to play, and because, as the teacher of Baermann, for whom Weber wrote his solo pieces, and Crusell, he had a major impact on the development of 19th century writing for the clarinet.[23]

Unlike other woodwind instruments, the highest pitches of the altissimo range are all theoretically *in* the clarinet: they do not require a scalic approach as a safe way to get them to sound, as on the bassoon, or extra keys. The player *simply* finds the correct harmonic on the reed, in the air column, or in the mouth cavity. This means jumps up to and from the highest notes are acceptable. However, rather as with a violin string, the highest pitches are all very close together and require an exquisite and very delicate degree of control with the embouchure, mouth, and breath pressure, and so they should not be employed lightly. Tausch's leaps in Ex. 55 and Ex. 57, 'a display of conspicuous boundary-pushing technical virtuosity'[24] are difficult not because of finger movements but because of these very exacting changes of embouchure and breath.

Tausch is unusual as a soloist-composer in that as well as making a feature of his high playing, he also wrote very virtuosic passagework in the chalumeau register. However, even though Ex. 59 is written in F minor (which means the orchestra is playing in E-flat minor!) all of this extraordinary writing sits under the fingers: Tausch is very careful that bottom F and A♭ are never adjacent, so there is no requirement for finger slides. He also changes only one or two pitches in each beat, thereby making it easier for the player to focus on the pitches that do change, which also makes this still-difficult excerpt easier to play than it would be otherwise. Tausch's careful choice of chord inversion, intervals, and pitch order show how it is possible to write an extended passage in a tonality that might otherwise be considered extreme: the single d♭′ in b.153

[23] Emily Worthington, '"The Uttermost Perfection of All Wind Instruments": Franz Tausch (1762–1817) as virtuoso clarinettist and director of the Conservatorium der Bläseinstrumente in Berlin', in *Music & Letters*, Vol. 101, No. 2 (2020), 238–269.
[24] Worthington, *Tausch*, 246

suggests that at the time of composition Tausch played a six-keyed clarinet; the rest of his writing is (arguably) possible with five keys.

Weber and Crusell

Weber's writing for Heinrich Baermann and Crusell's for himself immediately show a much more advanced approach to clarinet writing but, most importantly, still within the confines and traditions of five-keyed technique. Both composers exploit the chalumeau register melodically as a feature (Ex. 61, 64, 67, 77), but always centring on bottom F rather than G or E. Low c♯′ and e♭′ make rare appearances (Ex. 64, 66, 75) and are used melodically, or in ways that perhaps suggest deliberate non-avoidance, to make a feature of the fact these pitches are now accessible. The tessitura of the writing becomes wider, themes rapidly spanning the whole range of the instrument (Ex. 63, 65, 69, 70, 74) or using the different registers for deliberate contrast of colour or character (Ex. 67, 77–79). But c‴ or d‴ are still understood as the *normal* highest note, with everything higher than that presented as effect, even by Weber who almost casually reaches b♭‴ (Ex. 69). Perhaps the most striking feature of these examples are the passages written in *new*, extreme tonalities: written G minor as the home key for Weber's 1st concerto (Ex. 63–65) and Crusell's 2nd (Ex. 73–75, 78) is novel, but there are longer or shorter passages in E-flat (Ex. 68, 75), A-flat (Ex. 72, 80), B-flat minor (Ex. 73, 76), and even A (Ex. 70), D (Ex. 70, 78), and notably and briefly F-sharp (Ex. 71). Besides these passages' obvious function as contrast through modulation, a more important aspect is that the increased use of keyed and/or forked pitches these tonalities demand also provides markedly differing colours to the prevailing tonality. But many of these extreme examples are written in the clarinet register, where the pitches all sound clearly and keys are useful but not essential, or, as Tausch, make careful use of anchor pitches (Ex. 66, 74, 75, 78) as an un-changing grounding in difficult tonalities, or make judicious use of the little fingers. Of particular note is that the finale of Weber's 1st concerto (Ex. 66) is in G major, and the slow movement is in D, but Weber shows extremely skilfully how, with care, it is possible to use these previously taboo tonalities. The slow movement contains no c♯′s, and low b is hardly used in either movement. It is striking how careful Weber seems to have been to avoid c♯″ following b′, and it happens only occasionally in passing in scales. In fact, neither movement contains any examples I thought worthy of citing as poor writing because of finger slides or weak pitches. By contrast, compare this with the Octet for wind and strings by Schubert,

where he writes d♯″-c♯″-d♯″ figures several times, forcing a right little-finger slide backwards and forwards, and also in the finale trills on c♯″ and d♯″. He also writes the c″-e♭″ slide as part of expressive solos. Hoeprich notes that 'composers from the early nineteenth century lost interest in learning about the idiosyncrasies of the woodwind instruments, and perhaps Schubert embodies this to a greater extent than any of the others' and points to a solo passage in D-flat major in the Scherzo (bars 65–69) of the symphony in C (the 'Great') which is 'virtually unplayable on the clarinet'.[25]

[25] Hoeprich, *Clarinet*, 156.

Choice of Clarinet

As discussed above in connection with fingering charts, one of the defining characteristics of the clarinet is that it comes in several tonalities, in part as a solution to the instrument's inherent *problems*. Figure 3.12 draws on Rice,[26] and on Lefèvre's chart of recommendations[27] for which clarinet to use in which tonality.[28]

key signature	sounding tonality	clarinet in…	written key for clarinet	written key signature
	C major	C or B♭	C or D major	0 or 2♯
	A minor	C or B♭	A or B minor	
1♭	F major	C or B♭	F or G major	1♭ or 1♯
	D minor	C or B♭	D or E minor	
1♯	G major	C	G major	1♯
	E minor	C	E minor	
2♭	B♭ major	C or B♭	B♭ or C major	2♭ or 0
	G minor	C or B♭	G or A minor	
2♯	D major	C or A	D or F major	2♯ or 1♭
	B minor	C or B♮ or A	B, C, or D minor	2♯, 3♭, or 1♭
3♭	E♭ major	B♭	F major	1♭
	C minor	B♭	D minor	
3♯	A major	B♮ or A	B♭ or C major	2♭ or 0
	F♯ minor	B♮ or A	G or A minor	
4♭	A♭ major	B♭	B♭ major	2♭
	F minor	B♭	G minor	
4♯	E major	B♮ or A	F or G major	1♭ or 1♯
	C♯ minor	B♮ or A	D or E minor	
5♭	D♭ major	B♭	E♭ major	3♭
	B♭ minor	B♭	C minor	
5♯	B major	B♮ or A	C or D major	0 or 2♯
	G♯ minor	B♮ or A	A or B minor	
6♭	G♭ major	A	A major	3♯
	E♭ minor	B♭	F minor	4♭
6♯	F♯ major	B♮ or A	G or A major	1♯ or 3♯
	D♯ minor	B♮	E minor	1♯
7♯	C♯ major	B♮	D major	2♯
	A♯ minor	B♮	B minor	

Figure 3.12 Recommended use of clarinet by tonality

[26] Rice, *Clarinet*, 94.

[27] Jean Xavier Lefèvre, *Méthode de Clarinette* (Paris: Le Roy, 1802) online facsimile retrieved from imslp.org, 138–144.

[28] This version gives the tonalities by order of key signature and corrects a number of omissions by Rice, and errors by both Rice and Lefèvre.

Because in historical practice the B clarinet was only used very rarely and in E major, most players now do not possess one and so it is now no longer available as an option. In all realistic situations it may be replaced by the A clarinet, but this rules out Lefèvre's solutions for D♯ minor, and C♯ major/A♯ minor, however the enharmonics of these tonalities are available using the B-flat clarinet.

In summary, Lefèvre allows tonalities of up to two sharps or three flats, or exceptionally four flats when using clarinet in B-flat in a piece in E-flat minor, or three sharps for an A clarinet in a piece in F♯ or G♭ major. It is striking that Lefèvre does not recommend the A clarinet for use in G major and E minor.

Another option Lefèvre omits is clarinet in A for D minor, a solution used by Mozart in his Kyrie in D minor K341, again resulting in four flats for F minor for the player.

This is a good example, however, of the real world. Consider, a piece in D minor is likely to modulate to, or have movements or substantial sections in, as a minimum D minor (1 flat); A major (3 sharps); D major (2 sharps); and possibly F major (1 flat), therefore also with C major. Which clarinet to use, assuming it must be able to play in each tonality?

		clarinet in C	in B♭	in A
D minor	1♭	D minor 1♭	E minor 1♯	F minor 4♭
A major	3♯	A major 3♯	B major 5♯	C major 0
D major	2♯	D major 2♯	E major 4♯	F major 1♭
F major	1♭	F major 1♭	G major 1♯	A♭ major 4♭
C major	0	C major 0	D major 2♯	E♭ major 3♭

We can see immediately that the B-flat clarinet is a bad solution for D minor, despite the piece in question having a single flat key signature: the dominant and tonic major would be very unpleasant for the player. C clarinet is a little better, but still quite *sharpy* for the dominant and tonic major. Which leaves only the A clarinet: four flats is demanding, but of course in the minor mode the pitches of D♭ and E♭ are often raised by a semitone, and generally flats are better than sharps on the classical instrument.

Aside from technical considerations of key signatures, each size of clarinet is perceived as having its own colour or sound. In 1812 a jury at the Paris Conservatoire rejected Iwan Müller's new 13-key *omnitonic* (i.e. able to play in all keys) clarinet and found 'our clarinets of different sizes produce different sounds; in this way the C clarinet has a brilliant and lively sound; the B-flat clarinet sounds sad and majestic; the A clarinet sounds "pastoral".'[29] The C clarinet, being noticeably smaller than the B-flat, tends to be shriller, 'more strident'[30] or 'more incisive',[31] and the A slightly more covered or sombre. Beethoven, for instance, in his later works seems to have preferred using the *bright* colour of the C clarinet in instances where the B-flat or A might have been expected: the march in B-flat from *Fidelio* uses C; the D major 'Gloria' of the *Missa Solemnis* uses C rather than A; the G major 'Benedictus' uses C.[32]

Most composers, however, remained very reluctant to have their players change clarinet during the course of a movement as it modulated, although this frequently, and sometimes very quickly, happens in opera parts. This particularly caused problems in pieces that swapped between C minor and major. Neither the C nor the B-flat clarinet is *happy* in both modes, and so when the B-flat clarinet is used in this case, what should be its D major is occasionally written with no key signature but with all the accidentals provided. Examples of the B-flat clarinet playing in D major with no key signature occur in Mozart's C minor Serenade K388 and overture to *La Clemenza di Tito*, and in Beethoven's first *Leonora* overture – where instead of two sharps the clarinet has a key signature of a single flat throughout – and even in the Ninth Symphony. Note, however, that Beethoven simply has the B-flat clarinets sit silently for the C major coda of his C minor piano concerto.

So returning to the example of D minor above, Figure 3.12 also highlights how the choice of clarinet changes the timbre of each tonality. The C clarinet's already *brighter* colour will also allow the tonic and relative majors, each of one flat, to have a more open (or again, *brighter*) sound than the dominant and tonic major which are coloured

---

[29] Quoted in Hoeprich, *Regarding the Clarinet*, 95.
[30] Hoeprich, *Regarding the Clarinet*, 95.
[31] Colin Lawson, 'Beethoven and the Development of Wind Instruments', in Robin Stowell, ed., *Performing Beethoven* (Cambridge Studies in Performance Practice; 4) (Cambridge: CUP, 1994), 82.
[32] Lawson, *Beethoven*, 82.

by the cross-fingerings required for three and two sharps. On the other hand, using the longer, *darker* and possibly more sombre A clarinet, perhaps befitting D minor, the tonic and relative major will be further coloured by the fingerings required for four flats, whilst the dominant and tonic major will sound more open.

With regard to Harmoniemusik, the vast majority is written in E-flat major, for which the B-flat clarinet is the only choice, playing in F. Repertoire in D major, a good key for both the horns and bassoons, and which would similarly allow clarinets in A to play in F, is very rare, perhaps because the A clarinet was a specialist instrument, not generally available to players unconnected with the Viennese opera houses. In a trend that seems to increase through the 1820s, tonalities that require the C clarinet are quite widely used when oboes are also employed: Krommer uses C clarinets in only one of his Partitas, Triebensee rather more often in his arrangements, particularly of opera, and Wenzel Sedlak even more. This change in practice might be explained by a shift towards tonalities that favour the oboist, a preference for the slightly brighter colour of the C clarinet, or perhaps by the fact making arrangements is easier, faster and therefore more economic if the arranger is not required to think so often about transposition! At the same time, Triebensee, Sedlak, and others sometimes used an un-matched pair of instruments, with one player using B-flat and the other C, allowing writing in a wider range of tonalities. Sedlak is also one of the few composer/arrangers to require changes of instrument within movements, sometimes very quickly. Occasionally, also, a part for the C clarinet will swap to B-flat to provide an extra two semitones at the bottom of the instrument.

Conclusions for My Practice

Referring back to my list of features that might define *idiomatic* instrumental writing:

Tonalities

Historically, the clarinet writing was initially limited to key signatures of up to two flats or one sharp, although passages in three flats or two sharps do occur, as also permitted by Lefèvre. However the choice of tonality in which to write for the clarinet has to be balanced with which size of instrument this would require, such that a relatively serious or sombre work would not normally be suited to the clarinet in C. Tausch, Weber, and Crusell show how far the clarinet can be reasonably pushed in the hands of a good

player with a keyed instrument, and so these examples perhaps provide more of a model of a style of advanced, challenging writing.

Written Range

This study perhaps suggests that a useful way of considering the usable range of woodwind instruments is that they all have a *normal* usable range, which does not typically change with *improvements* in instrumental technology. There are then further notes at the extremes of the compass that may be used as special features, but which are not typically employed as part of normal writing. These extremes, most normally at the top, *do* change with the adoption of new technologies.

For the classical clarinet, the normal range should be considered as bottom G to c‴, or possibly d‴. Bottom E and F, and anything above d‴ should normally be reserved as special features. How far above d‴ the compass may be extended depends on the date and composer in question, but it is unlikely that as an arranger I would need to write above g‴, and certainly this is a pitch that a competent player should be able to play.

Tessitura

In attempting to analyse what is the typical tessitura of a historical clarinet part, I concluded that the concept of the instrument's registers and how the use of each of these balances with one another is rather more important and ties in with which notes are the most and least used.

	Chal.	Throat	Clari.	Altiss.
Mozart Serenade in E♭ K375 (a 6), 1781				
1st	6.4	11.8	79.8	2.0
2nd	29.4	31.9	38.6	1 note
Mozart Serenade in C minor K388, 178?				
1st	22.0	32.3	45.8	0
2nd	57.9	31.1	11.0	0
Mozart Quintet for Piano & Wind K452, 1784	7.7	21.6	70.7	0
Mozart *Kegelstatt* Trio K498, 1786	4.9	8.3	86.0	0.8
Beethoven Sextet in E♭ op. 71, 1796?				
1st	5.0	5.0	87.4	2.7
2nd	34.8	31.1	34.1	0
Beethoven arr. Czerny Septet op. 20, arr. 1805				
1st	18.0	12.0	63.8	6.1
2nd	53.6	14.2	32.2	1 note
Krommer 9 Partitas, *c.*1803–*c.*1810				
1st	6.6	8.5	83.1	1.8
2nd	38.8	20.1	41.1	0
Castil-Blaze Sextet no. 1 in E♭, publ. *c.*1832				
1st	6.8	9.5	82.2	1.5
2nd	33.0	21.1	45.9	0
Krommer Concerto in E♭ op. 36, *c.*1803	7.9	3.5	85.9	2.7
Tausch Concerto in E♭	26.3	9.2	61.0	3.5
Weber Concertino in E♭ op. 26, 1811	15.1	7.5	75.4	2.1
Weber Concerto no. 1 in F minor op. 73, 1811	14.0	8.6	75.0	2.4
Weber Concerto no. 2 in E♭ op. 74, 1811	13.5	8.2	75.0	3.3
Crusell Concerto no. 1 in E♭ op. 1, *c.*1811	13.2	7.7	77.4	1.7
Crusell Concerto no. 2 in F minor op. 5, *c.*1818	19.3	8.7	68.3	3.8
Crusell Concerto no. 3 in B♭ op. 11, publ. 1829	13.1	9.1	75.3	2.4

Figure 3.13 Register usage for the clarinet as a percentage of total notes

Figure 3.13 shows, for the works discussed in this chapter, the percentage of notes that are written in each register of the clarinet: chalumeau (in this case not including the throat register) e to f♯′; throat only, g′ to b♭′; clarinet register, b′ to c″; and altissimo, c♯″ and above. Immediately striking are the difference between the players in works with two clarinet parts: as we would expect the first player's part is higher than the second's, but the first player spends the vast majority of their time in the clarinet register, 87% in the case of Beethoven's Sextet. The second player divides their time more equally between the lower three registers, but almost never strays into the altissimo. These numbers for the second player perhaps become more surprising when we consider that of the throat notes, where some parts spend 20–30% of their time, g♯′ and b♭′ tend to be rarely used and so a significant proportion of a typical second clarinet part consists of

only the two pitches, g′ and a′. Compare this with my finding in Figure 3.9 that typically between 50% and 65% of a first clarinet part consists only of the hexachord c″ to a″ in the clarinet register.

Krommer's usage in his concerto largely mirrors that in the first parts in his partitas, perhaps demonstrating the concertante nature of his writing. Weber and Crusell show remarkably unanimity in the division of their parts between the registers, suggesting a shared view of what a clarinet part should look like *c.*1811.

Achieving a balance between the registers in my part writing similar to those above is an important step in creating idiomatic parts that also conform to the expectations of first and second players.

Pitches to be avoided

Historically, bottom E and F were reserved as special pitches and not overused, except by Krommer in his second parts where they are often used to bring colour to loud tutti chords. Low b♭ should also be used less frequently, but more for reasons of voice-leading. Because of tuning and sound f♯, g♯, b♮, c♯′, e♭′, f♯′, and throat g♯′ should all be used rather more rarely than other pitches, even where a player might have extra keys. Patterns that include any of the slides for the little fingers can certainly be included, especially ascending in the clarinet register, but judiciously and not repetitiously.

Clichés

The musical examples contain many of the important clichés for the low register, the Alberti-type patterns, or *woodles*. Patterns on F and C are ubiquitous, but Czerny, Krommer, Tausch and others show that with careful consideration of the little fingers many other harmonic patterns are possible. The use of anchor pitches in these patterns, especially g, c′, d′, e′, and g′ is highly idiomatic.

Part writing for a pair: their roles

Both Mozart and Krommer show that it is possible to treat two players both as a pair and as individuals. Both may have solos, and both may use the full extent of the chalumeau and clarinet registers. The second player, however, should not play in the altissimo register. Writing for a pair in parallel octaves, thirds, sixths, and even double

octaves all have precedents in the literature. Melodic writing in the chalumeau register would be unusual in the context of Harmoniemusik, but Weber and Crusell show there is precedent for it in solo writing.

Top B, or Not Top B?

Top B, i.e. b‴, is a very high note indeed, and in my study is used only once by Tausch (see Ex. 55), and once by Spohr in his concerto no. 2 (not quoted). I can conceive of no reason of why I would want or need to use this pitch, but if I did, most likely after long negotiation with the player, I would certainly be approaching it by step or close jump, probably on the way to an equally improbable top C. The 'top' B an octave lower, on the other hand, is a much more straight-forward pitch, easy to play in almost any circumstance.

So, the answer here: that is not the question. Rather, which top B, and in what circumstance?

Finally

Arguably, from my point of view of creating challenging yet idiomatic parts, the reasons for, for example, avoiding certain pitches are less important than the fact that historically they *were* avoided. Understanding the reasons is helpful, but perhaps not vital, as there were many controlling factors that played a role in historical practice, particularly tonality. The limitations I have identified here perhaps only allow a facsimile of historical part writing to be created, but identifying which pitches I might otherwise be over-using is helpful, and the knowledge of which pitches to under-use or to use cautiously certainly shapes my part writing in the direction of the historical. But the historical reasons for these strictures may have been rather different

Postscript: The Bassoon

'*... the instrument of love.*' *(Koch, 1802)*

The aim of my chapters on the horn and clarinet was to outline how, as a non-player, I could discover a way of writing for those instruments in an idiomatic yet challenging way, and that would suit my needs in arranging repertoire more widely-modulating than was normal for those instruments in the classical era. I have no need to do this same exercise for the bassoon as: (*a*) the classical bassoon was considered omnitonic by early-19th century composers; (*b*) existing concertante and orchestral parts from the period for the bassoon are already highly demanding; (*c*) I play the bassoon, to a high level, and can therefore make a reasonable judgement of what is playable from the page, or can discover quite quickly that something is unidiomatic when I attempt to play it.[33]

The bassoon of the baroque era with four keys was already almost completely chromatic – only bottom B′ and C♯ were missing: the problem was one of evenness of tone between the pitches of the scale. By at least the mid-1760s an E-flat key improved the otherwise very tricky bottom E♭, and thereafter the development of the bassoon was about improving the evenness of its scale and increasingly improving the tenor register, essentially transforming it from a bass instrument with a useful tenor register into a tenor instrument with bass notes that could be called upon when required.

For Waterhouse 'it was modifications to the bore and wall thickness, rather than the addition of keys, that changed the function of the instrument from that of a continuo-type bass into an expressive tenor voice […] The standard 7-key model, on which B♮′ and C♯ were unobtainable, remained in used up until the mid 19th century.'[34] Waterhouse does not identify what for him the 'standard 7-key model' consisted of, and B♮′ and C♯ *are* obtainable and were included in several 18th century fingering charts, although they were only very rarely written by composers.[35] The basic five keys (for B♭′, D, E♭, F, and G♯/A♭) could be augmented by any or all of F♯, B♭, c♯ for either right

[33] Whilst I can make the clarinet work over a lot of its range, there is no way I, or anyone else, would say I am a clarinettist!

[34] William Waterhouse, *Bassoon* (London, Kahn & Averill, 2003), 9–10.

[35] Paul J. White, 'Early Bassoon Fingering Charts', in *Galpin Society Journal*, vol. 43 (Mar. 1990), 68–111, 77–78.

or left thumb, and one or two register keys aiding or allowing the production of pitches above a′. The keys called F and G♯/A♭, both for the right little finger, are used in the production of many pitches, and many of the new keys can also have more than one specific use, e.g. a c♯ key where it is present will often also produce a useful e♭.

Figure 3.14 The author's bassoon: thumb or dorsal side, above; finger or front side, below.

In common with many of my bassoon-playing colleagues, I play on a copy of an instrument by Heinrich Grenser, the original dating *c.*1805. This has nine keys: the standard five, plus F♯ for right thumb, B♭ for right third finger, and two register keys for the left thumb. This instrument is a pragmatic choice as, whilst it is certainly more advanced than Mozart or Haydn would probably have experienced,[36] it is suitable for late Beethoven and the concertante works of Weber, and is often used in performances of repertoire as late as Felix Mendelssohn and Robert Schumann. It is also by far the most-copied model of classical bassoon.

To briefly discuss the capabilities of the bassoon as I understand them, I will revisit the list of features that might define idiomatic instrumental writing that I used above in discussion of the clarinet.

Tonalities

The bassoon was a popular solo instrument in the period 1760–1830, and there are many extant concertos and other concertante works, including a significant body of chamber works for bassoon and single strings. The choice of tonalities for solo repertoire was wide, including in approximate order of popularity F, B-flat, C, and E-flat majors, and C, G, A, and D minors.

In orchestral literature the bassoon was often treated as a continuo instrument and was expected to do anything the ‘cello could, so there are technically difficult *tutti* passages

[36] ‘Lotz produced mainly five- or six-key bassoons.’ Piddocke, *Lotz,* 245.

in three or even four sharps or flats. However, as a correspondent to *The Harmonicon* wrote in 1830

> Rapid passages have been written, to be played as solos, for the Bassoon, in five and six sharps or flats, by eminent composers, who, most assuredly, could not be thoroughly acquainted with the true nature of the instrument. The consequence, which naturally follows, is, a failure in the attempt to execute them, by the most experienced artists.[37]

Notwithstanding, Haydn in *The Creation* writes solos in A-flat and E majors; Mozart also writes in E in his version of *Messiah*; Crusell's *Concert-Trio* (*c.*1814) with clarinet and horn has an extended and technical solo in F minor; and the slow movement of Carl Jacobi's (1791–1852) Quartet with strings op. 4 (1826) is in B-flat minor.

Written range

The lowest note on the bassoon was, in theory, considered by some writers to have been A, as discussed in Chapter 1, but this must have depended very much on the player: I haven't yet managed to achieve anything more than a slightly flattened B♭! For Mozart in 1785–87 the complete range was B♭′ to g′ (see Figure 2.7: Attwood's lesson notes), although in his concerto a decade earlier he had written a single high b♭′. (See Figure 3.15 below for examples.) Beethoven as a rule goes as high as a′ in his orchestral usage, although the solo part in his Trio in G WoO 37 with piano and flute of 1783 often rises to b′ and c″.[38] Krommer's quartets with strings (*c.*1804), in my view the most effective solo writing for the bassoon, take b♭′ as their highest note. Later, depending on for whom a work is written, the highest pitch rises to d″ (Jacobi for himself, and Weber for G. F. Brandt (1773–1836) in his concerto of 1811) but always as part of a relatively slow chromatic scale starting at least as low as b′. Concertos composed in Stockholm by Crusell in 1829 and by Édouard Dupuy (*c.*1770–1822) in 1813 rise to e♭″, and not approached by step. However, these pieces were performed by the brothers Preumayr, including the astonishing virtuoso Frans (1782–1853), exceptional performers who, as

---

[37] *The Harmonicon* (London, 1830): 193, signed 'I. P.'. Retrieved from Google Books https://books.google.co.uk/books?id=HugqAAAAYAAJ&printsec=frontcover#v=onepage&q&f=false on 29 July 2021. Quoted in part in James B. Kopp, *The Bassoon* (New Haven: Yale University Press, 2012), 86.

[38] Some have suggested that this means the piece was composed with a small bassoon in F or G, a *tenoroon*, in mind, but the part has several low Ds that would be below the range of this instrument, and White, *Bassoon Fingering Charts* shows that French charts of this date already included fingerings for c″ and higher.

Agrell suggests, used a particular reed design that allowed these high notes, and either had instruments with a third register key solely for this pitch, or were using a slightly later design of bassoon by the firm of Grenser & Wiesner.[39]

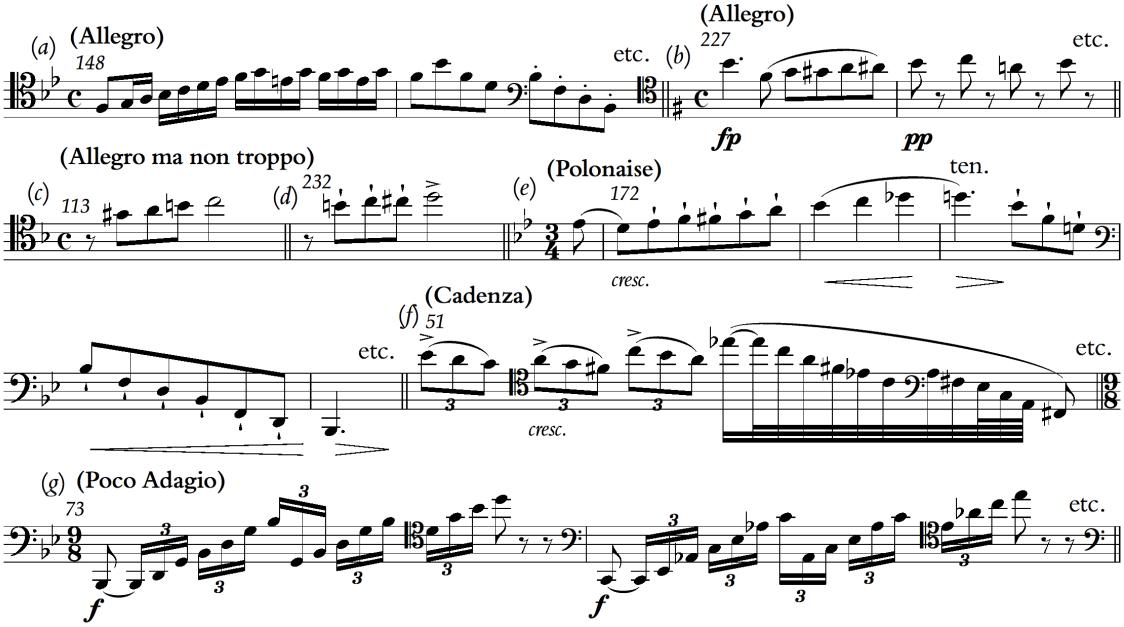


Figure 3.15 Examples of bassoon high-note usage taken from: (*a*) Mozart, Concerto K191, mvt. I, 148–149; (*b*) Beethoven, Trio WoO 37, mvt. I, 227–228; (*c*) & (*d*) Weber, Concerto op. 75, mvt. I, 113 & I:232; (*e*) Jacobi, Quartet op. 4, mvt. III, 171–176; (*f*) & (*g*) Crusell, Concertino, 51 & 73–74.

With practice, and a suitable reed, I have found d″ is achievable on my Grenser copy in the circumstances that Weber and Jacobi wrote, but e♭″ remains a pinched and flat note, when I can produce it at all.

Tessituras

To establish the tessituras and general use of pitches on the bassoon with a greater degree of objectivity than is possible using only my experience, I made an analysis of seven solo or concertante works, and six pieces of Harmoniemusik (listed in Figure 3.16) that form a sample of representative works for the bassoon. These together show a range of approaches to scoring for the bassoon as a solo instrument and as a pair within a wind ensemble.

[39] Donna Christine Agrell, 'Repertoire for a Swedish Bassoon Virtuoso: Approaching Early Nineteenth-Century Works Composed for Frans Preumayr with an Original Grenser and Wiesner Bassoon', PhD dissertation, Leiden University, 2015.

composer	*work*	*tonalities*	*date*
Mozart	Concerto K191	B♭, F	1774
Krommer	Quartet op. 46 no. 1	B♭, g	*c.*1804
Weber	Concerto op. 75	F	1811/22
Weber	Andante & Rondo op. 35	c, C	1813
Jacobi	Quartet op. 4	B♭, b♭	1826
Jacobi	Introduction & Polonaise op. 9	C	1828/30
Crusell	Concertino	g, B♭	1829
Mozart	Serenade a 6 K375	E♭	1781
Krommer	Partita op. 45 no. 3	B♭, E♭	*c.*1800
Krommer	Partita op. 71	E♭, B♭	*c.*1805
Beethoven arr. Czerny	Septet op. 20	E♭, A♭, B♭	arr. 1805
Beethoven arr. anon.	*Sonate Pathétique*	c, B♭	arr. *c.*1810
Beethoven arr. anon.	Symphony no. 7	G, g, F, D	arr. 1816

Figure 3.16 Works analysed that feature the bassoon, with date of composition, and the works' principal tonalities.

	B♭′	C	D	E♭	E	F	f′	g′	g♯′	a′	b♭′	b′	c″	c♯″	d″	e♭″
Mozart Concerto																
	1	1	1	2	1	10	47	20	1		2					
Krommer Quartet																
	8	10	11	15	7	27	162	91	12	1	2					
Weber pieces																
	6	37	21	11	37	84	216	140	27	41	18	14	12	1	1	
Jacobi pieces																
	15	19	20	12	21	39	259	159	52	55	30	7	11	4	2	
Crusell Concertino																
	7	9	13	7	6	30	196	113	23	38	41		15	4	7	3
Mozart K375																
1st				2		2	119	36								
2nd	2		1	55	2	26	1									
Krommer Partitas																
1st	25	8	44	108	4	129	80	27	8							
2nd	48	23	67	281	25	294										
Beethoven/Czerny																
1st	4		6	5	1	22	177	73	10	2	3					
2nd	82	23	35	156	7	109	12	1								
Sonate Pathétique																
1st	3	4	1	5		7	88	70	3							
2nd	12	27	12	53	10	82	2	1								
Symphony 7																
1st	4	1	13	4	3	24	96	90	3	8	1					
2nd	3	6	118	62	40	125	12	8								

Figure 3.17 Analysed bassoon works: number of uses of highest and lowest pitches.

First, Figure 3.17 omits bottom B′ and C♯ as in these pieces they were written only by Mozart in K375 (a single D♭ for bassoon 2 in octaves with the 1st, mvt. 1, b.95) and by

Czerny (one of each in the Scherzo of the Septet in a passage marked *colla primo, 8vb*). Similarly, f♯′ is also omitted as for harmonic reasons it is used less than both f′ and g′, but it is used rather more than the pitches above g′.

Looking at the low pitches, it is clear that in all parts F shows a marked step up in frequency of use from the pitches below it. The exceptions to this are bassoon 1 in Mozart K375, which utilizes a rather higher and more limited tessitura, and the use of E♭ for bassoon 2 in K375, the Krommer Partitas, and Czerny's arrangement, where this pitch is very often the tonic in E-flat major. Low D features heavily in bassoon 2 in the Beethoven 7 arrangement, but this is to be expected in a piece largely in G.

Bottom B♭′ is used relatively infrequently, or even rarely, even in those examples where E♭ is common. The exceptions here are again Czerny, who seems eager to expand the range of the Harmonie, also pushing the clarinet and horn up into their highest registers, as well as making much use of the low clarinet, and Krommer in his Partitas, who along with the low bassoon also exploited the colours of the low clarinet and horn.

In solo writing all low notes below F on the bassoon are reserved as special and used as features, rather as I showed was the case with the clarinet. In ensemble writing, bassoon 2 uses these pitches more often, especially E♭ as part of bass line figures or to double bassoon 1 at the lower octave. Typically, however, the bassoon's range begins at F and the pitches below that are treated as an extension. A notable exception to this is the very demanding opening of Haydn's Symphony no. 103 in E-flat, 'Drum Roll' (Figure 3.18), where bassoon 1 must play softly and legato, in unison with the 'cellos and basses in the range C to A♭, a passage that often requires the assistance of a soft cloth mute in the bell.

Figure 3.18 Haydn, Symphony no. 103, 'Drum Roll', bassoon 1, mvt. I, 1–13

At the top of the range there is the same distinct step in usage: g′ is likely to be used only half as often as f′. In the virtuosic solo writing of Weber, Jacobi, and Crusell a♭′, a′,

b♭′, and even c″ are used infrequently, and pitches above that rarely or not at all. In ensemble writing, and in solo writing pre-1810, a♭′ and a′ are used even more rarely, and b♭′ hardly at all.

The use of the bassoon in these 13 pieces suggests that composers considered its *normal* range to be F (or E♭) to g′. To gain a sense of how this two-octave range was used, it is helpful to further divide it, although at which pitch to make this division is a fairly arbitrary decision as, depending on tonality and composer, c and e♭ can be as commonly used as f or g. However, for the sake of comparison I have split this normal range at the overblown octave f, resulting in the bassoon having what might be considered as four registers. The percentage distribution of pitches within these four registers in the 13 pieces above is therefore as follows:

		B♭′–E	F–e	f–g′	g♯′–e♭′	F– g′
Mozart Concerto		0.8	11.4	87.5	0.4	98.8
Krommer Quartet		2.2	11.5	85.6	0.6	97.2
Weber pieces		2.8	25.2	69.1	2.9	94.3
Jacobi pieces		2.2	18.3	75.5	4	93.8
Crusell C'tino		1.4	13.2	81	4.4	94.2
Mozart K375	1st	0.1	15	84.9	0	99.9
	2nd	3.4	63.3	33.3	0	96.6
Krommer Partitas	1st	4.9	36.3	58.5	0.2	94.9
	2nd	13.4	67.9	18.8	0	86.6
Beethoven/Czerny	1st	0.5	13.7	85.3	0.5	99.0
	2nd	12.2	60.7	27.1	0	87.8
Pathétique	1st	0.7	16	83	0.2	99.2
	2nd	9.2	62.1	28.6	0	90.8
Symphony 7	1st	0.6	17.2	81.9	0.3	99.1
	2nd	5.9	56.8	37.3	0	94.1

Figure 3.19 Percentage usage of the four registers of the bassoon in the analysed works; and the total percentage use of the two middle registers.

Figure 3.19 shows the percentage usage (rounded to one decimal place) of each register of the bassoon, with a fifth column showing total usage of the normal part of the range. For most solo and 1st parts, more than 75% of notes are in the f–g′ range. Only Weber, and Krommer for bassoon 1 in his Partitas write parts that have a significant minority of their notes in the F–e part of the normal range. All solo and bassoon 1 parts have at least 93% of their writing in the F–g′ range, and several have 98% or higher. The lowest notes, B♭–E, typically make up 2% of solo writing, but rather less in ensemble parts,

with the exception, again, of Krommer's Partitas. As we saw in discussion of Figure 3.17, the highest pitches are used only in solo repertoire, with the occasional exception of g♯′ and a′.

In contrast, bassoon 2 parts have around 60% or more of their writing in the lower part of the normal range, do not use the highest pitches at all, and have between 6% and 13% of their notes in the lowest register.

This reinforces the idea of bassoon 1 as a tenor instrument and bassoon 2 as a bass, and while the 1st player may descend into the 2nd's normal range, and even the lowest pitches as a special feature, the reverse is not true, with bassoon 2 resolutely confined to the middle and low registers.

Pitches to avoid

As discussed above, bottom B′ and C♯ were in general completely avoided, except very rarely by Mozart and others as an octave doubling, and then only as short notes.[40]

At the opposite extreme, top b′ and d″ are difficult, and d″ must be preceded by c♯″; b♭′ and c♯″ are rather easier to play, but to be clear and strong everything above b♭′ requires a reed that favours the high register over the low.

As with the clarinet, it is difficult to prescribe what an actual fingering chart would look like for the bassoon as every instrument/reed/player framework requires sometimes radically different fingerings. However, care should ideally be taken with patterns involving the cross- and fork-fingerings (i.e. b♭, c♯/d♭, d♯/e♭ and the same an octave higher), and also any pitch from F or lower to G♯/A♭ (typically arpeggios in E major and F minor) as this involves a right little-finger slide. But in reality all of these things happen regularly in the repertoire and were and continue to be simply part of bassoon technique.

[40] As well as the D♭ in K375, Mozart writes B for bassoon 2 in his D minor piano concerto K466 (mvt. II, 104), and in his 39th symphony ĸ543 (mvt. IV, 116 & 118).

Clichés

There are few, if any, instrumental clichés for the bassoon in the classical period in the way that there are for the clarinet. However, as Kopp points out, the bassoon

> became the favored instruments for doubling singers, violins, or the treble woodwinds at the lower octave (or sometimes the double octave). This sort of scoring – typical of Viennese classical composers but also seen elsewhere – gave the featured melody a vivid, 'shadowed', almost palpable presence and the orchestral texture a new illusion of depth or three-dimensional space.[41]

In terms of character, though, the role for which the modern bassoon is best known, as 'the clowns of the orchestra *par excellence*',[42] was unknown in the classical period: Domínguez Moreno identifies the earliest reference to this characteristic as being only in 1877.[43] Indeed, the bassoon in the early 19th century was still rather more likely to be expressing the *Triste* of Telemann's Sonata in F minor (1728): Kopp quotes Fröhlich as saying the bassoon could express 'the worthy, the virile, the solemn, the great, the sublime, composure, mildness, intimacy, emotion, longing, heartfulness, reverence, and soulful ardour.'[44] For Koch 'As a solo instrument, its character of gentleness is most appropriate; it is therefore also called by some the instrument of love.'[45]

These many various characters can be found in hundreds of possible examples throughout the solo, chamber, and orchestral repertoire: of note are solos relying on speed of execution that rival any concerto, including wide leaps, in Mozart's Serenades in C minor K388 (mvt. IV, 144) or B-flat K361 (mvt. V, 25) or, notoriously, Beethoven's Fourth Symphony (mvt. IV, 184); of expressivity and beauty, variously in Beethoven's Sixth and Ninth Symphonies or violin concerto, and often in Haydn's *Creation*; or of humour or pathos in Mozart's later operas and Haydn's symphonies. It is perhaps this versatility that became the bassoon's defining characteristic, rather than any other cliché.

---

[41] James B. Kopp, *The Bassoon* (New Haven: Yale University Press, 2012), 87.

[42] Norman Del Mar, *Anatomy of the Orchestra* (London: Faber & Faber, 1981), 176.

[43] Áurea Domínguez Moreno, 'Bassoon Playing in Perspective: Character and Performance Practice from 1800 to 1850', PhD dissertation, University of Helsinki, 2013, 118.

[44] Kopp, *Bassoon*, 98, quoting Fröhlich, *Fagottschule* (1829), 144–45.

[45] '*Als Soloinstrument ist ihm besonders der Charakter des Sanften am angemessensten; er wird daher auch von einigen das Instrument der Liebe genannt.*' Heinrich Christoph Koch, *Musikalisches Lexikon* (1802):549–50; retrieved from https://books.google.co.uk/books/about/Musikalisches_Lexikon.html?hl=de&id=3etL1pPIGigC&redir_esc=y on 4 Aug 2021. Quoted in part in Kopp, *Bassoon*, 87.

Part writing for a pair

The classical instrument's timbre seems to make the effect of close-harmony bassoons rather less muddy than with modern instruments, and also enables better blending. As a result, passages in parallel thirds and sixths, as well as octaves, even descending into the low register, are all common in solo and tutti writing. The timbre also more easily allows a characteristic of bassoon writing that is not typical for the other woodwind instruments: writing for two (or sometimes more) players in unison, and in all circumstances – loud, soft, fast, slow, and across the whole range of the instrument.

Additionally, the bassoon's dual personality, functioning as both tenor and bass, means that two parts are often independent of each other, and can be playing up to two octaves apart and with quite different characters.

Top B, or Not Top B?

Top b′ is outside the normal range of the bassoon, but Weber used it widely in his *Andante and Hungarian Rondo*, a work I have performed on my Grenser. So, for the bassoon: yes, that is the question; and yes, top B, but only in writing for myself.

Chapter 4

On arranging and arrangements

'*You have no idea how difficult it is to arrange a work of this kind for Harmonie so that it suits these instruments and yet loses none of its effect.*'[1]

Having established *what* I might write for the instruments, I now need an understanding of *how* I might write for them too, how to put them into a score. However, my investigation of the clarinet and horn shows that every composer had a different understanding of how to write for each instrument, and similarly, as Harlow says, 'to make generalisations about a transcriber's technique of transcription is no less dangerous than making such generalisations about a composer's technique of composition.'[2] Harlow analyses Sedlak's arranging practice in some depth, although not specifically his orchestration, and concludes that when transcribing, Sedlak 'is meticulous in his realisation of timbral and textural contrast, and in the retention of these effects where possible… [T]his adherence to the original score is a trait that manifests itself in his arranging… as much of the original as possible.'[3]

As an example, looking at Sedlak's version in nine parts of the quartet '*Mir ist so wunderbar*' from Beethoven's *Fidelio*, Harlow explains how ten different lines of texture are fitted into the Harmonie's nine parts. The horns play only their original lines, as is typical in Sedlak. Of the rest, only oboe 1 'carries one of the vocal lines exclusively. All others which take vocal material also include elements of the orchestral parts.'[4]

---

[1] Mozart in a letter to his father regarding arranging *Die Entführung aus dem Serail* – see Chapter 1. Wilhelm A. Bauer, Otto Erich Deutsch, and Joseph Heinz Eibl (eds), *Mozart: Briefe und Aufzeichnungen* (Kassel: Barenreiter, 1962–2005), vol. II: 213, 20 July 1782.
[2] Martin Harlow, 'The Transcriptions for Wind Harmonie of Wenzel Sedlak (1776–1851)', Masters dissertation, University of Sheffield, 1996, 105.
[3] Harlow, *Sedlak*, 133.
[4] Harlow, *Sedlak*, 117.

What of Triebensee's practice? Unusually for a historical arranger he was relatively explicit in his aims: in 1804 Triebensee advertised his first attempt at publishing by subscription a collection of Harmoniemusik.

> For some time now many masterpieces of the most famous composers have been appearing in arrangements for Harmonie in which the entire spirit of the authors [*Geist des Autors*] has often been mutilated, often they were even unrecognisable – without regard for the instruments, their compasses, their abilities – and in that way the pleasure of the artists in their performances [*die Freude der Künstler zur Produktion*] is lost, all of which has the natural consequence that the expected pleasure of the listeners, where it has not actually been destroyed, has at least been lessened…[5]

So Triebensee is concerned with preserving the compositions' spirit or *geist*, but also with writing well for the instruments so that his performers may gain enjoyment from their work, which they will then communicate to their listeners.

As an example of Triebensee's arranging, Figure 4.1 shows the concluding bars of his ten-part version of Mozart's Symphony no. 39 in E-flat K543 in parallel with a short score of Mozart's original.[6] This arrangement was the opening piece in the first issue of Triebensee's monumental *Miscellannées de Musique* in 1808. A full bar-by-bar dissection of this arrangement, informing though that would be, is outside the scope of this study, but presenting the orchestral original and the arrangement one above the other gives a useful indication of the level of creative intervention that Triebensee employs. Whilst almost every bar diverges from Mozart's original in some way, I outline the most significant points below.

---

[5] *Allgemeinen Musikalischen Zeitung* (January 1804), quoted in Harlow, *Sedlak*, 105; and David Whitwell, *The History and Literature of the Wind Band and Wind Ensemble* (13 volumes), (2nd edition, Austin, Tex.; Whitwell Publishing, 2012), Volume 5 *The Nineteenth-Century Wind Band and Wind Ensemble*, 178. Translation adapted from both sources.

[6] The text of this figure, which omits the timpani, is compiled from W. A. Mozart, *Symphony in E-flat major 'no. 39' K543*, ed. H. C. Robbins Landon (Kassel: Bärenreiter, 1958), and W. A. Mozart, *Symphony nr. 39, movement 1, arranged for 2 oboes, 2 clarinets […]*, arr. Josef Triebensee, [ed. n.n.] (Amsterdam: Compusic, n.d. [*c*1990]), incorporating also the corrections to the Triebensee taken from the original (1808) print and listed in Peter Heckl, *W. A. Mozarts Instrumentalkompositionen in Bearbeitungen für Harmoniemusik vor 1840* (Hildesheim: Georg Olms, 2014), vol. 2, 749–50. For ease of comparison, bar numbers are as Mozart's orchestral version not the arrangement, which has 30 fewer bars in total.

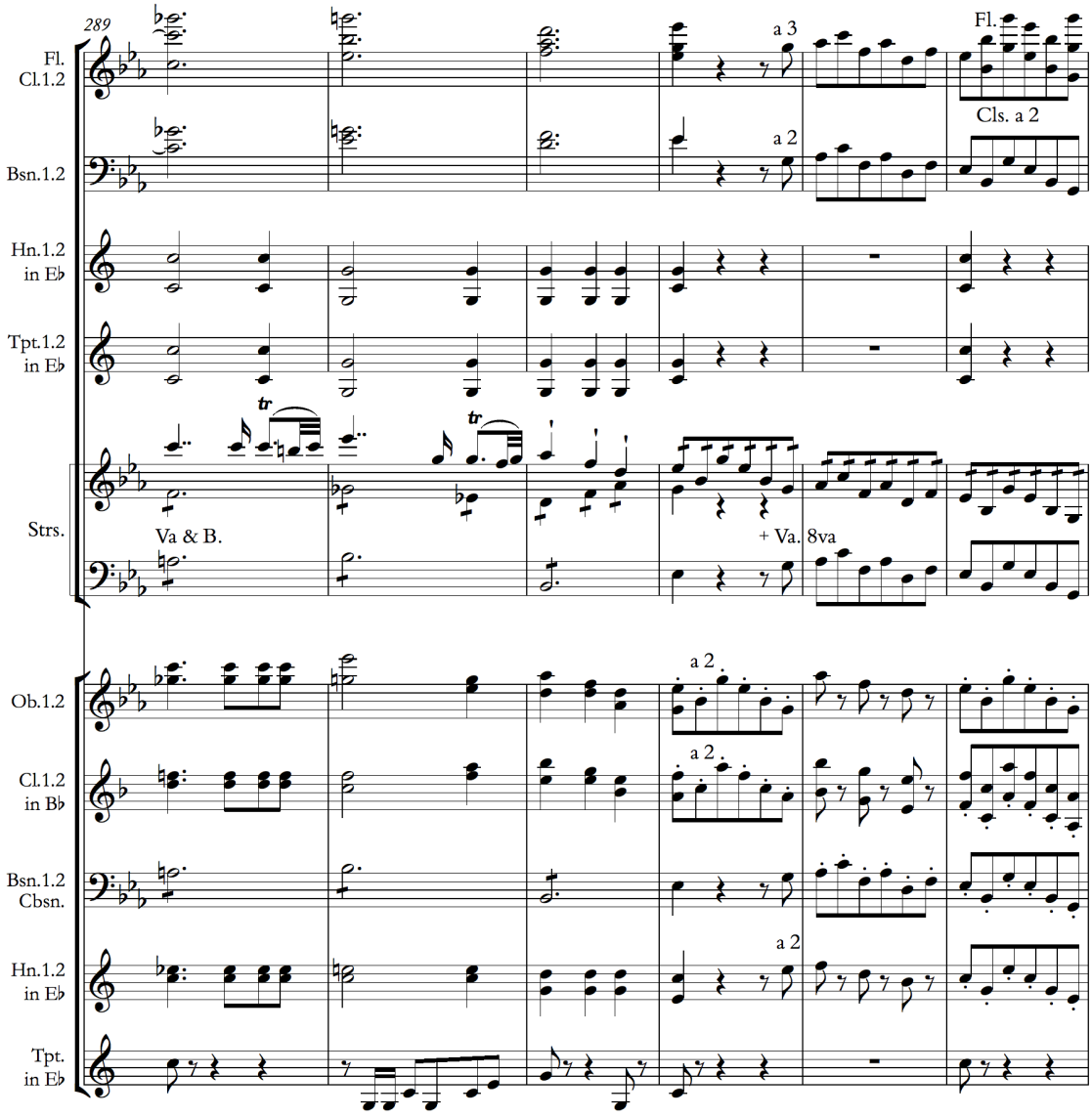


Figure 4.1 Mozart Symphony no. 39 in E-flat K543, in short score, and Triebensee's arrangement of it in 10 parts, b.289–294

In 289 and 290 Triebensee omits the violin trills as in both cases they would be awkward for the oboe: the new rhythm for the Harmonie in 289 provides momentum, which is taken over by the trumpet in 290. Only the bassoons keep the continuous quavers of the string section. The orchestral woodwind's sustained chords are omitted, but their pitches are present in the other parts.

Mozart's unison arpeggio-like figure beginning in 292 moves continuously downwards through the violins, with the woodwind and bassi first expanding the scoring up and

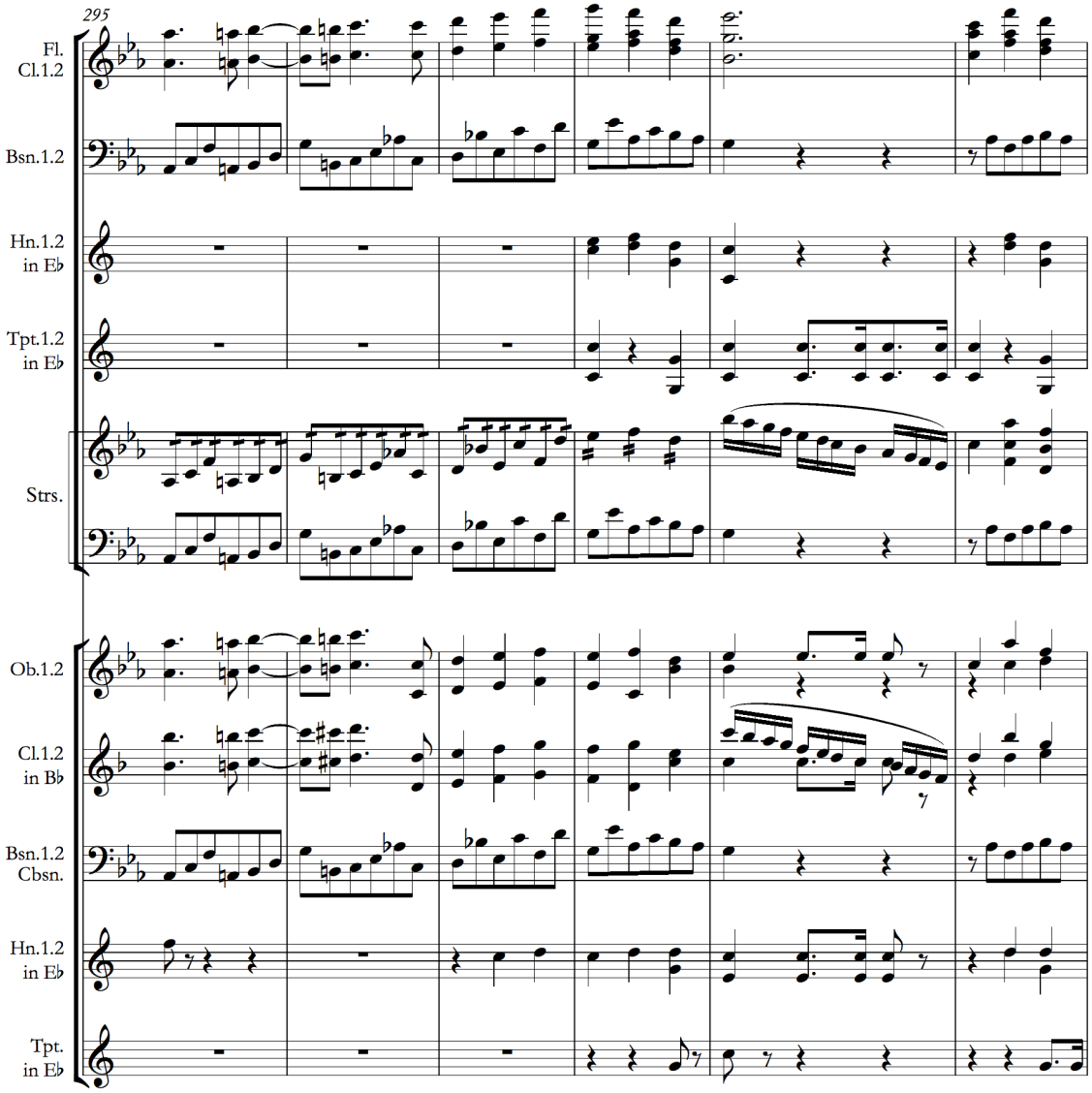


Figure 4.1 (cont.) b.295–300

down by one octave in 293, and then the flute up by a second octave in 294. This same four octave duplication (or five including 16-foot bass) is not possibly in the Harmonie, so in the arrangement the oboes and clarinets play only the first bar as the original, so that they can re-enter in the same octave in 294 to expand the figure upwards. This highlights the bassoons for one bar at their entry. The horn's entry in 293 adds weight (analogous to the entry of the woodwind in the original) but is simplified because of their available pitches: having the woodwind double them in unison normalizes this simplification. In 294 the horns can play the full figure because it is now on the tonic.

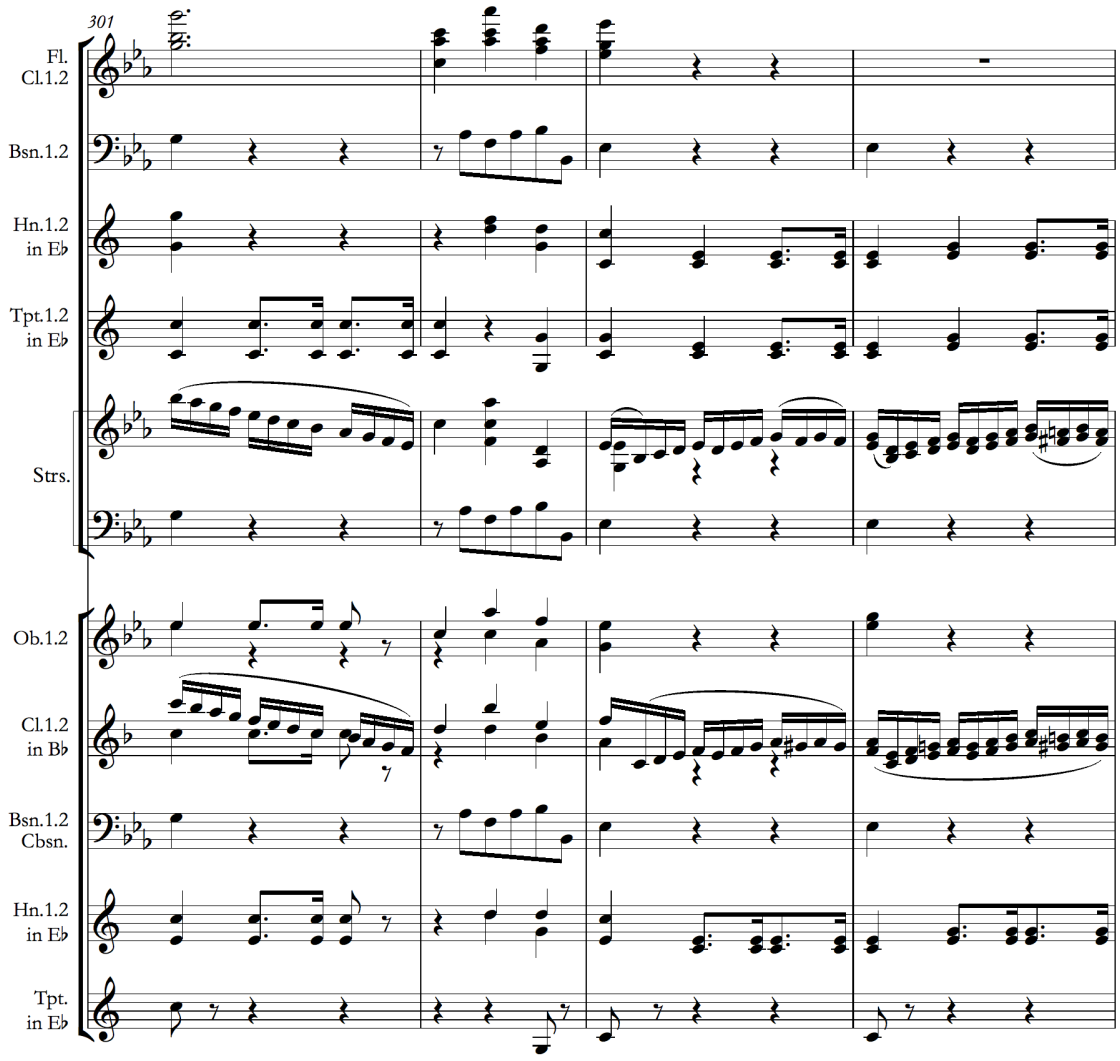


Figure 4.1 (cont.) b.301–304

From 299 the orchestral trumpets' figure is shortened so that it doesn't interfere with the clarinet's descending scale, but the filling out of the harmony in oboe 1 and clarinet and horn 2 means the figure assumes a different significance. At 303, however, the same dotted rhythm is now applied in the horns to the second beat as well as the third, again adding momentum. Triebensee's use of F♯ already in the violin figure in 303 adds a touch of piquancy. The oboes punctuate only the first beat of each bar rather than literally taking the orchestral trumpets' part in octaves with the horns, again to balance with and not detract from the clarinets.

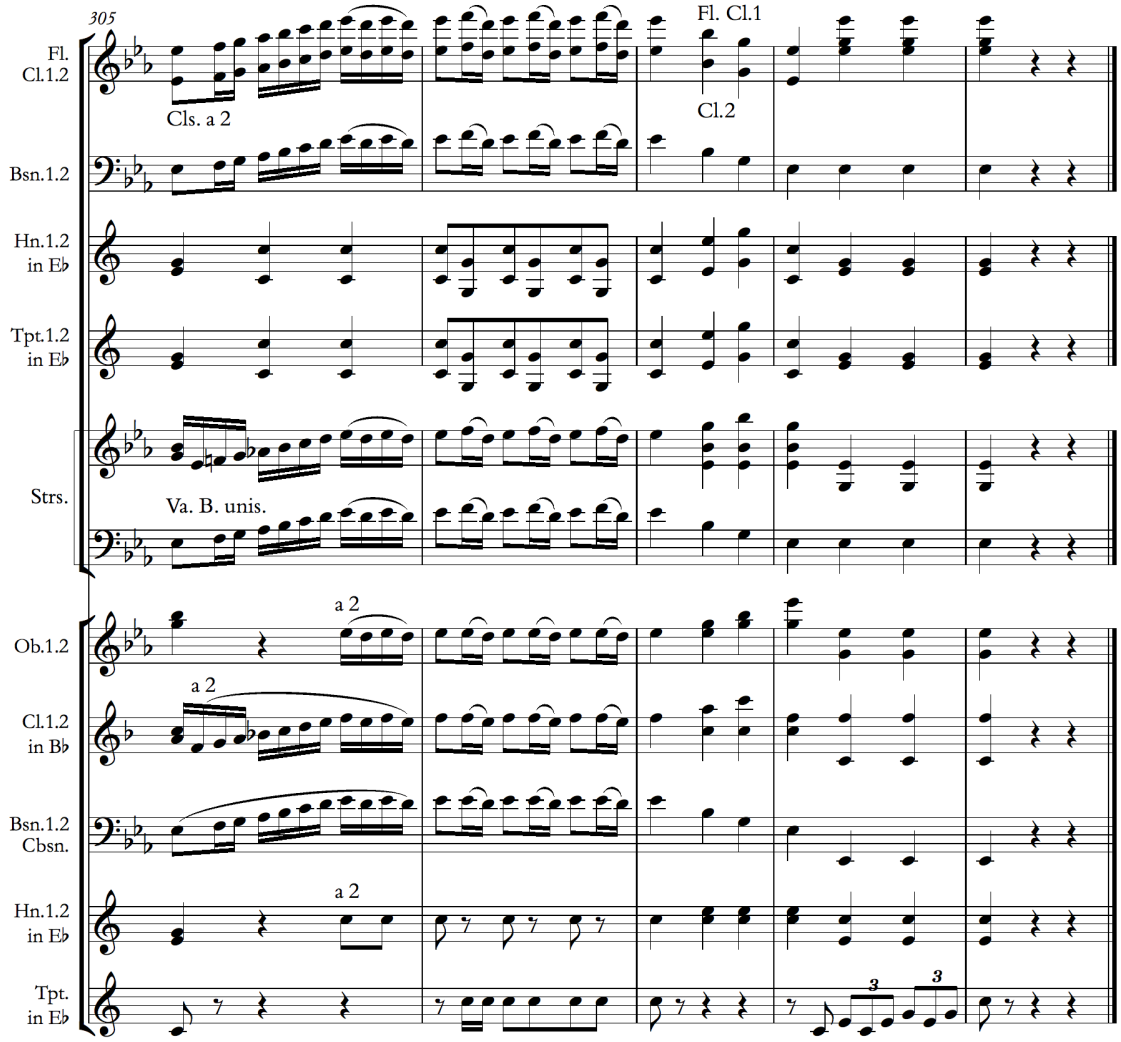


Figure 4.1 (cont.) b.305–309

At 305 the orchestral brass' tonic chords and repeated tonic and dominant figure are all omitted, again perhaps in the interest of balance, allowing the main melodic idea to be clearly heard in 306. However, Triebensee re-composes this melodic figure throughout the movement: this motif – *tone, tone above, tone below* – is always a difficult one to play fluently on a woodwind instrument, especially at speed and when it is as repetitive as it becomes in this movement. Triebensee's idea of *tone, tone, tone below* sounds very similar and is much easier to play as there is only one pitch/fingering change to concentrate on. At 308 the Harmonie's oboe 1 rises thrillingly to the high tonic, not present in the original.

Throughout these pages, and also the rest of the movement, Triebensee's horn writing is more adventurous and soloistic than Mozart's, allowing them to make a greater contribution to the ensemble, functioning *with* the woodwind rather than as an adjunct. The Harmonie trumpet part, listed as being *ad lib.* on the original title page*,* is almost completely Triebensee's invention, and he presents it almost as a soloist, working independently of the other parts. The part adds drive in 290 and 306, increased punctuation in the cadences of 300–301 and 302–303, and the penultimate bar is particularly noteworthy, allowing the trumpeter their own cheeky little solo, and indeed to dictate the pacing of the final chords, introducing triplets that do not otherwise appear anywhere else in Mozart's movement.

On the one hand, given his stated ideals for his arrangements, Triebensee's efforts seem almost irreverent to Mozart's *geist*. Indeed, elsewhere in the movement he cuts nearly 30 bars of music, some to avoid difficult modulations, but also in other places two-bar phrases for no obvious reason. But this is a finely crafted piece of Harmoniemusik, something truly idiomatic for wind instruments rather than a reduction or compression of an orchestral original. It demonstrates little fidelity to the original, but it is full of its character and spirit, and we should remember that Triebensee had known and worked with Mozart. Most importantly, this arrangement is very satisfying and enjoyable to play, and therefore, according to Triebensee, also to listen to, and perhaps this was his aim. This is a model of the sort and style of arranging that I would like to achieve.

First Considerations

Before starting an arrangement, I normally consider a number of broad questions. Many of these are interconnected, some of them are historically based, and some are more practical in nature.

Choice of source-text

Regardless of the work to be arranged, I must choose a source-text for the pitches and rhythms. Historically, in part as an attempt to control copyright, instrumental and orchestral works were typically issued (printed or in manuscript) only in parts. The regular publication of printed scores only started after about 1815 and so before this

date scores were only available in manuscript, and probably through a connection with the composer. Piano pieces, of course, looked much the same then as they do now, and many instrumental and operatic works were produced in piano arrangements.

It seems likely that in the absence of a score the typical historical arranger would work from as many individual instrumental parts as he could spread around him, perhaps in conjunction with a two- or four-hand piano arrangement for an overview, working out which were the most important lines to preserve. Occasionally, however, an arranger did have access to a score: Wendt and Triebensee made arrangements of the operas they were playing in Vienna, and Sedlak worked from full scores.[7]

Other situations, however, might be more complex: my initial work editing Czerny's arrangement of Beethoven's Septet op. 20 for performance led me to believe that Czerny, perhaps in haste, had forgotten to include Beethoven's final descending viola and bassi figure, despite having space in his ensemble to include it in the resting bassoon 2, as shown in Figure 4.2. Subsequent research, however, revealed that this omission and many of the other differences between the usual version of the Septet and Czerny's arrangement are because he must have been working from Beethoven's own unrevised composition score, reinforcing the link between the composer, the arranger, and the arrangement, and advocating Czerny's version as an important source for the main version of the 'work'.

[7] Harlow, *Sedlak*, 108.

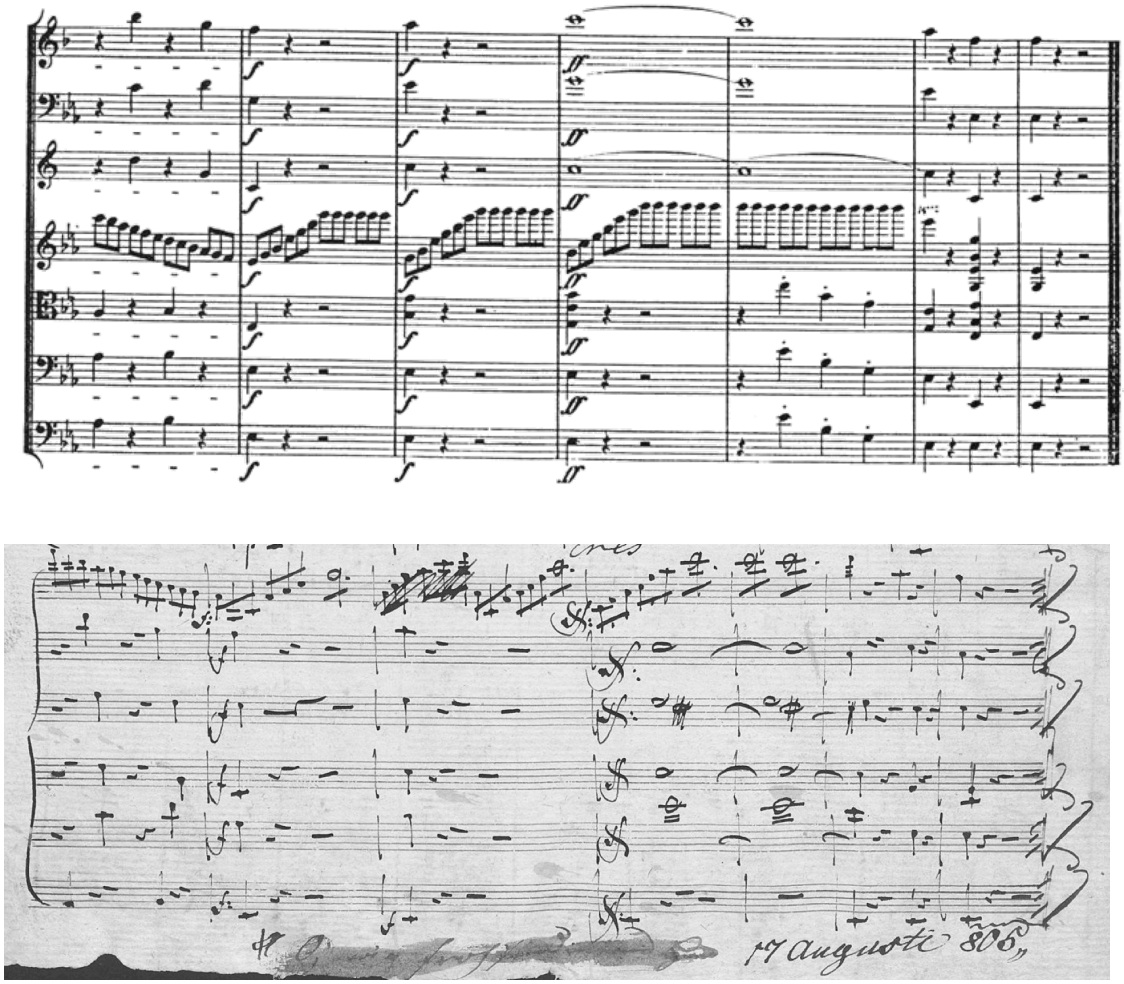


Figure 4.2 Beethoven Septet op. 20. Modern score by Breitkopf & Härtel and m/s of Carl Czerny's arrangement in 6 parts, showing the last 7 bars of the finale

This example also demonstrates, however, that a manuscript score may be a poor source for a historically-informed arrangement. Scores were often only the first stage of composition, as it was common for the composer or his publisher to apply revisions in the parts. Modern *Urtext* editions pose a different problem. They will usually be prepared according to 20th century editorial concepts of objectivity, which are often concerned with unifying the appearance of the score both vertically down the page and horizontally throughout a movement so that, for instance, all occurrences of a theme have the same articulations and dynamics, unanimity that classical source materials rarely seem to be concerned with. Indeed, there is a growing opinion in HIP that some

of these discrepancies may be deliberate, and can provide important indications of performance practice, details that are lost through over-zealous editing.[8]

Figure 4.3 shows an unedited transcription of the opening of Beethoven's *Egmont* Overture op. 84 in the arrangement by Friedrich Starke (1774–1835), side-by-side with the first edition of the orchestral score (which because of publication dates cannot have been its source-text). This demonstrates how different the information contained within the individual parts of an arrangement could be, both to the other parts in the same arrangement, and to other versions of the same work.

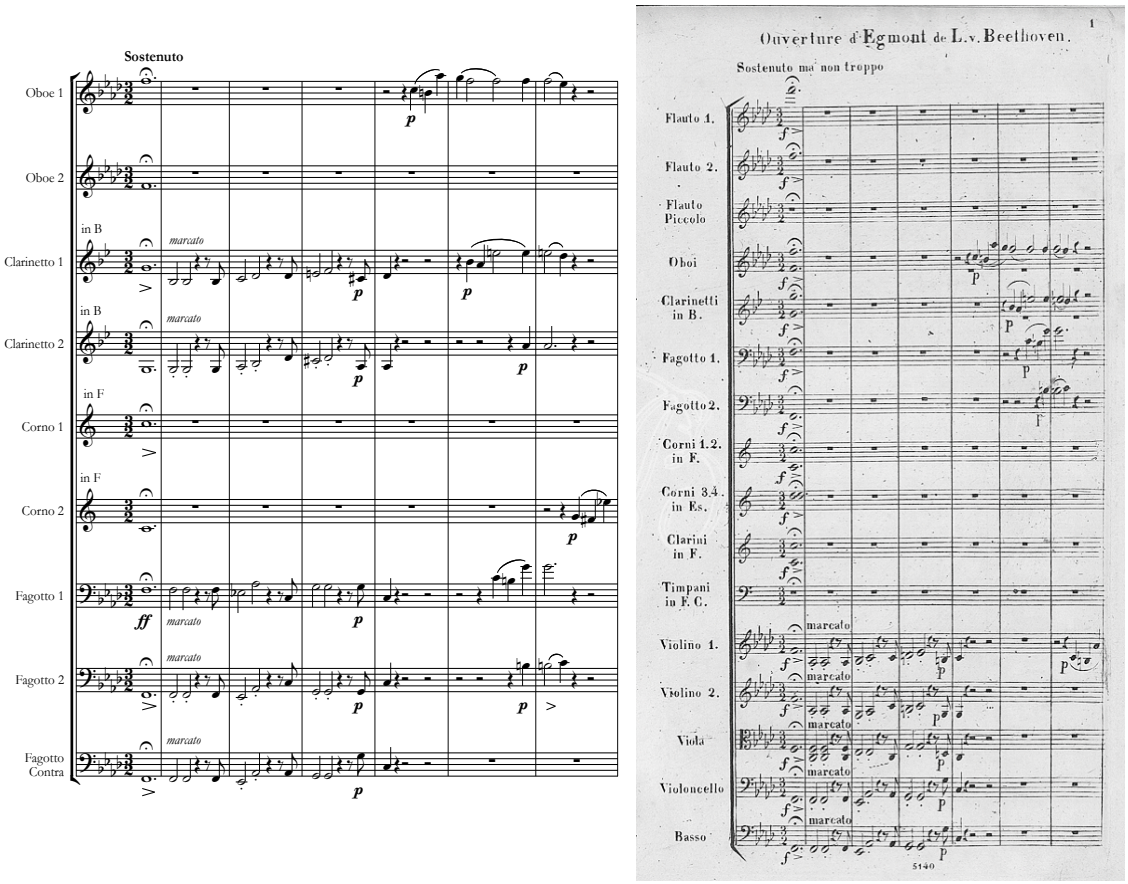


Figure 4.3 Beethoven: Egmont Overture bars 1–7. Unedited arrangement for 9-part Harmonie by Friedrich Starke (*c.*1812) and first edition of orchestral score, Breitkopf & Härtel, 1831

So a score represents a version of a piece that an arranger usually would not have had access to, and may also present a version of the piece that is at odds with the HIP interests of a group like Boxwood & Brass. Despite this, in my practice I usually find using a modern score as the source-text for an arrangement is unavoidable and is the

[8] e.g. Transforming 19th Century HIP: https://www.music.ox.ac.uk/research/projects/c19hip/

most practicable approach. Using 19th century scores is usually not an efficient solution because the lack of bar numbers and very often a lack of the labels after the first page showing which instrument is on which stave makes them difficult to read and slow to work with. However, rather than accepting modern editors' decisions at face value, where possible I always combine contemporary scores with reference to older sources. This effectively means that as well as arranging any given piece, I am often also approaching it with an editor's eye, making decisions and interpretations based on notation and knowledge of performance practices, as I will discuss in my commentary on Beethoven's op. 7 below.

Getting to know the original work

It was common for historical arrangers to have performed the operas that they arranged. In the case of orchestral works, however, performances were, typically, rare, and arrangers worked to commission from publishers or the composer, so they may have not heard the work, which makes the idea of working from individual parts an even more daunting proposition. Piano arrangements (two- or four-hands) probably gave the only opportunity to experience a work because, as discussed above, scores were unusual, ruling out score-reading at the piano.

Normally I arrange works with which I am familiar, often having performed the original. With works I haven't previously played it is of course important for me to familiarise myself with the sound of the original work. Recordings would seem to be a good solution, albeit historically anachronistic, but they can give a poor sense of orchestral balance, and different performers' interpretations can give a very wide range of tempos, which becomes an important consideration when gauging how to write technically difficult passages for wind instruments.

So for an unfamiliar work, I try to listen to the piece only a handful of times to get a broad overview of it, and then rely on my instincts in transcribing the source-text. Of course, part of the aim of my arrangements is to present my own, sometimes different view of the work: a transcription of my hearing of the piece.

What, then, is my new arrangement?

There are a range of historical models and precedents that I might follow to define my approach to an arrangement:

- A version of the source-text, obviously an arrangement, similar to a historical opera arrangement.
- A version of the source that still represents the source, but that creates a new version or reading of it, e.g. Stumpf's *Grand Serenade* on Mozart's K614.
- A new work for wind instruments from an *old* original, using the source to provide a framework of themes and harmonic structures, e.g. the *Sonate Pathétique* arrangement.
- A fantasy, or *pot-pouri*, using only elements of the original source woven into new material.
- A representation of the original for *other* purposes, e.g. a reduction (of an opera for accompaniment) or for educational use.

Should a new arrangement preserve the sound or concept of the original as far as possible, or can I leave holes (e.g. in vocal doublings) because the performers and audience know the source well enough to 'fill in the blanks'?

Does the tonality of the work preclude its arrangement?

Because of the nature of historical wind instruments, and the fact that a wind ensemble will typically include transposing instruments, the key structure of the original might rule out a successful arrangement altogether. Extended modulations to a tertiary key, or more exotic modulations, or even tonic major/minor relationships (e.g. C minor/C major) might work well on the bassoon, but transposed for B-flat clarinet or for many horn crooks might present insurmountable problems. A solution can be to transpose all, or part, of the work, and there are a number of possibilities:

- Transpose the entire work to a 'wind-friendly' key (E-flat, B-flat, F, C), but this can destroy the experience of the original work for the players, especially if it contains well-known wind solos.
- Keep the original tonality of outer movements, but change the keys of internal movements, although this alters the relationships across the piece.

- Alter the modulations *within* movements to minimise the impact of problematic tonalities, but this can be difficult to achieve convincingly, and it can radically change the listener's experience or perception of the work.

Are there to be cuts?

Cuts to the music can be used for two reasons:

- Technical, as an alternative to transpositions, simply excising a passage written in a difficult tonality; or to avoid an instrumental texture that is impossible to arrange (e.g. ensemble string writing in multiple high or low parts).
- Practical, to make the original shorter: compared to orchestral and string chamber music, Harmoniemusik, for reasons of player stamina, typically has shorter movements. The first movement of Mozart's Serenade in E-flat K375 with both repeats as per the manuscript would be exceptional at about 14 minutes. The first movement of Beethoven's Seventh Symphony (see below) is the same. A more normal maximum duration would be 10 minutes. Whole pieces are also normally shorter: whilst performances of Mozart's Serenade in B-flat K361 'Gran Partita', consisting of seven movements, can be as long as 50 minutes, a typical four-movement Partita by Krommer lasts 20–25 minutes.

The anonymous arrangement of Beethoven's Seventh Symphony presents a fascinating case study for transposition and cuts: this is a competent arrangement rather than a creative one, but given significance in part by its simultaneous publication with the orchestral version and by the same publisher.

	I. Poco sostenuto; Vivace	II. Allegretto	III. Presto; Presto meno assai	IV. Allegro con brio
original	A major	A minor	F major; D major	A major
	450 bars	278 bars	A-B-A^1-B-A-coda	465 bars
arrangement	G major	G minor	F major; D major	G major
	450 bars	277 bars	A-B-A^1-coda	361 bars

The arrangement transposes the outer and second movements down a tone to a key that arguably better suits the oboes and bassoons, although one that is unusual in later-period Harmoniemusik and which requires the use of C clarinets. The third movement remains

in its original key, thereby changing (rather than destroying) the work's key-relationships. With regard to cuts, the first movement is complete; the second omits a single bar;[9] the third compresses the A-B-A^1-B-A-coda structure to A-B-A-coda (the difference between A and A^1 is one only of dynamic – the arrangement begins by matching A^1 but then diverges from the original); and the finale is rather more abbreviated: no exposition repeat, no development and some smaller cuts in the coda. The duration of the first movement, without cuts and with repeat, is on the limit of stamina and concentration, and also with historical instruments the longest we can continuously play without attending to the buildup of condensation within them. The cuts in the scherzo simply make the movement shorter and more manageable. Those in the finale also make the movement more comfortable to play, although it is still very demanding, but arguably these cuts are as much about avoiding tonalities in which it would be difficult to arrange because of the limitations imposed by the clarinets and horns.

Techniques of cutting

Triebensee's arrangement in ten parts of Krommer's First Symphony op. 12 forms the opening of his seventh volume of *Miscellannées de Musique*, and in the first movement he uses four different techniques of making cuts. His Mozart 39 arrangement uses a fifth technique, the simplest.[10]

1. Common chord: at a phrase-end or conjunction, the chord progression at the point of the cut is the same as at the end of it, so the same harmony is preserved.

2. Melodically common pitch (Figure 4.4): similar to (1), but a melodic pitch in the bar before the cut is the same as the last bar of the cut, leading into the following bar. So here, whilst 29 and 35 are different chords, the clarinets' concert F in 28 fulfills the same role as that of the bassi in 34.

[9] This omitted bar is considered an error by the two modern editions of the arrangement, which both reinstate it, but the omission is clearly present in each of the nine separate parts.

[10] In the figures from Krommer that follow, the bar numbers are for reference only: because of their different bar-counts they match neither the printed edition of the arrangement – Franz Krommer, *Symphony, op. 12 [arranged for 10-part Harmonie]*, arr. Josef Triebensee, ed. Nessa Glen (London: Sarastro, 2000) – nor the early edition of the orchestral parts – Franz Krommer, *Sinfonie a Grand Orchestre [in F] op. 12* (Offenbach: André, n.d. [*c.*1805], plate number 1105), online facsimile retrieved from Bayerische Staatsbibliothek, Munich. For ease of comparison I have transposed the orchestral parts from F into E-flat, the key of the arrangement.

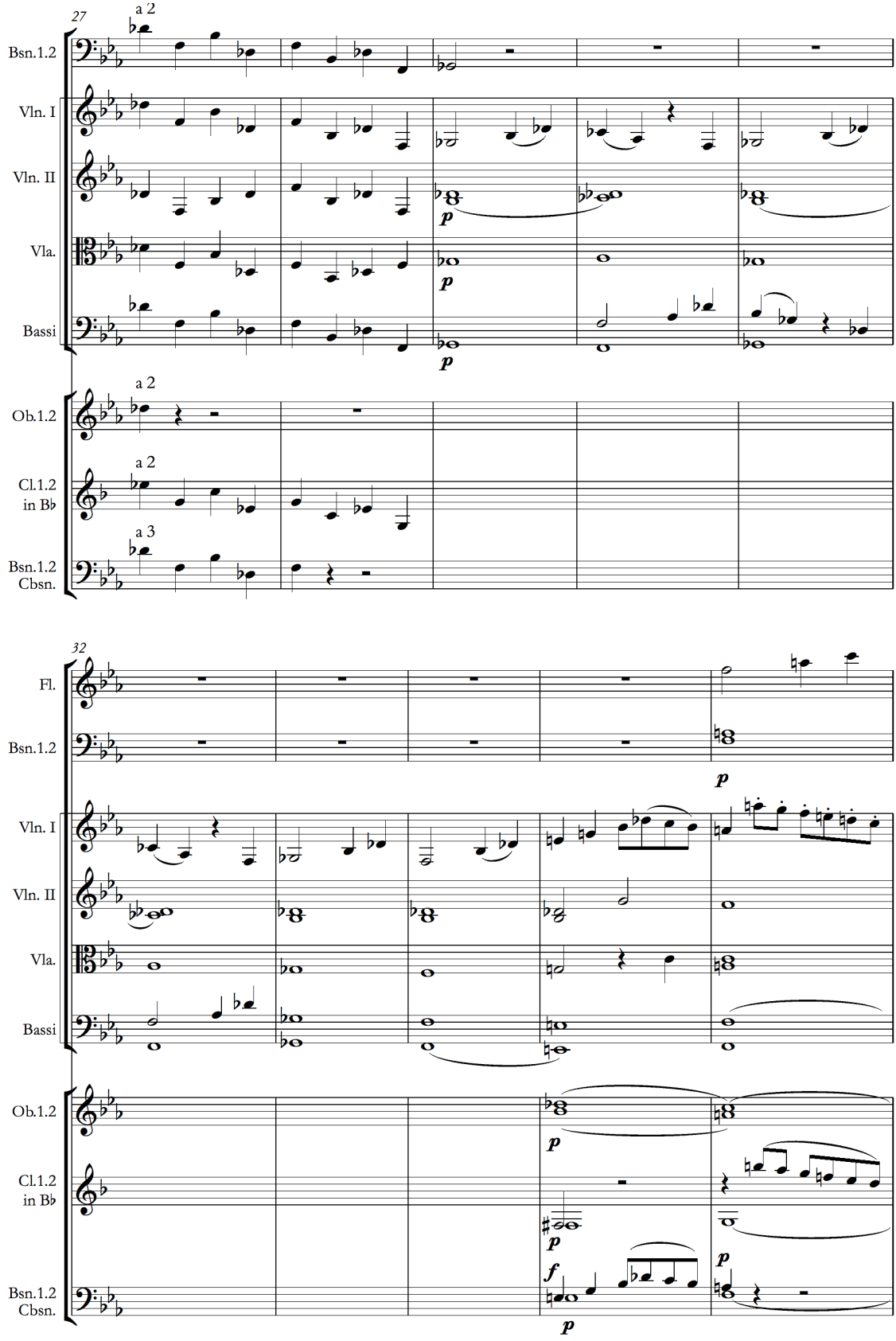


Figure 4.4 Krommer *Symphony op. 12*: orchestral original (transposed) and Triebensee's arrangement, b.27–36

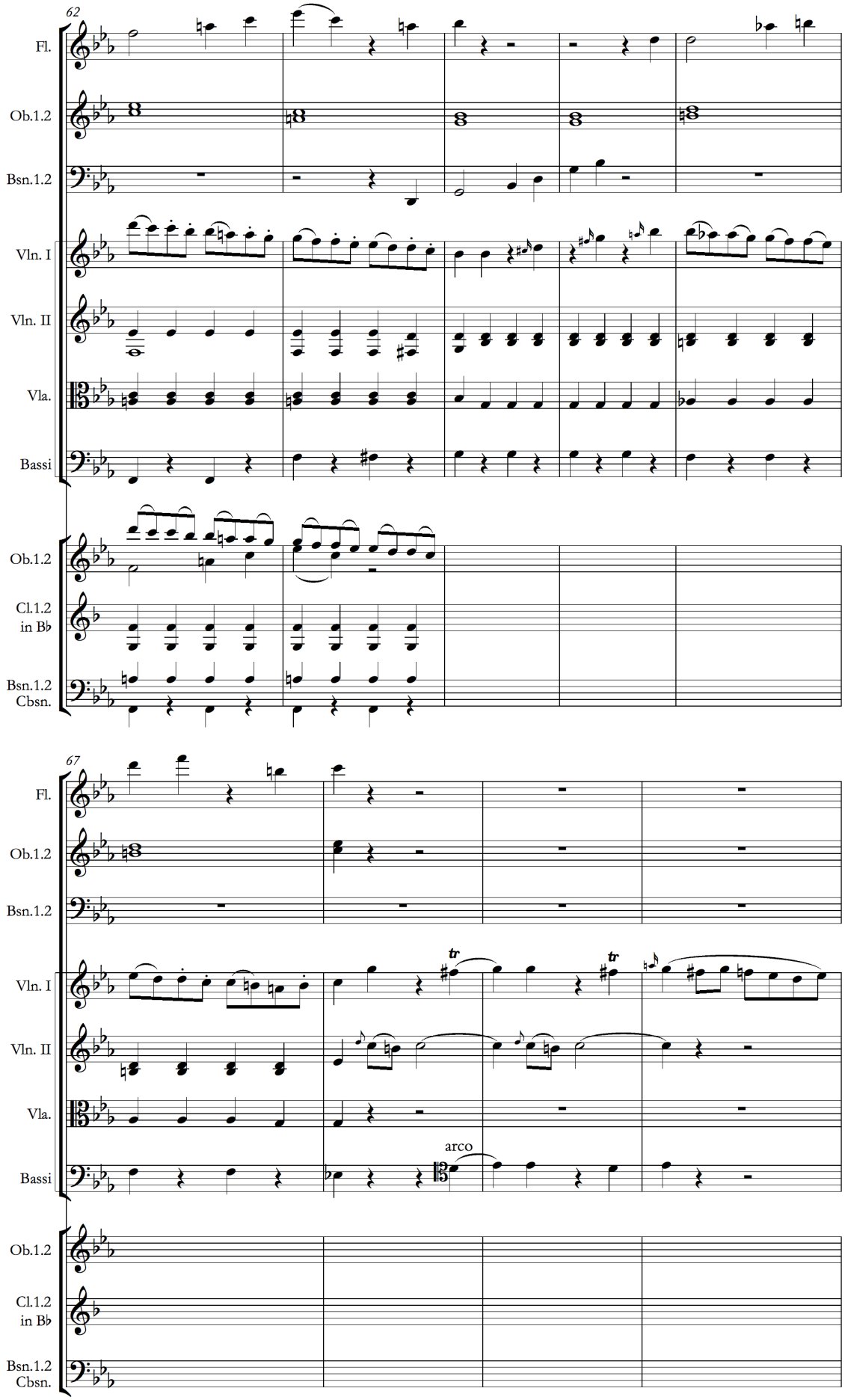


Figure 4.5 Krommer *Symphony op. 12*: orchestral original (transposed) and Triebensee's arrangement, b.62–75

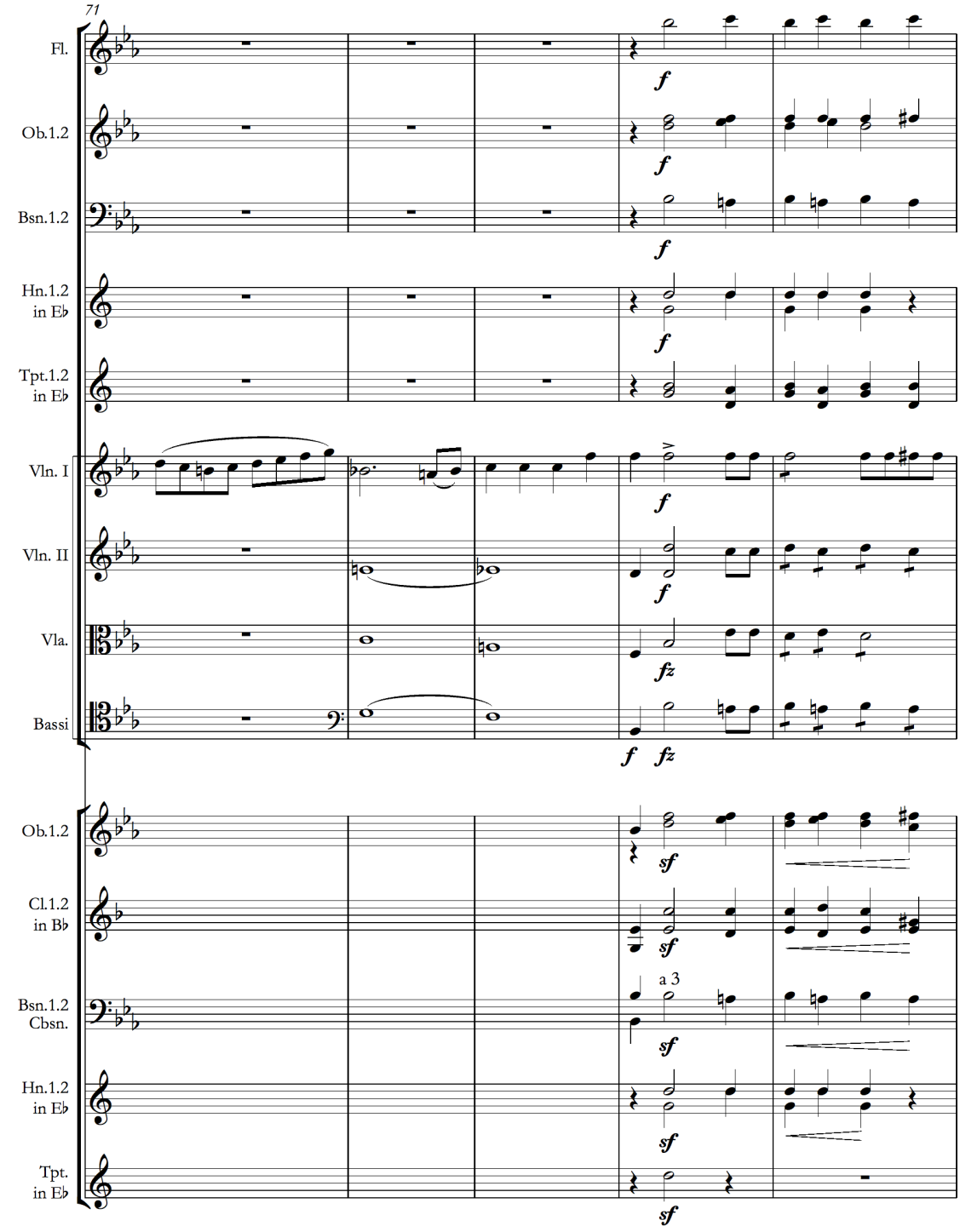


Figure 4.5 (cont.)

3. Change the chord before the cut (Figure 4.5): the chord before the cut is changed to the chord at the end of the cut (or one of similar function) to allow the transition into the bar after the cut. The last chord of 63 in the orchestra is D7, cadencing to G minor at 64, with a rising bass pattern, F, F♯, G. In the arrangement, keeping the bass on F♮ and the chord as F7 matches 73 and allows the cadence onto B-flat at 74.

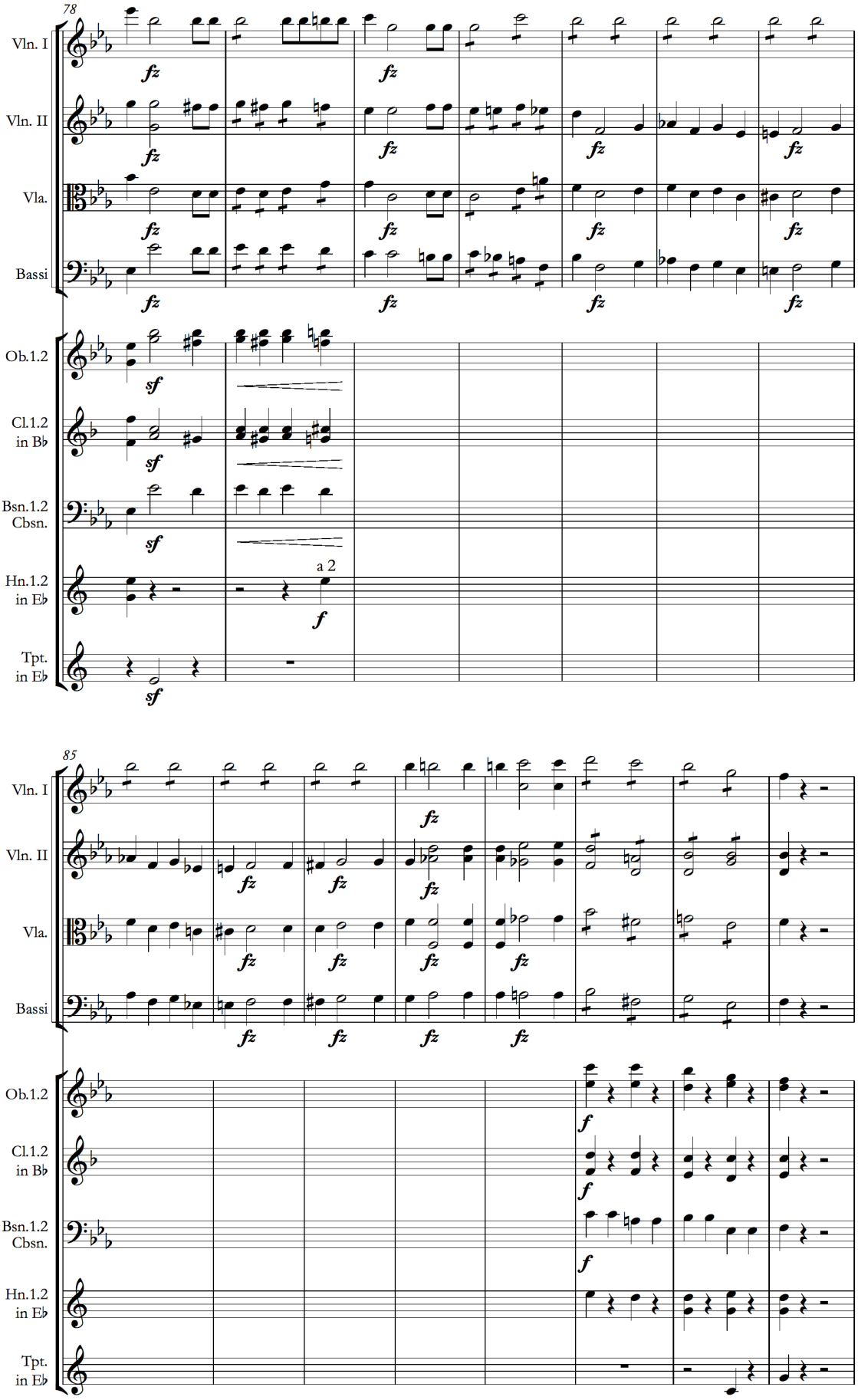


Figure 4.6 Krommer *Symphony op. 12*: orchestral original (strings only, transposed) and Triebensee's arrangement, b.78–92

4. Change the harmonic progression after the cut (Figure 4.6): somewhat more complex, the first chord after the cut is changed to match first chord of the cut, and then a different short harmonic progression is used to reach the next cadence. In Figure 4.6 bar 79 is the same in both versions; the first chord of 80 is C minor. Bar 90 in the orchestra has the progression B-flat–D7–G minor–E-flat–B-flat in second inversion (92), to start a perfect cadence in B-flat. Changing the first chord of 90 to C minor as in 80, followed by F7–B-flat–E-flat quickly restores the original progression with minimal changes to bass and top line pitches.

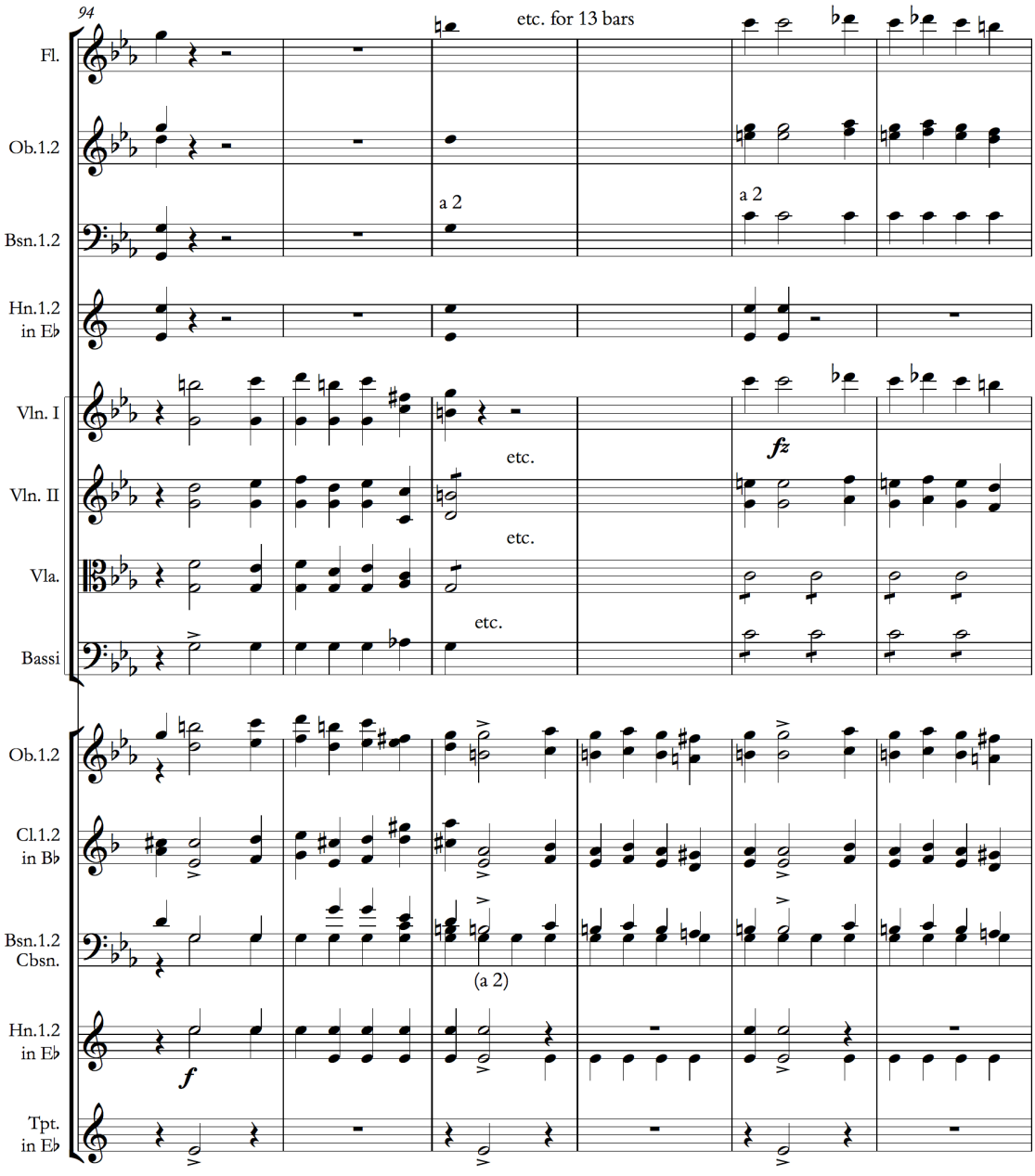


Figure 4.7 Krommer *Symphony op. 12*: orchestral original (transposed) and Triebensee's arrangement, b.94–123

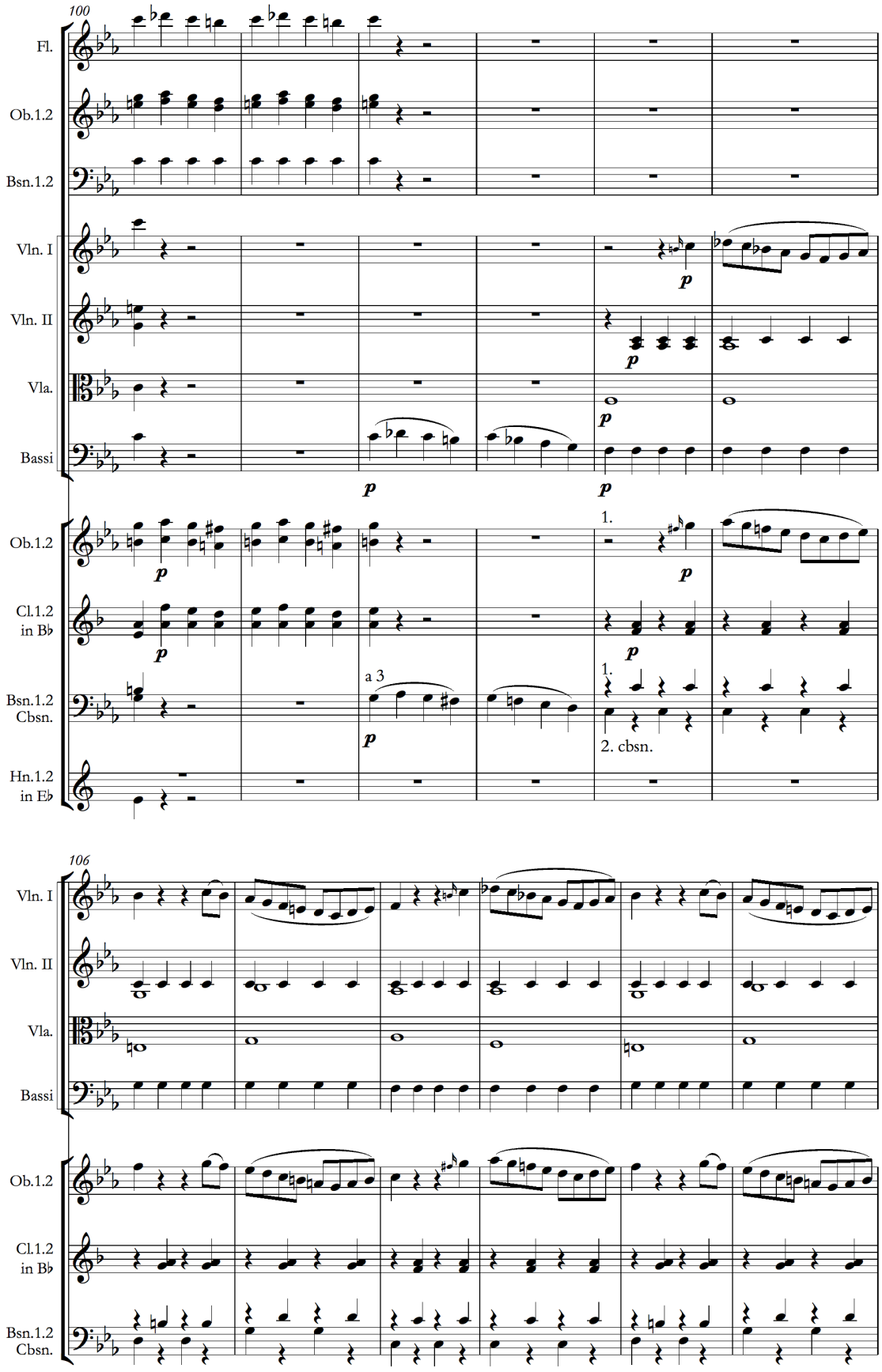


Figure 4.7 (cont.)

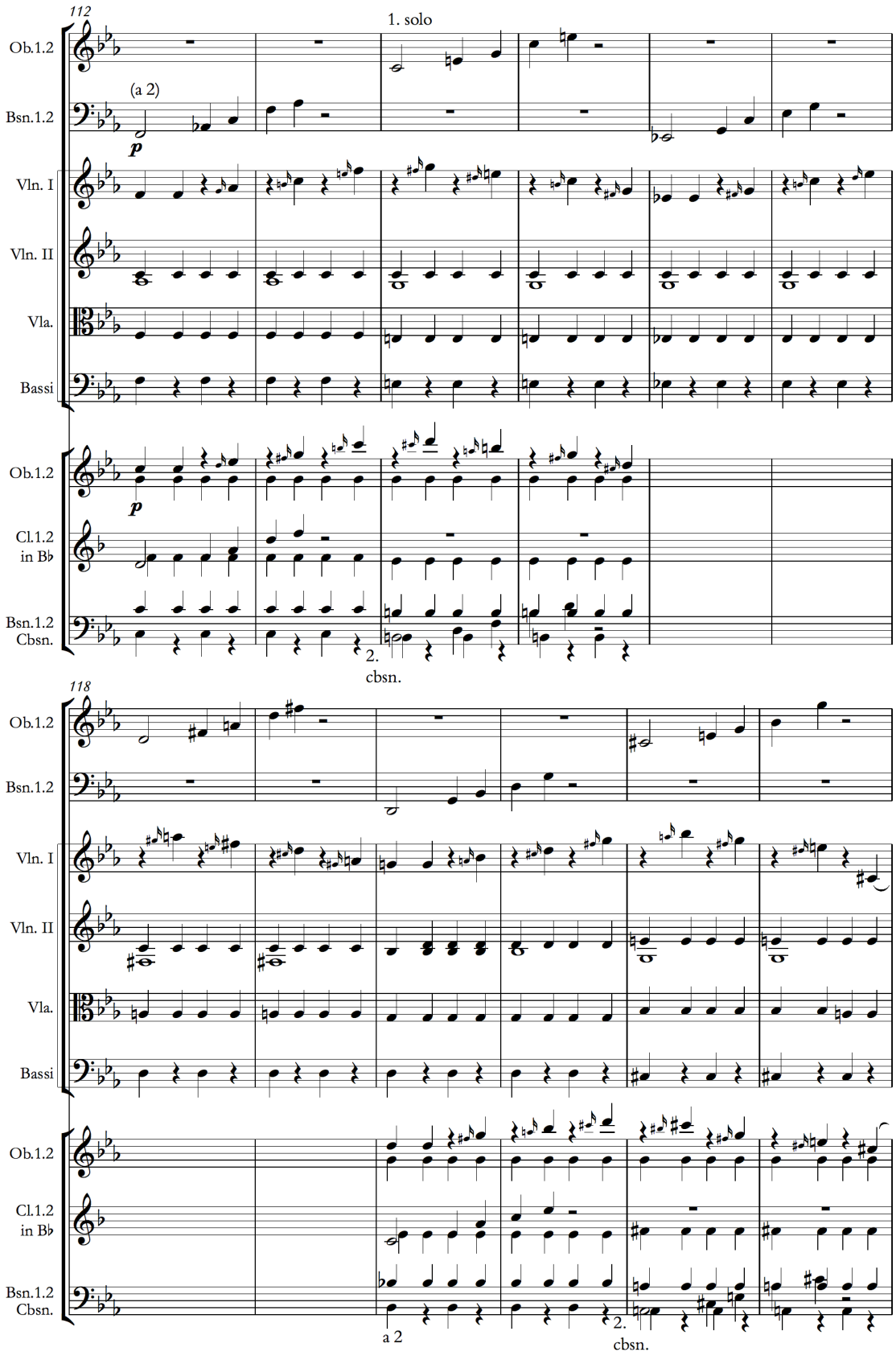


Figure 4.7 (cont.)

5. Abbreviate a sequence of fifths (or similar), and then use transposed material until a return home can be created (Figure 4.7): the most complex example here, 94 is part of a sequence round the circle of fifths. At 96, having arrived at G major, Triebensee takes the orchestral material from 98 (actually from 13 bars later in the original) but transposed onto G, i.e. a fourth lower or fifth higher. He then repeats these two bars (98–99) in part to reinforce the dominant, and the arrangement then continues using the original but transposed by a fourth/fifth until 115 when a new cut (using method (4)) takes advantage of the bass line falling by semitone to arrive at a chord common to both versions (G minor), albeit in different inversions, to get back to the original material and tonality by 123.

Importantly for preserving the spirit of the piece, none of these methods involve the creation of new material, or indeed the transformation beyond transposition of the existing music. When done effectively cuts should be unnoticeable to all but the most discerning listener, even in well-known works like Mozart 39 and Beethoven 7.

Whose voice am I using when I make the arrangement?

Or, put another way, what is the style of transcription that I am employing?

- My 1800-self, using only historical practices in instrumental usage and scoring, and in the treatment of the source-text.
- A facsimile of how the composer might have approached another version of his work, e.g. by following Mozart or Beethoven's own practices.
- Following the practice of one of the composer's contemporaries', for example Triebensee or Sedlak.
- 'My' new, concertante style, using knowledge of historical instruments to communicate a version of a piece that works most effectively for the players of Boxwood & Brass, but which lies outside historical norms.

This voice is likely to change depending on the piece being arranged, and the function of the arrangement.

What is my approach to scoring (as distinct to voice)?

This differs from piece to piece, and indeed changes within an arrangement as the demands of scoring dictate, but should my writing for the instruments be:

- Fully historical?
- Merely idiomatic?
- Challenging?
- How much of the original scoring should I retain (e.g. should a clarinet solo remain a clarinet solo)? And if not, why not?
- How much of the original other part-writing should I preserve (same bass line, or inner parts)?
- How much completely new counterpoint can I create, if any?

If I add new counterpoint, I need to exercise care that it is complementary with the rest of the piece.

My practice and techniques of arrangement

When looking at a source-text I use a number of different approaches to transform it into Harmoniemusik. As I showed in Chapter 1, Busoni believed 'notation is itself the transcription of an abstract idea', and composition 'is already an arrangement of the original'.[11] Similarly, Berio wrote that in transcriptions 'it is not the sound that is being transcribed, therefore, but the idea.'[12] Principally, when arranging I attempt to abstract or distil the 'idea' of Busoni and Berio, the composer's 'original', so that it is this that I am arranging, or working with, rather than the composer's 'second transcription', as Busoni called it. I am in effect performing an act of analysis, stripping out the orchestration, paring back material to reveal the solo lines. I am reminded of the old quotation, now widely attributed to Michaelangelo but almost certainly originating only in the late-19th century when it was applied to a number of artists, about the process of sculpture being the removal of stone to reveal the image contained within it.[13]

---

[11] Ferruccio Busoni, 'The Value of Arrangement' (Berlin, 1910), in *The Essence of Music and Other Papers* transl. Rosamond Ley (London: Rockliff, 1956), 87–88.

[12] Luciano Berio, 'Translating Music', in *Remembering the Future* (The Charles Eliot Norton Lectures 1993), (Harvard University Press, 2006), 45.

[13] The website Quote Investigator does a good job of tracking down and debunking this quote: https://quoteinvestigator.com/2014/06/22/chip-away/ retrieved 29 Aug. 2021.

Different genres of source-work pose different challenges, as I will demonstrate in the following chapters. An orchestral piece inevitably requires an element of condensing, reducing the scoring down to fewer players, almost as an act of un-orchestration, reversing Busoni's first transcription, working out what the composer's original idea was, distilling it and finding a new texture which best presents the same idea. Or, more radically, perhaps completely re-framing it for greater variation within my translation.

A piano piece, on the other hand, requires the expansion of material, moving away from closely spaced chords or melodic patterns that match the shape of a pianist's hand to more open, wide-ranging and less percussive sonorities. Perhaps also adding additional material to passages that might otherwise consist only of single lines for the right and left hands. Whilst it is important to consider that the piano brings with it a certain element of 'sustain' which adds to implied harmonies and textures, trying to emulate this within the ensemble is not usually a factor for me as this would be an attempt to mimic the piano rather than create something new for Harmonie.

With a string quartet, simply duplicating the four lines within the wind sextet is not an option as string lines are not usually idiomatic for wind instruments: they have to be reshaped for the new instrument which best suits the role of that line at the time, and therefore other elements might have to be adjusted accordingly. The functions and tessituras of the viola and 'cello are not easily duplicated within a Harmonie, and so their parts must sometimes be utterly recast, both when they are acting as soloist and as tenor or bass of the ensemble.

Because an important element of my arrangements is that wind players should experience important orchestral solos in context, my aim is usually to preserve those parts that are written for the wind instruments, allowing them to be heard more clearly. However, there will always be times when a clarinet line will need to be re-allocated, if only to stop an arrangement from becoming monotonous. I am always searching for interesting, idiomatic ideas that the horns can play, and I try and find interesting things

for the bassoons to do if possible, although the first priority here will often be bass and tenor lines.

My new scoring must be suitable for instruments of *c.*1810, because that is the point of what I do, and the division of solo material must be such that the work is enjoyable for all to play. The choice of who plays the 'top line' will tend to dictate many other aspects of scoring, both because of the resulting octave and timbre, and because of the instruments that are left over to fill other parts. However, the nature of historical wind instruments means that the ensemble almost balances itself, and it is more important to have everyone playing in the 'correct' part of their range with good voice-leading than it is to think about spacing of chords: it is notable looking at the sextets of Mozart and Beethoven how often four or five of the instrumental lines are all happening at the same time within the span of a single octave.

There are three controlling factors that dictate how and where I choose to put notes onto paper:

- historical – following the practice of historical arrangers, e.g. Triebensee
- instrument-led – solutions governed by the capabilities of historical wind instruments, as discussed in previous chapters
- creative – decisions made as the *geist* moves me.

There is, of course, some crossover between these three, especially between the historical and the instrument-led as historical arrangers were working with similar instruments to me and faced some of the same challenges.

A historical approach might lead to the simplification of melodic and other instrumental lines to make them more idiomatic for wind instruments; it might require the thinning of original *tutti* textures, perhaps omitting held notes in favour of more active lines; fast repeated notes might instead become syncopations. Factors dictated by the instruments will include distribution or re-writing of middle-register lines to avoid problematic pitches in the clarinet; the lead voice being governed by tonality – concert G major is bad for a B-flat clarinet but good for the bassoon; the voicing of chords and the approach to them will be affected by the good and bad pitches of the horn and clarinet.

According to my thesis and my approach the *creative* perhaps shouldn't be a major factor in my work: everything should be justifiable from either an historical or instrument-led perspective. I have little interest, however, in 'fidelity to the score', in part because I believe it is not part of the historical practices I am attempting to work within, and so, for me, there is always room for the creative. Historical arrangers might be seen as working as part of a continuum, which perhaps has Triebensee and Sedlak at opposite ends, the former as the artist-arranger and the latter a highly skilled artisan-transcriber.

Creativity allows me to distance an arrangement from its source so that it is not merely a derivative work, and it is this that we can arguably see Triebensee doing in his version of Mozart's Symphony no. 39. Making the arrangement distinctive is not only about making the material of the original more idiomatic for winds, but is also about making the resulting arrangement obviously *different*, such that it has its own identity away from the original and the listener becomes convinced that the arrangement is an original piece of Harmoniemusik. This process might involve changing melodic motifs so that they go outside the written range of the original instruments; transforming textures, accompaniment figures, and chord voicings; subtle changes of harmony; adding counter-melodies, or punctuations in harmonic progressions. It is also about transforming material to create textures that weren't possible in the original, for instance because they would have required a third hand in a piece for piano, or extra players in a string quartet.

A smaller detail, but important in terms of making an arrangement individual to wind instruments, is articulation. Piano writing can include long slurs over several bars, which often seem to indicate phrase marks rather than simply legato. Long slurs are not typical of writing for classical wind instruments, and indeed a long continuous legato is difficult to achieve because of the different resistances of adjacent pitches and the inherent and distinctive unevenness of most scales. Slurs in string writing can also be phrase marks but can be as much about making convenient bowing as about articulation. Changing these articulations for ones more suited to wind instruments,

short slurs, patterns of slurred and tongued that go across beats or bar lines, articulations that become more intense towards the peak of a phrase, all individualise the arrangement, making it distinctive and further removed from the original.

The essential qualities of a piece that I aim to preserve, however, are the melodic ideas, the harmonic process, and the structural features of dynamic and concepts of texture. Changing details is not important, and indeed, in a large-scale piece, and in the context of a large-scale transformation of genre, changed details of phrasing, articulation, and of local harmonic movement will not register with the listener. What matters more is the jarring effect produced by something that is not idiomatic for the instruments, or that is out of keeping with the arrangement (NOT the original) as a whole. My aim throughout is to create a piece of chamber music for the winds, discursive, and relatively equally weighted between the six performers, and that is a challenging pleasure to play.

Finally, I must remember that whilst players and listeners all need rests, the former to breathe, the latter so that they don't get bored by a relentless wall of sound, I the music-setter need them too so that I can make reasonable page turns in the performers' parts!

Writing for historical instruments does not exclude 'modern' ones from playing these arrangements any more than they are excluded from playing any repertoire from before 1900. German and French horn teaching emphasised the importance of the tradition of hand technique well into the 20th century, and because of the primacy in clarinet literature of works that were written with five-key technique in mind I hope that players of modern instruments would gain as much pleasure from my part writing as HIP specialists. The aural effect of modern instruments will be different, but it will no more 'destroy' my 'intentions' than any modern instrument performance of other Mozart or Beethoven. Indeed, I might hope that because I strive to create individual parts that are of greater interest and challenge than those typically found in classical wind writing, modern players might perhaps gain more engagement and insight into classical repertoire and style than they might do normally.

Chapter 5

A new arrangement of Mozart's Symphony no. 40 in G minor K550: reasoning; process; revision

What follows is an account of my thoughts and decisions as I made my initial version of a six-part arrangement of Mozart's 40th Symphony, and the quite long process of revision that followed to find the final version as presented in the complete recording included as part of this submission. The commentary first discusses the key strategies involved in the making of the arrangement before looking in more detail at a number of specific problems and challenges that the piece presented and their solutions. The initial allocation of instrumental lines in this arrangement was a relatively straightforward process and for the most part can be easily discerned in my score, and so is only discussed in relation to particular points of interest. I make reference to a number of sound files that present short excerpts of interim stages, taken from unedited recordings of rehearsals and workshops, and these are included in the accompanying *Sound File Examples* folder.

Besides the many arrangements of Mozart's operatic numbers, there are the following early-19th century versions for Harmonie of his symphonic works:[1]

- Symphony in D 'Paris' K297, by Carl Andreas Goepfert in 10 parts, *c.*1805
- Symphony in C 'Linz' K425, complete in an anonymous arrangement in 8 parts (flutes, clarinets, horns, bassoons) ante-1821; and the slow movement by Triebensee in 9 parts, *c.*1810
- Symphony in E-flat K543, the first movement by Triebensee in 10 parts (with trumpet), *c.*1808
- Symphony in G minor K550, by W.E. Scholz in a rather band-like 12 parts, 1839.

In addition there are six-part versions of the horn quintet K407 (anonymous, published by Breitkopf & Härtel *c.*1805); the string quintet in E-flat K614 (Stumpf's *Grand*

[1] All information taken from modern editions of these scores, and from Jon A. Gillaspie, Marshall Stoneham, and David Lindsey Clark, *The Wind Ensemble Catalog* (Westport, CT: Greenwood, 1998).

Serenade, 1799); and some piano variations arranged and expanded by Georg Druschetzky. An arrangement of the C minor Serenade K388 in 6 parts was advertised in Traeg in 1804 but has not survived.

Of other composers' symphonies, there is the anonymous nine-part version of Beethoven's Seventh, and also Triebensee's complete versions in ten parts of Krommer's op. 12, and Haydn's no. 92, 'Oxford'. Triebensee, Wendt, and many others also arranged other individual movements of Haydn symphonies, and a few of these are in six parts, but mostly contained within suites of mixed pieces published in France.

Because there are no six-part versions of orchestral works by Mozart or Beethoven, in 2012 I made a complete arrangement in six parts of Mozart's Symphony no. 39 in E-flat K543. I made this without having seen or heard any of Triebensee's arrangements of Mozart symphonies. For me the E-flat was an obvious choice for an arrangement of a Mozart symphony: it is in the 'correct' key; it is not too long; and, more importantly, the original is scored with two clarinets instead of oboes and so the sound of the work is already clarinet dominated. The arrangement was relatively straightforward to make, particularly with a cut in the slow movement to avoid a difficult tonality. Boxwood & Brass have performed it a number of times, and we find it to be a convincing and successful concert piece.

The choice of a second Mozart symphony to arrange was harder. I wanted it to be another of the late ones, and although no. 38 in D, the 'Prague', is my favourite, in part because of the lovely bassoon writing in the original, the versions of this I have so far attempted, transposed to C and B-flat, have proved to be a little long, and rather taxing to play in the lower keys, as well as disturbing the very bassoon writing I find so attractive. I will return to this work later, making an attempt to re-work it in D major, which will mean using clarinets in A, which is somewhat unusual in six-part repertoire, and will demand significant rewriting of the upper notes of the violin lines to stay within the tessitura of the clarinet.

Symphony no. 41 in C, the 'Jupiter', is problematic for reasons of its length, the complexity of its finale in particular, and its tonality: C major typically demands clarinets in C and horns in C basso. As Lawson shows[2] the clarinet in C was used both to ease technical issues caused by tonality, typically in C, F, or G majors, but also for choice of tone colour. In the period in question a composer's choice of tonality would usually also dictate choice of clarinet (and horn), so colour and tonality were interlinked, but in Harmoniemusik Krommer used the C clarinet in only one partita, and it is unusual in other composers' *compositions*. It was used often by Triebensee, Sedlak and others from the 1810s onwards in their opera arrangements, possibly for colour, or possibly to make the process of transcription/arrangement easier by cutting down on the transpositions that were required. C clarinet was used rather more often in the related genre of *Türkischerie*, including in the arrangement for large band of Beethoven's *Wellingtons Sieg* and Spohr's *Notturno* op. 34, but these ensembles always included flutes, sometimes of various sizes, and percussion, so here the C clarinet's brighter colour seems the more likely motivation. But as Hoeprich tells us, in the early-1800s 'the sound of the C clarinet was not judged favourably, being too brilliant and lacking in subtlety'[3] and quotes Berlioz as writing 'the tone of the clarinet in C is harder than that of the one in B flat and has much less charm'.[4] Conversely, as almost the lowest crook, C basso horns are difficult to work with in a lengthy chamber context as their timbre is tubby and they are slow to respond to articulation, and because they sound in the same octave as the bassoons this leaves a hole in the middle of the texture. This means that in C major the horns and clarinets have opposing timbral characteristics, and again, transposing the 'Jupiter' would be detrimental to the original bassoon writing, so for these reasons I ruled it out as candidate for arrangement.

This leaves the G minor Symphony, a canonical Work of the highest quality, containing some of Mozart's greatest writing for wind instruments, even including clarinets in the second version. But there are very few works for Harmonie in minor tonalities, the only

---

[2] Colin Lawson, 'The authentic clarinet: tone and tonality', in *Musical Times* vol.124, no.1684 (Jun. 1983), 357–8.
[3] Eric Hoeprich, *The Clarinet* (New Haven: Yale University Press, 2008), 288.
[4] Hector Berlioz, quoted in Hoeprich, *Clarinet*, 286.

notable exceptions being the arrangement of Beethoven's *Sonate Pathétique*, and Mozart's own C minor Serenade K388 and sections of his B-flat Serenade K361.

It is not hard to find a reason for this dearth of minor-key pieces. In a minor key the most likely key-centres are the tonic minor, tonic major and dominant, but for historical clarinets, as Figure 5.1 below demonstrates, it is difficult to find a tonality in which a single instrument (i.e. in B-flat, or in C) can play without exceeding the nominal one sharp/two flats limits. Even in A minor there is the hidden problem of the augmented second, resulting in throat g♯′, which is one of the pitches to avoid writing.

	C clarinet			B-flat clarinet			A clarinet		
Tonality	i	I	V	i	I	V	i	I	V
A minor	–	3♯	4♯	2♯	5♯	6♯	3♭	–	1♯
D minor	1♭	2♯	3♯	1♯	4♯	5♯	4♭	1♭	–
E minor	1♯	4♯	5♯	3♯	6♯	7♯	2♭	1♯	2♯
G minor	2♭	1♯	2♯	–	3♯	4♯	5♭	2♭	1♭
B minor	2♯	5♯	6♯	4♯	5♭	7♯	1♭	2♯	3♯
C minor	3♭	–	1♯	1♭	2♯	3♯	6♭	3♭	2♭
F♯ minor	3♯	6♯	7♯	5♯	4♭	3♭	–	3♯	4♯

Figure 5.1 Clarinet transpositions, tonalities and key signatures in minor keys

For example, in Mozart's C minor Serenade, even though written D minor is the best possible option, the B-flat clarinets are *tacet* in the C major trio of the third movement. And the C major coda to the finale is one of those places where the clarinets are written with accidentals for F♯ and C♯, rather than with the two-sharp key signature that would otherwise be required, as discussed in Chapter 2. There is also the consideration of the timbre of the different clarinets: clarinets in C might be too bright for serious, minor-key music. Furthermore, a tonality that works for the clarinet also has to be acceptable for the bassoon, and allow a workable crook (or crooks) for the horn.

As I touched on in Chapter 2, in minor keys two natural horns were historically often written as an un-matched pair, with one horn playing in the key of the tonic, and the other in the key of the relative major. So for C minor this means one horn in E-flat, and one in C, usually C basso. This gives the composer the widest possible range of open tones, including an unstopped minor third, which is the written C of the relative major.

There are, of course, many exceptions to this: the C minor Serenade and Beethoven's Fifth Symphony and Third Piano Concerto all use two horns in E-flat to great effect, Mozart in particular exploiting the colours of the horn's stopped notes in written A minor for the first movement's recapitulation of the second subject (see no. 27 in *Examples of Horn Usage*). But Mozart's choice may have been because E-flat is the normal crook for Harmoniemusik, and is one of the solo crooks. Some natural horn players also do not like playing as an un-matched pair because the same written pitches produce different sounding tones for each player, which is unsettling and can lead to difficulty for each in pitching or finding the notes.

In the outer movements of the G minor Symphony Mozart uses one horn in B-flat alto and one in G, which would be the usual choices. But G is the highest and brightest of the solo crooks, and B-flat alto is treacherously high, at the same pitch as a trumpet. Although Mozart uses a pair of B-flat alto horns in the Divertimentos for oboes, horns and bassoons K240 and K270 from 1776/7, as also does Haydn in his similar works from around the same time, this crook is problematic in Harmoniemusik as there is little possibility of flexibility of dynamic, or indeed of hand stopping, and the crook has a much-reduced pitch range.

In my view, the horns in Mozart's orchestral version of the symphony are prominent in ways that run counter to what I want to achieve in an arrangement. In the orchestral original they do not take over the role of trumpets and drums, which are not present in this score, and they function as little more than filling in the outer movements. They do have a more independent soloistic role in the Andante when they are both crooked in E-flat, and in the Trio of the third movement when they are in G. For me, the bright timbre of the horns in the outer movements also contradicts the generally *dark* nature of the symphony and its orchestration, even more so in the version with clarinets. Instead in my arrangement I aimed to make the horns more integrated with the rest of the ensemble, emphasising a darker timbre, without shrillness. And from a practical standpoint, in any arrangement lower-crooked horns are more useful and flexible for middle textures.

Transposing the whole piece, or just the outer movements, to an *easier* key, as in the arrangement of Beethoven's Seventh Symphony, is not something I considered in this case: C minor would probably be the only other tonality that would work as it would allow horns in C basso and E-flat, and would be good for B-flat clarinets. But C is a large interval away from G, which would utterly change the sound and textures of the original, possibly making an arrangement overly muddy. Also, the original bassoon parts are well known by players, and are difficult, and I would want to preserve them as much as possible: C minor would change their character considerably.

This led me to decide on keeping the tonality of the movements as in the original. I use clarinets in B-flat throughout, as Mozart did when he added parts for them, and because clarinets in C would not suit the character of the music or the arrangement I am attempting. Using C clarinets for the G minor movements would also mean a change of instrument before the slow movement in E-flat, which is not unprecedented, but which causes problems in performance as the players need to pick up a cold instrument. B-flat clarinet in G minor was also Lèfevre's recommendation, as outlined in Figure 3.12. I kept one horn in G (at least in the initial versions) and replaced the other's B-flat alto with B-flat basso, this being more typical in Harmoniemusik, and more useful, particularly in the lower register. For the inner movements the horns should be as the original, paired in E-flat and in G.

Other answers to my normal first considerations: I know the work well from performance in orchestra. Because of availability and clarity my source-text is Bärenreiter's *Urtext* full score, using both of Mozart's versions of the piece. However for reasons of space-efficiency in the parts I decided to notate the opening of the last movement as two repeated sections, rather than written out complete as Mozart does. Using this method saves sixteen bars or two systems of music, which is important in setting-out the parts so that the large repeats of both halves of the movement can be seen on a double spread of pages.

What I am aiming to create with this arrangement is piece of concert music for six-part Harmonie that convincingly represents a version of Mozart's orchestral work, complete

and in its original tonalities, but that does not attempt to mimic the aural experience of the orchestral version. The style of instrumentation will be my own, but should not detract from Mozart's music. The clarinet writing will as far as possible suit a five-keyed instrument; Mozart's writing for the bassoon in the original is already very advanced, so there is no need to extend that; the horn writing will demand advanced hand-stopping technique and the use of a mismatched pair of crooks in the outer movements means both players will cover the alto and basso ranges.

The versions of the arrangement of the G minor Symphony

Version	1	2	3	4	5	6	7
mvt/date	8/14	3/17	4/17	10/17	10/17	8/20	6/21
I	draft	revision	rev/perf			rev/reh	rev/perf
II	draft		revision				perf
III	draft		revision				perf
IV	draft	revision	revision	revision	rev/perf	rev/reh	rev/perf

Figure 5.2 Timeline and summary of versions of arrangement of Mozart Symphony no. 40 in G minor

Version 1: First Draft – complete arrangement, played through informally and recorded. In 2014, following my normal practice, I worked through the piece quite quickly, producing a sort of proof-of-concept, slotting lines into instruments where they fit, and following my rough rule of leaving instrumental solos in their original instruments.

Typically, I leave simplifying or thinning-out accompanying textures to a large degree until after I have assessed the aural effect of the first draft as a whole. However in this case I tried to lighten the textures where possible from the outset, in part to avoid a boring and unchanging colour, and in part for reasons of stamina for the players. I also decided from the start that to make the arrangement more idiomatic for Harmonie I would simplify some of the more virtuosic writing in the top part rather more than would necessarily be demanded by the instruments, especially the *moto perpetuo* aspects of the last movement.

The informal recorded play-through of Version 1 was sight-reading for all players, although clarinet 1 had had limited sight beforehand, as had I, of course, although being the arranger does not guarantee bring able to play my own part!

Listening to the tape afterwards I am happy with the second movement, but the recording of the finale sounds poor. Horn 1 in G sounds wrong, being too high and bright, particularly in the upper register: Mozart's solo horn writing here is too high for a chamber music context, regardless of the crook finally employed. Mozart's chromaticism in the development section is a problem for the horns and the clarinets, but perhaps further integration of the horns into the ensemble would defuse the feeling of 'too extreme'. Some aspects of both clarinet parts are, even after simplification, still too difficult: the extremely technical nature of the clarinet 1 part is telling, especially with f″ so prominent already in bars 6 and 7 of the finale. However, some of those passages in the finale that I had simplified now sound a bit too easy. There is a tricky balance to find between character and the virtuosity that leads to an overly difficult performance. Generally I felt that too much of the melodic material is focussed in clarinet 1, which becomes boring for the listener, and is overly demanding of one player, making the effect rather more concertante than chamber music.

Version 2: changes mostly to movement I.
I need to replace and rewrite horn 1 for one of the lower solo crooks, probably E-flat or D. Figure 5.3 shows a range of historical usage of crooks in orchestral movements in G minor, although the choice of crook may also be dictated by the other tonalities of a movement.

J Haydn: Symphony no. 39 (1765–68)	2 in B♭ alto, 2 in G (4 in total)
W A Mozart: Symphony no. 25 (1773)	2 in B♭ alto, 2 in G (4 in total)
J Haydn: Symphony no. 83 (1785)	2 in G
Rosetti: Symphony A42 (1787)	1 in G, 1 in B♭ basso
W A Mozart: Symphony no. 40 (1788)	1 in B♭ alto, 1 in G
Mehul: Symphony no. 1 (1808)	Mvt. I: 2 in B♭; Mvt. III & IV: 2 in G
Mendelssohn: Piano Concerto no. 1 (1830/31)	Mvt. I (in G minor) 2 in D
Berwald: Symphony no. 1 *Sérieuse* (1842)	Mvt. I: 2 in F, 2 in E♭; Mvt. III: 2 in B♭ alto, 2 in F
Gade: Symphony no. 6 op. 32 (1857)	Mvt. I: 2 in E♭, 2 in B♭ basso; Mvt. IV: 2 in D & E♭, 2 in B♭ basso
Sterndale Bennet: Symphony op. 43 (1863–67)	2 in E♭, 2 in B♭ basso

Figure 5.3 Historical horn crooks in movements/works in G minor

Revisiting Figure 2.25, Dauprat suggests the E-flat, F, G, or B-flat crooks for G minor; Reicha uses G or E-flat in his quintets. Examining the 'good' pitches that are available on the E-flat and D crooks suggests that, in the case of Mozart 40, E-flat is more suitable than D. This is also the more popular historical solution. E-flat also provides a link between the outer and the slow movements that is not otherwise apparent, and E-flat is the most popular and familiar crook for Harmoniemusik.

Re-writing for an E-flat crook allows the horn to have more *good* pitches than in Version 1, allowing more integration with the overall texture and more of the original wind writing (in particular) to be included. It also allows Mozart's horn textures and rhythms to be extended into bars where they could not previously be played in the orchestral original. The E-flat crook has a further advantage over the G crook in that it can function more flexibly as a bass instrument, freeing bassoon 2 to also contribute more of the original wind textures.

A recorded play-through of the first movement of Version 2 proved successful, with much better horn balance. However, I need to remember that the B-flat basso horn is a *bass* instrument, not a tenor, and so there are places when it would function more effectively, and contribute more to the ensemble sound, if it were *below* bassoon 2. Horn 1's top line F♯, a relatively rare note in historical practice, sounds better than I anticipated, and better than the F, which was rather more common. (I change my mind

on this later.) Low B♮ (also rare), which I use throughout the first movement, I also find effective, but tending slightly towards the humorous in solos.

Version 3: substantial revisions, prior to a performance of movement I.
Further revisions to the horn writing in the first movement: exploiting the lower (not low) register of the B-flat horn; adding new brass clichés and other new material to integrate horns into the ensemble, including treating them as a pair with the same rhythms rather than independent individuals; adding the horns to bars they weren't previously playing in to facilitate pitching of their next entry. A common classical scoring, especially in *forte* fast-note sections, is to have the bassoons playing in unison, and I often duplicate that. But there are places (e.g. movement I bar 200) where it is better to thin the texture, giving bassoon 2 a rest, and thus make more of a feature of its next entry at the lower octave.

I made a handful of changes to movement II, redistributing material a little to provide additional short rests in some parts. I also re-scored the trio in movement III (discussed below) to feature the horns and better acknowledge that the clarinets shouldn't play in A major.

Throughout the finale I reinstated some of the virtuosity of Mozart's violin 1 part, usually crotchet and two quavers rather than four quavers. I also simplified some textures, removing some redundant three-way doubling of pitches in horn 2 and both bassoons. Also some changes and re-imagining of the close of the movement, in part required by the new E-flat crook.

Version 4: revisions mostly of movement IV prior to its performance.
The concert recording of movement I (Version 3) seems good, almost definitive apart from a couple of small tweaks for later. Movements II and III are both also more or less fine at this stage. The opening of movement IV in the clarinet still sounds to my ears too extreme, however the player insists it is achievable with practice and familiarity. Also, Mozart's octave displacement of the violin line in bars 40–46 is unnecessary, and can be

omitted to avoid what I perceive as another incidental and overly-heroic f‴. I moved a low, expressive figure from clarinet 1 to player 2, where it is more idiomatic.

Version 5: further revisions of movement IV to deal with issues that arose during rehearsals of Version 4.
After a session of rehearsal, which included playing through all previous and some new experimental versions of the opening, it became clear that a simpler version of the finale was preferable, because, *inter alia*:

- As established in Chapter 3, high notes in the clarinet (and all instruments) should be reserved for effect, and therefore f‴ in *piano* in the main subject sounds too significant. There was not a technical problem with playing this figure as I had originally written it: it was extreme, but achievable, as the player repeatedly shows on tape.
- The finale sounds and *is* difficult enough without adding more notes. This becomes particularly important if the movement is considered in the context of being the finale to a thirty-minute piece, probably performed at the end of a concert programme. Don't make things any harder than they need to be!
- Many of the fast notes added to the clarinet 1 part in Versions 3 and 4 are forked fingerings. These are ok in many circumstances, but the repetitive and technical nature of the figures here amplify the problems (as with Triebensee's Mozart 39), demanding a very high level of technical fluency that it is difficult to maintain.
- The technical issue for the five-keyed clarinet of throat G♯–F in the context of a fast, descending harmonic minor scale is something to be avoided if possible. Apart from being difficult, it disrupts the hand position for the player, and makes any following patterns harder to achieve. This problem diminishes slightly on later instruments, which have a dedicated G♯ key.

The scoring of the opening theme is discussed at length below. I removed the quavers that I had re-instated in Version 4 to add difficulty (i.e. now making a simplified version of the violin part, in effect more closely resembling Mozart's woodwind parts), which

arguably makes *more* explicit a motivic link between movements I and IV: the repetitive use of the semitone, which Mozart obscures in his violin figuration.

To simplify the problem for clarinet 1 of G♯–F♮ in bars 36, 38 and 40 I shared the descending scale between both clarinets. This also introduces a beneficial rest (for breathing *and* thinking) for clarinet 1, and allows clarinet 2 to generate more rhythmic excitement than was previously possible.

Version 6 & 7: final improvements.
Following performance of the outer movements of Version 5, the changes in Versions 6 and latterly 7 were to further improve and integrate the horn parts, and to make the clarinet writing more idiomatic.

Discussion of specific problems and solutions in this arrangement

Opening of Movement I: a consideration of how to set a specific texture

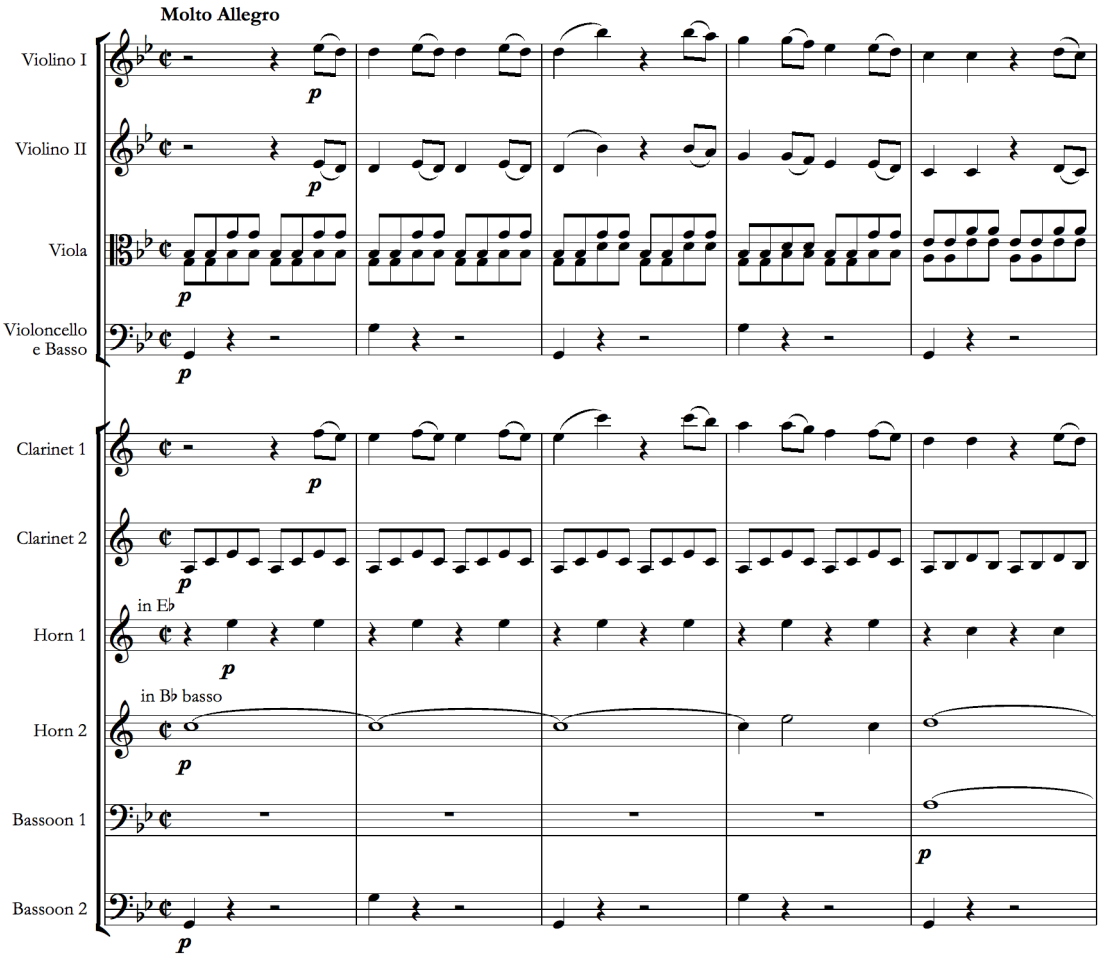


Figure 5.4 Mozart Symphony no. 40 in G minor K550: original text (above) and arrangement in six parts (Version 5) (below), mvt. I, 1–16

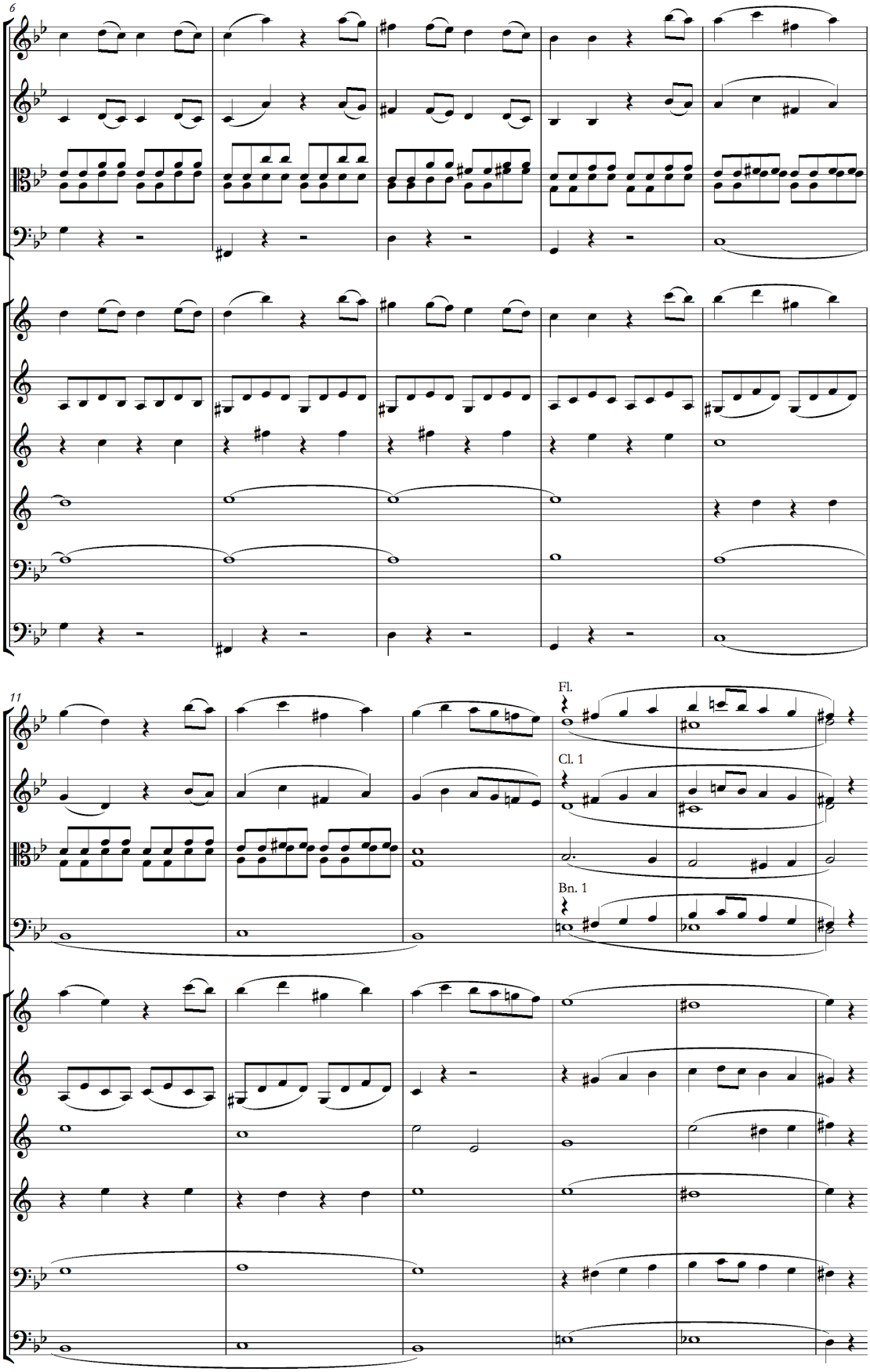


Figure 5.4 (cont.)

(See sound file 5_1) It isn't possible to double Mozart's opening violin theme at the lower octave as there aren't enough players, but I didn't feel this was necessary as the theme should function well as an expressive clarinet solo. Clarinet 2 playing an approximation of both viola parts is a fairly obvious solution, but it also takes aspects of the bass line to avoid repeating pitches and to create a more idiomatic figure. I think here that Mozart seems to be creating a line with character *and* motion rather than simple harmonic/textural filling: the violas create a sense of drama, agitation and forward-motion so I also wanted a clarinet 2 part that could be articulated (tongued rather then slurred) to create the same sense of urgency. I did not want to include bassoon 1 in this figure so that it is free to thicken the texture a little at bar 22 in the second statement of the theme where Mozart adds woodwind suspensions, and more importantly so that it can play its beautiful yearning solo in bar 168 at the recapitulation. Horn 1 adds to the momentum, approximating the upper viola pitches and completing the harmony where necessary; horn 2 ties the sound together, given the inevitable thinning of the viola material, and clouds the clarinet 2 figure a little so that it isn't too prominent in the texture.

A technical point: in bar 13 I gave horn 1 an octave displacement in the second half of the bar as I considered it should be easier to pitch the following G from a low E than from the higher.

This opening, however, became one of the major features that I changed for the final version. After repeated listening I came to the conclusions that:

- Because of the un-matched pair in the horns, horn 2 starting alone on a C that isn't the tonic seems unsettling: it is better to have them both play at the beginning for a stronger and more confident opening.
- Whilst the Version 5 horn 1 offbeat crotchets are potentially quite close to the sound of the Mozart original, in the Harmonie context they sound too bizarre and out of context. The top line F♯ is, after all, too open, and bright. (I went on to substitute most F♯s through the course of the symphony.)

Having the horns as here in Version 7, both playing long notes, further sets the arrangement apart from the original, and is also more lyrical and expressive, which was one of my main aims.

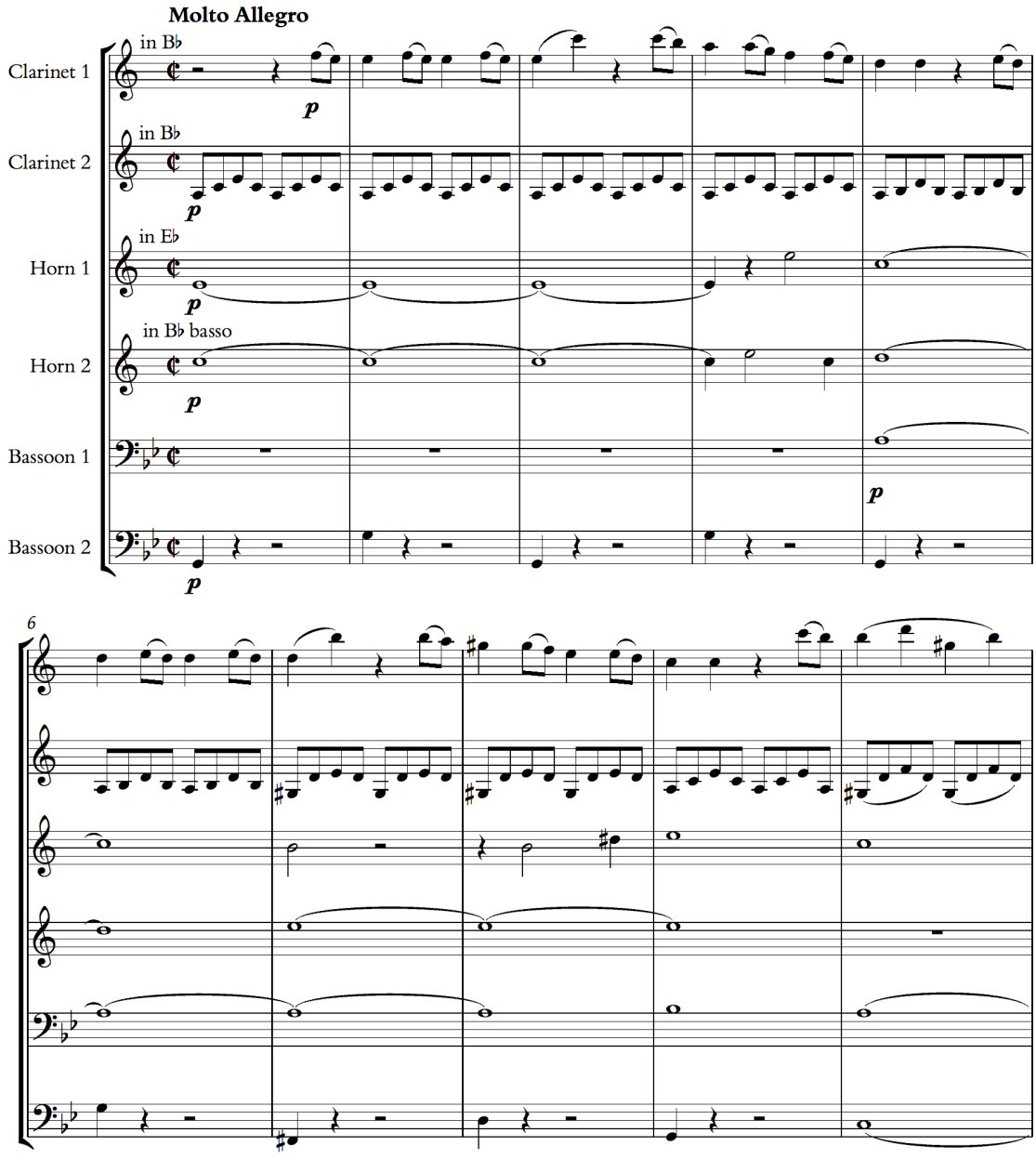


Figure 5.5 Mozart Symphony no. 40 in G minor K550, arrangement in six parts (Version 7, Final), mvt. I, 1–10

Other final changes in movement I of Version 7 were:

- removing further high F♯s, often through swapping for bassoon 1's top A.
- 70 originally had only the bassoon on the descending scale, which was too abrupt a contrast so added clarinet 1.

- 72–76 horn 1 and bassoon 1 parts swapped, and octaves changed, to give the horn a good solo, and remove some bars that were too high in context.
- 105–114 clarinet 2 changed to match opening, as above.
- 115–116 from the *forte* there were several problems with Version 5: I changed the voice-leading of clarinet 1 to be more sympathetic in F-sharp minor here; clarinet 2 was too high, so instead I doubled it with the bassoons so that the theme has more impact. The horns originally were not playing here as they are both in remote tonalities, which is unfortunate at a major point of arrival/departure. I have attempted to find notes that they can pitch, which slightly changes the sense of Mozart's original, and distances the arrangement from the original.
- 149–150 inner parts swapped and revised so that the horns' solos are on better degrees of the scale.
- 159–167 horn parts swapped over to remove heavily stopped ('humorous') low B from horn 1.
- 200–202 (see Figure 5.6) extra notes (not in Mozart) added to horn 2 to create a melodic line.

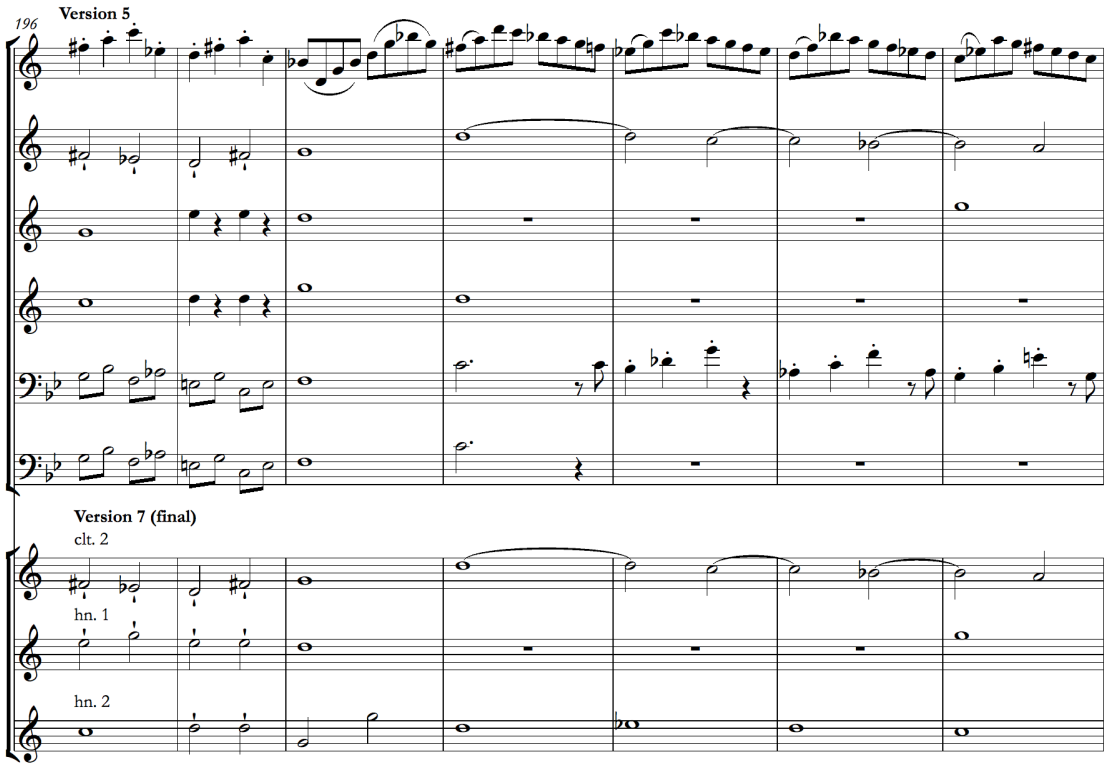


Figure 5.6 Mozart Symphony no. 40 in G minor K550, arrangement in six parts, Version 5 & 7 (clarinet 2 and horns only to show changes), mvt. I, 196–214

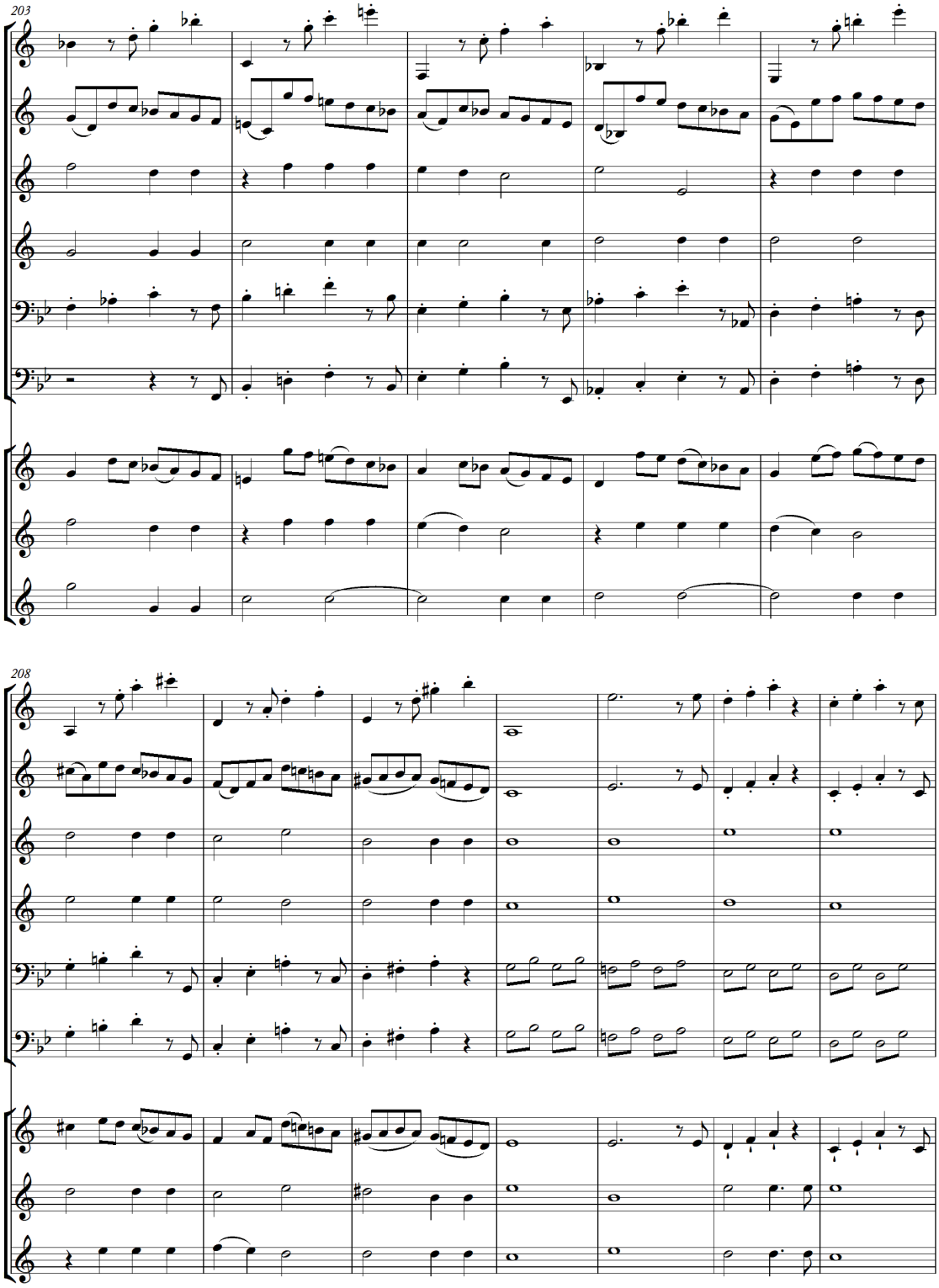


Figure 5.6 (cont.)

- 204–209 (see Figure 5.6) horn parts radically changed, gaining expressivity and further distancing them from the original: horn 2 made less rhythmic and more

expressive by removal of syncopation and addition of ties; horn 1 figure in 204 repeated by sequence in 206–207, and hinted at in horn 2 in 208–209. From 203 in clarinet 2, Version 5's second quaver of each bar is removed as it is redundant and significantly increases the difficult of this passage.

Movement III Trio

Here, the limitations of five-keyed clarinet technology forced a re-conception of the trio, leading to a new horn-centric version, which is more idiomatic in the context of Harmoniemusik. In the Trio of movement III the clarinets must play in A major, which is possibly unprecedented in historical practice. As discussed earlier, Mozart and Beethoven both write D major music for the clarinet with no key signature, in part to deliberately obscure the difficulty for the players, and in part because it is such unfamiliar territory for them that they need reminding of all the accidentals. I have extended this practice here. In Version 1 (the middle systems of Figure 5.7) I attempted to maintain Mozart's original concept of starting the trio in the violins (i.e. clarinets) and keeping the horns in reserve for their entry at the recapitulation of the opening material. However, for the clarinets A major in the mid-register (clarinet 1, Version 1, the fifth full bar) is much harder even than the written E major at the end of the section because of the repeated written B–C♯ patterns. The simple solution here (sound file 5_2, and final performance) is to open the trio with the horns, thus unifying the whole trio as a horn-featured section, rather than only a solo at the end. The open 'horn fifths' at the start (Version 5 omits the violin 2 F♯ in the second bar) are 'completed' at the recapitulation by the added thirds in the bassoon (bar 70).

Additional significant revisions:

- 44–46 bassi: Version 1 places this in the horns; Version 5 puts it in the clarinets, rather than the bassoons, maintaining the idea of a new colour for the start of the trio.
- 48–54 in Version 5, because 47 is a horn 1 solo, 48 and onwards (transposing the original woodwind down an octave) should be in horn 2: it is also relatively low in the horn's tessitura, which makes this appropriate. This allows also the horn 1 a brief respite before the solo entry in bar 55.

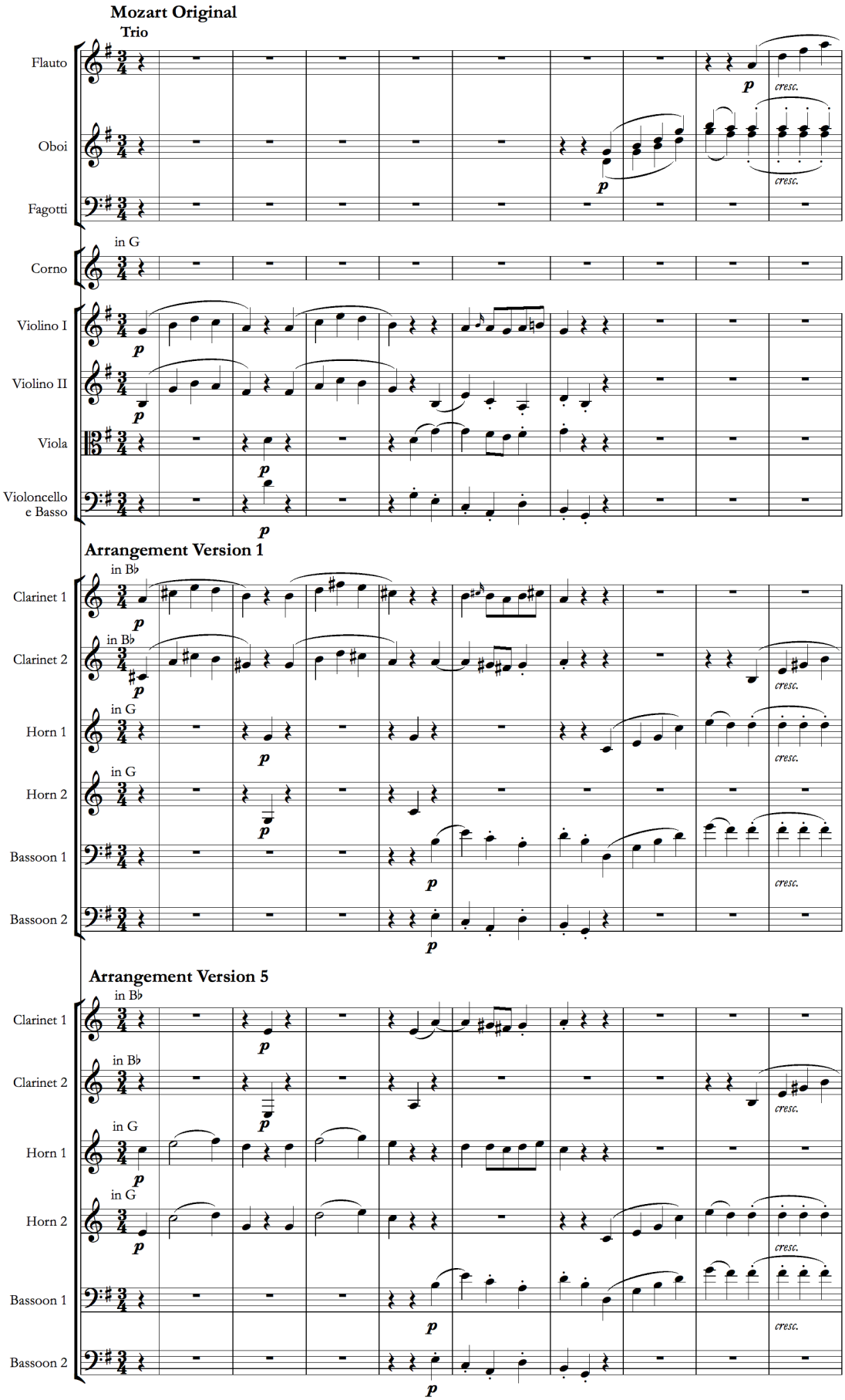


Figure 5.7 Mozart Symphony no. 40 in G minor K550: original text (top) and arrangement in six parts, Version 1 & 5 (centre and bottom respectively), mvt. III, Trio

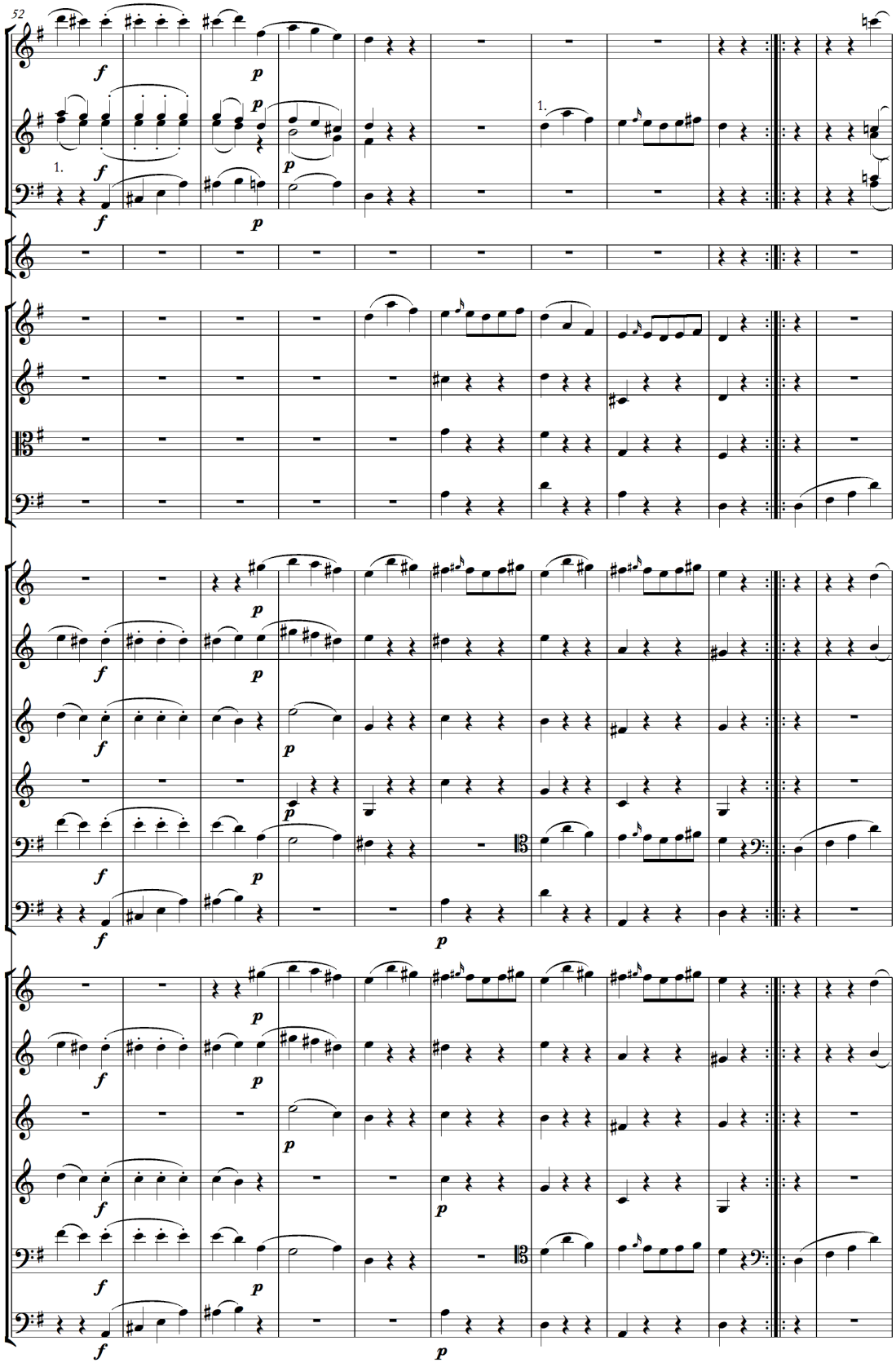


Figure 5.7 (cont.)

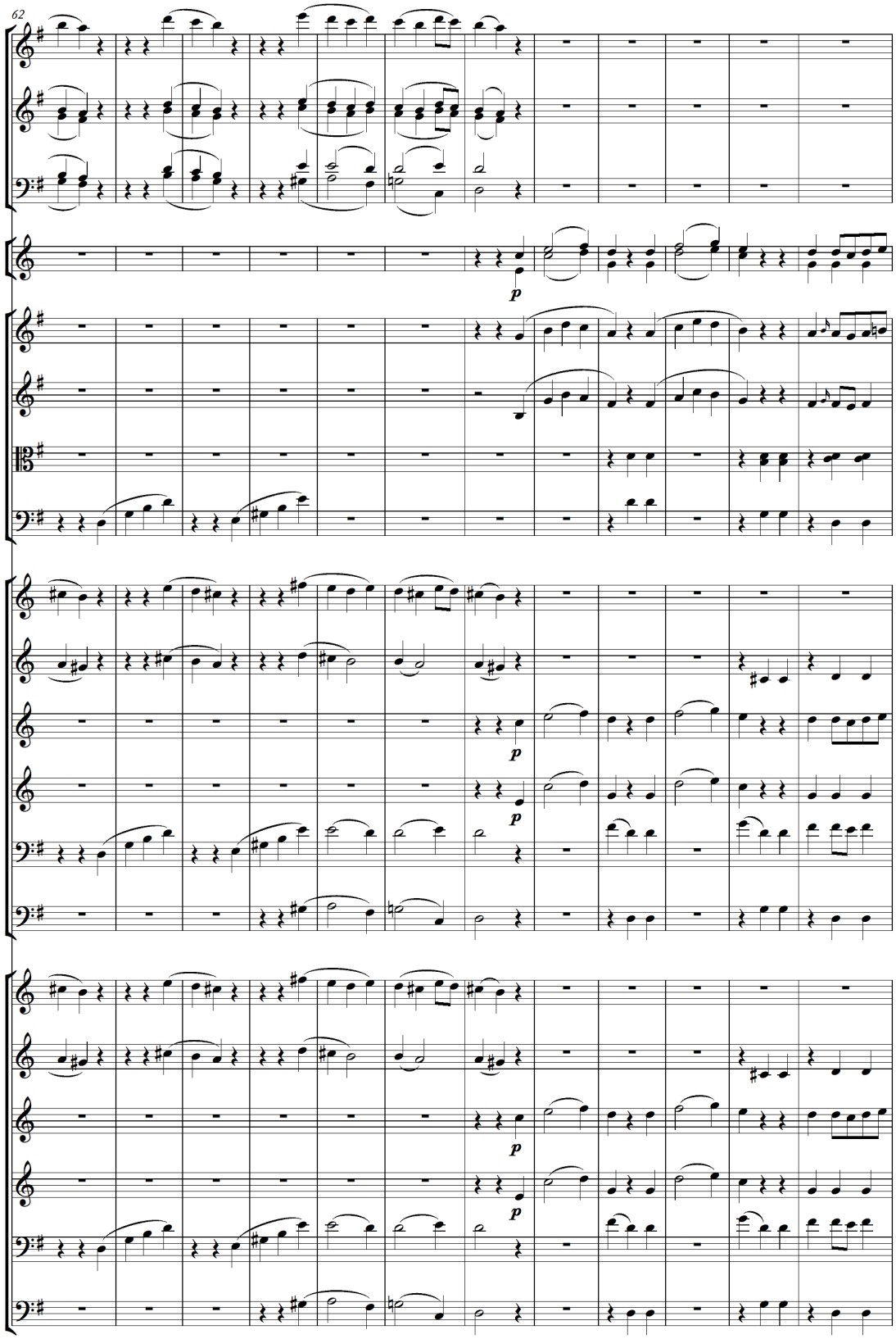


Figure 5.7 (cont.)

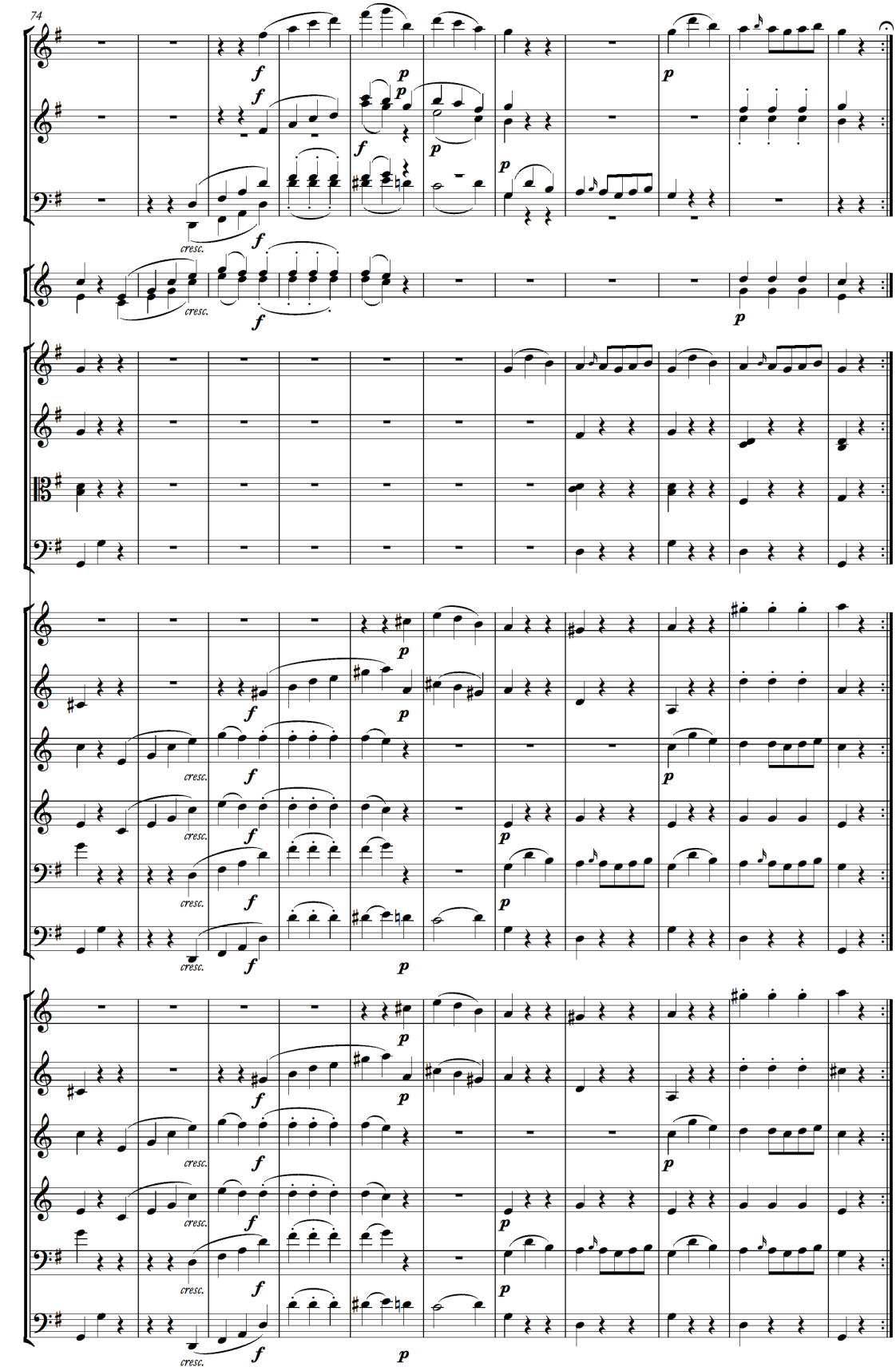


Figure 5.7 (cont.)

- 56 Version 5: Version 1's avoidance of the written B in horn 1 here seems a bit redundant after using it in 54, and using it again in 58. Allowing it here also makes horn 2's doubling of the bassoon bass line superfluous, so the horn can be omitted.
- 66, 67 The orchestral oboe 2 line is changed to avoid repeated C♯/B and B/A shifts in clarinet 2.
- 70 beat 3 The violin 2 F♯ is omitted as horns fifths are acceptable here.

Movement IV, opening theme

As mentioned above, the opening of the finale (Figure 5.8) went through a number of different incarnations. I found there are two issues: how to score the violin 1 line to create a viable and idiomatic piece of writing for Harmonie, and how many of the original quavers to include in the arrangement.

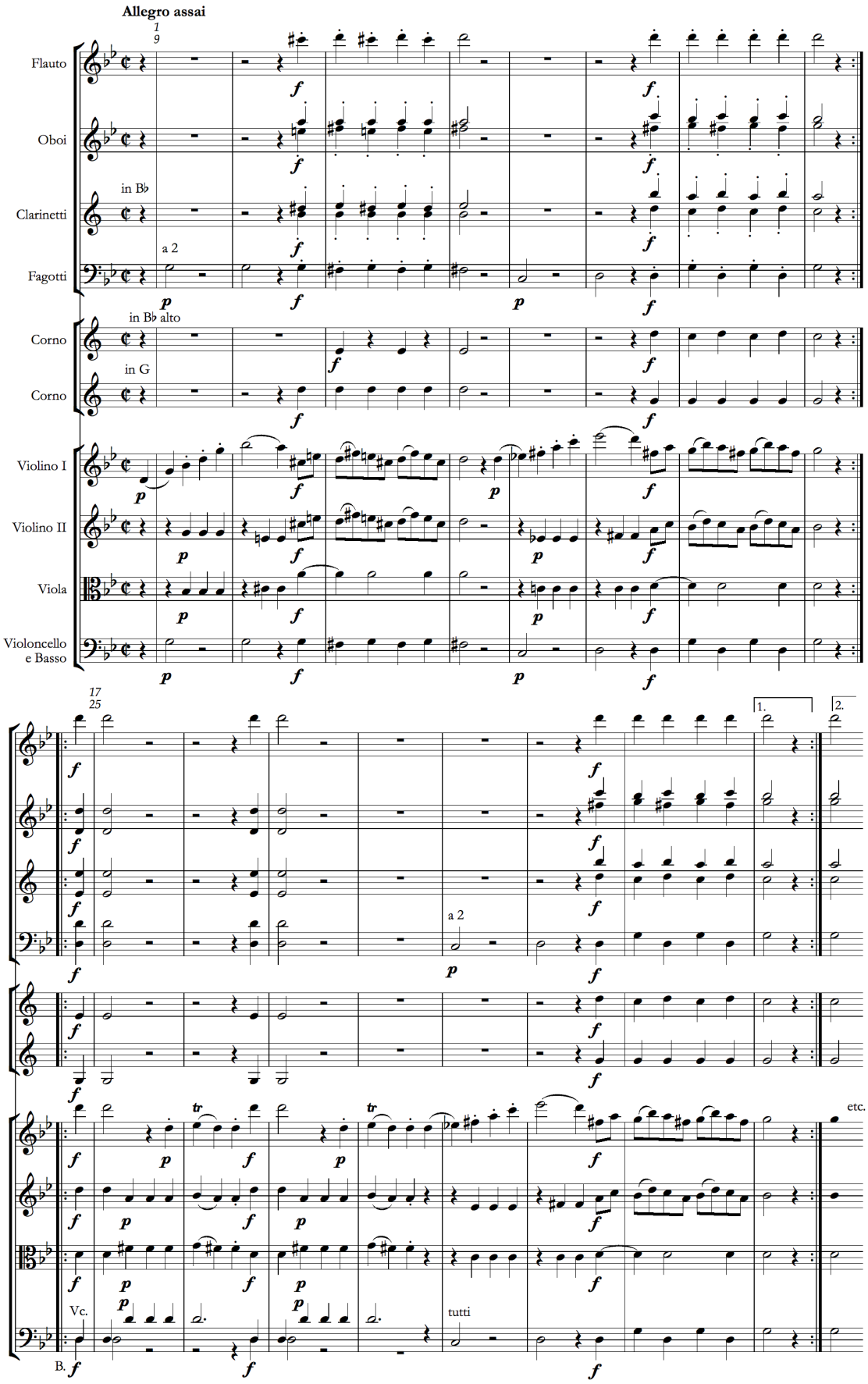


Figure 5.8 Mozart Symphony no. 40 in G minor K550, original text, mvt. IV, 1–32, abbreviated notation

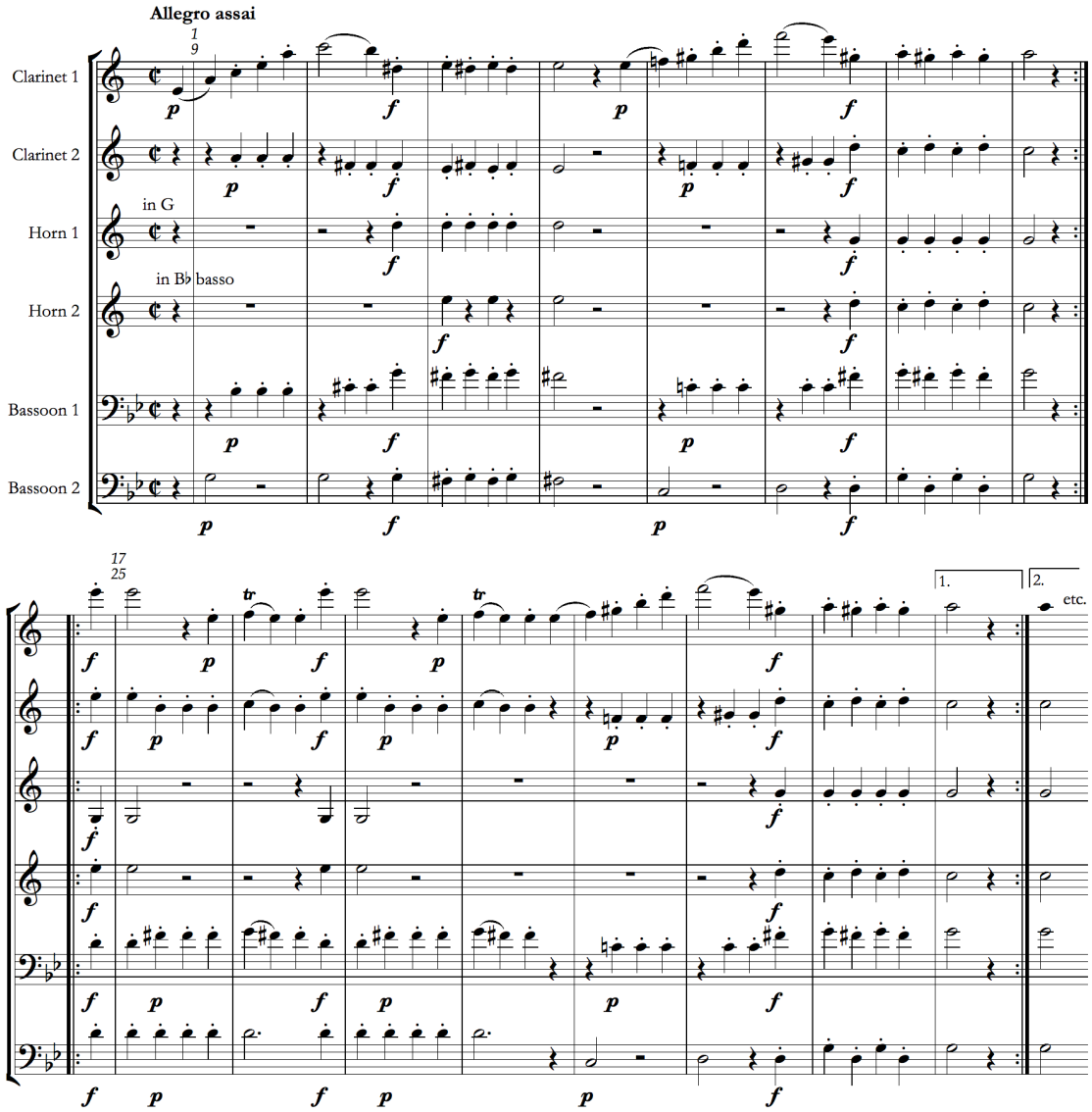


Figure 5.9 Mozart Symphony no. 40 in G minor K550: six-part arrangement, Version 1, mvt. IV, 1–32

In Version 1 (Figure 5.9, sound file 5_3) I kept quite closely to Mozart's version: clarinet 1 plays the violin 1 line as the original in the *piano* sections, but omitting the quavers in the forte, as in the flute part. The horns play their orchestral parts, except for the change from B-flat alto to basso, and the bassoons and clarinet 2 fill in the gaps. The problem with this approach is that it calls for clarinet 1 to play four high F's and a number of high E's all in *piano* at the outset of the movement. As sound file 5_3 shows, neither of these pitches is in itself problematic, and both are considered part of the clarinet's normal range. They are, however, the extreme of the instrument's normal range, and their typical usage would be as the focus of a passage of virtuosity, not

merely as part of a phrase. The timbre of both notes is also such that the difference between *piano* and *forte* is inevitably only slight. However, because Boxwood's clarinettist was of the opinion that the passage could work I decided to persevere with it. Listening back to recordings of this version I did decide, though, that omitting the quavers from the violin part, a feature of the rest of the movement too, diminished the character of the theme too much.

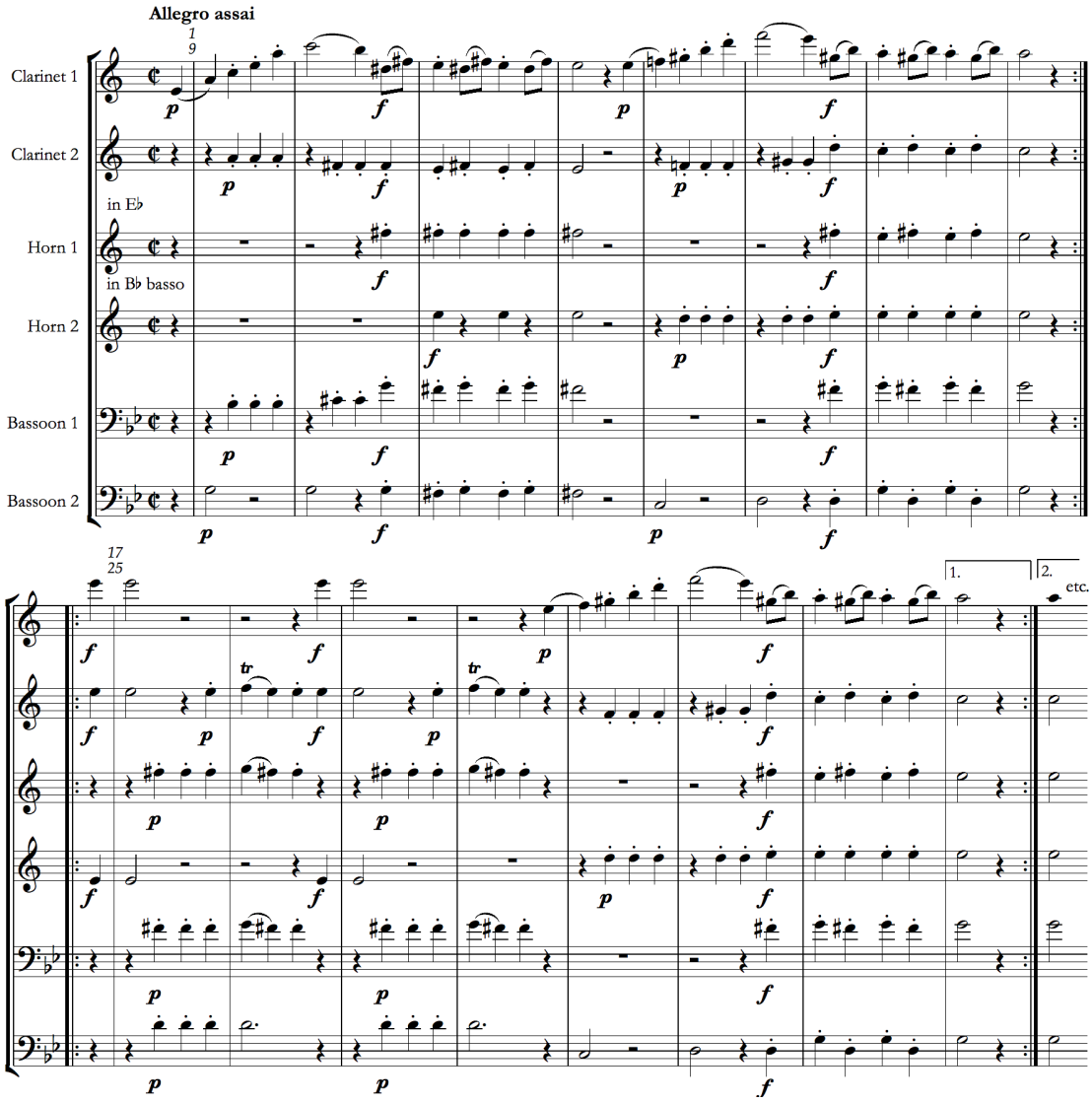


Figure 5.10 Mozart Symphony no. 40 in G minor K550: six-part arrangement, Version 4, mvt. IV, 1–32

For Version 4 (Figure 5.10, sound file 5_4) I reinstated half of the quavers from the violin part, both here and in the *forte tutti* section that follows, considerably increasing the level of virtuosity in the movement. Apart from the necessary changes for horn in E-

flat, other changes from Version 1 are in the second half of the theme: removing the unison D of the bassoons with horn 2, thereby leaving it alone on the bass, and moving the trill figure from clarinet 1 into clarinet 2, and clarinet 2's material into horn 1. This gives clarinet 1, and the texture generally, some space, increasing the contrast between *forte* and *piano* textures.

During intensive rehearsal of this version prior to performance I finally decided that I did not like the effect of the clarinet high F's, and that the virtuosity that the quavers bring to the movement as a whole made it too difficult, that the movement became for the players rather more a question of survival than a musical experience. This is of course a subjective opinion, particularly when talking about Mozart's melodic material, but it is one that I feel quite strongly in this case: the high F for me is too heroic and not part of the context of this theme at this point in the symphony. Removing the quavers means the movement can be played at a faster tempo, which arguably is more important for its character.

So if clarinet 1 does not play high F in bar 6 there are a number of other options:

- Make bars 5–6 an octave lower. But this is too disruptive to the overall shape of the theme.
- Make all the *piano* violin 1 bars an octave lower. Better, but this moves the highest note of the phrase to an anonymous, characterless part of the clarinet, which is disappointing after the resonance of an opening low E.
- After the opening phrase in the clarinet, put bars 5–6 in the bassoon. This puts the highest note of the theme (formerly the clarinet's F) quite high in the tessitura of the bassoon, which is desirable, and introduces a new, conversational aspect to the opening of the movement.

After trying these options, and a number of others, I decided that the last option was the one I preferred. Whilst it is the furthest from Mozart's text, for me it makes an idiomatic and interesting piece of Harmoniemusik, and creates a texture from which the rest of the movement can follow: from the outset the movement is no longer just about the clarinet but becomes chamber music. To balance the colour of the bassoon, the clarinet plays the

first two bars an octave lower, starting on a low E, which gives a more characterful sound than previous versions. This required the changing of some octaves in the accompanying parts.

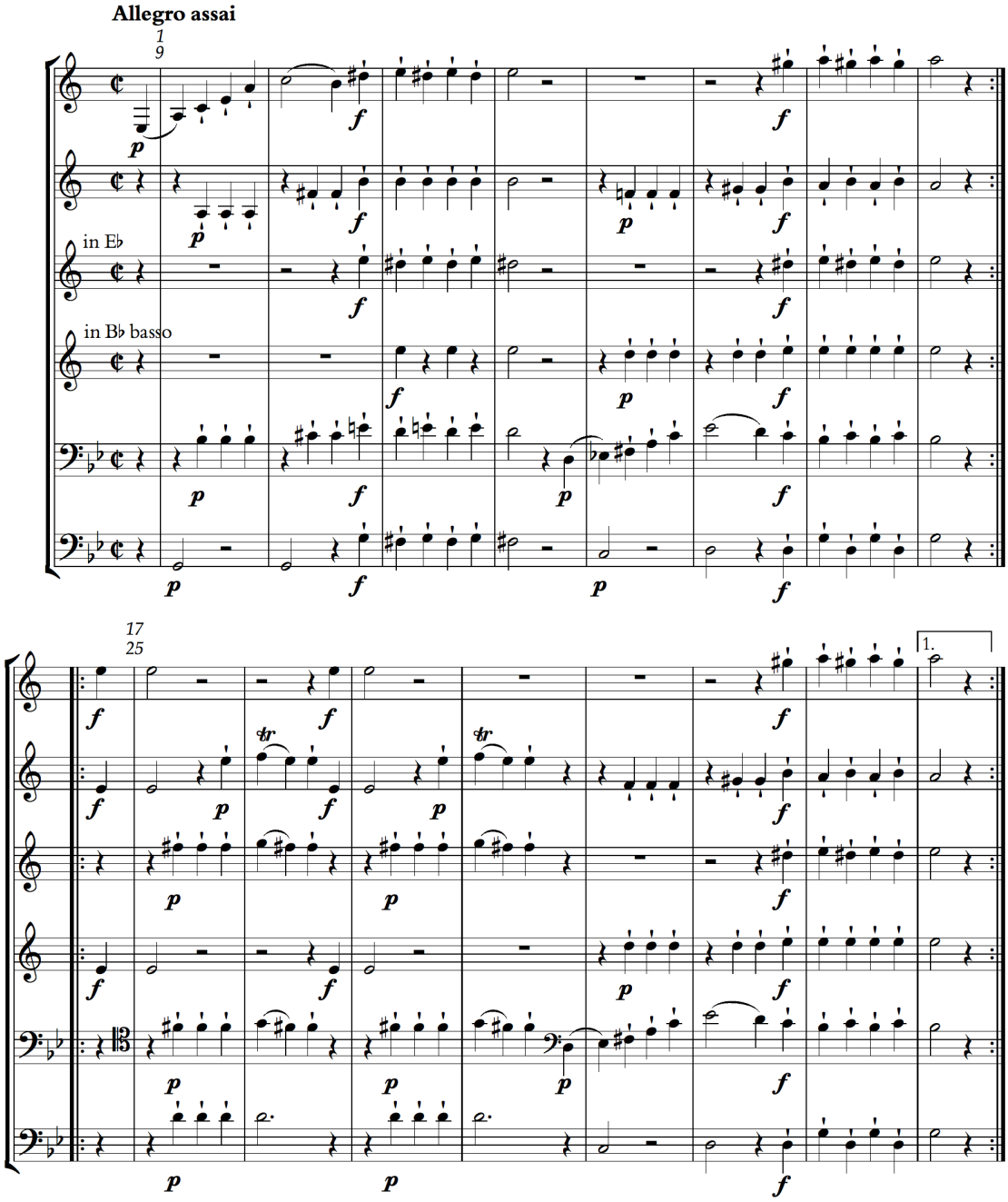


Figure 5.11 Mozart Symphony no. 40 in G minor K550: six-part arrangement, Version 7 (final), mvt. IV, 1–31

Figure 5.11 shows Version 7, with the theme divided between clarinet and bassoon 1, sounding one octave lower than the original in the clarinet, and two octaves lower in the bassoon. The solos are all in the most characterful parts of the instruments, and none of them are playing at an extreme, creating the most successful version of this opening. From bar 17 the *forte* and *piano* are divided by scoring as well as dynamic, actually creating a greater dynamic contrast than if the *forte* was scored for all six players.

Movement IV Second Subject: demonstrating how a different crook reveals new expressive possibilities

To have a lower sound and a more soloistic crook available, the major revision after Version 1 was to change horn 1's G crook to E-flat. This became particularly significant in the last movement's second subject, at bar 71.

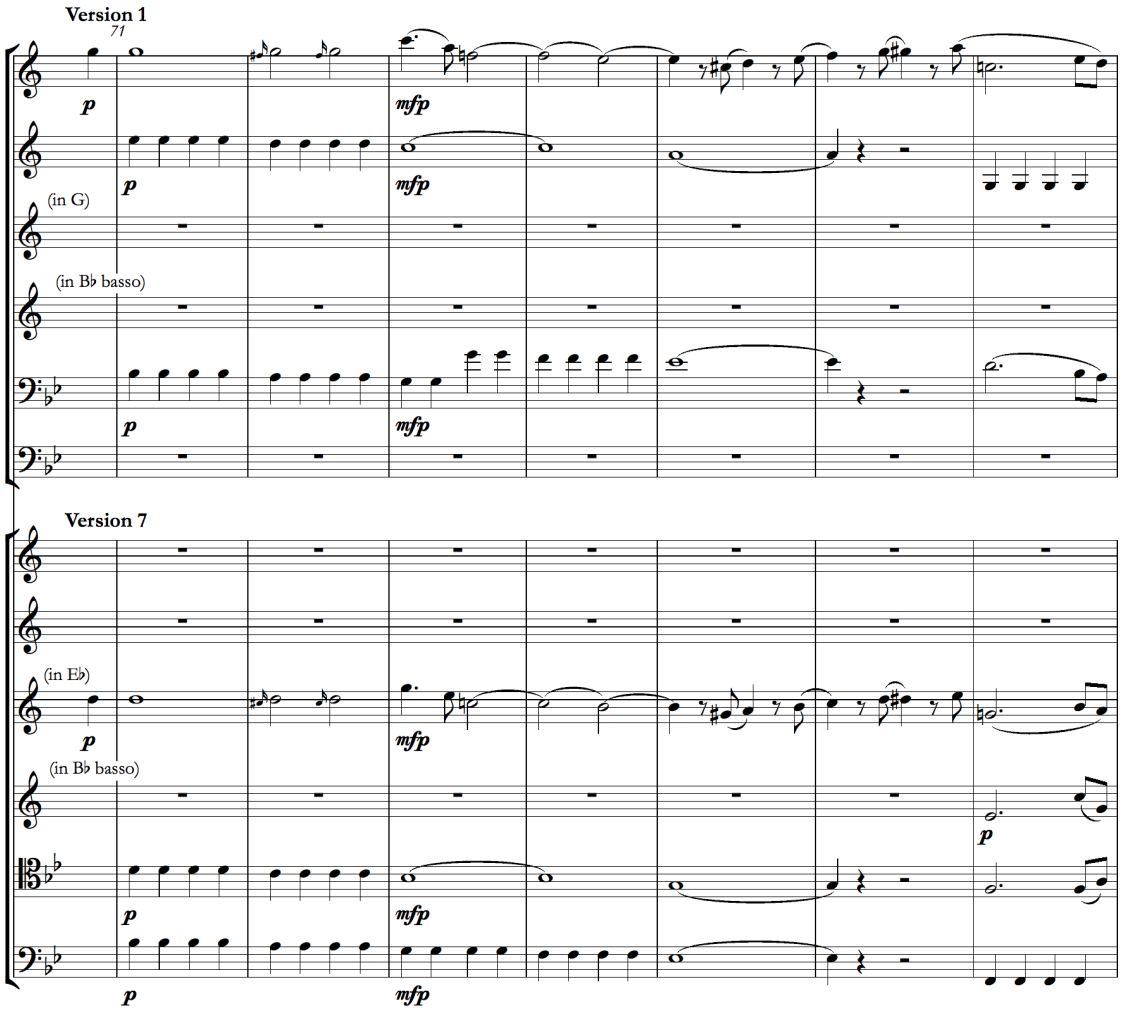


Figure 5.12 Mozart Symphony no. 40 in G minor K550, six-part arrangement, Version 1 (above) & 7 (below), mvt. IV, 71–101

Version 1 (sound file 5_5 for Version 1) had the initial statement in the clarinet, and then the elaborated repeat (from bar 85) in the bassoon, but this means losing the sense of Mozart's original sequence of violin first, and then clarinet solo, which Boxwood's first clarinet was justifiably not happy with: this is one of Mozart's few extended clarinet solos in his revision of the piece, and by moving it to the bassoon I am breaking my rule of keeping solos in their original instruments where possible. Additionally, at bar 89 the bassoon's answering solo is uncharacteristically high and difficult, and horn 1 (in G) does not play at all through the entire thirty bars as, because this section is in B-flat major, there isn't really a function for it. There was, though, the opportunity to use clarinet 2 as the bass under the solo bassoon, creating a nice colour change.

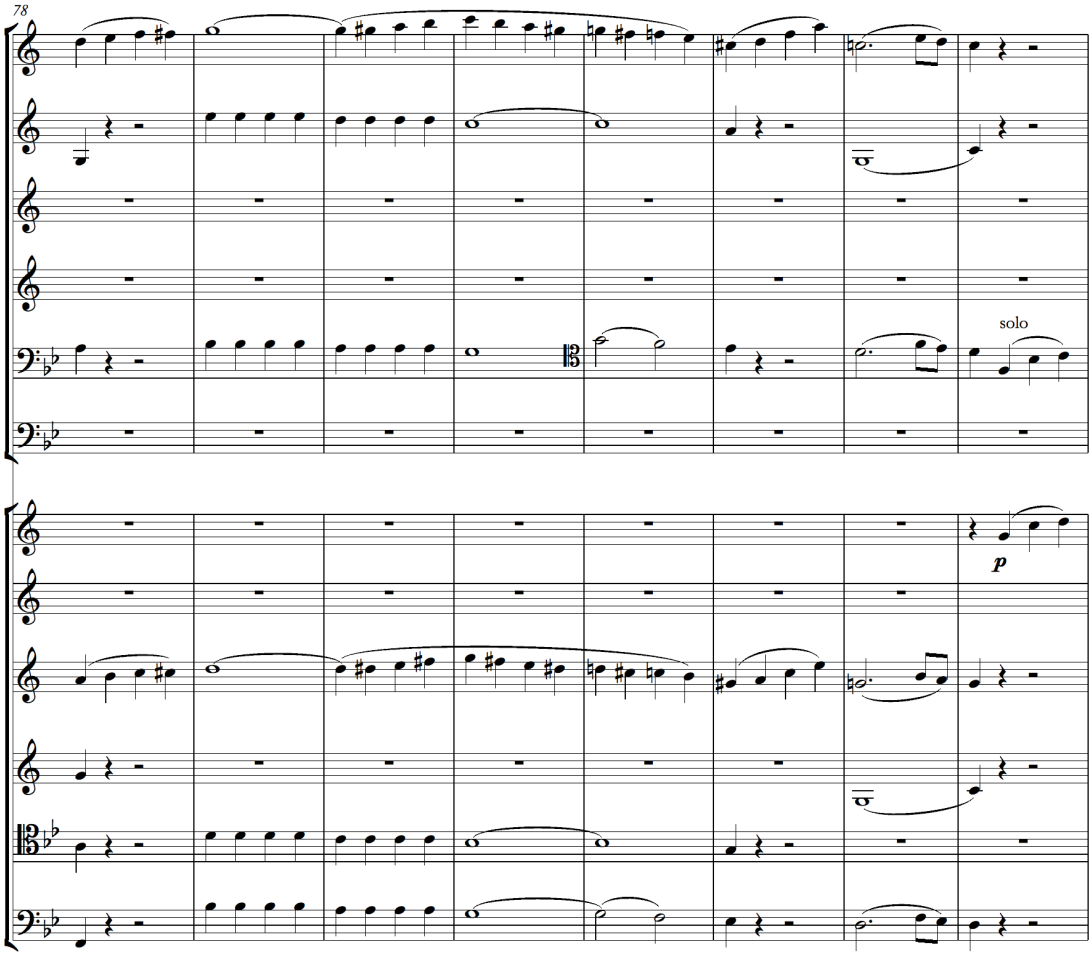


Figure 5.12 (cont.)

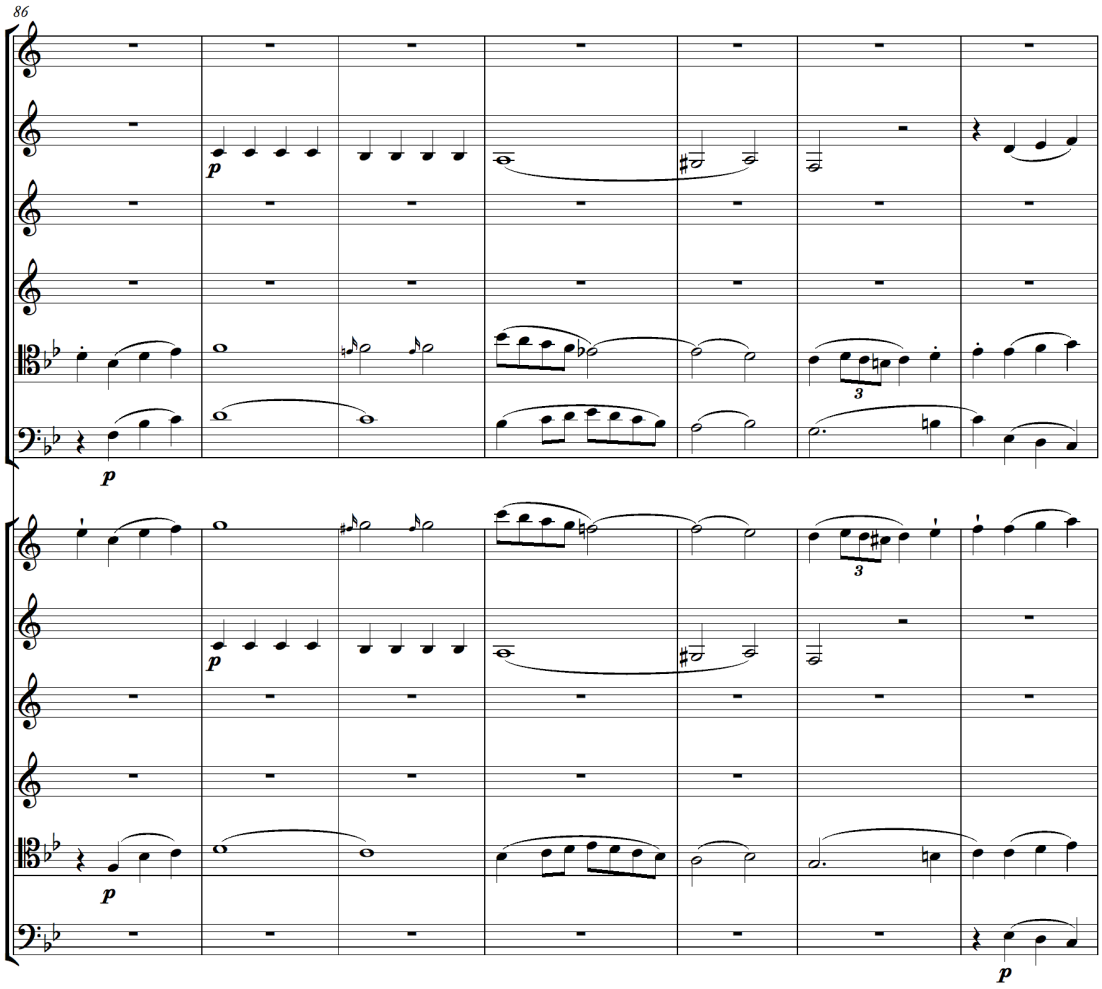


Figure 5.12 (cont.)

From Version 5 (sound file 5_6) and beyond I realised that bar 71 etc., previously for clarinet, fits beautifully on the E-flat horn, albeit an octave lower, the chromatic scale from bar 80 being particularly effective. The bassoons can support the horn solo, and I added a little horn 2 in 'horn fifths' in bar 77 to contextualise and support the new solo. Clarinet 1 can have its solo back too from bar 85, still with clarinet 2 as the bass for maximum timbral contrast, except for where it does not have the range to go below bassoon 1, so bassoon 2 must come in here. And horn 2 joins the party as an equal from 94 with their own little contribution. The effect of the various colour changes and the sharing of the solo lines around the ensemble hopefully contribute to a continued sense of a chamber music aesthetic, and an increased separation of the orchestral and Harmonie versions.

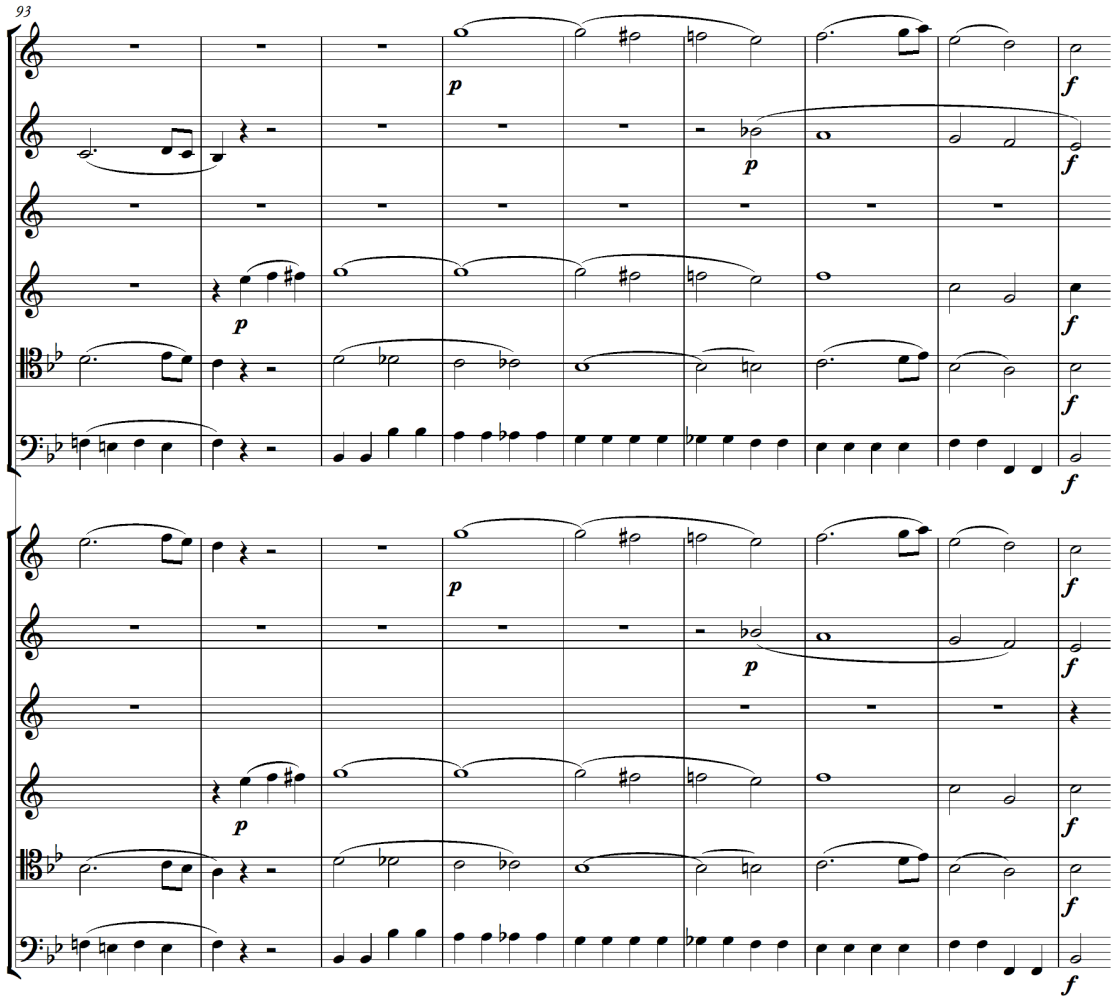


Figure 5.12 (cont.)

Having the major-key version of the solo played by the horn means that the idea of a colour change for the second subject has already been established, and so at the recapitulation in bar 247 the bassoon can take the minor-key version without it sounding out of context (Figure 5.13).

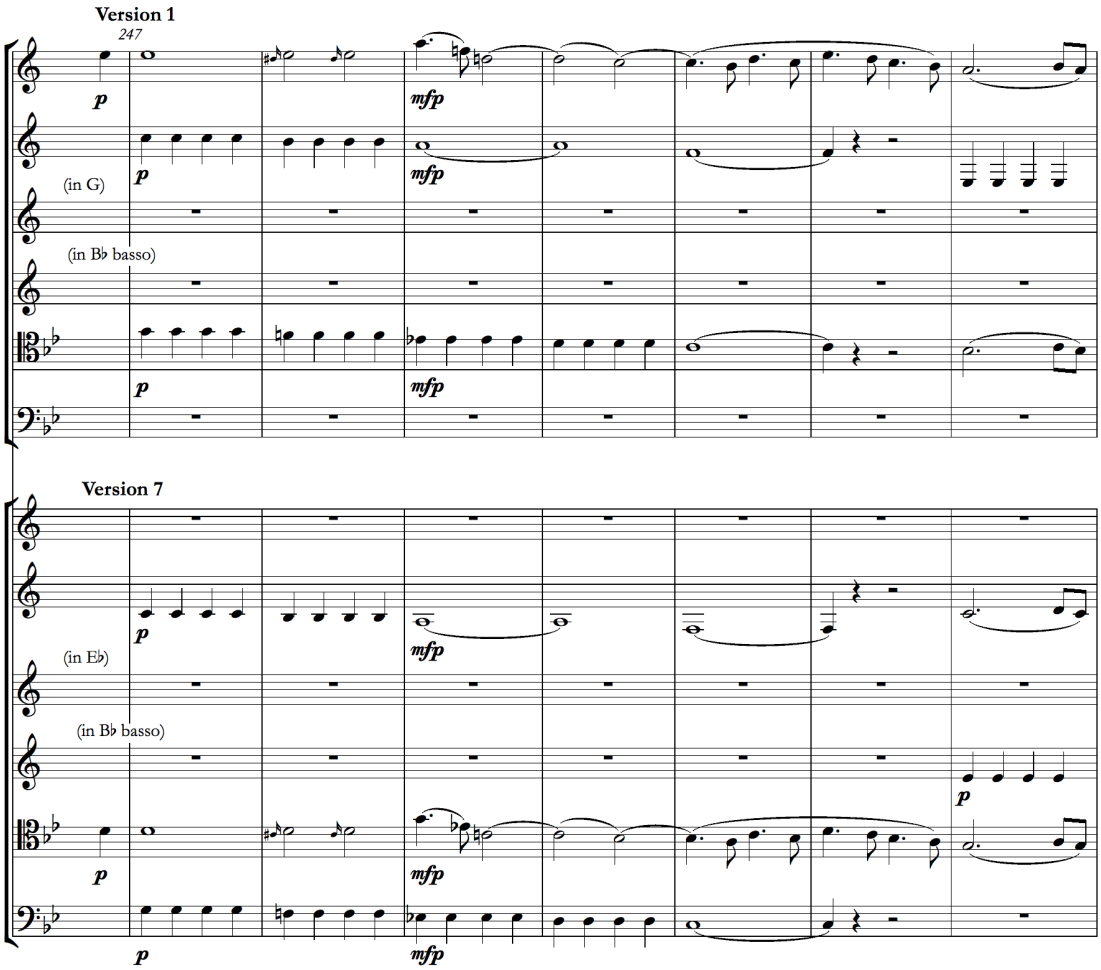


Figure 5.13 Mozart Symphony no. 40 in G minor K550, six-part arrangement, Version 1 (above) & 7 (below), mvt. IV, 247–277

Version 1 (sound file 5_7) was again simply the clarinet taking the violin line in the theme's first iteration, followed by the clarinets and bassoons more fully scored version, with Mozart's original G horn writing. The new horn solo in bar 270, however, is not effective: too high in the context of this *piano* texture, even when the scoring is quite thick, and again too many F♯s. Horn 2 is also underemployed.

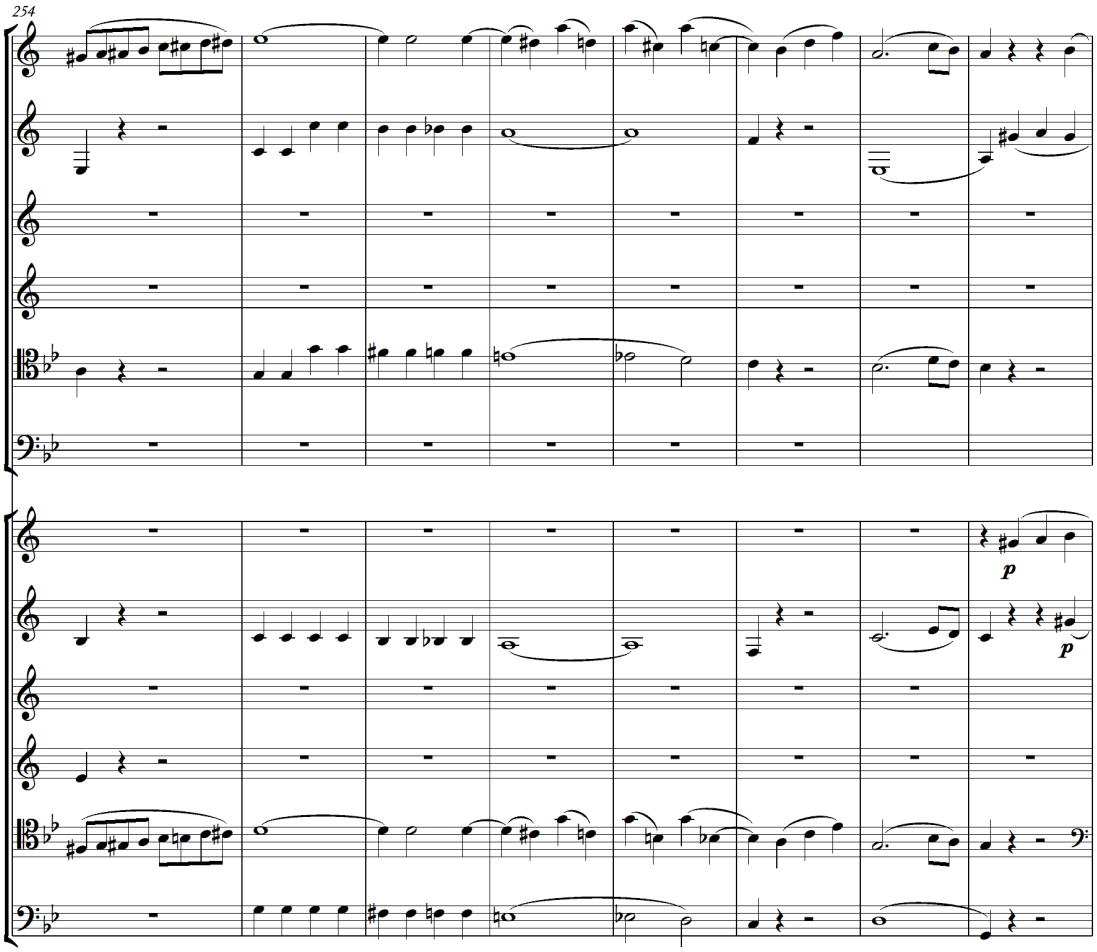


Figure 5.13 (cont.)

From Version 5 (sound file 5_8) onwards the bassoon solo fits the instrument rather nicely, sitting centrally in its solo tenor register, highlighting the top G, with a highly idiomatic chromatic scale, the character of the instrument hopefully suiting the minor mode. (It did not escape my attention that this solo so close to the end of the arrangement would also allow its author to sign his work!) In the context of the movement this provides a significant change of colour and texture as the clarinet drops out of the spotlight and darker and lower instruments come to the fore.

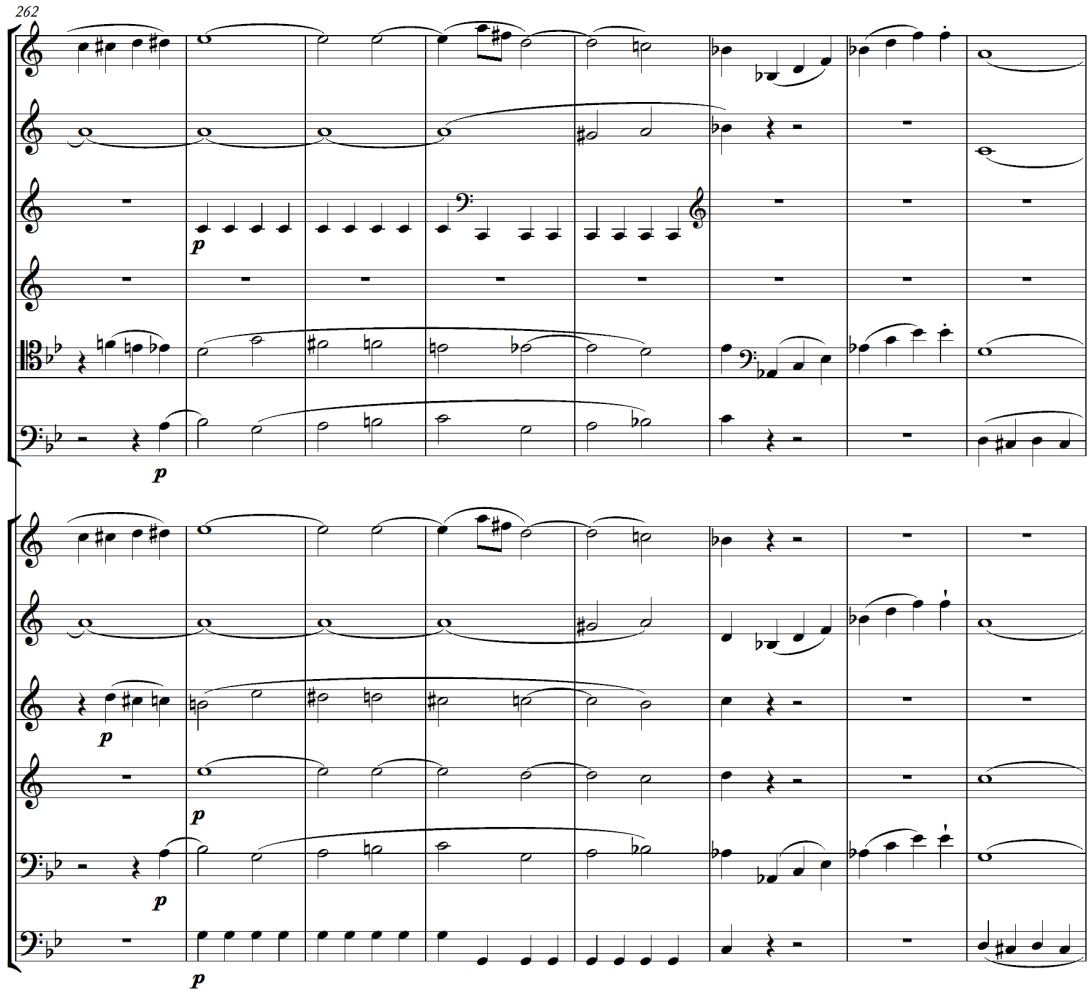


Figure 5.13 (cont.)

The chromatic line that begins in horn 1 at bar 262 could be seen as a backward-glance to its role in the previous version of the theme, and clarinet 2 also gets a brief moment in the spotlight from bar 267. As important as the colour change, pragmatically the resting here of clarinet 1 allows the player to draw breath before the demands of the closing page of the movement. The loss of the especially characteristic original G horn part from bar 263 is to be regretted, but I felt the benefits and additional character generated here far outweighed it.

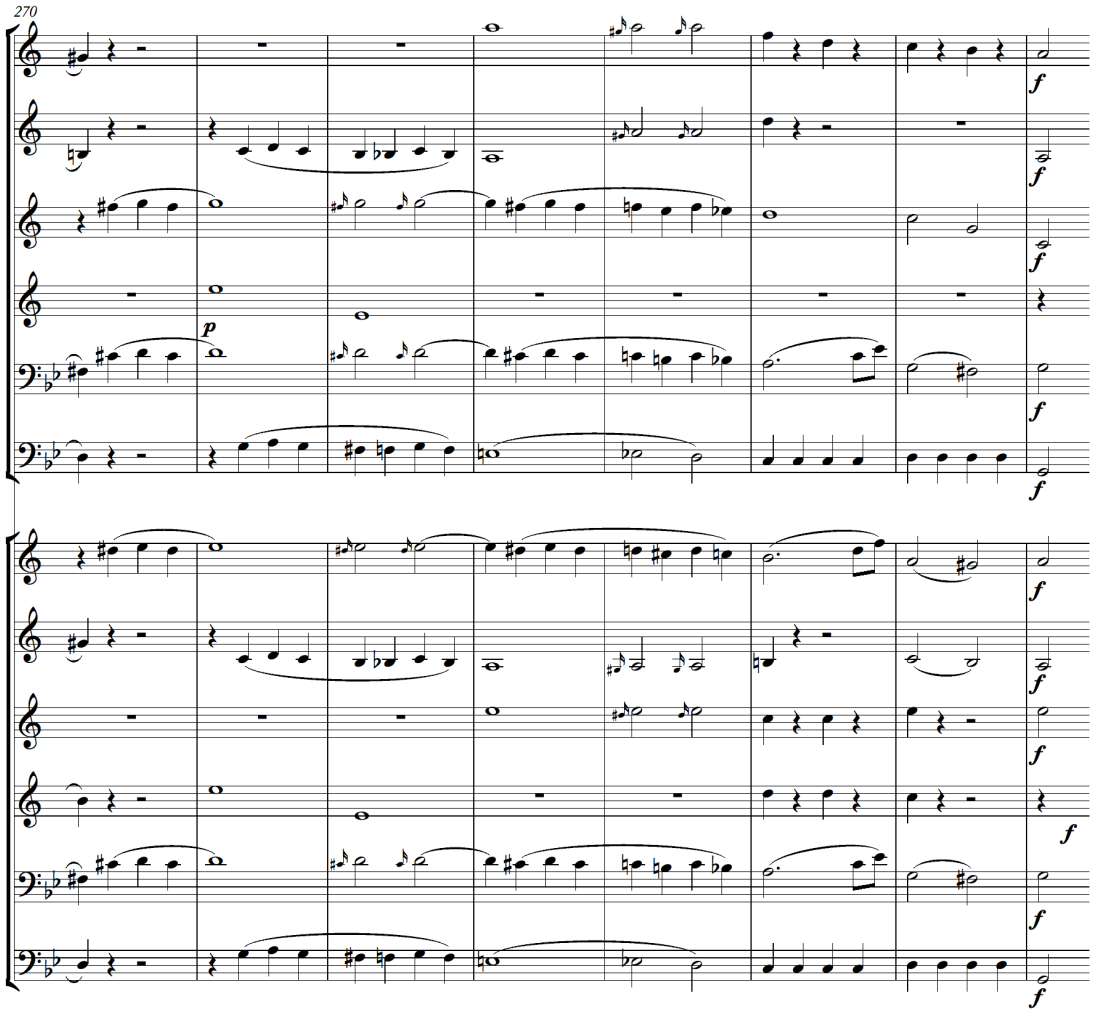


Figure 5.13 (cont.)

The change to E-flat crook for horn 1 also demanded a re-write of the close of the movement. Mozart's original horn 2 part (in G, tonics and dominants) cannot now be included (Figure 5.14). My Version 2 ending attempted to include the same part on the E-flat crook, but that meant horn 1 was high in its register when clarinet 1 was low. Also, the horn 1 part jumped around too much rather than utilising the good pitches. From Version 5 I worked towards a better, more integrated solution.

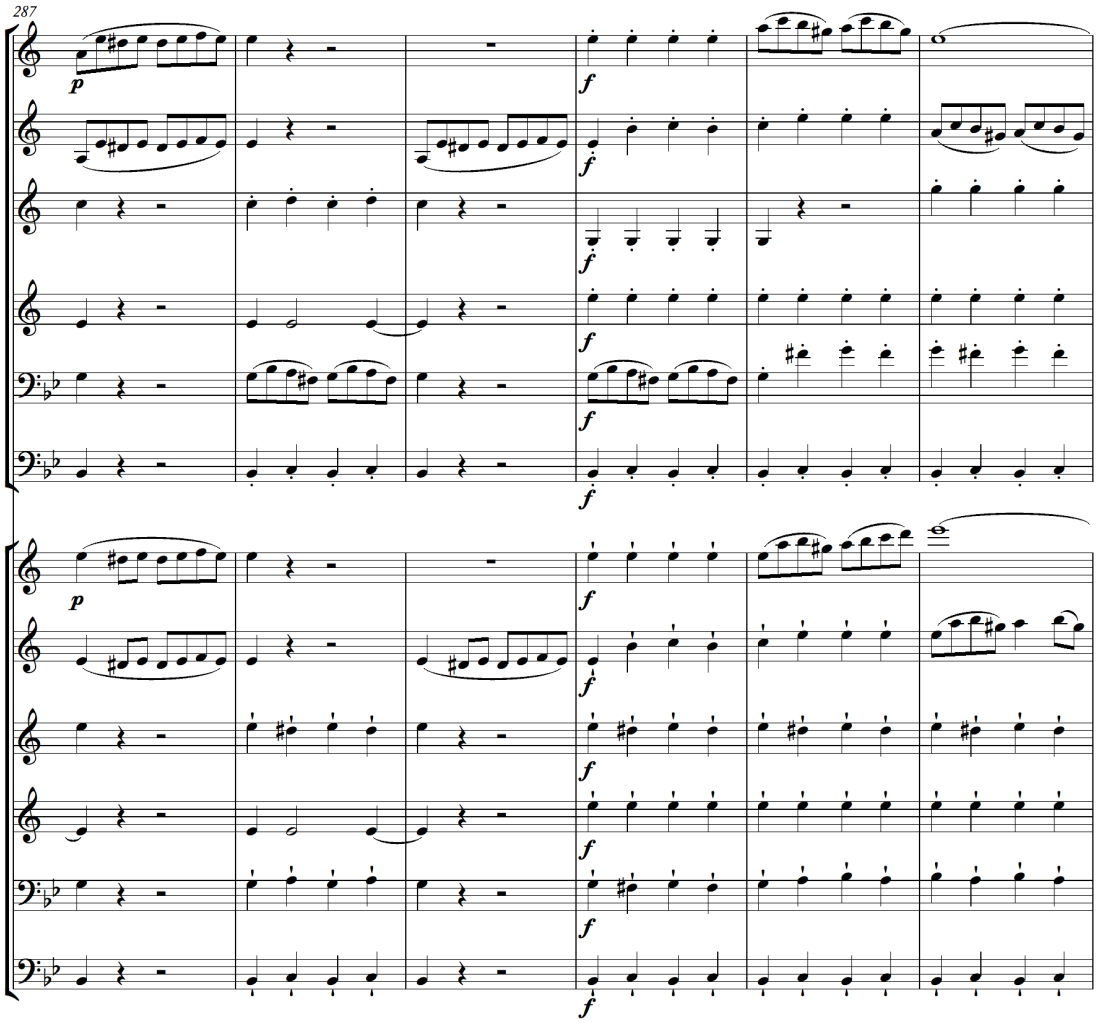


Figure 5.14 Mozart Symphony no. 40 in G minor K550, six-part arrangement, Version 1 (above) & 7 (below), mvt. IV, 287–308

The first six bars of Figure 5.14 give an example of my process of simplifying or omitting quaver passages: making the clarinets' first note in 287 a crotchet makes their parts considerably easier. Version 1 of clarinet 2 in 292 was extremely difficult and inaudible on account of the combination of throat notes and Bs and Cs: it is much more effective in the upper register. The Version 1 quavers in bassoon 1 were almost unplayable!

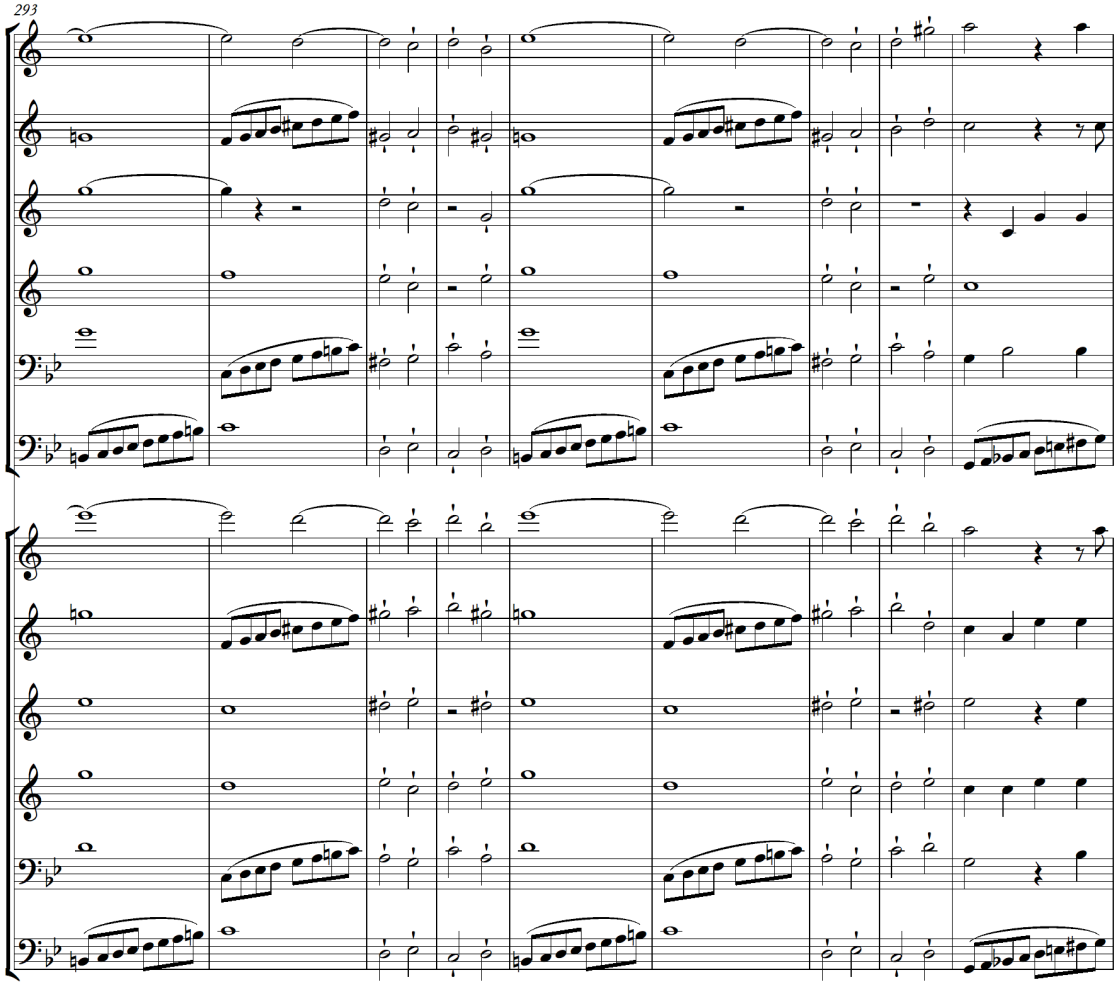


Figure 5.14 (cont.)

Version 1 shows I was initially nervous about duplicating Mozart's long high D of the violins from bar 292 in clarinet 1, but I finally decided that it is more thrilling to include it, and reworked Mozart's violin line in bar 291 to get up to the written E in a more idiomatic way for the clarinet. Incorporating an enhanced version of Mozart's horn writing into the clarinet 2 part from bar 301 meant that I could hopefully make more audible the rhythmic canon now between clarinet 2 and bassoon 1, a feature I find rarely comes through in orchestral performance. Indeed, I hope each instrumental line is now clearly delineated in its own register. A final very late change during rehearsals, not included in Figure 5.14, was the addition in clarinet 1 of a written b″ as the second quaver of bars 302, 304, and 306.

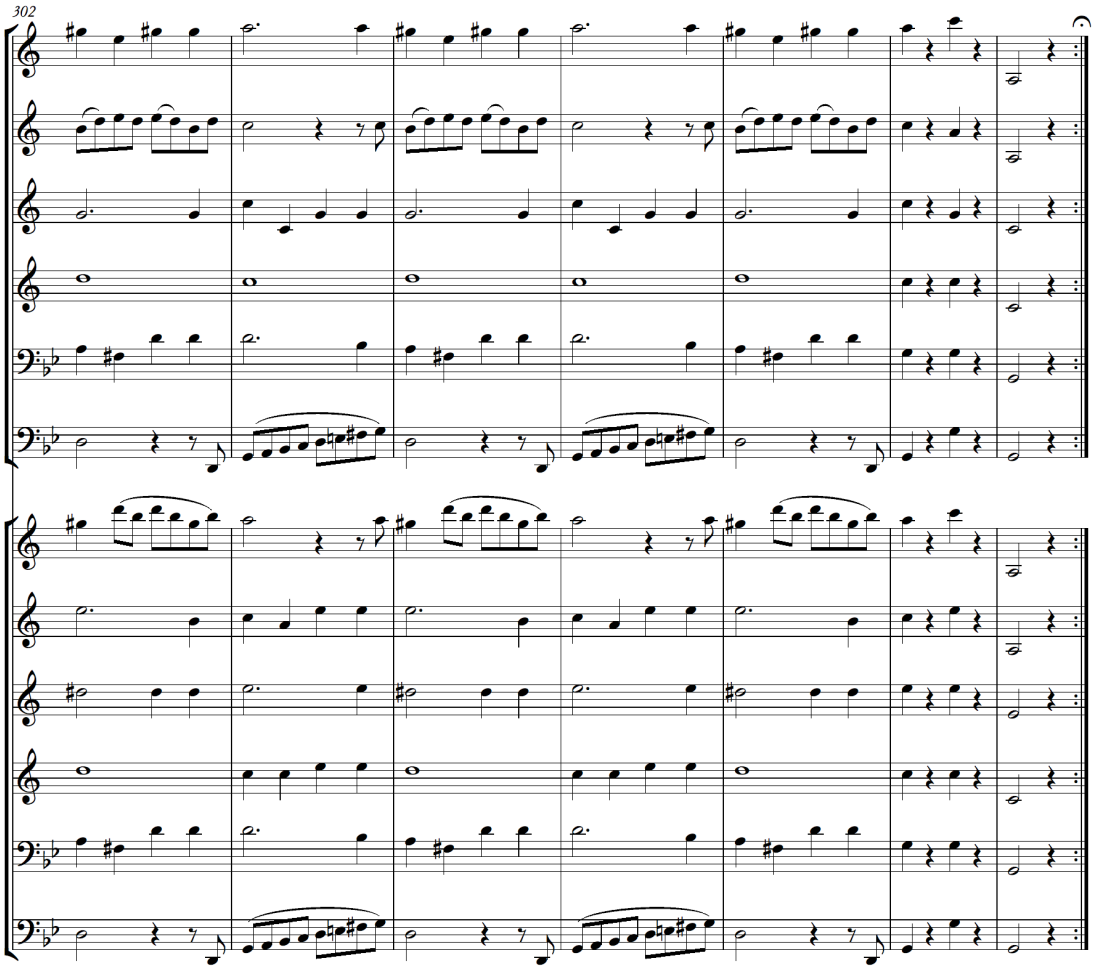


Figure 5.14 (cont.)

Following the performance presented here recorded as part of this submission, I am happy that this arrangement is complete. I don't hear anything in the recording that I am not satisfied with, or that could not be solved with further rehearsal, and no issues presented themselves in the relatively limited time we had prior to the performance. One interesting problem, and which relates to the complexities of modern players of historical instruments that I discussed in my introduction, is that some horn players who have tried out the arrangement in the course of its evolution have seemed discomforted by my new horn parts. This is because the difficulties of the original parts means that some players have them so deeply embodied as to become second nature, and playing anything else connected with the Symphony feels utterly foreign. This, however, is outside of my control as it is to do with the unusual nature of the original parts rather than because my writing is unidiomatic in any way.

The only thing I would change for future performances are the repeats: I notated them all as in the original version so as to be as faithful as possible to Mozart and to allow performers to interpret the work as they wish without my creative intervention. But this is not in the spirit of the historical arranger, and our full performance, especially with the repeat we made in the slow movement, and both repeats in the finale, was very taxing, and possibly too much of a good thing. I wonder, particularly looking at his Mozart 39, which is an altogether more straightforward piece to perform, if Triebensee would have made minor cuts to the 40th, incorporating transpositions as he did in the Krommer Symphony in order to make the tonalities in the outer movement development sections a little less demanding. But of course, the cycles of modulations, and the extreme tonalities Mozart manages to arrive at, are part of the point of this symphony, and I think the listener would notice their omission.

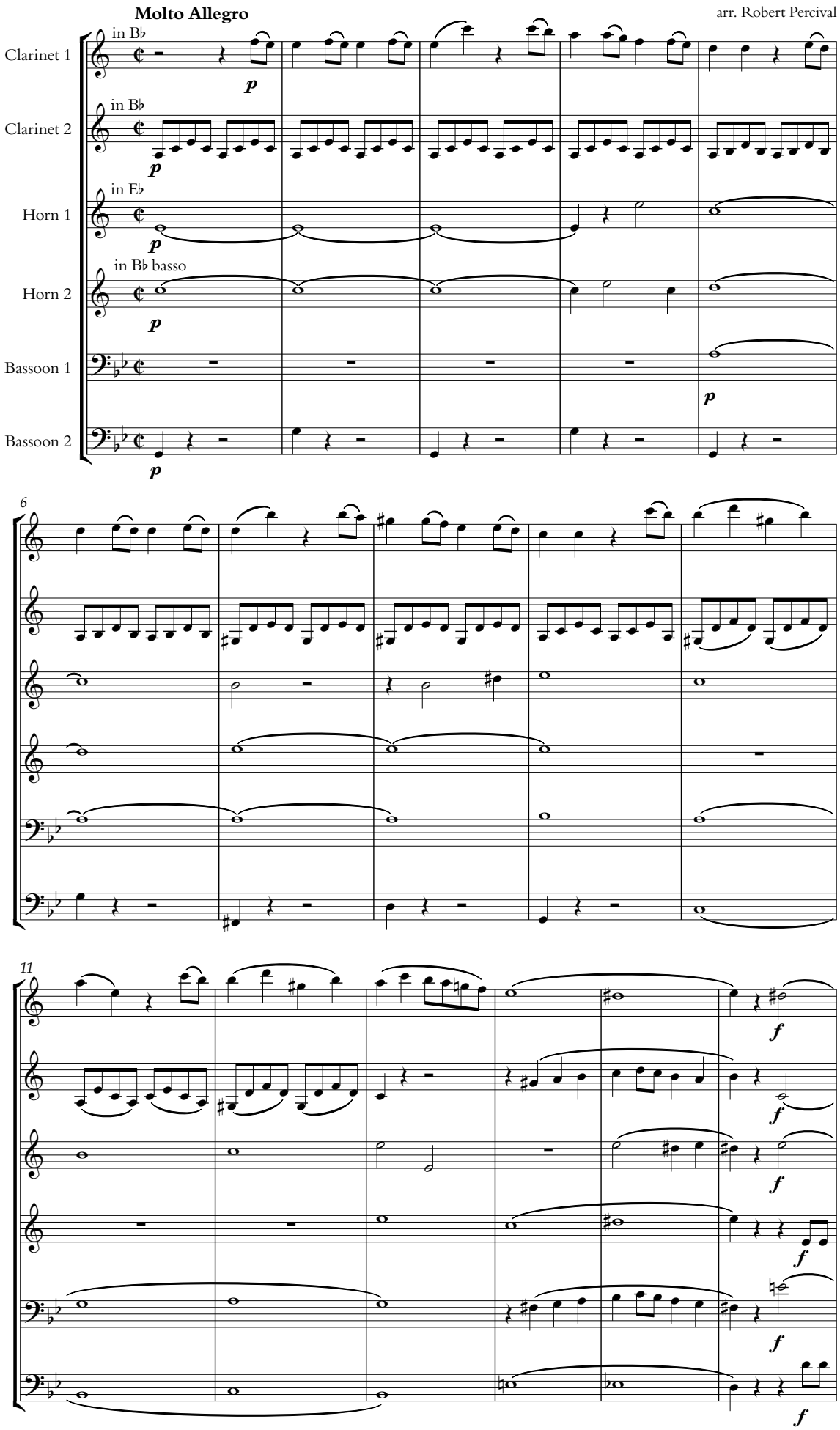
W A Mozart

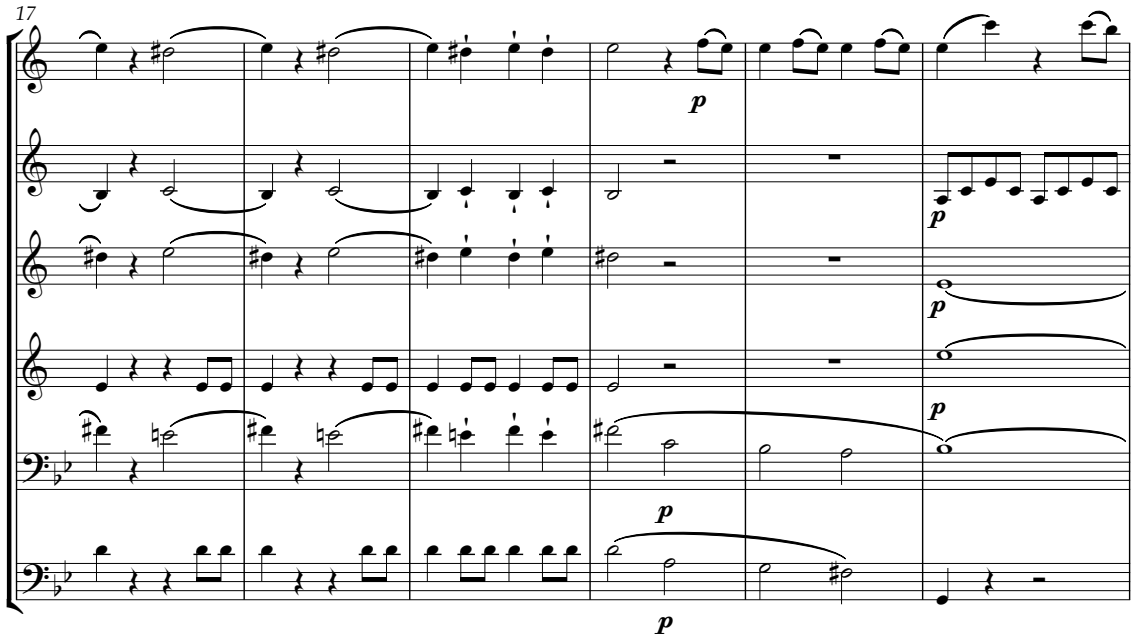
Symphony no. 40 in G minor K550

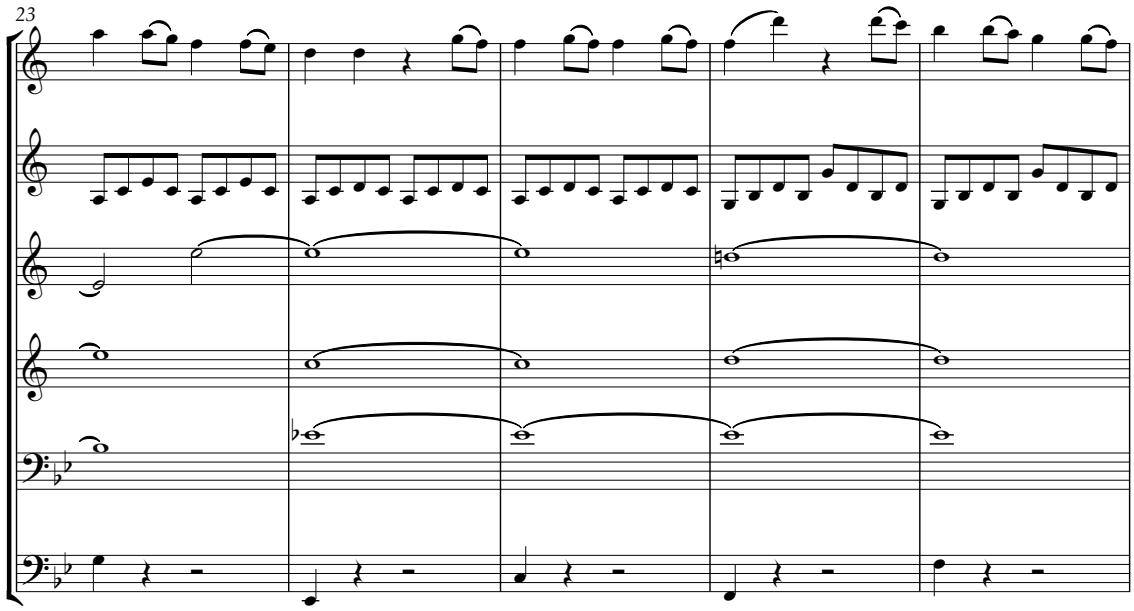
arranged by Robert Percival
for six-part Harmonie

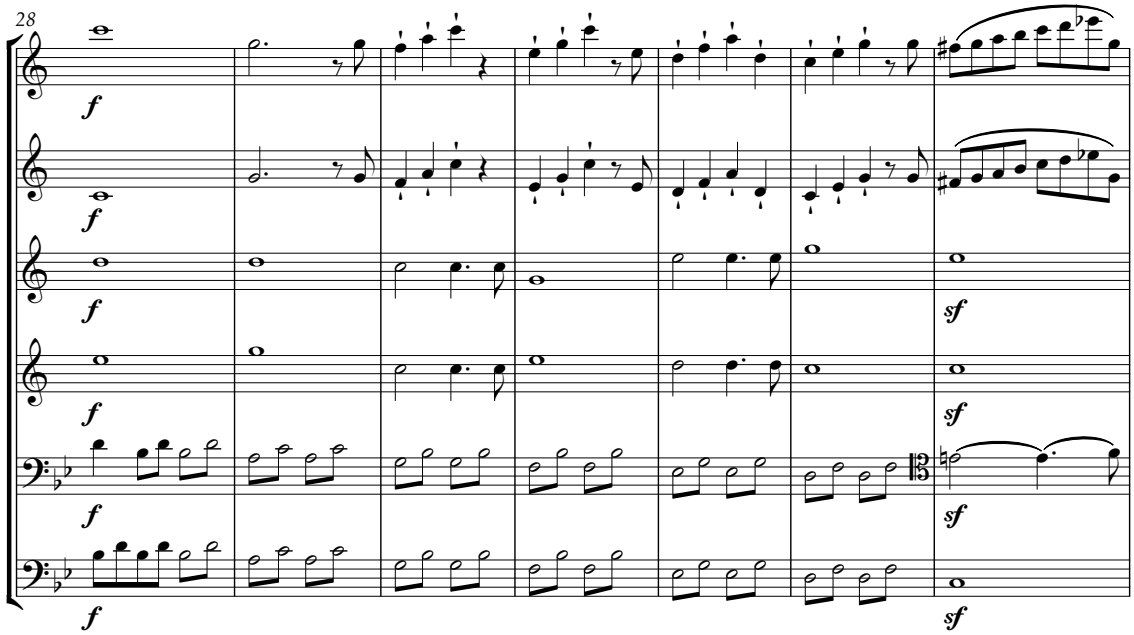
Symphony in G minor K550
for six-part Harmonie

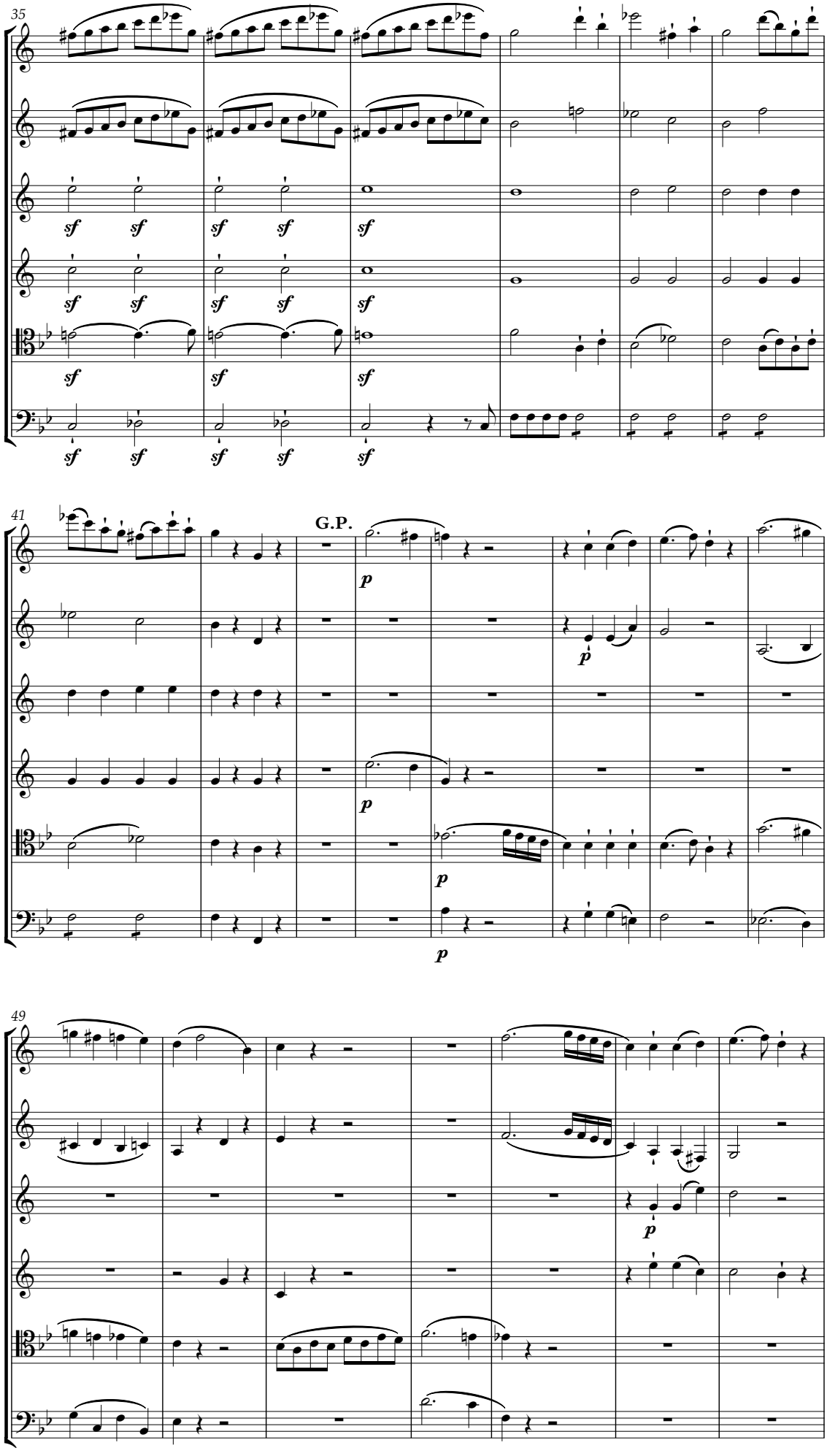
W A Mozart
arr. Robert Percival

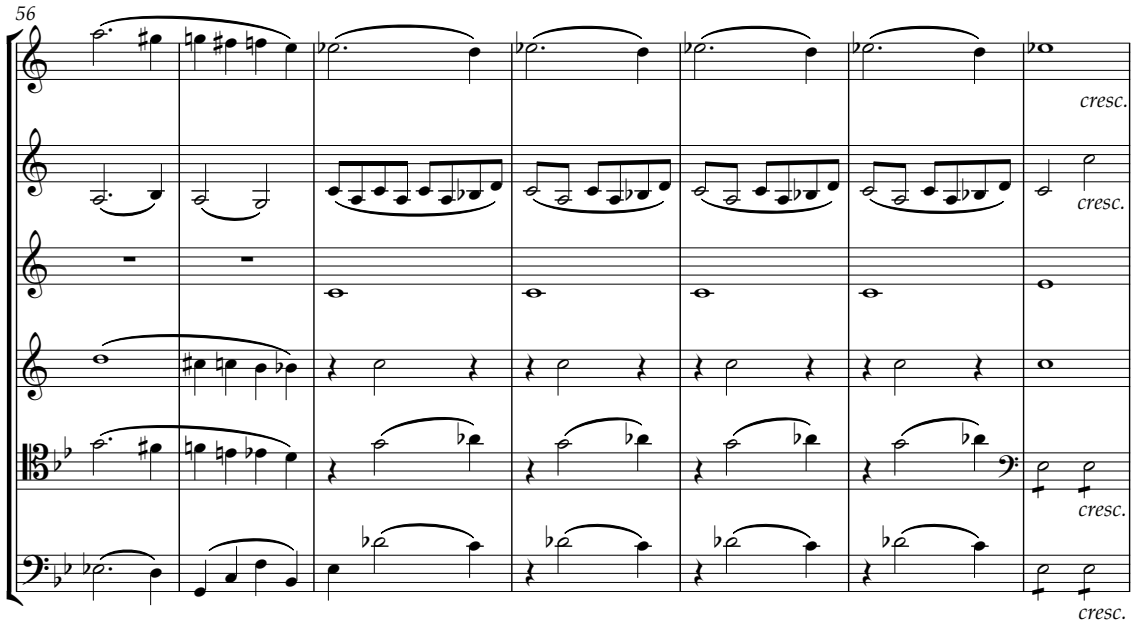


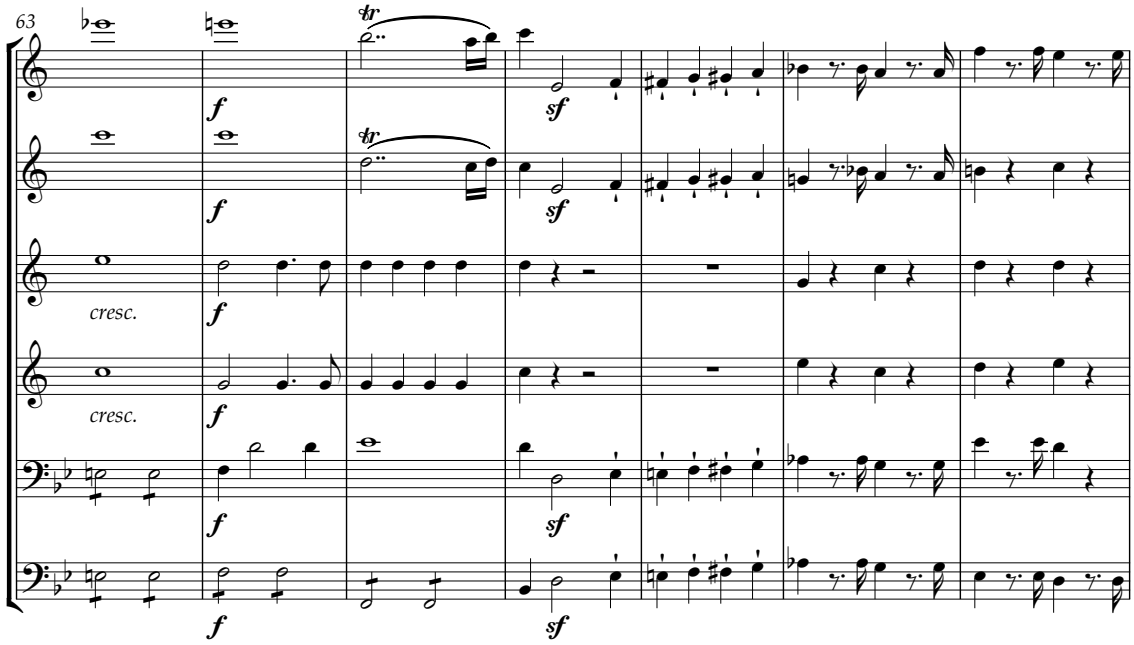

17
p
p
p
p
p

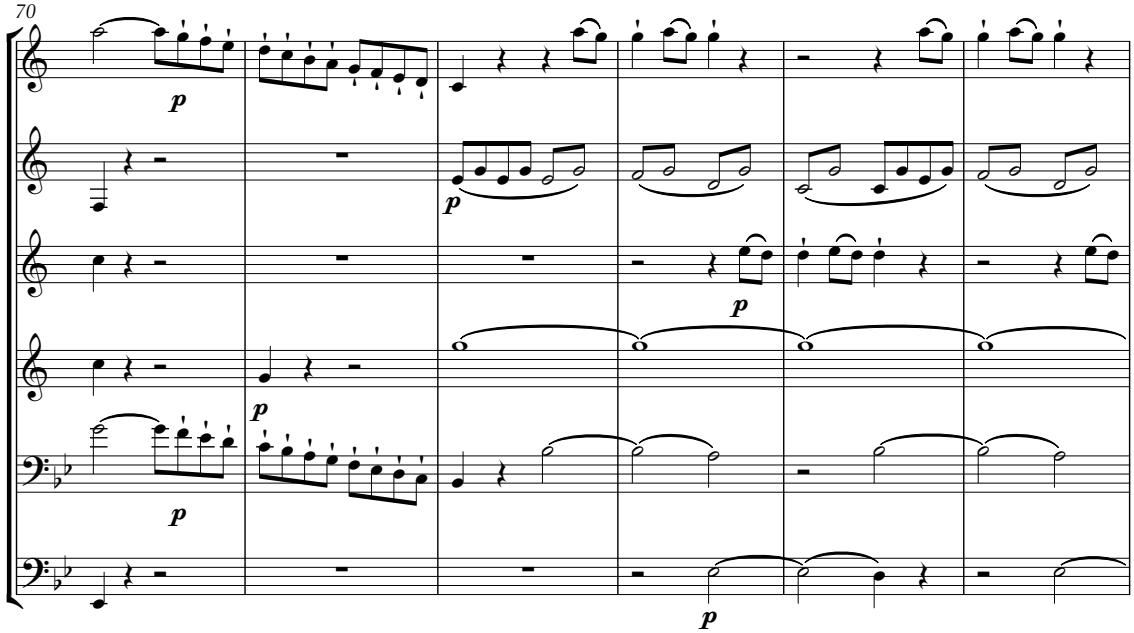

23

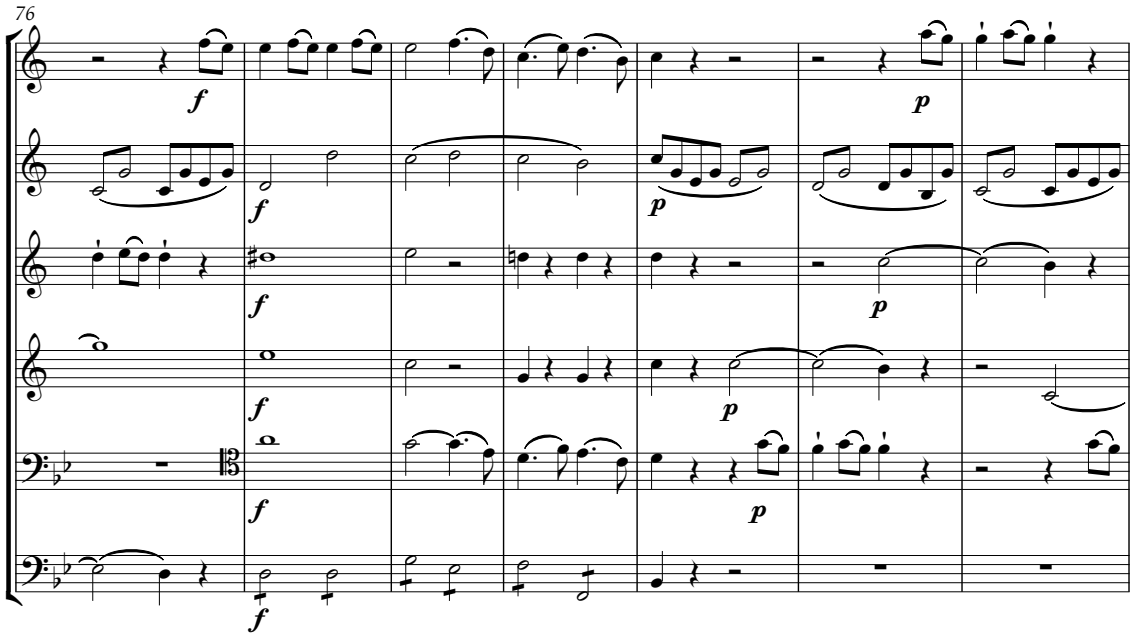

28
f
f
f
f
f
f
sf
sf
sf

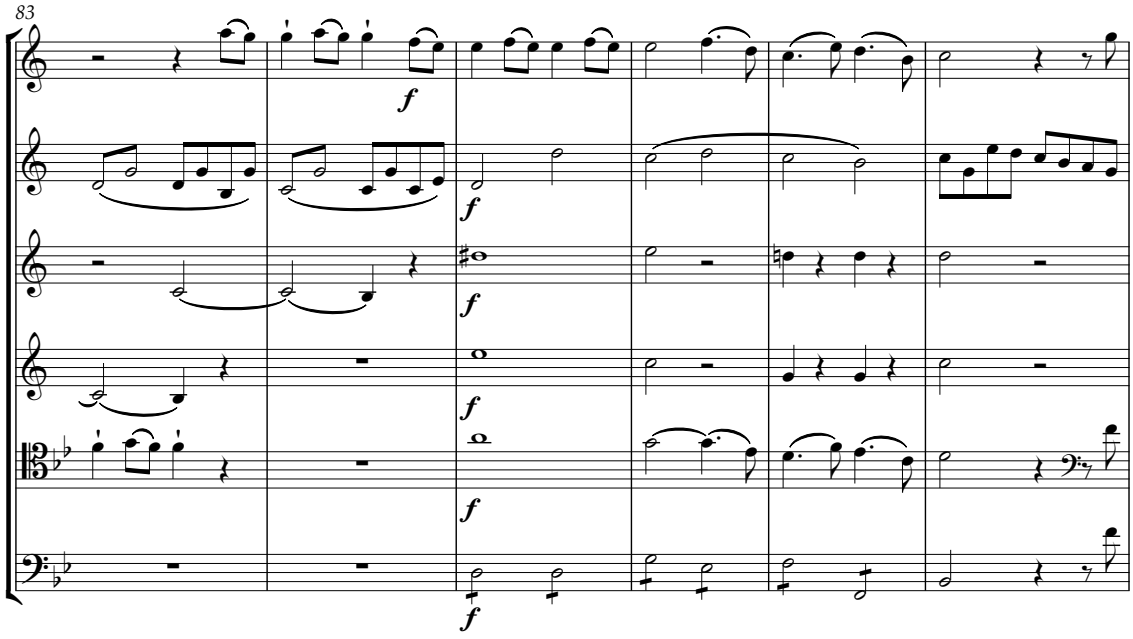

35
sf
41
G.P.
p
49

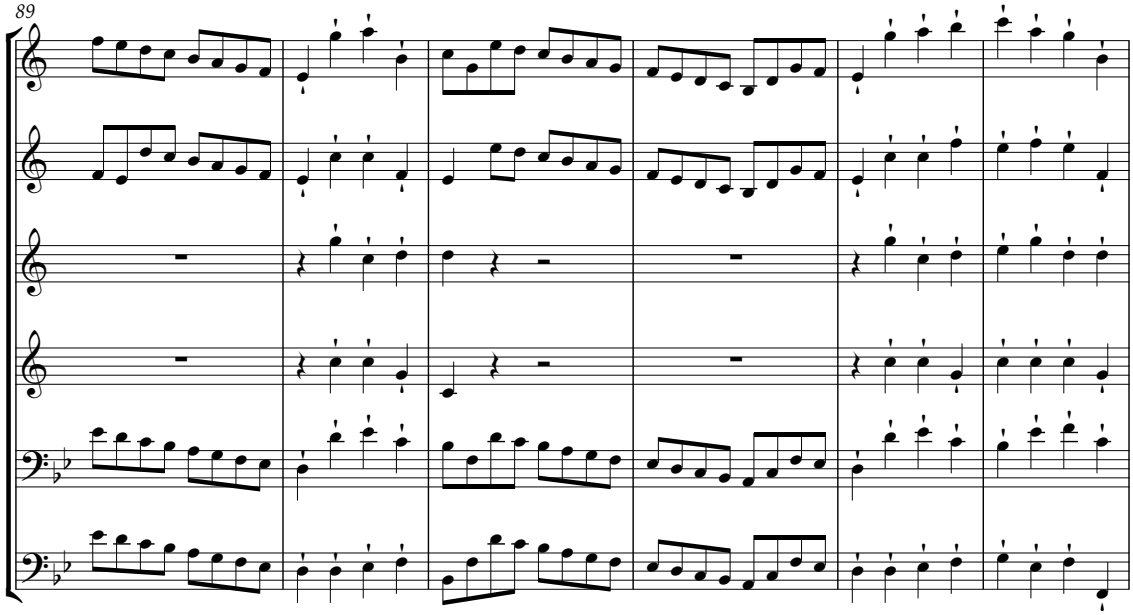

56
cresc.
cresc.
cresc.
cresc.

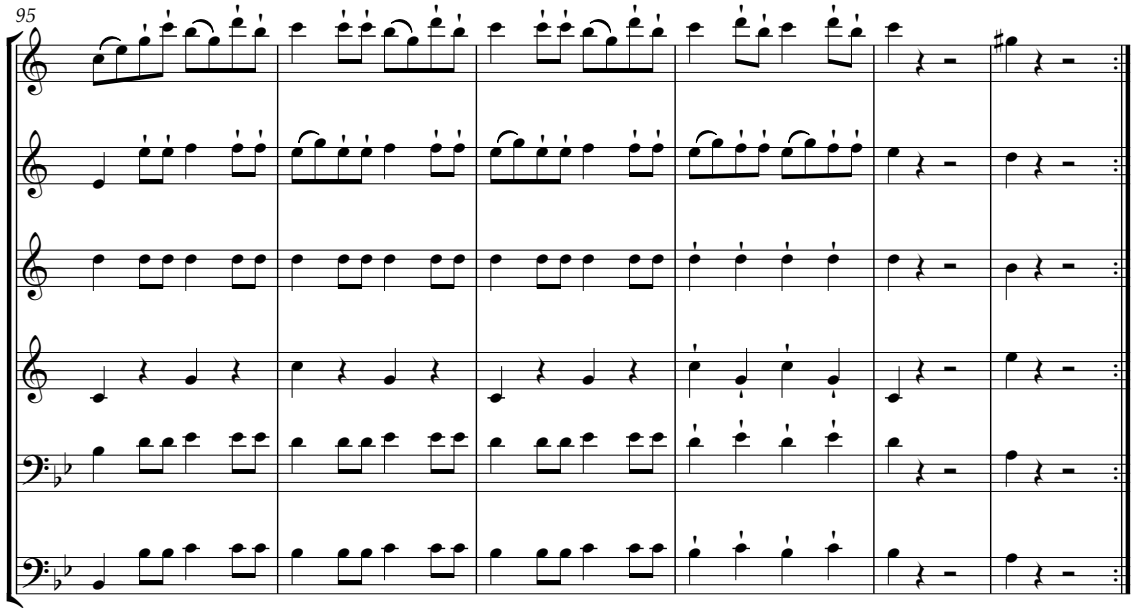

63
tr
tr
f
sf
cresc.
cresc.

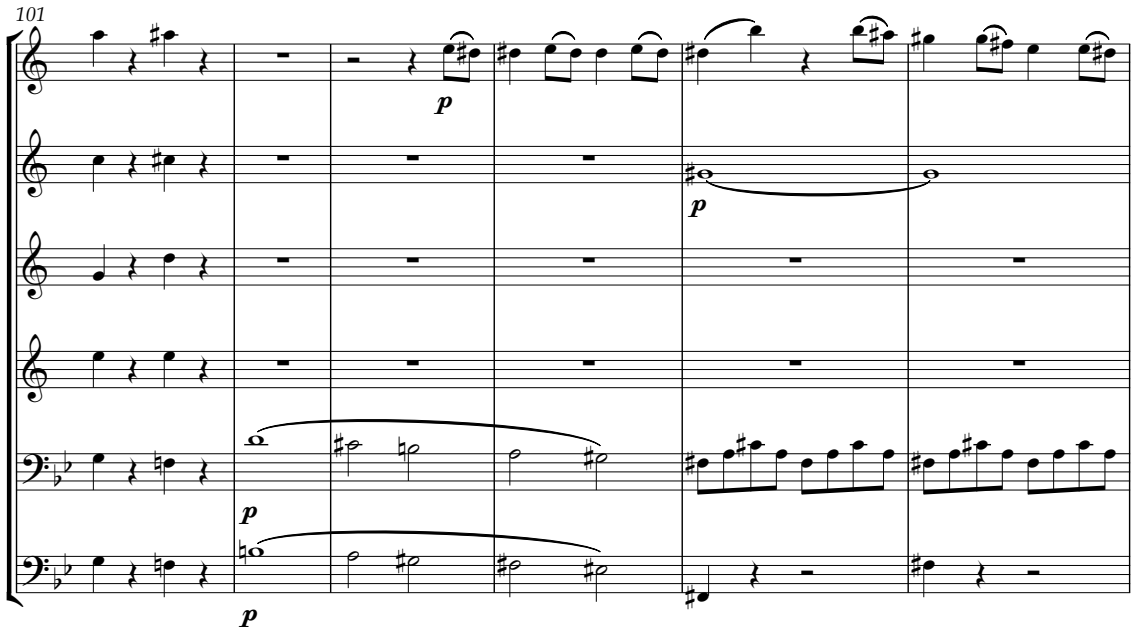

70
p
p
p
p
p
p

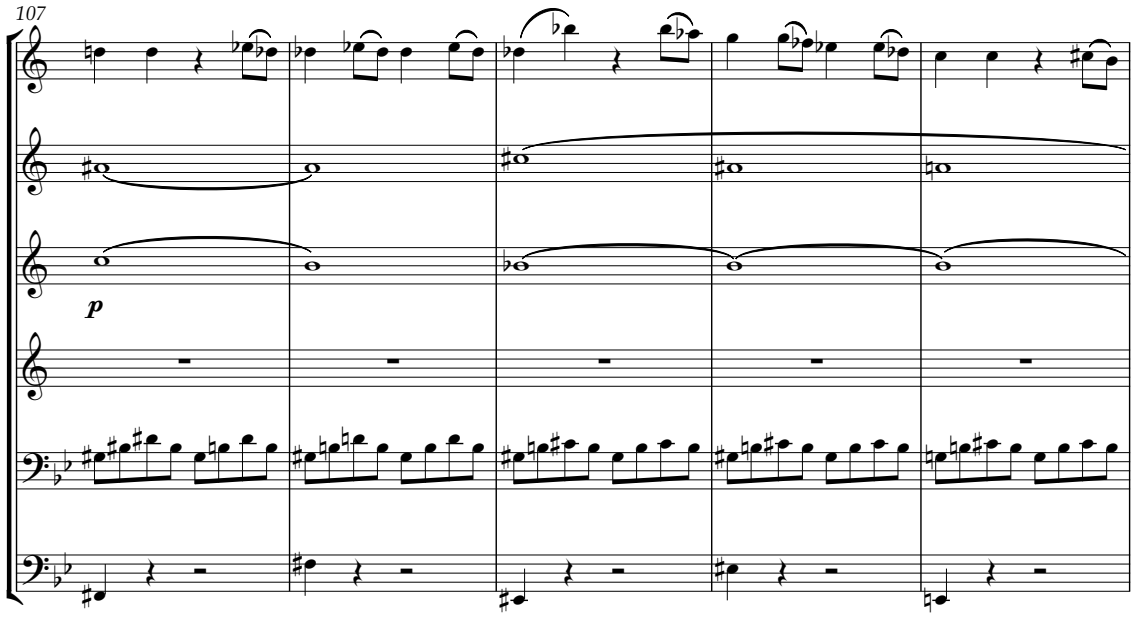

76
f
p

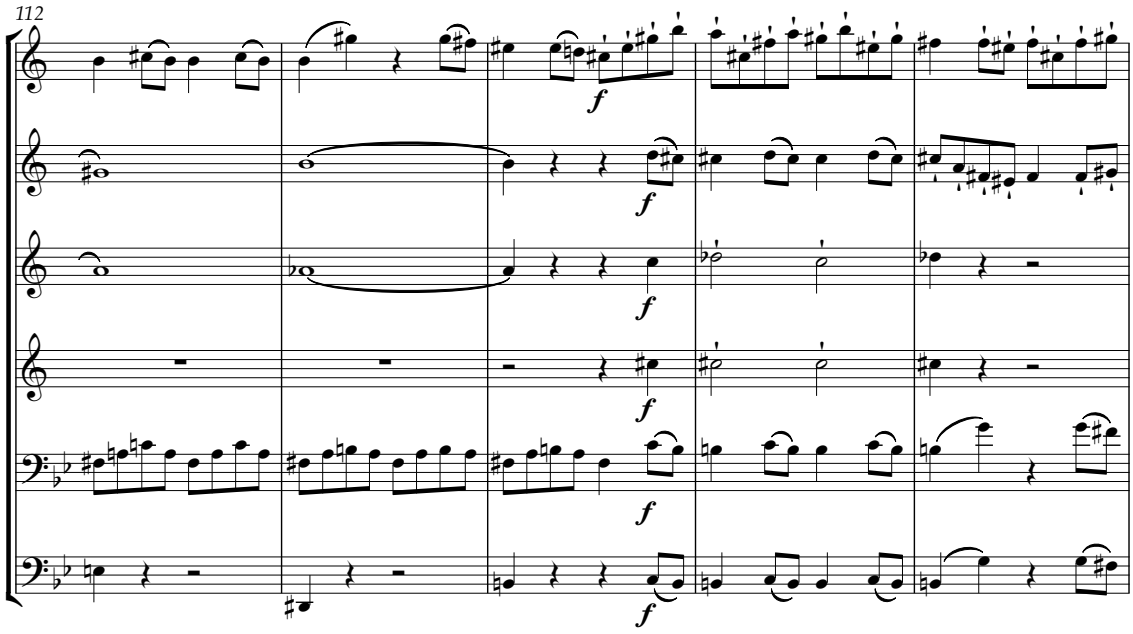

83
f

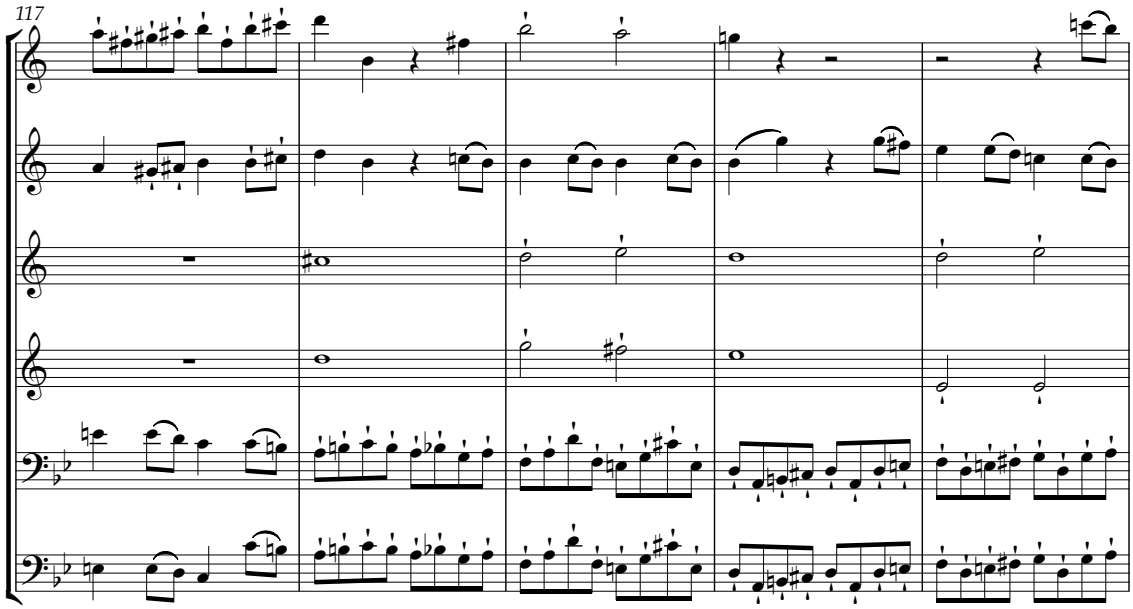

89

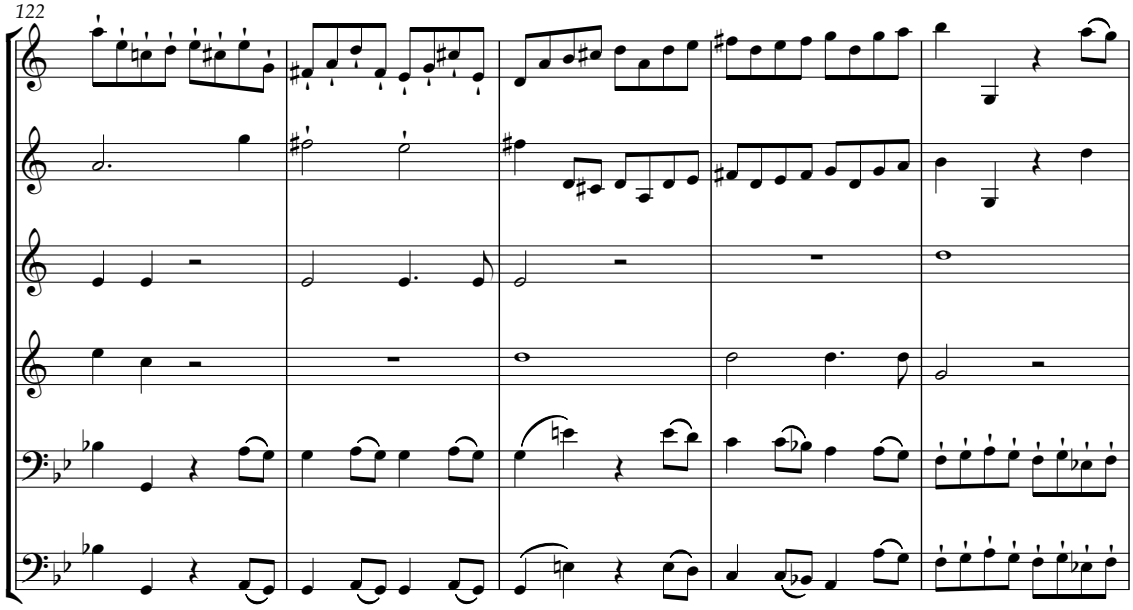

95

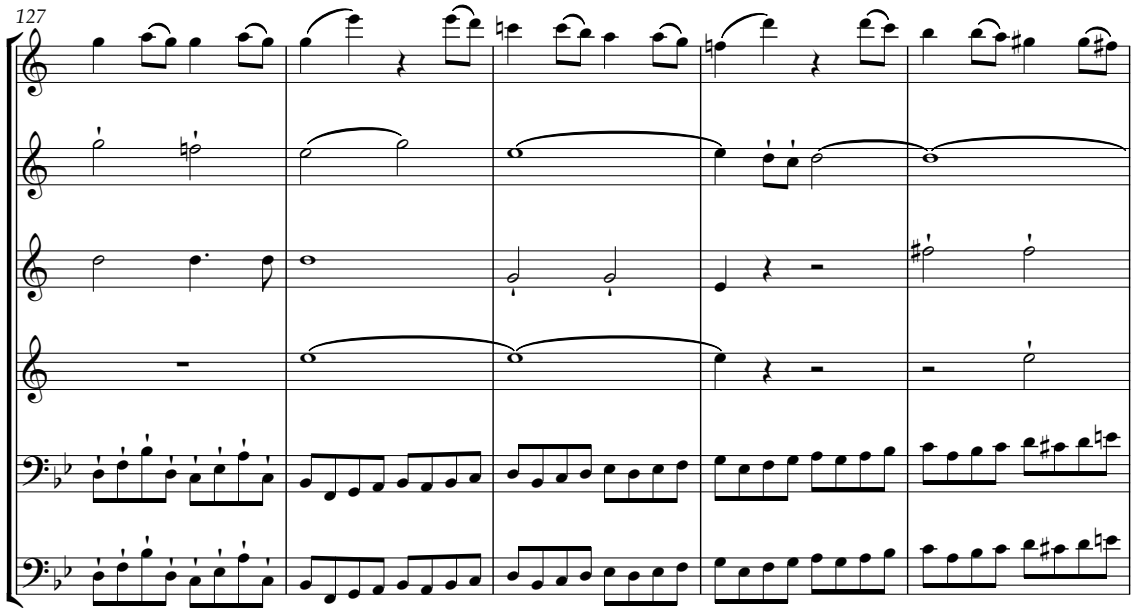

101
p
p
p

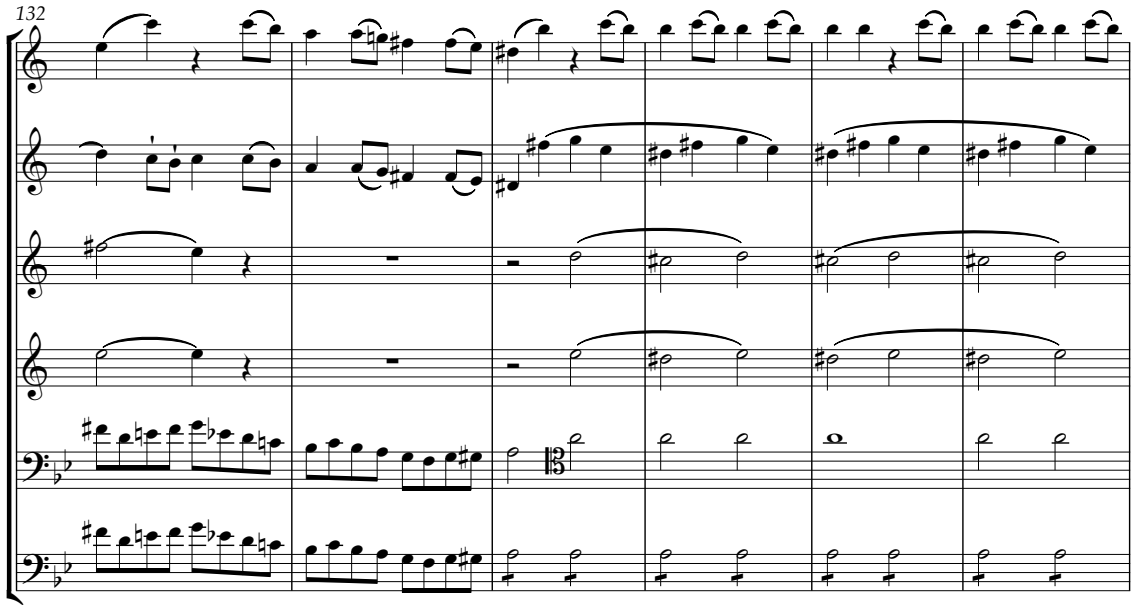

107
p

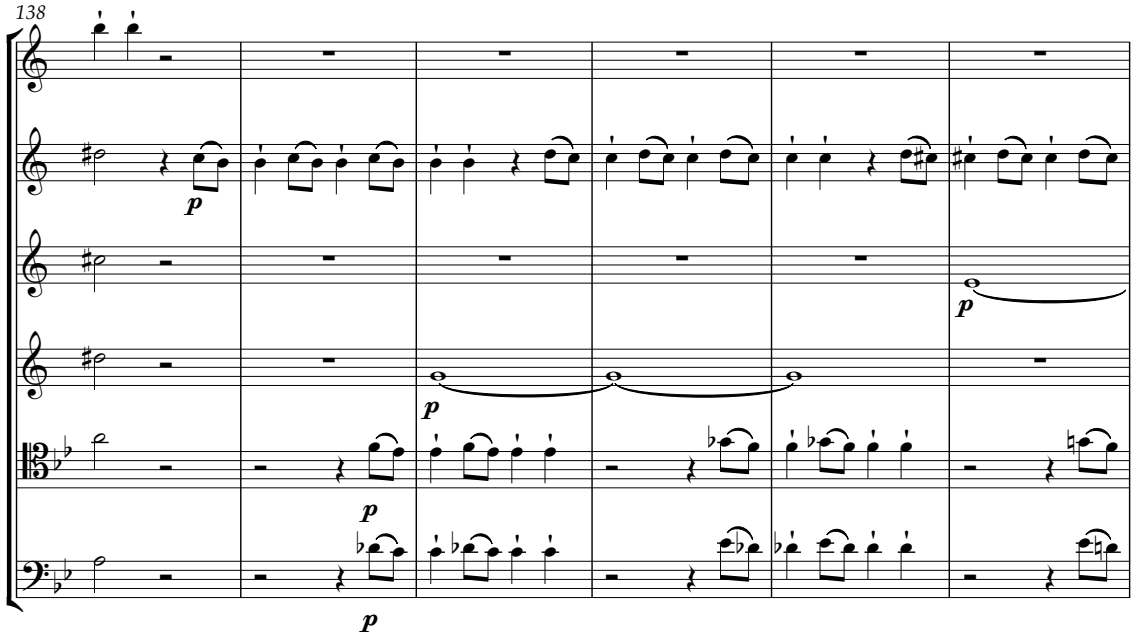

112
f
f
f
f
f

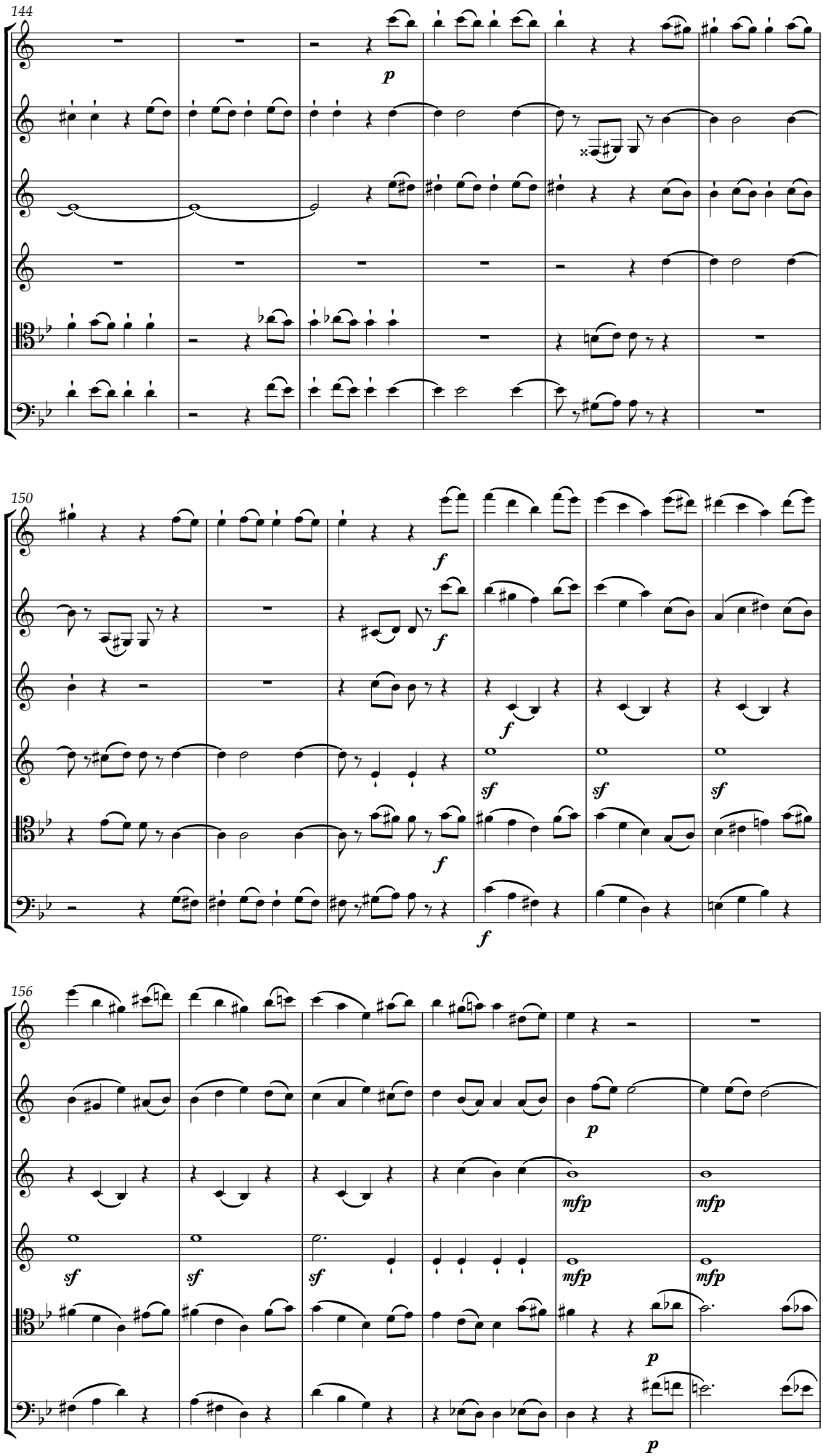

117

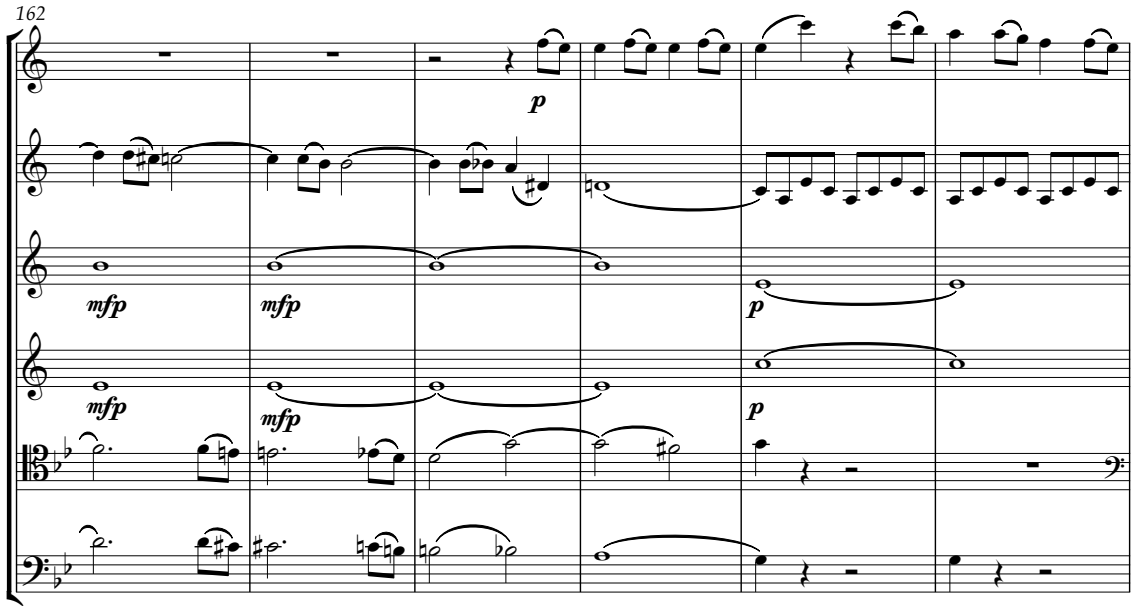

122

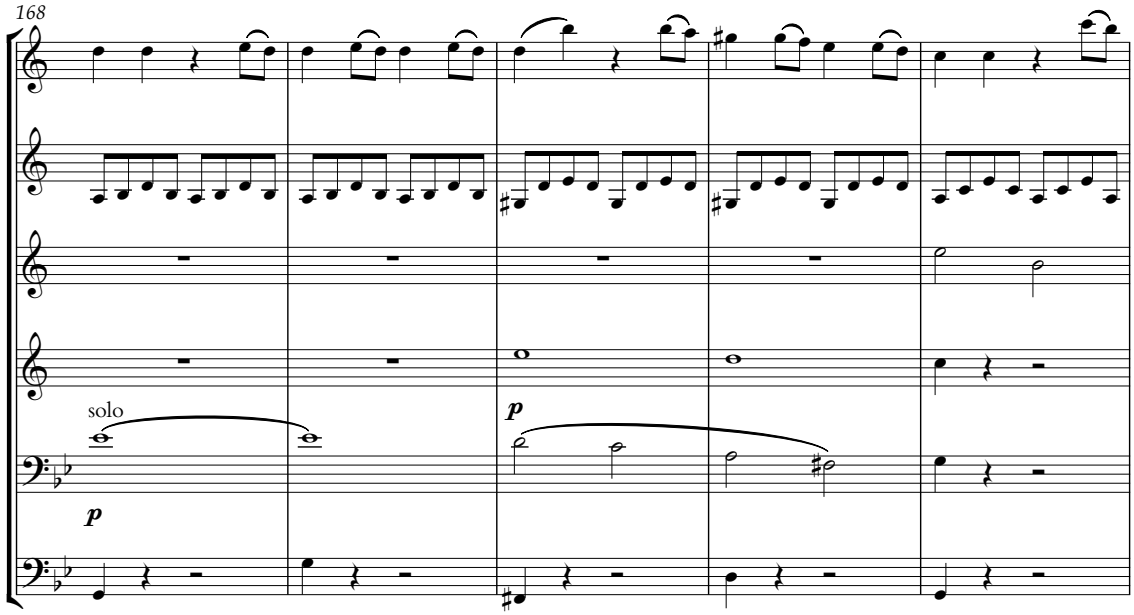

127

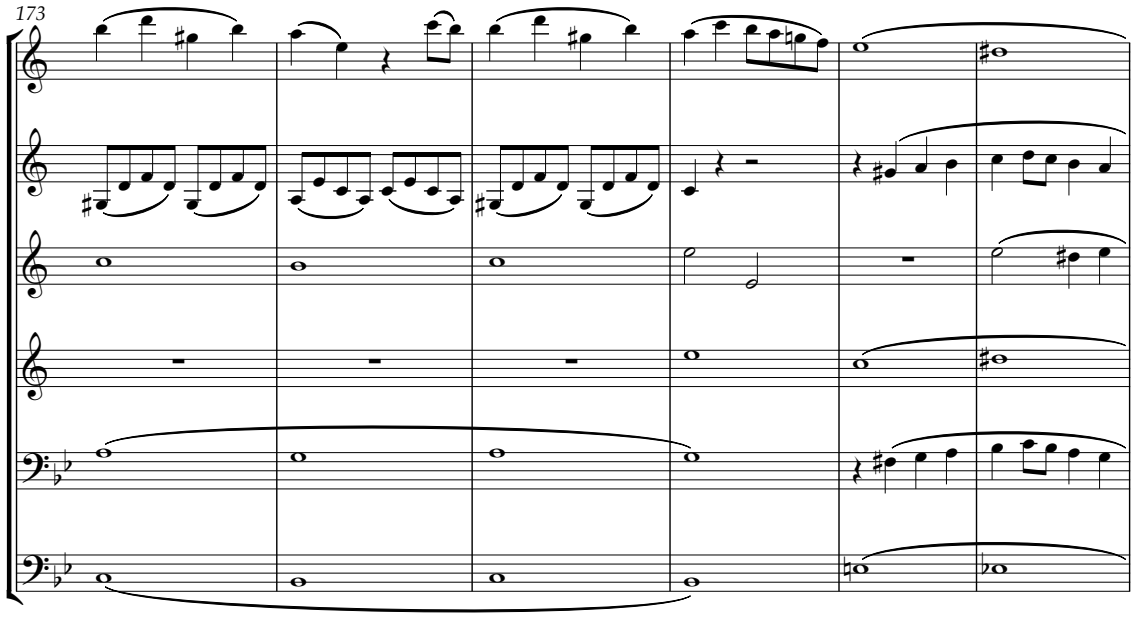

132

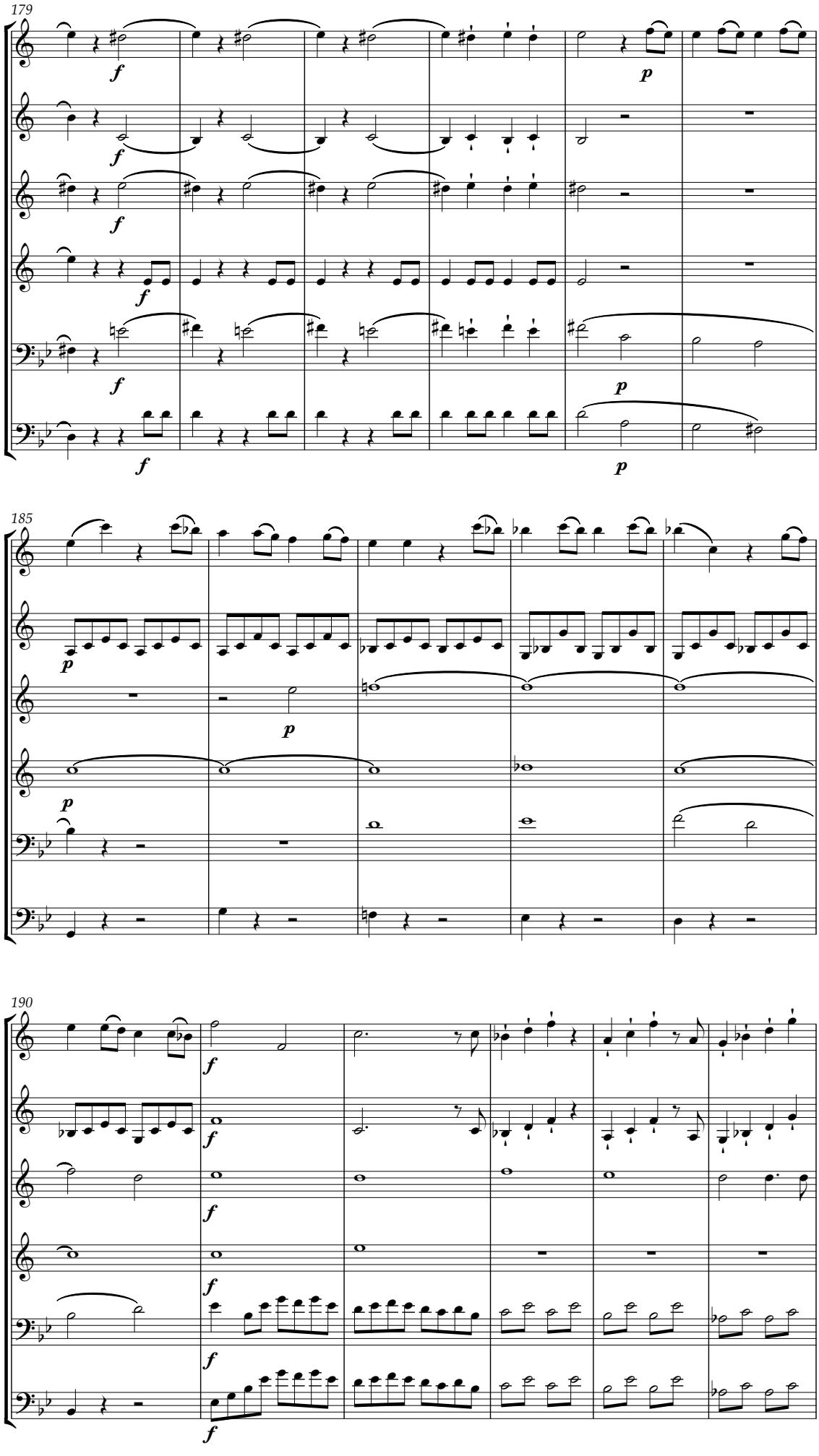

138
p
p
p
p

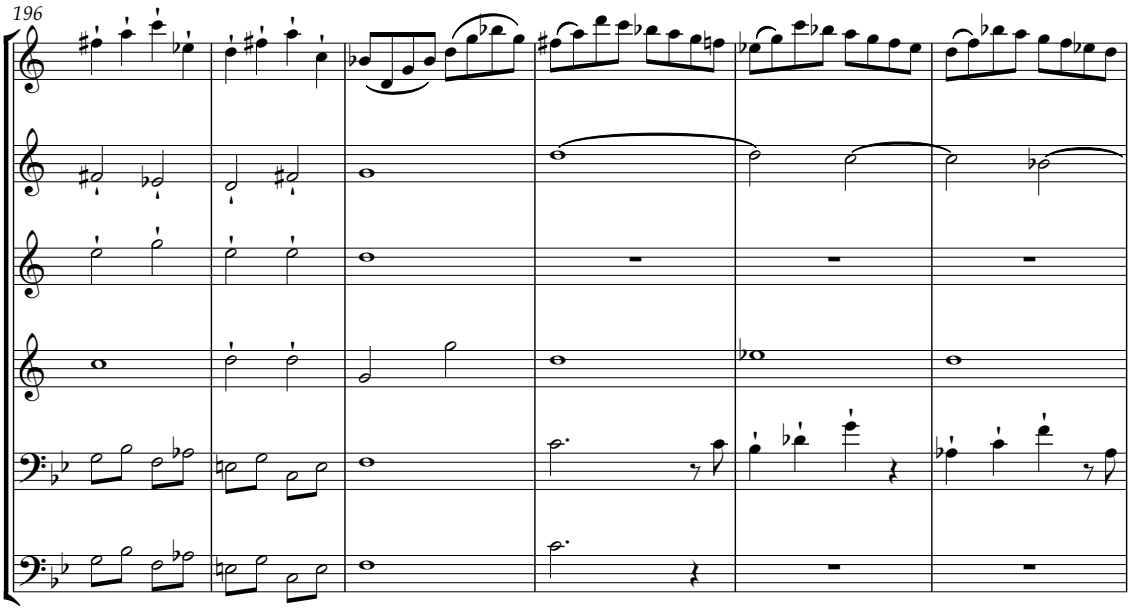

144
p
150
f
sf
156
mfp
p

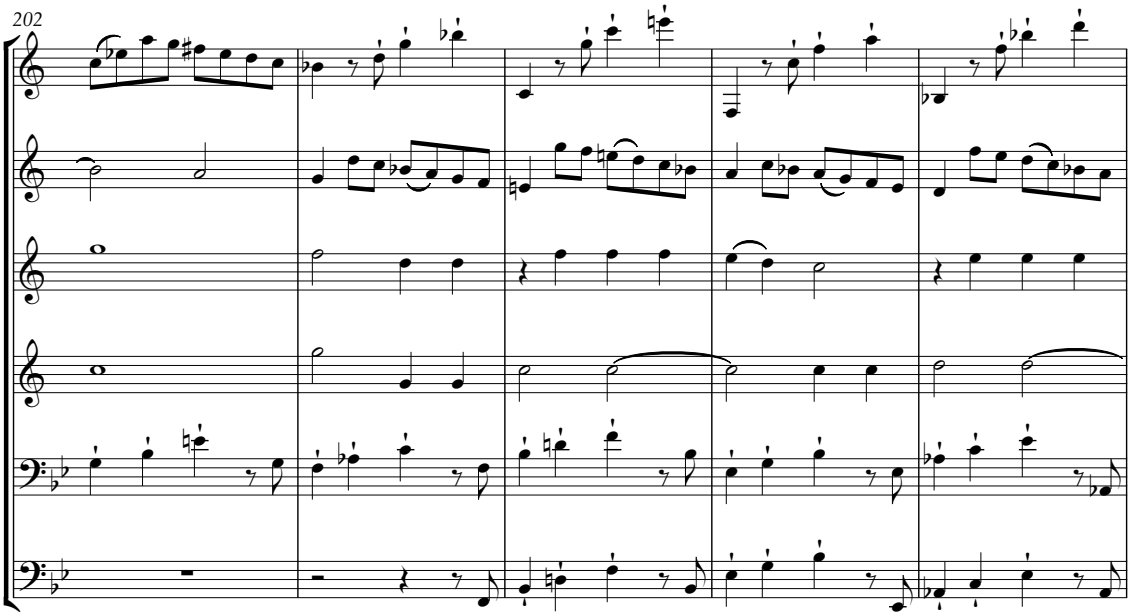

162
p
mfp
mfp
p
mfp
mfp
p

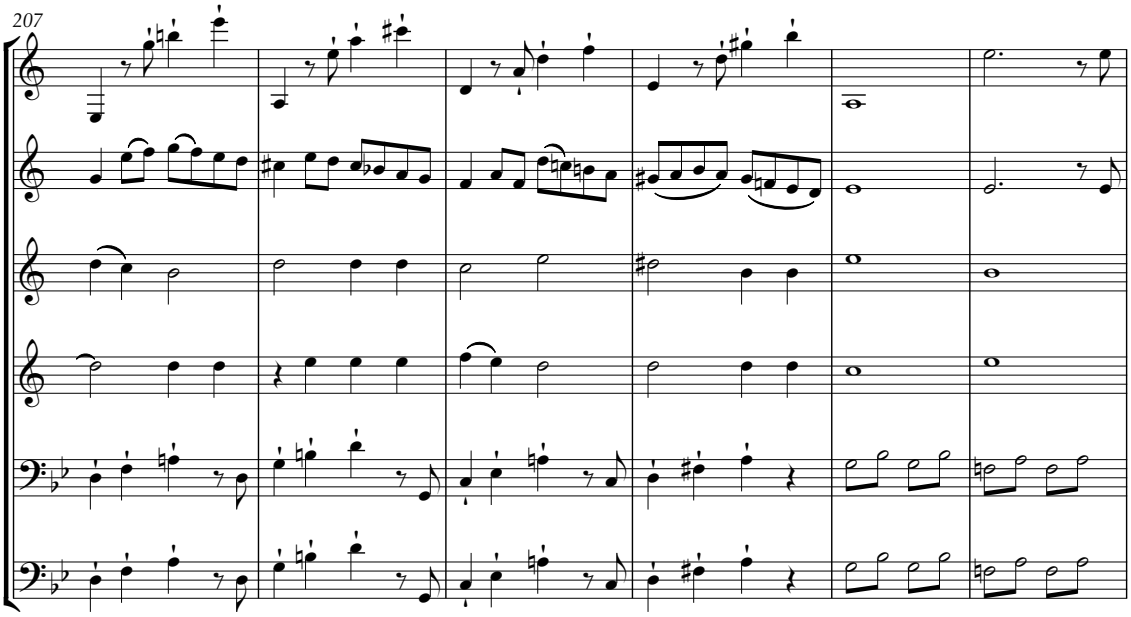

168
solo
p
p

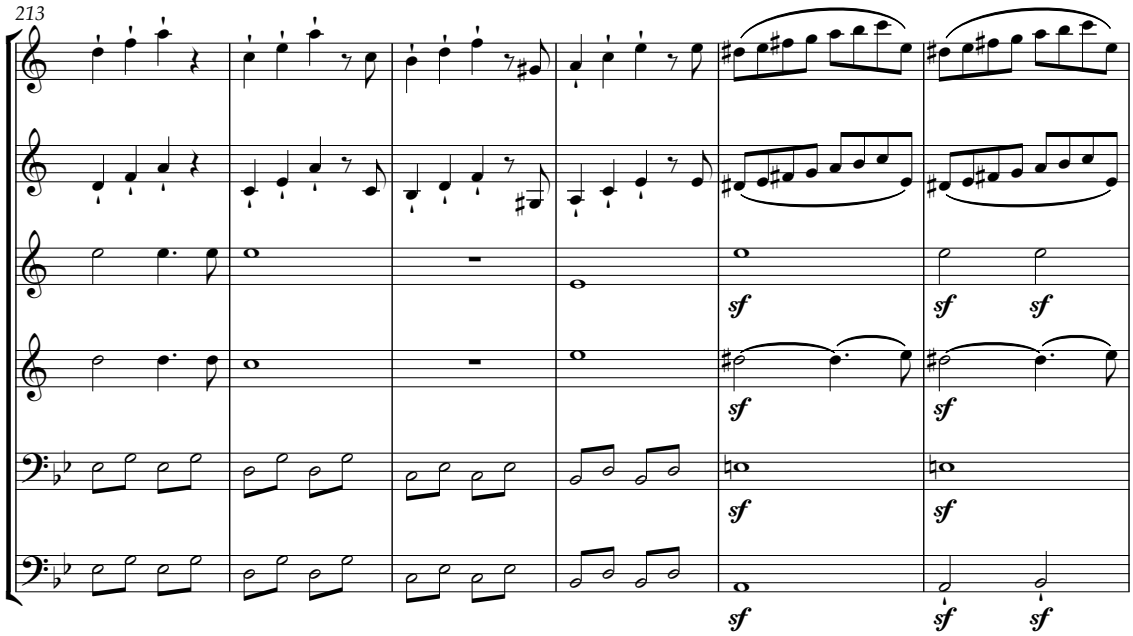

173

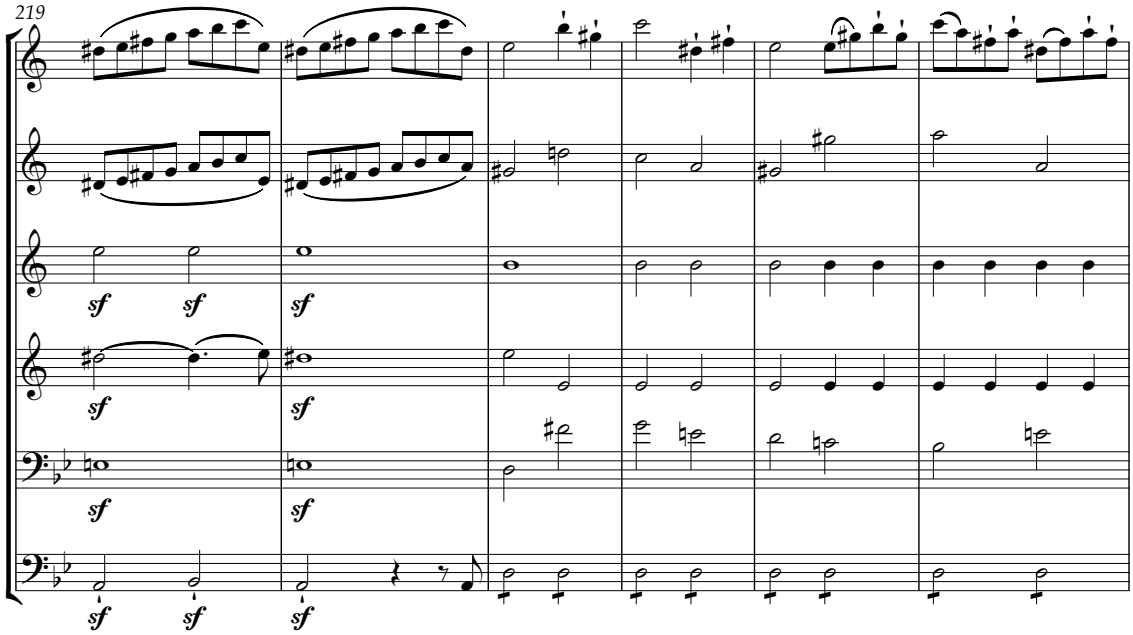

179
185
190

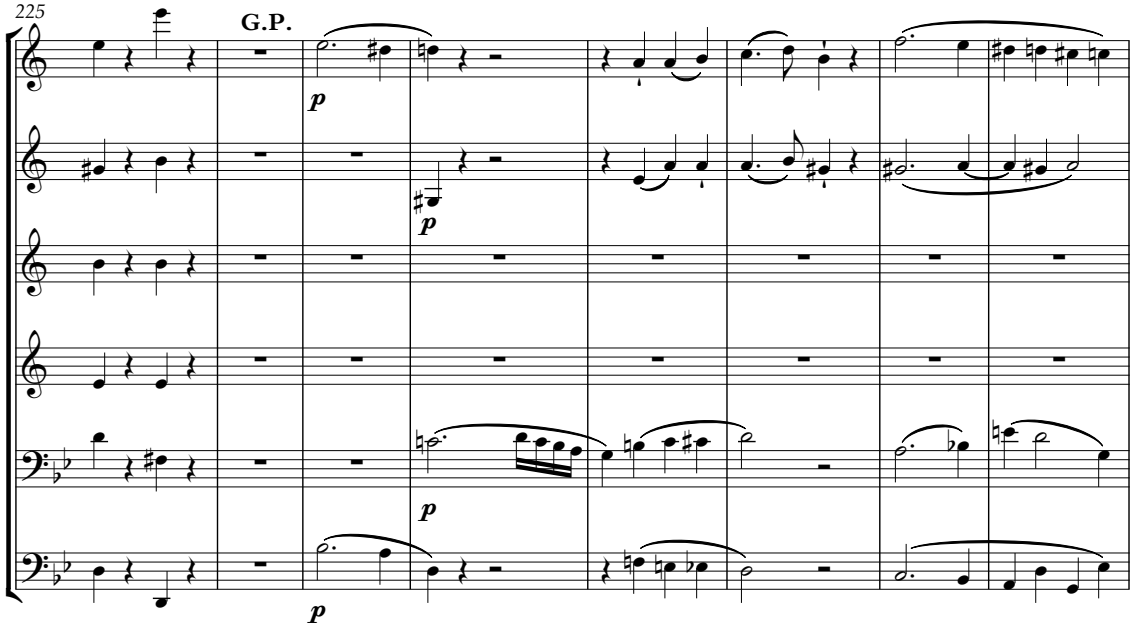

196

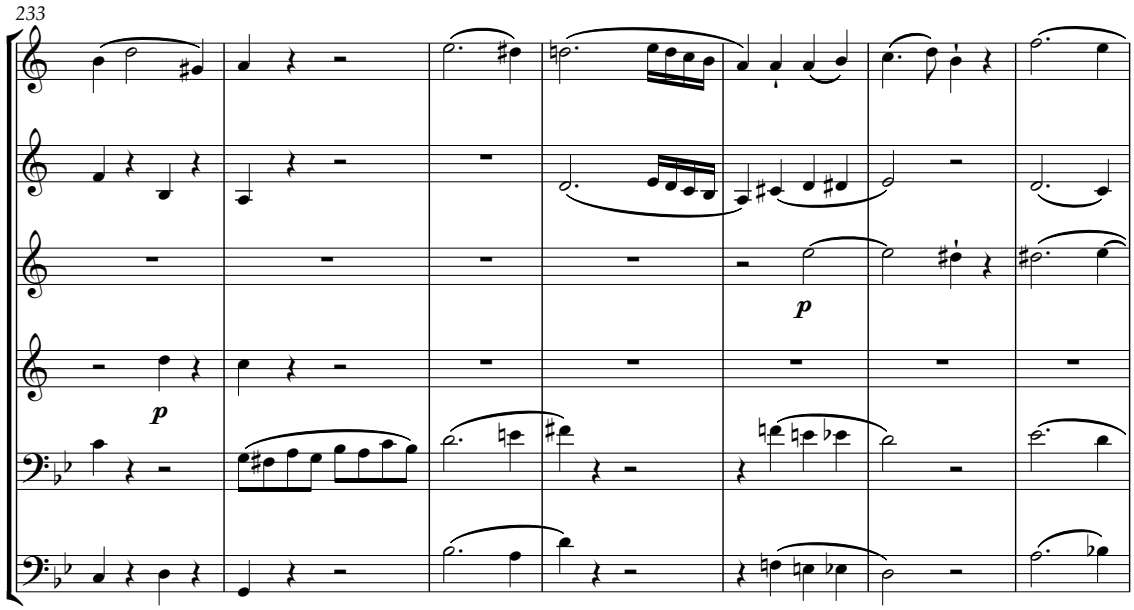

202

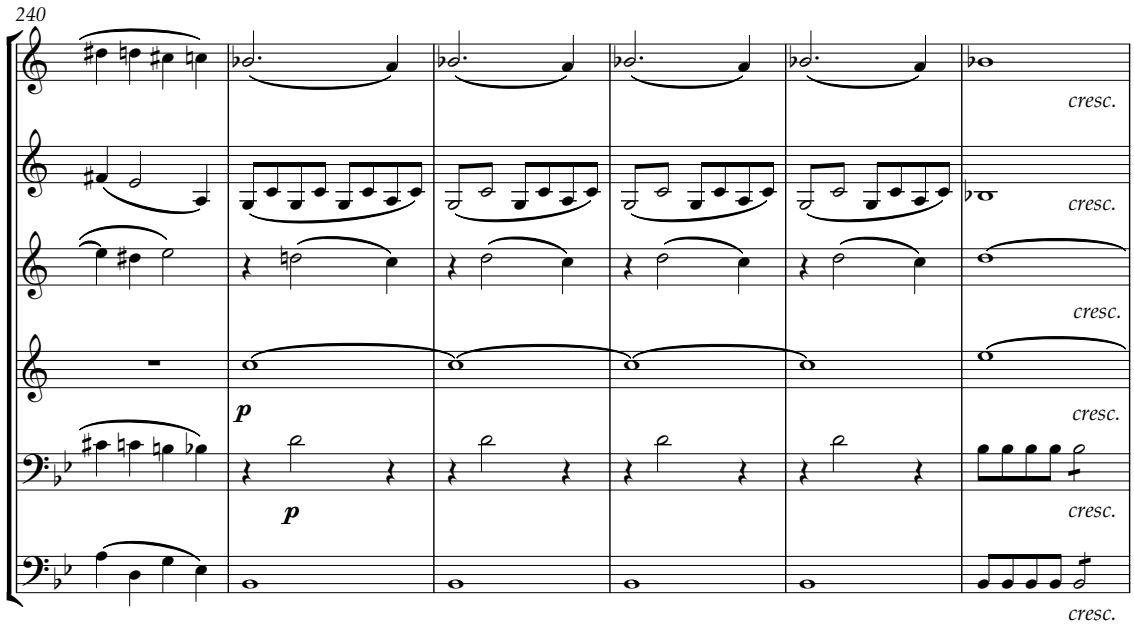

207

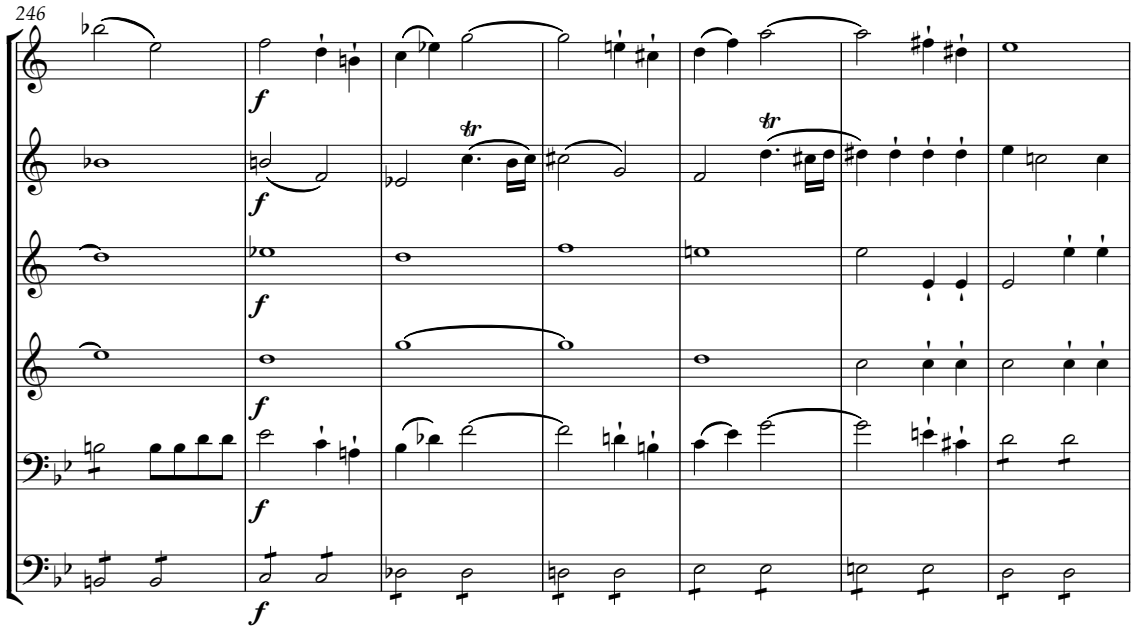

213
sf

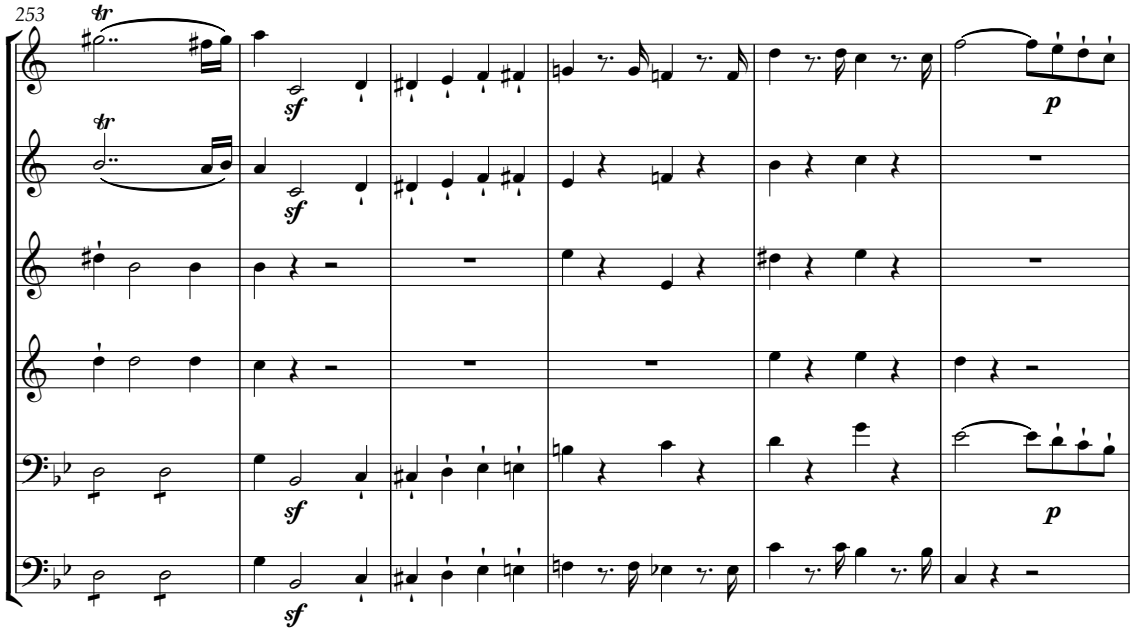

219
sf

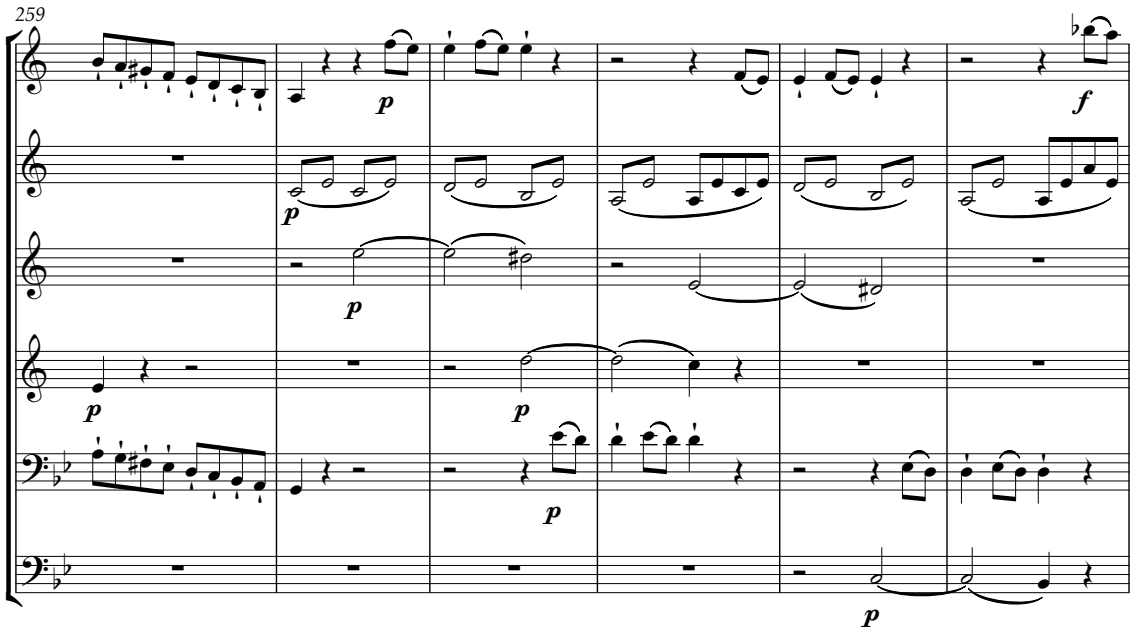

225
G.P.
p

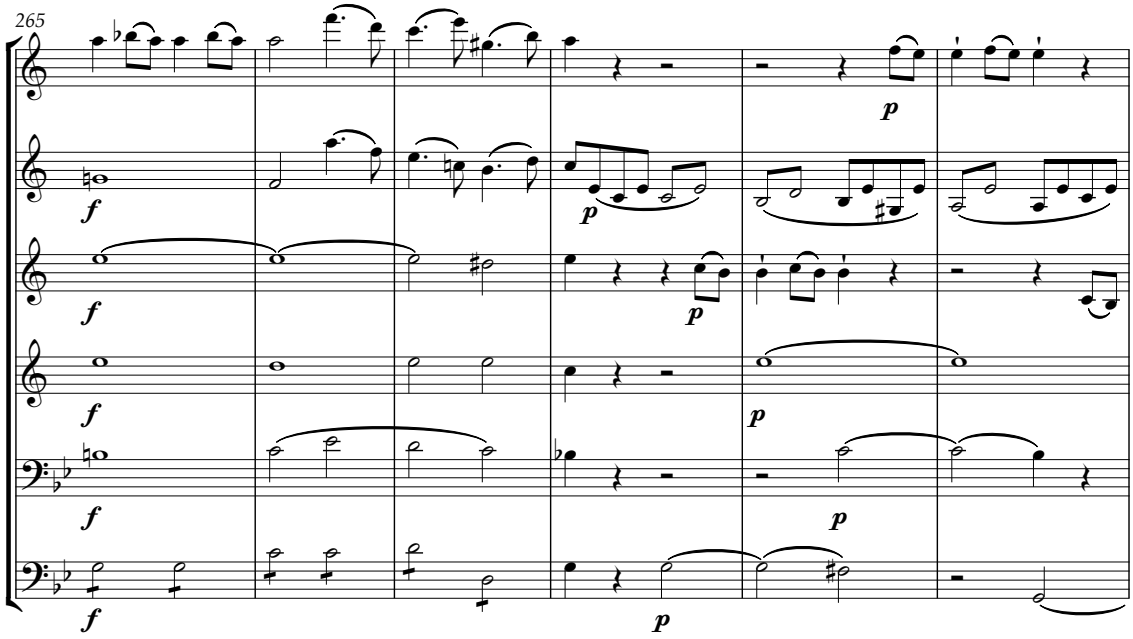

233
p
p

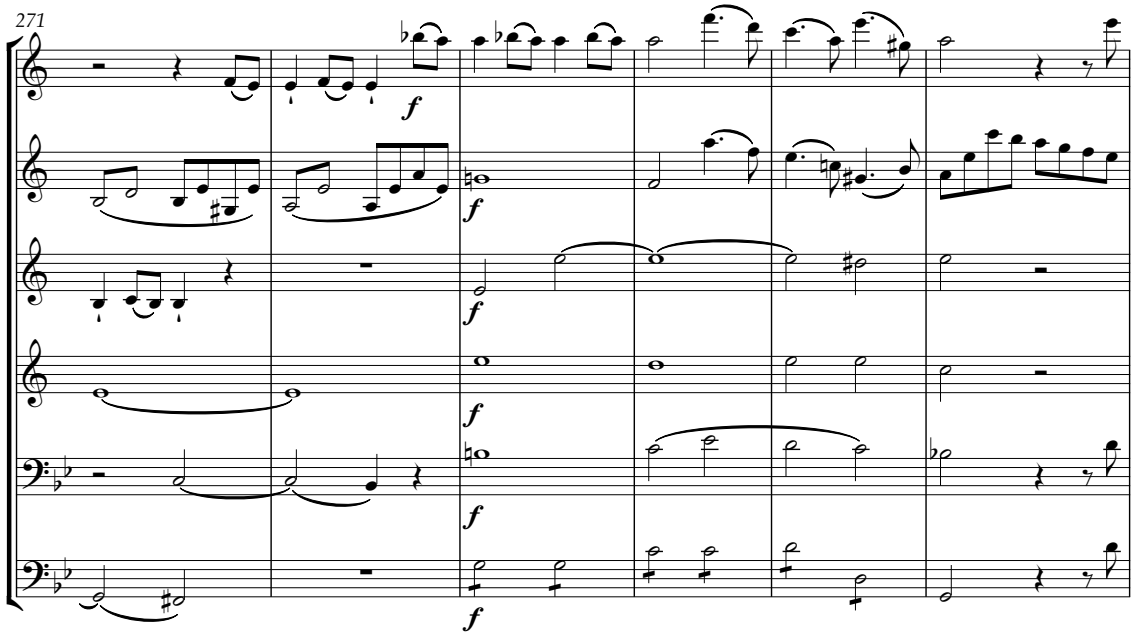

240
cresc.
cresc.
cresc.
cresc.
cresc.
cresc.
p
p

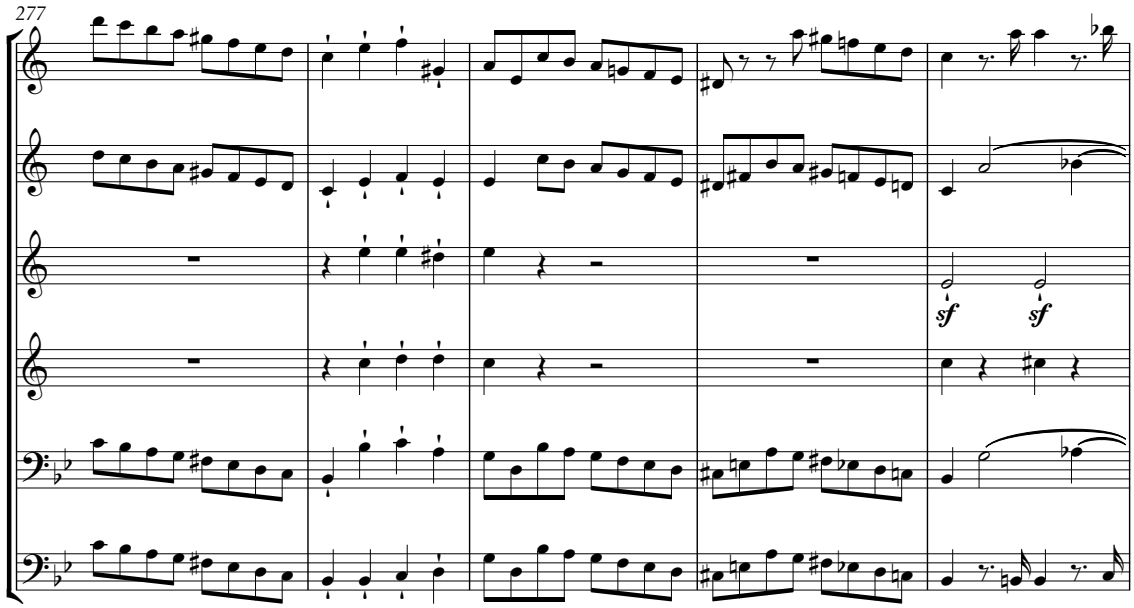

246
f
f
f
f
f
f
tr
tr

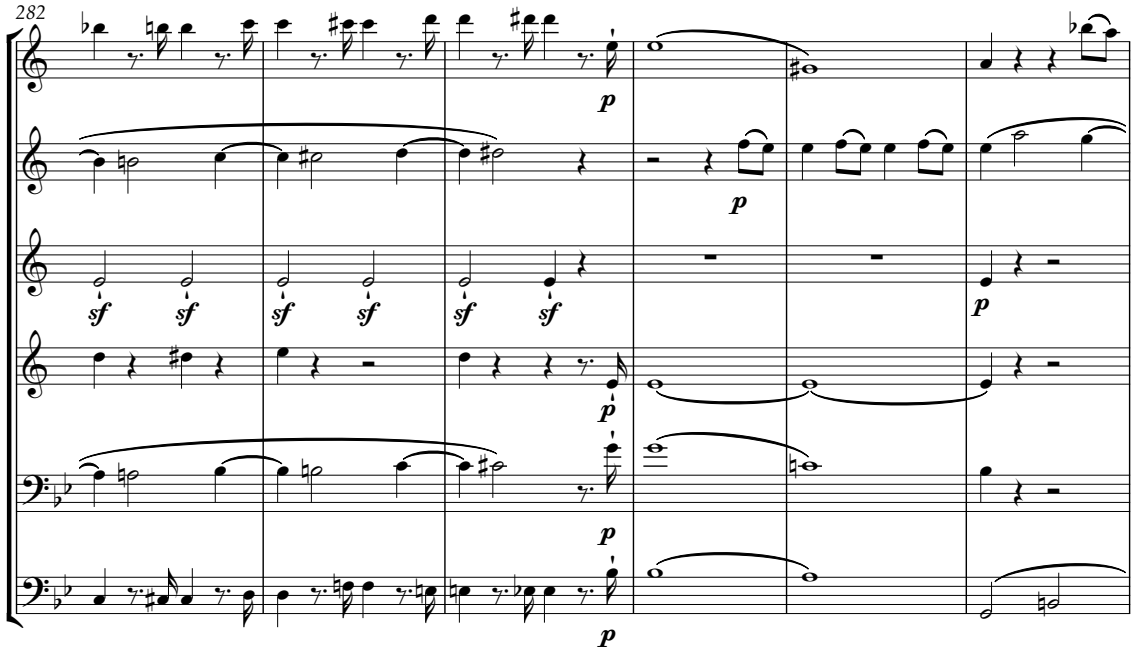

253
tr
sf
p

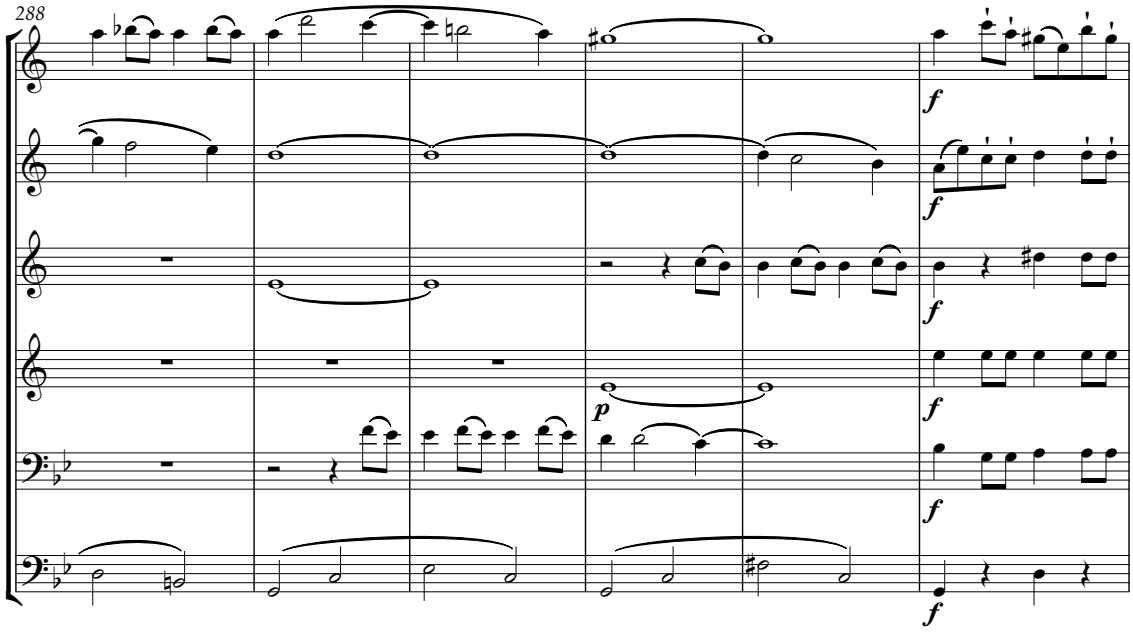

259
p
f

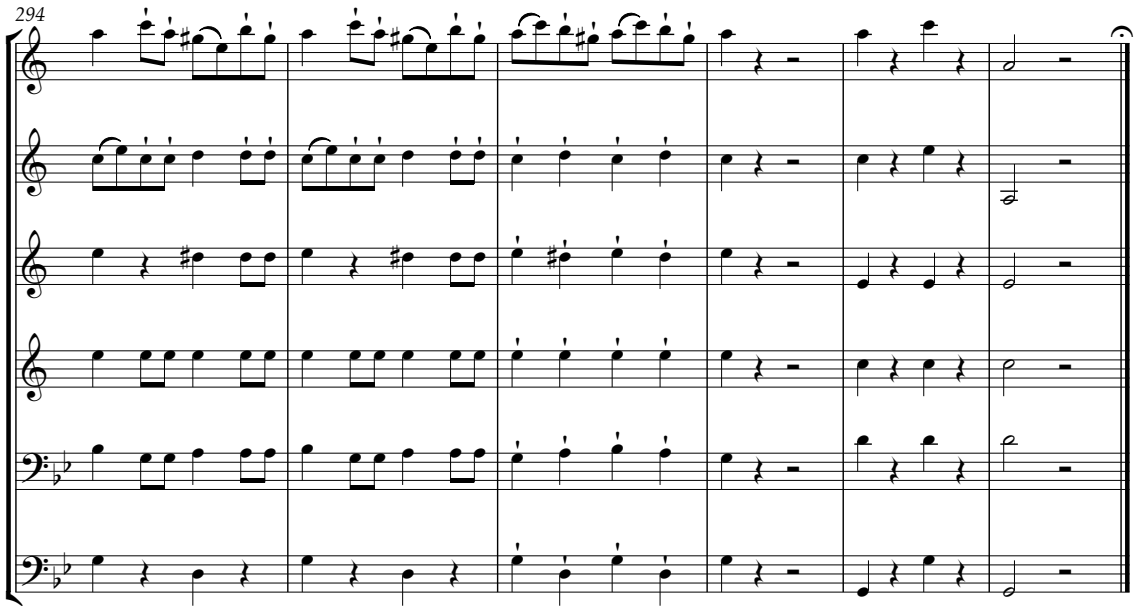

265
f
p

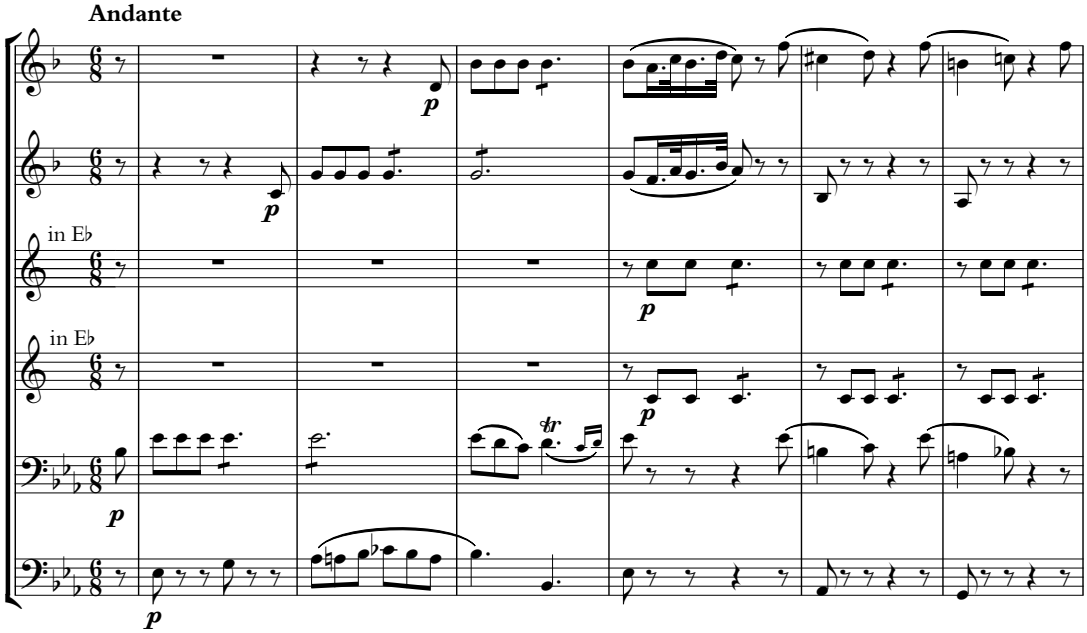

271
f
f
f
f
f

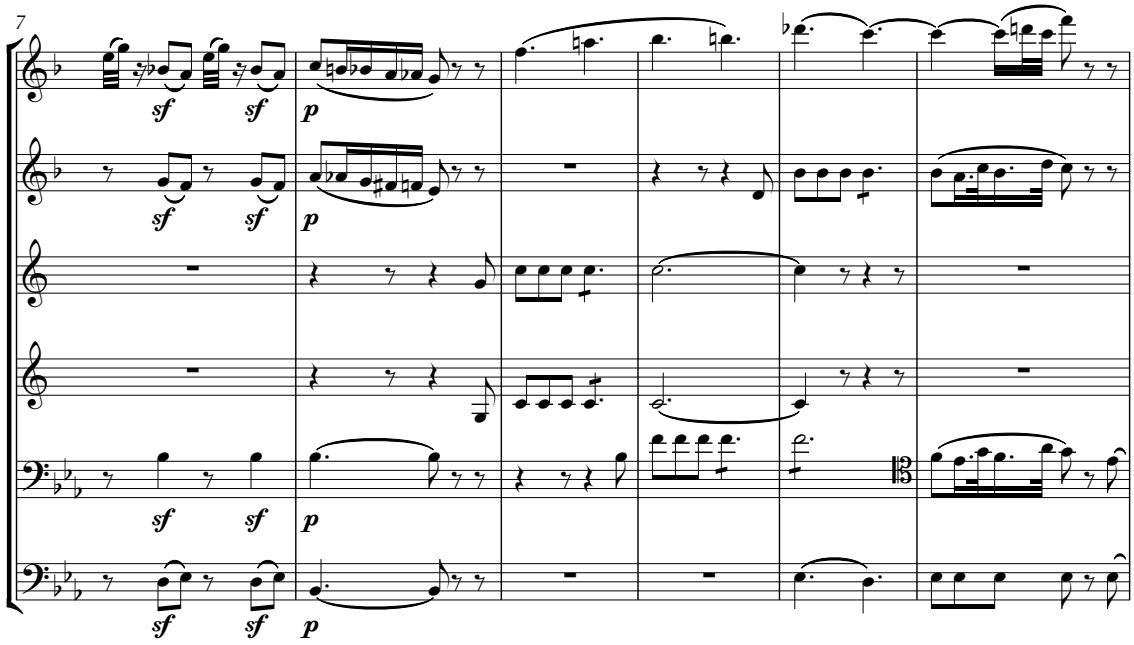

277
sf
sf

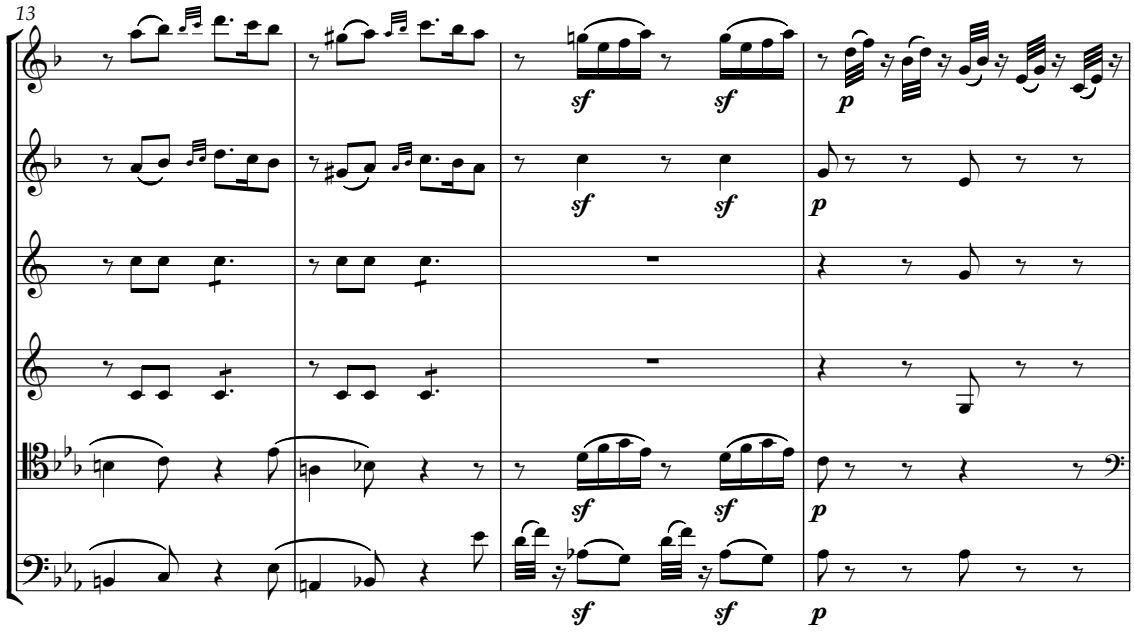

282
p
p
sf
sf
sf
sf
sf
sf
p
p
p
p

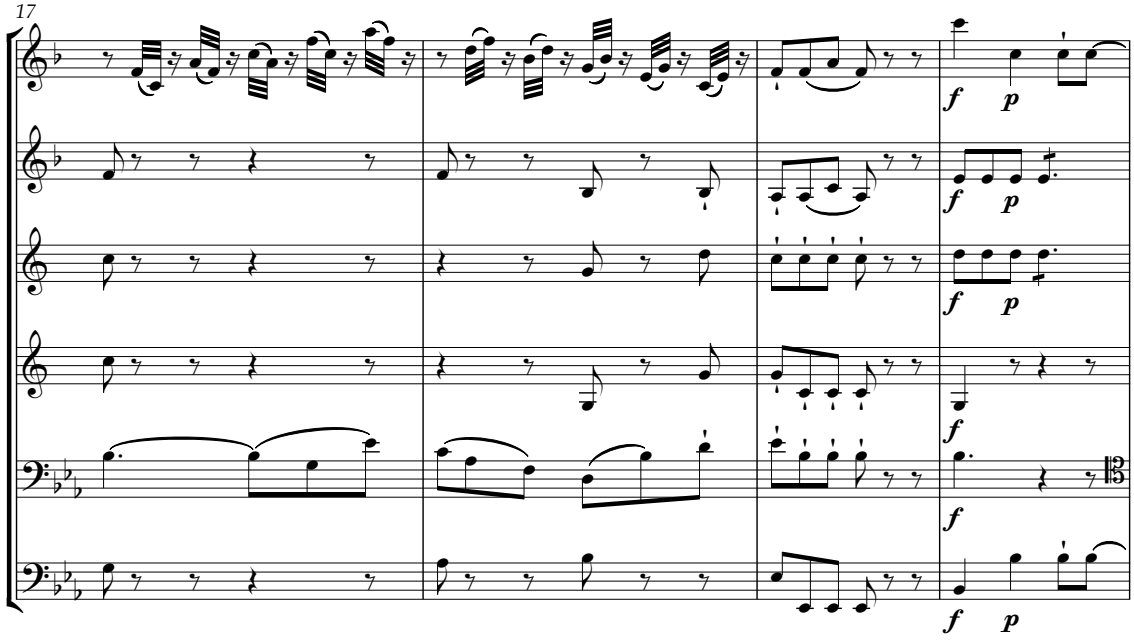

288
f
f
f
p
f
f

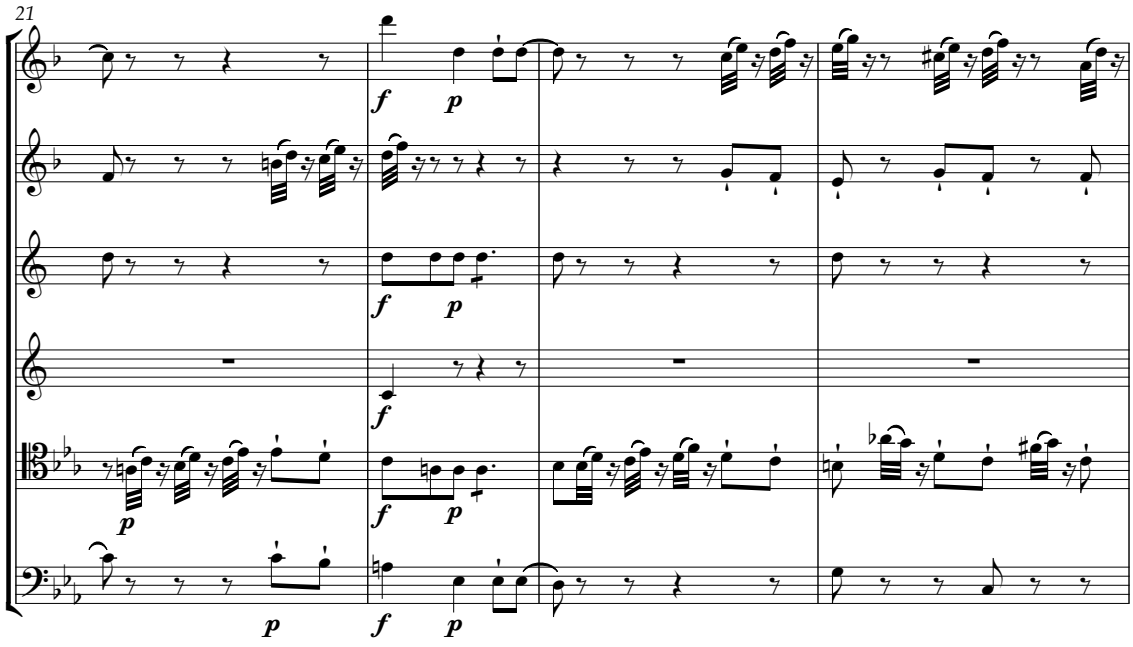

294

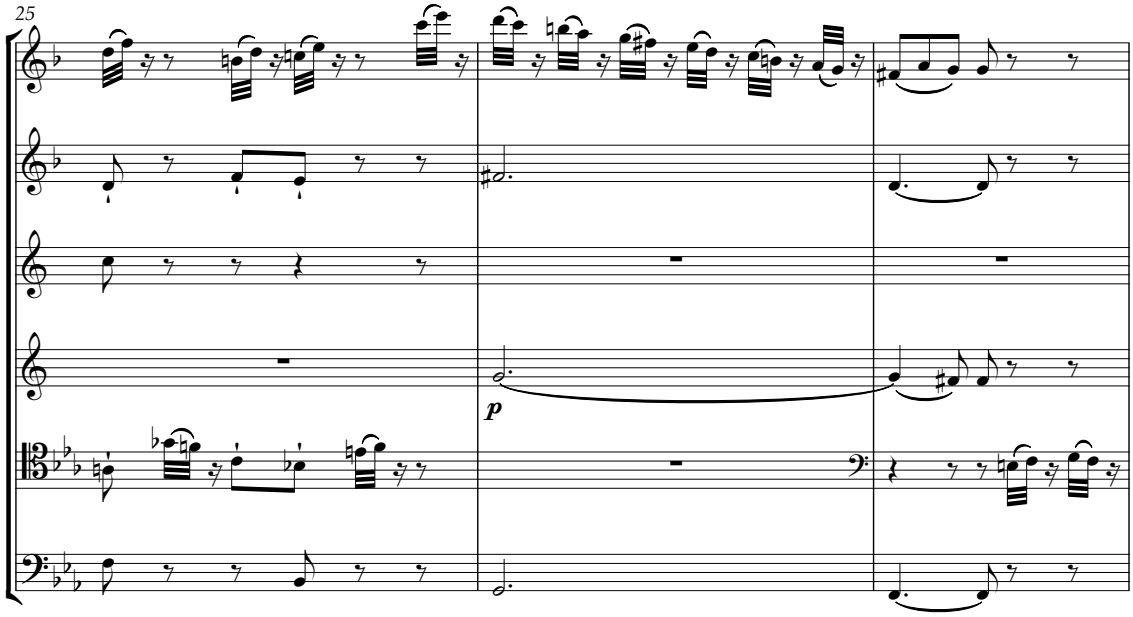

Andante
p
p
in Eb
p
in Eb
p
tr
p
p

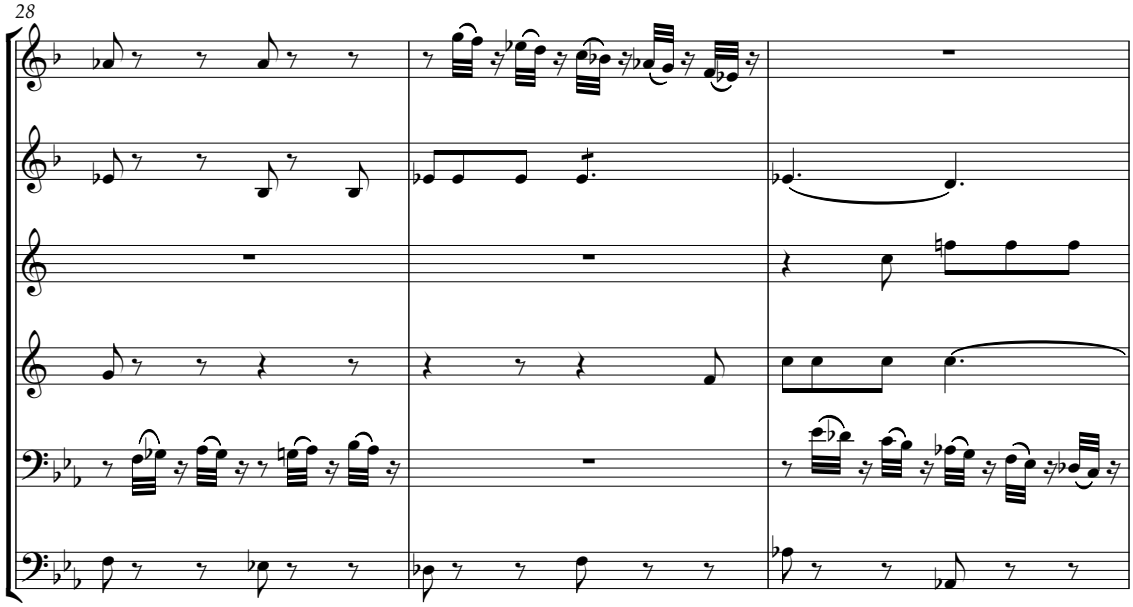

7
sf
sf
p

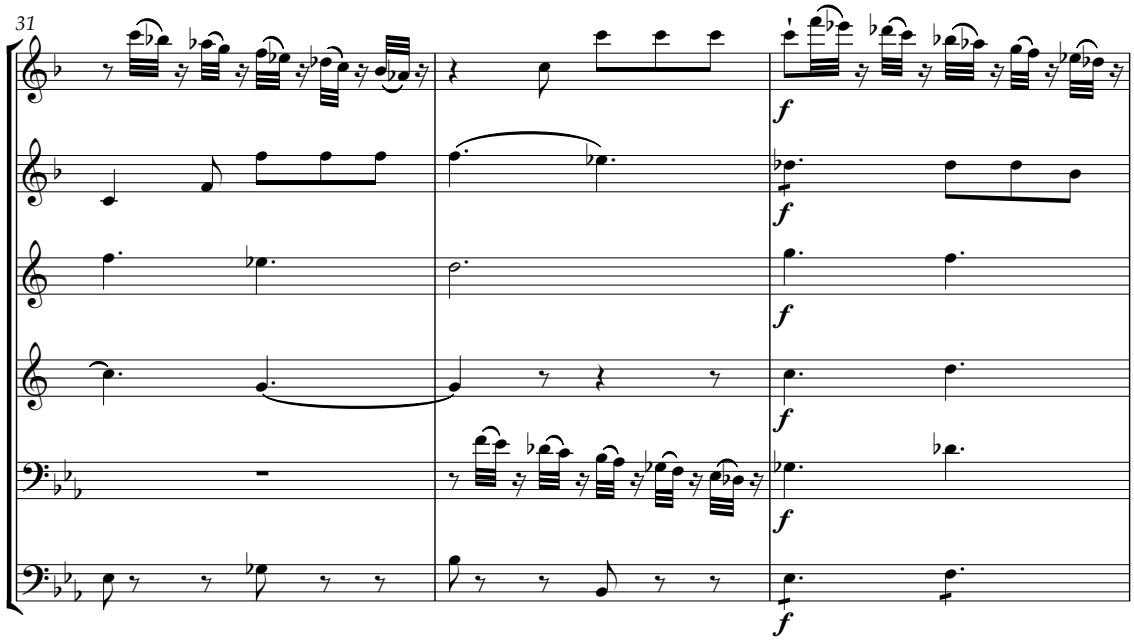

13
sf
sf
p

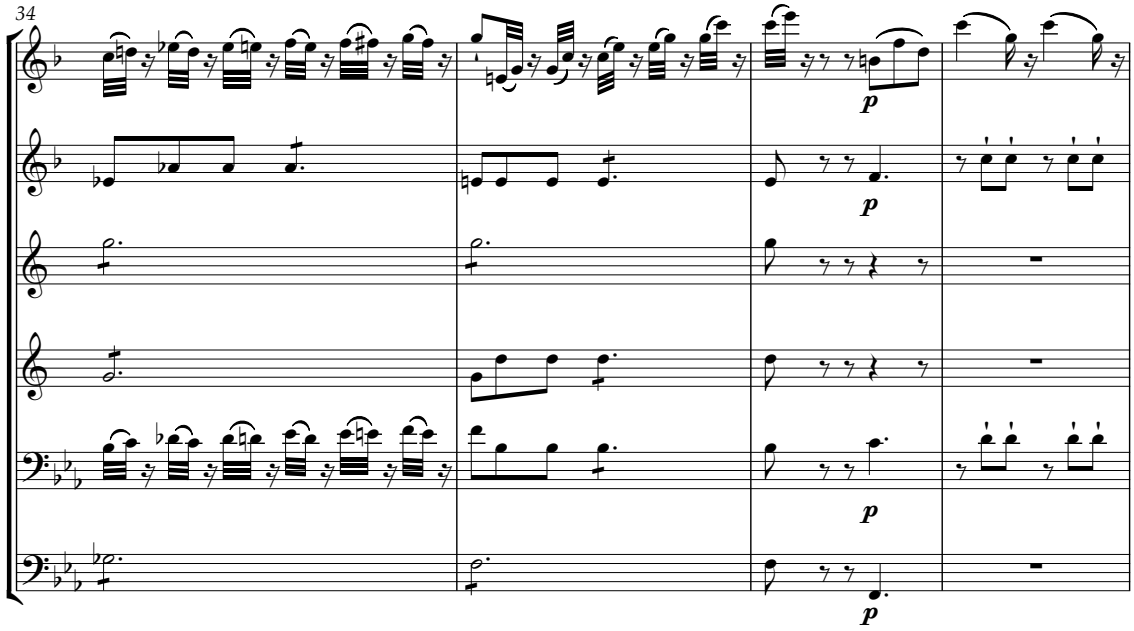

17
f
p

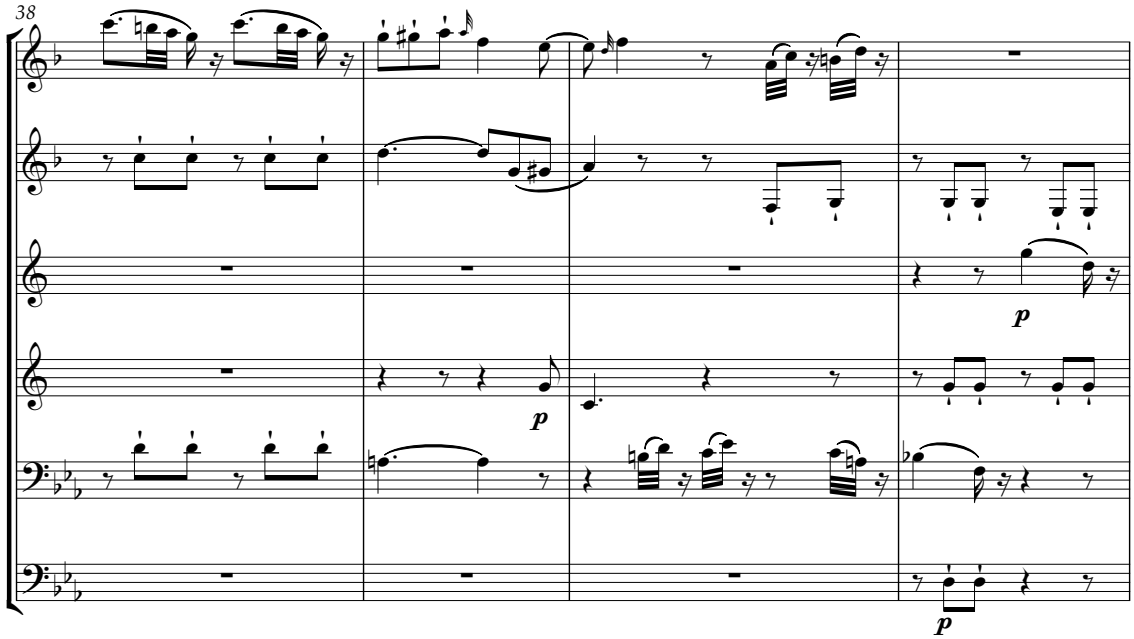

21
f
p
f
p
f
p
f
p
p

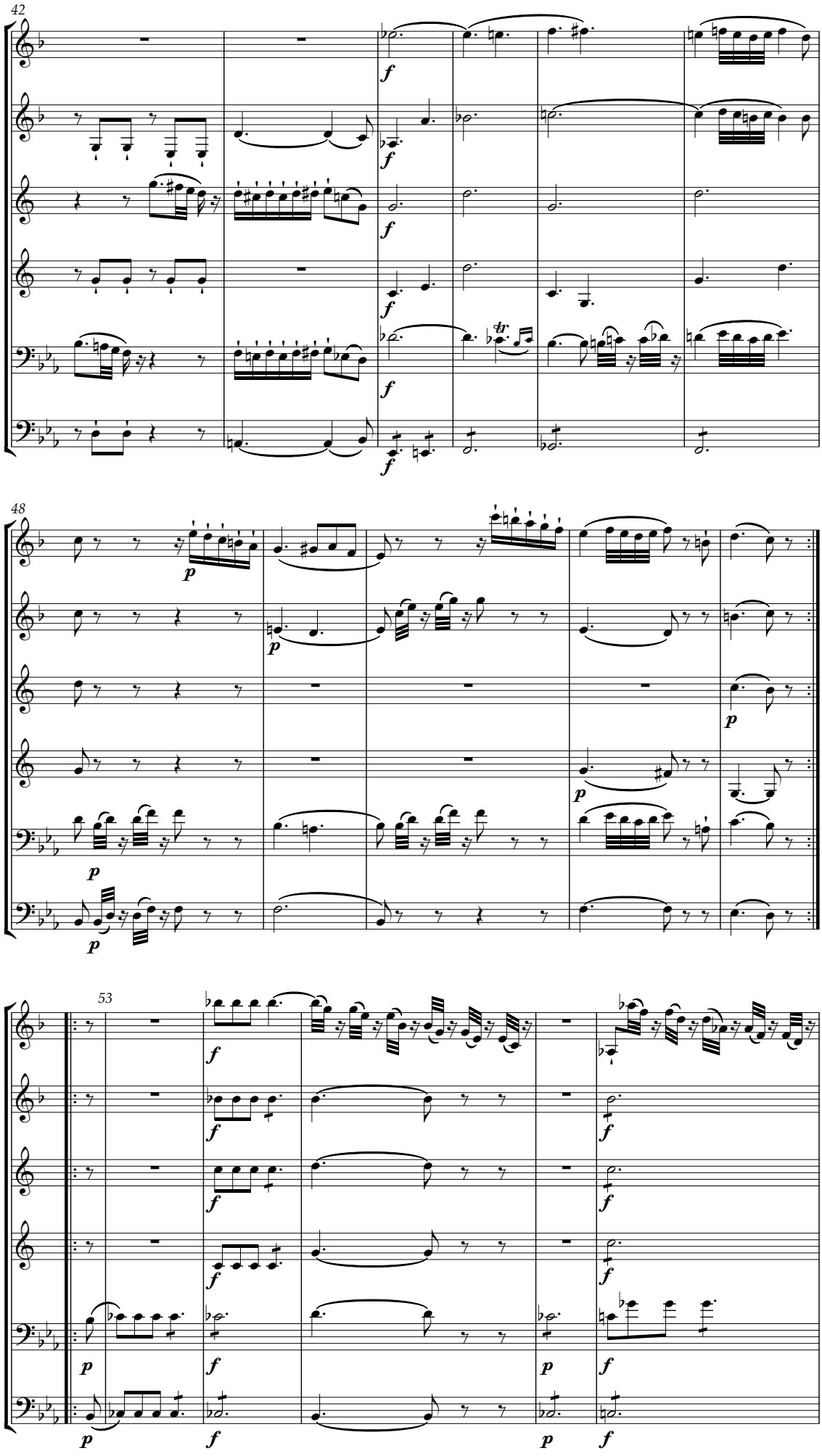

25
p

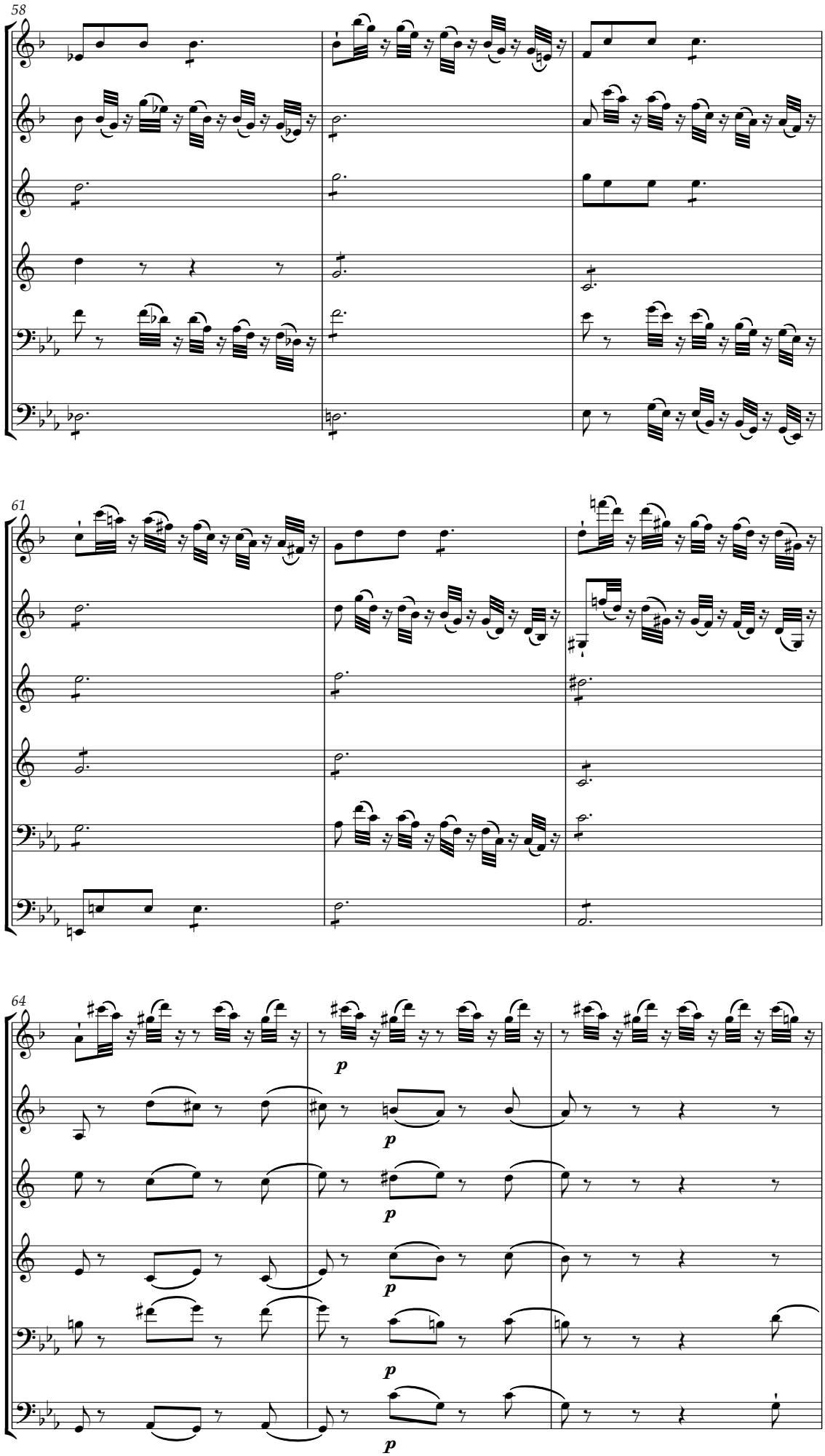

28

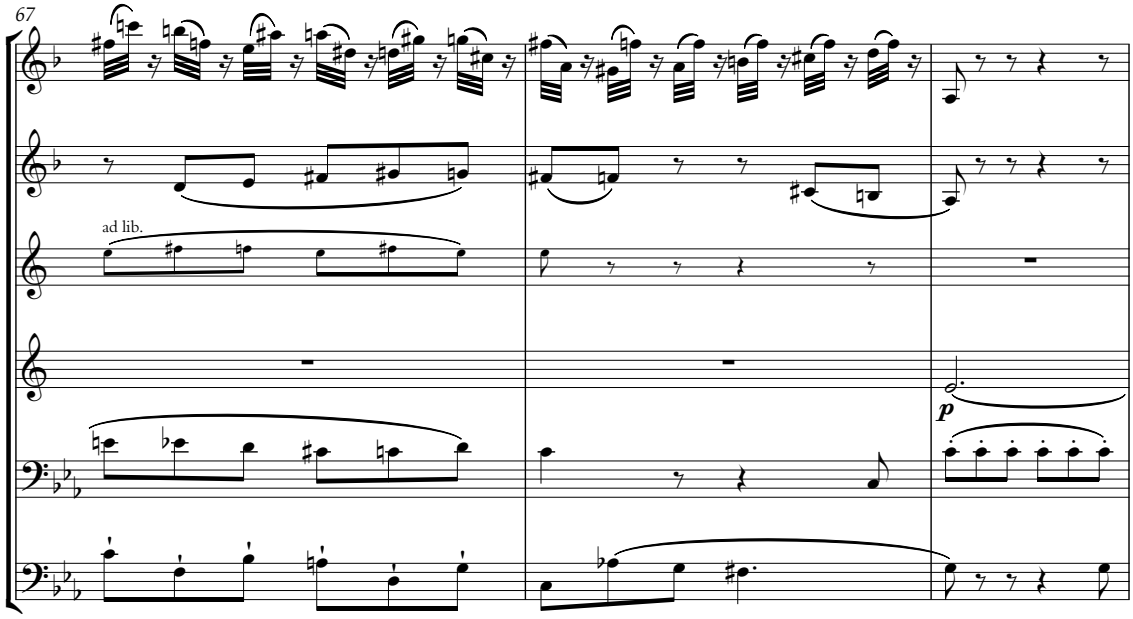

31
f
f
f
f
f

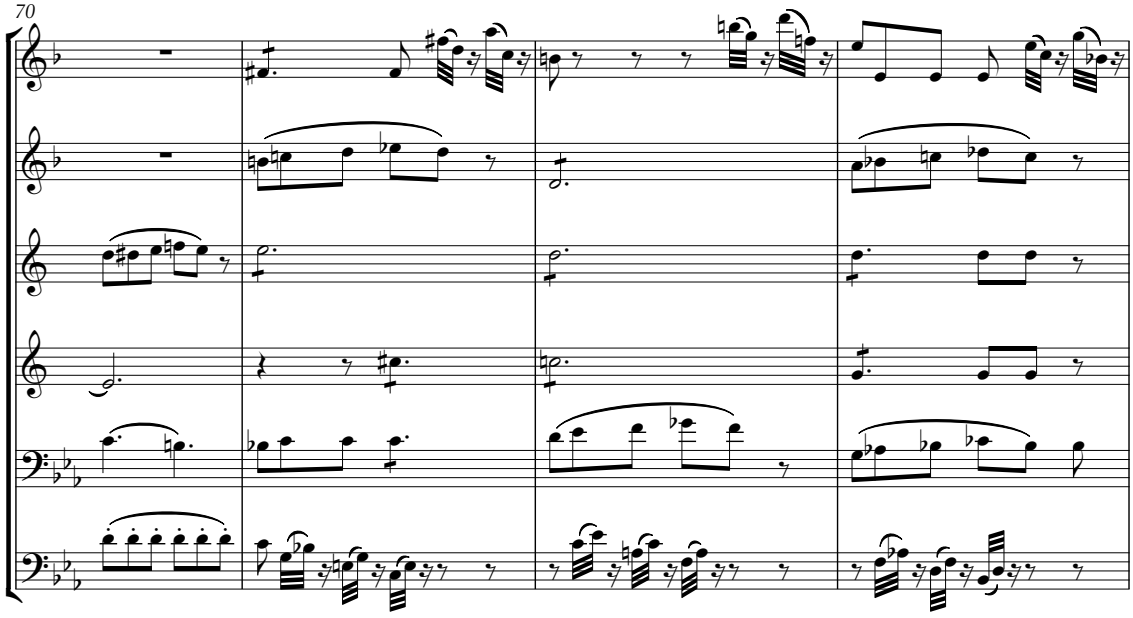

34
p
p
p
p

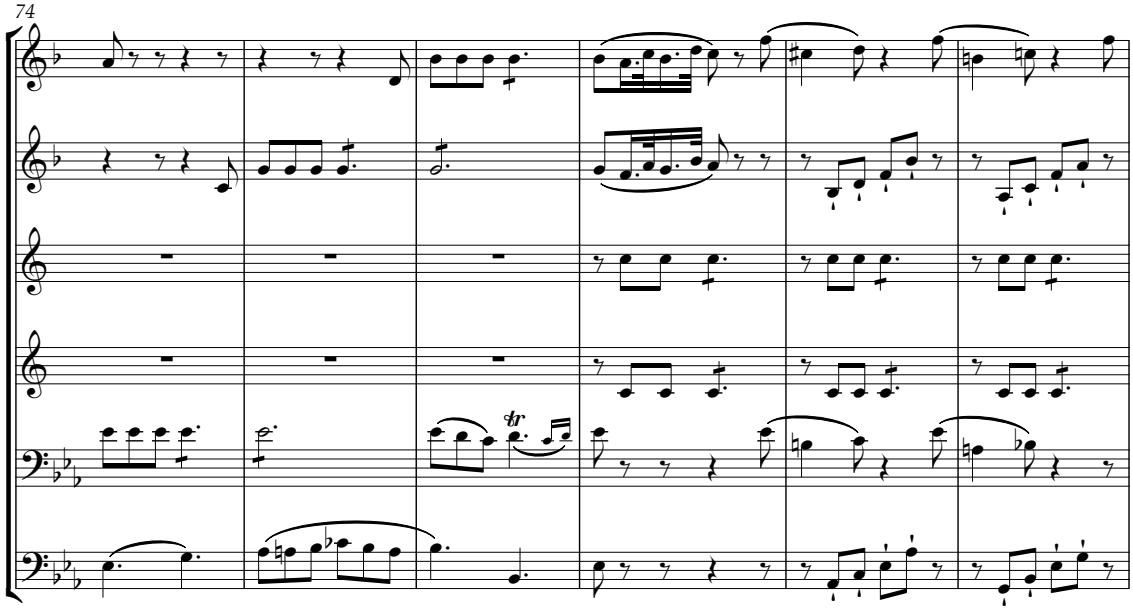

38
p
p
p

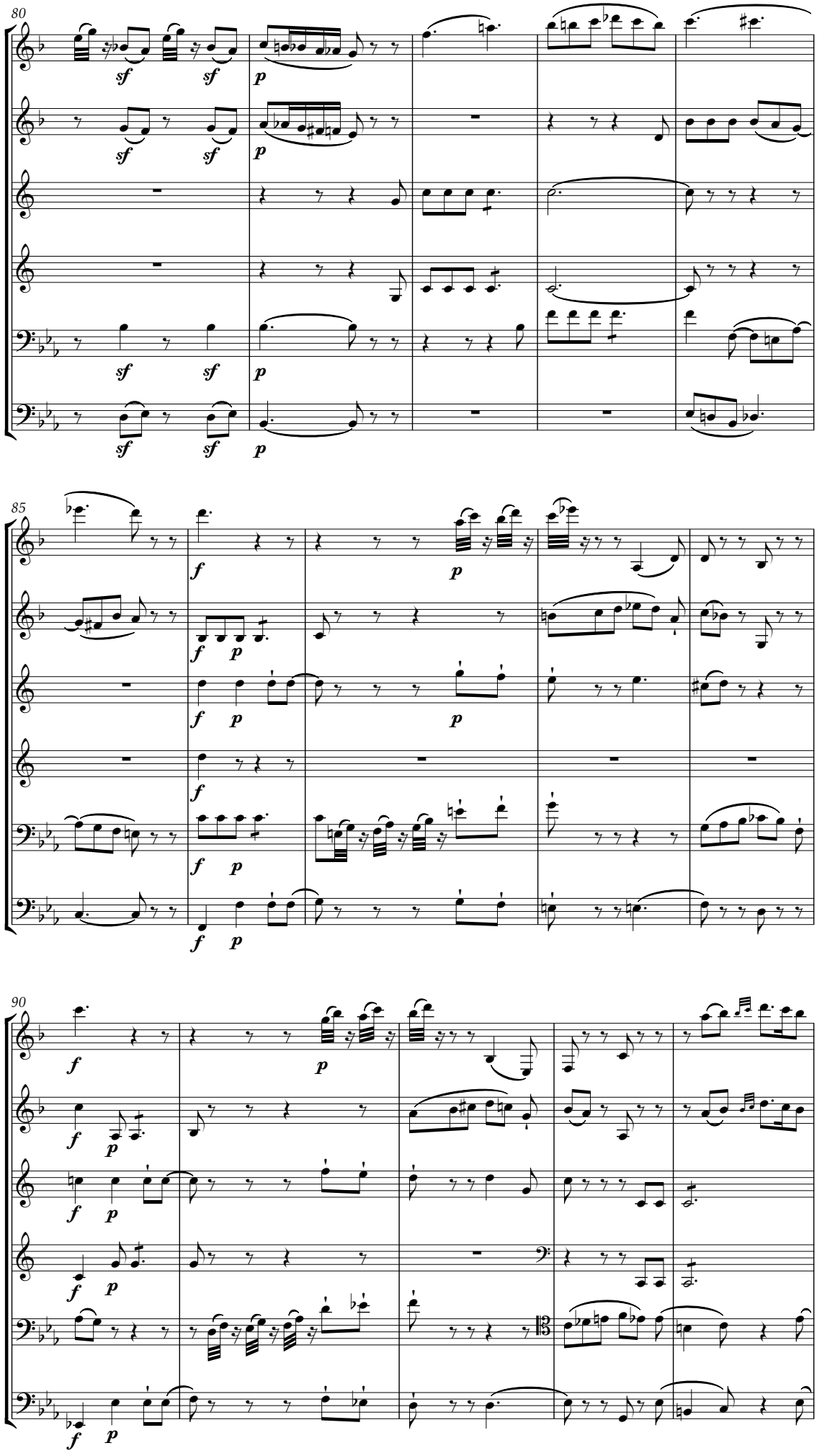

42
48
53

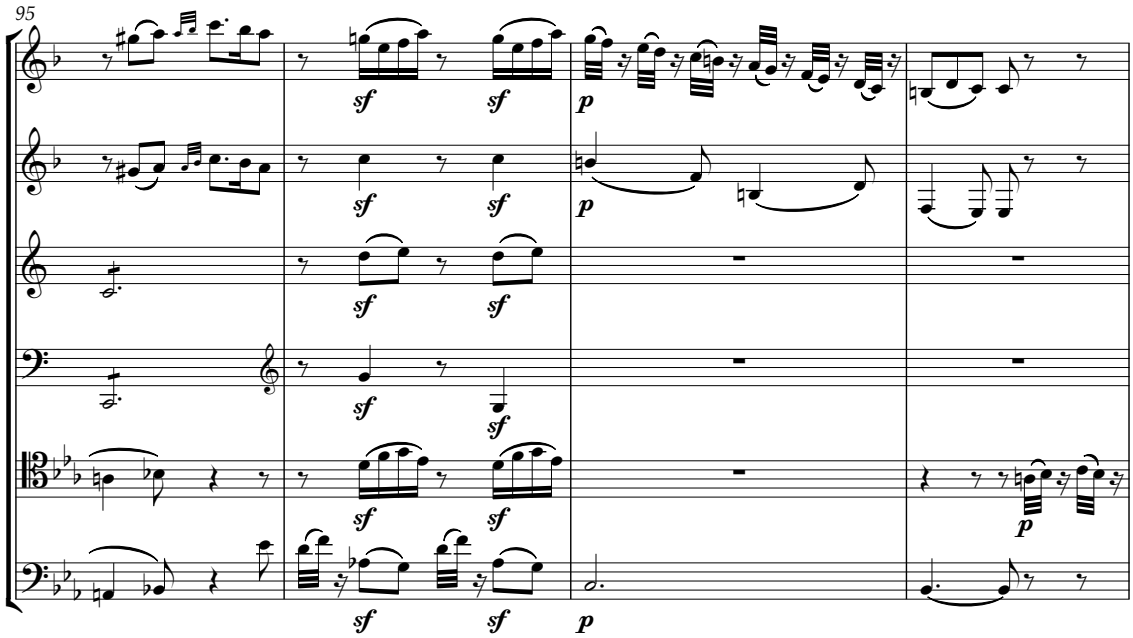

58
61
64
p
p
p
p
p
p

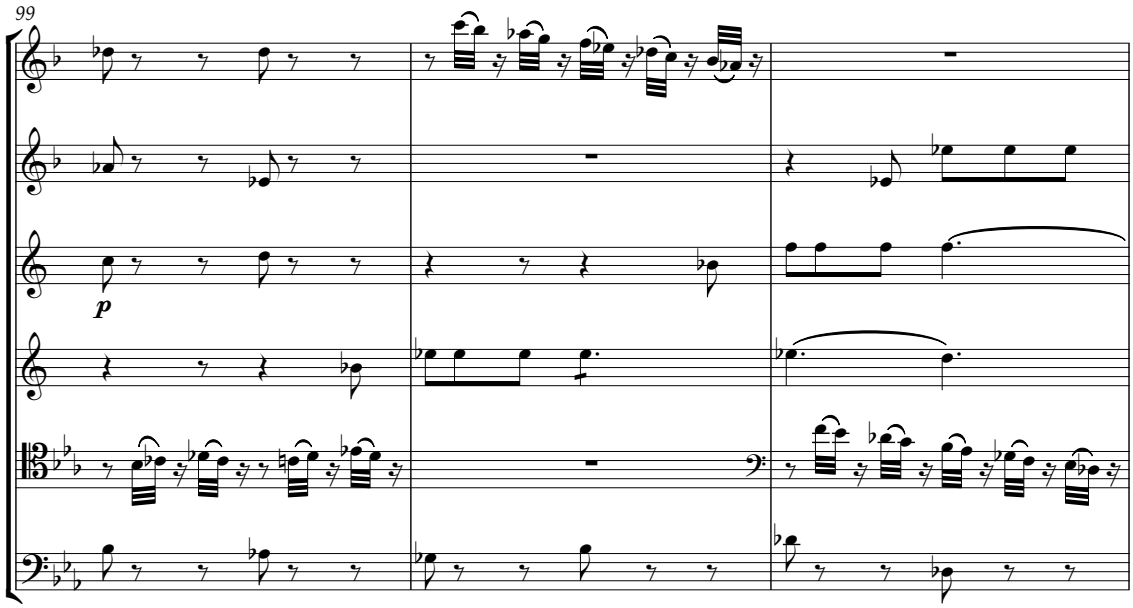

67
ad lib.
p

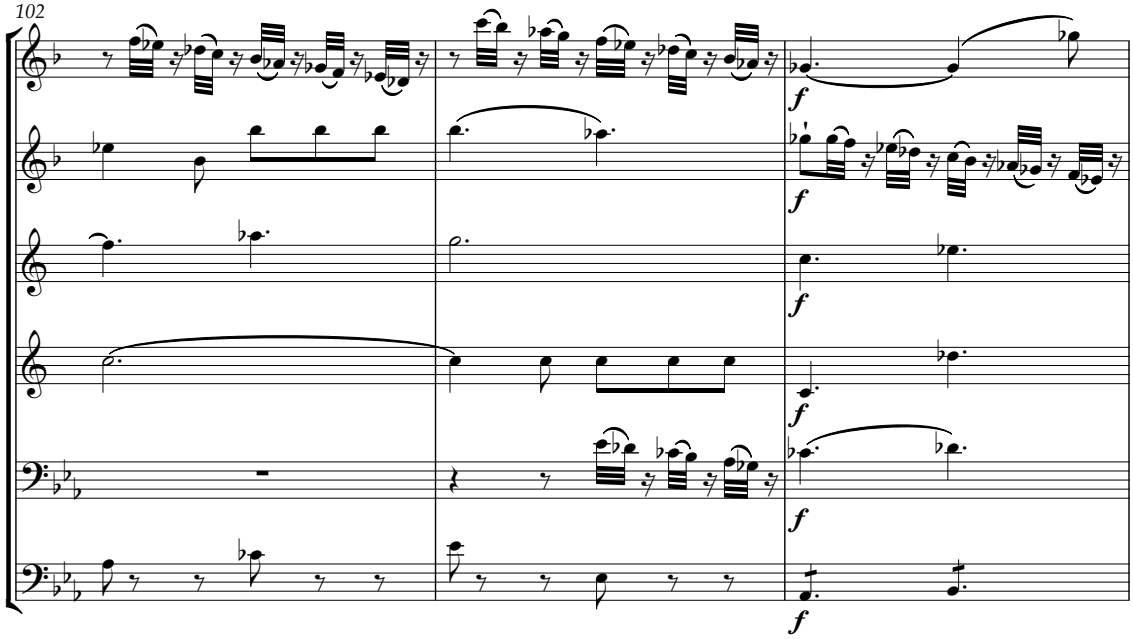

70

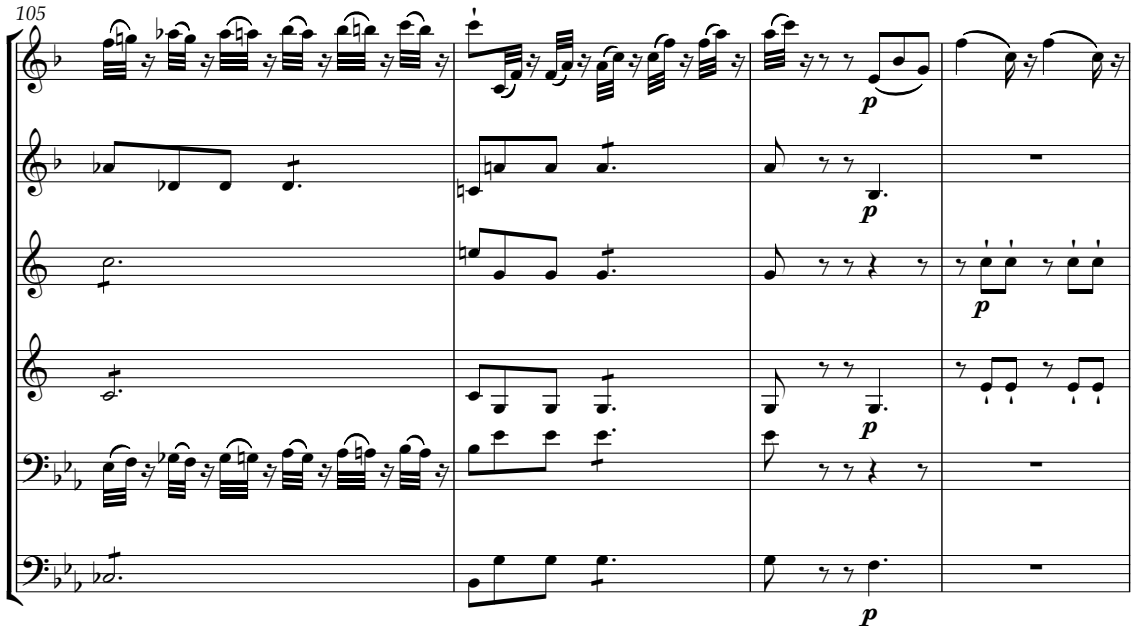

74
tr

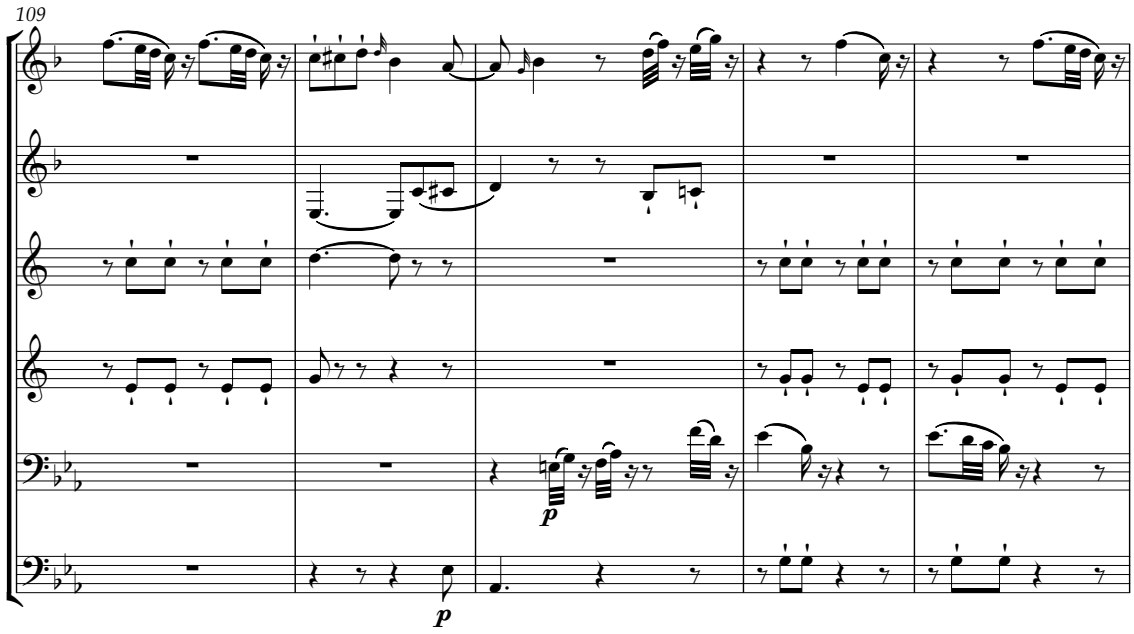

80
sf
p
85
f
p
90

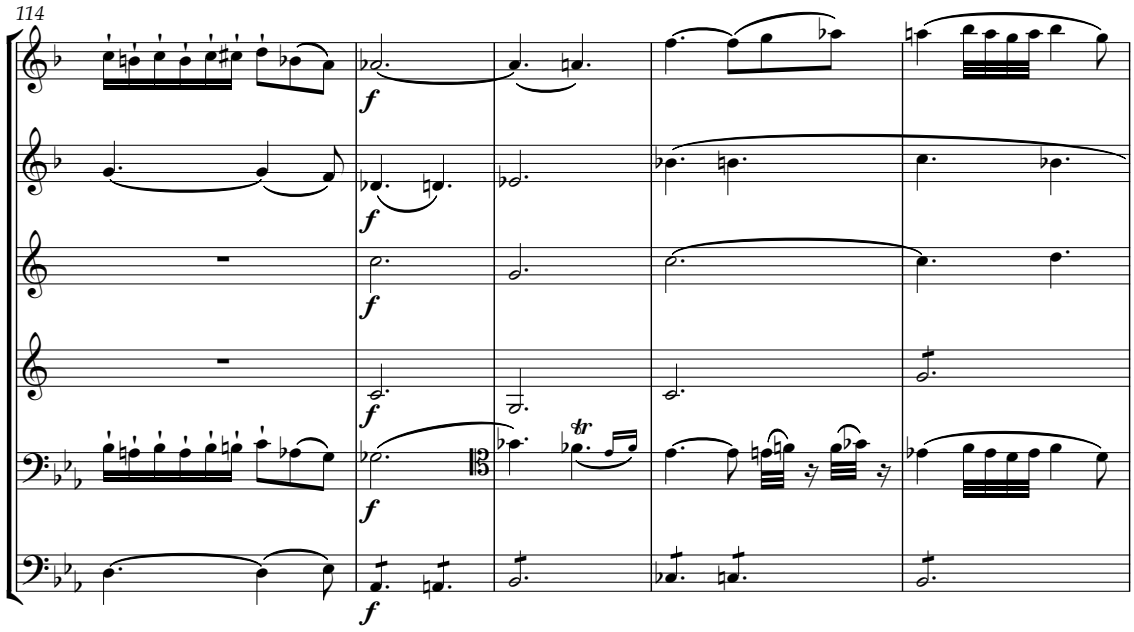

95
sf
p

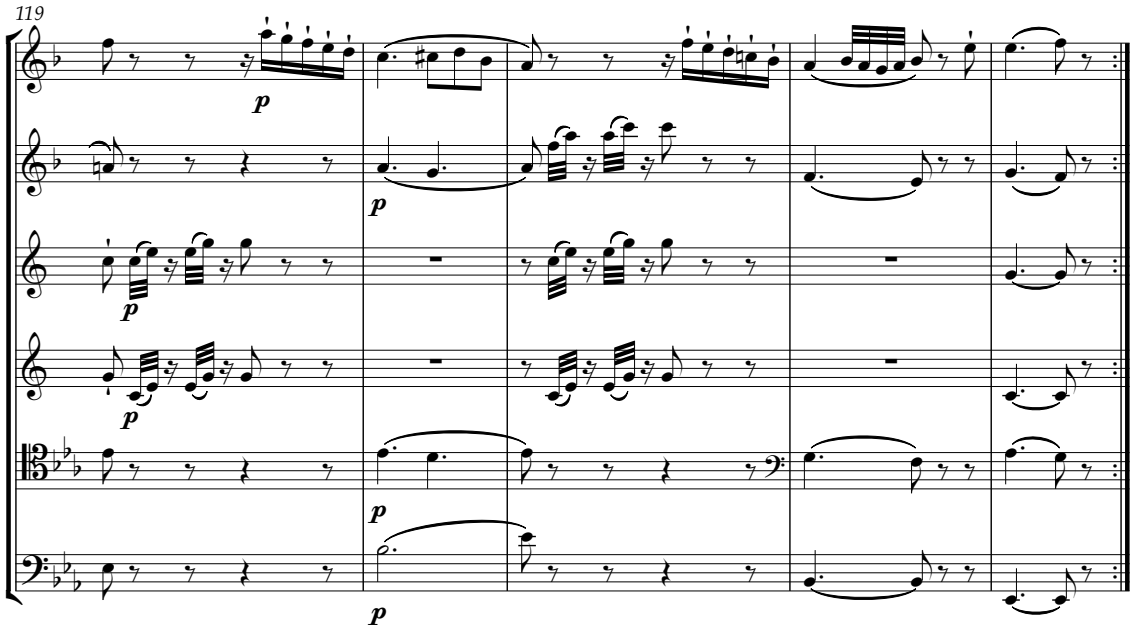

99
p


102
f

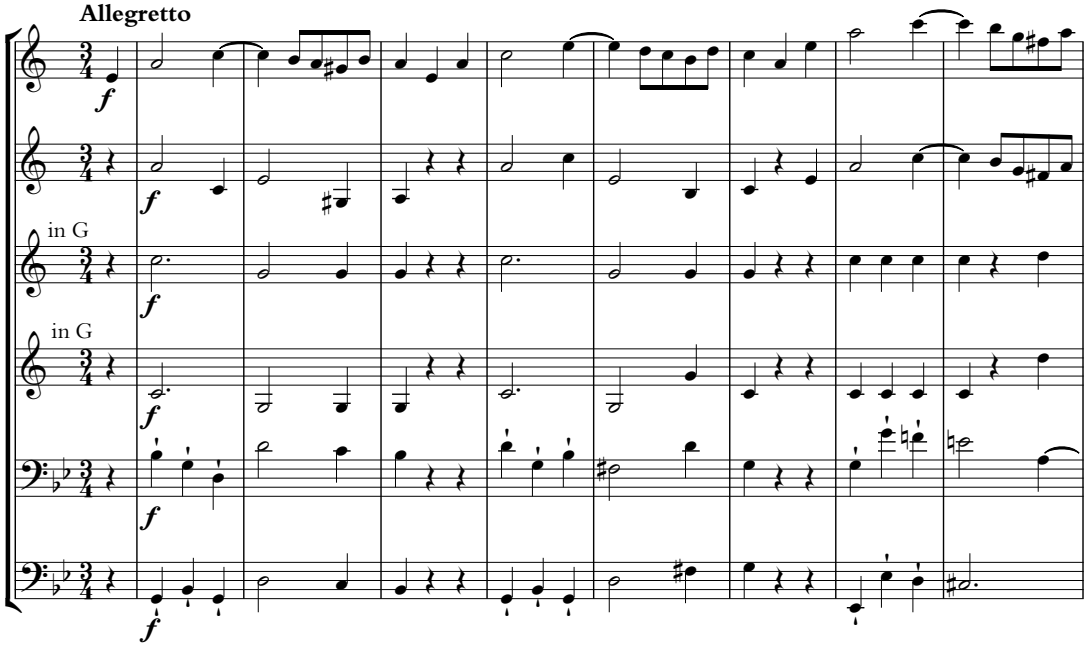

105
p
p
p
p

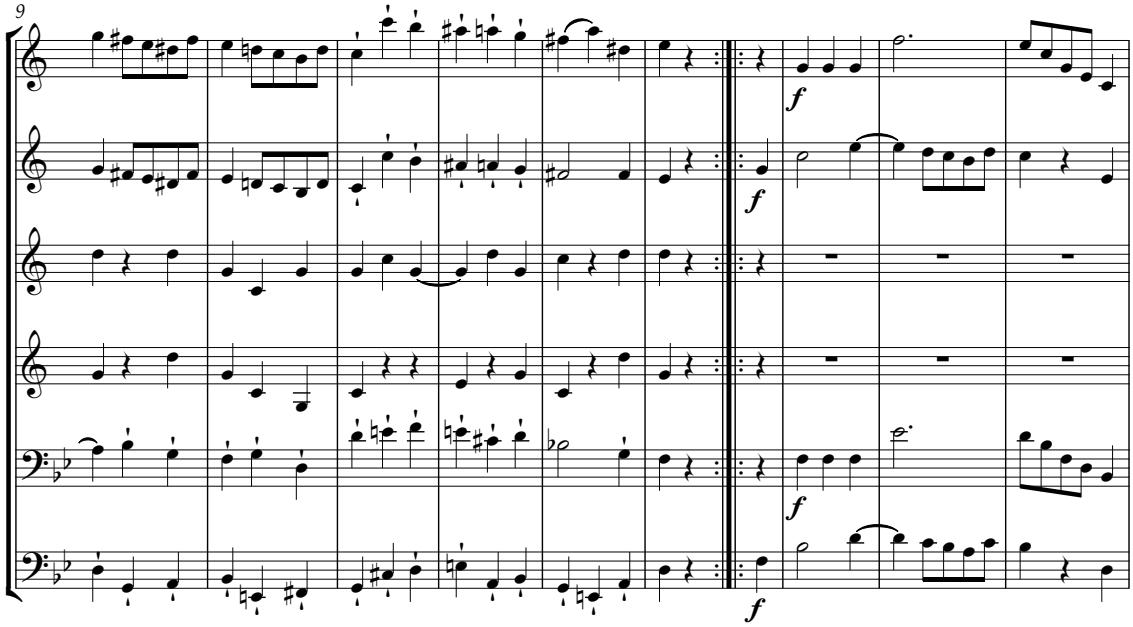

109
p
p

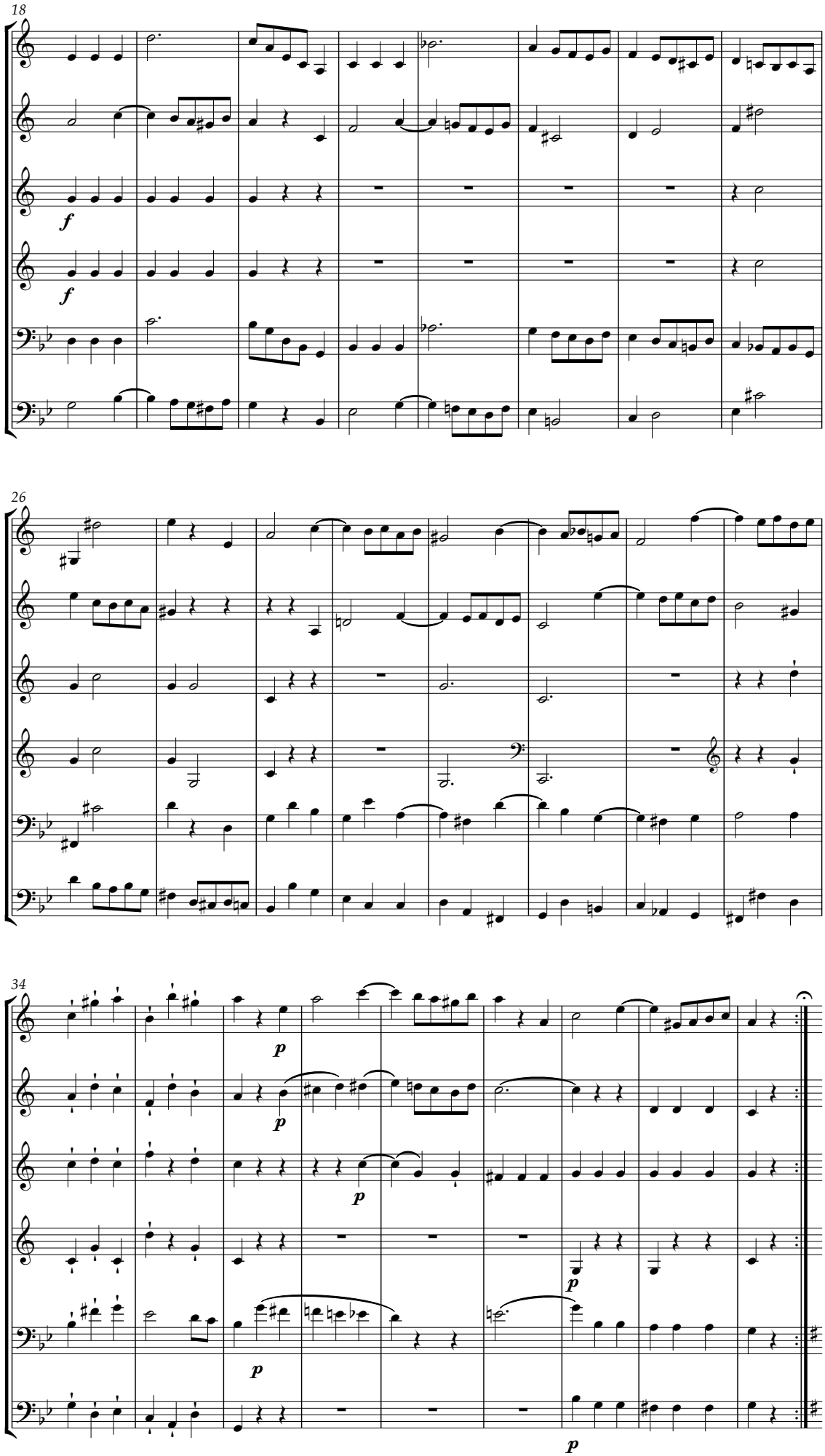

114
f
f
f
f
f
f

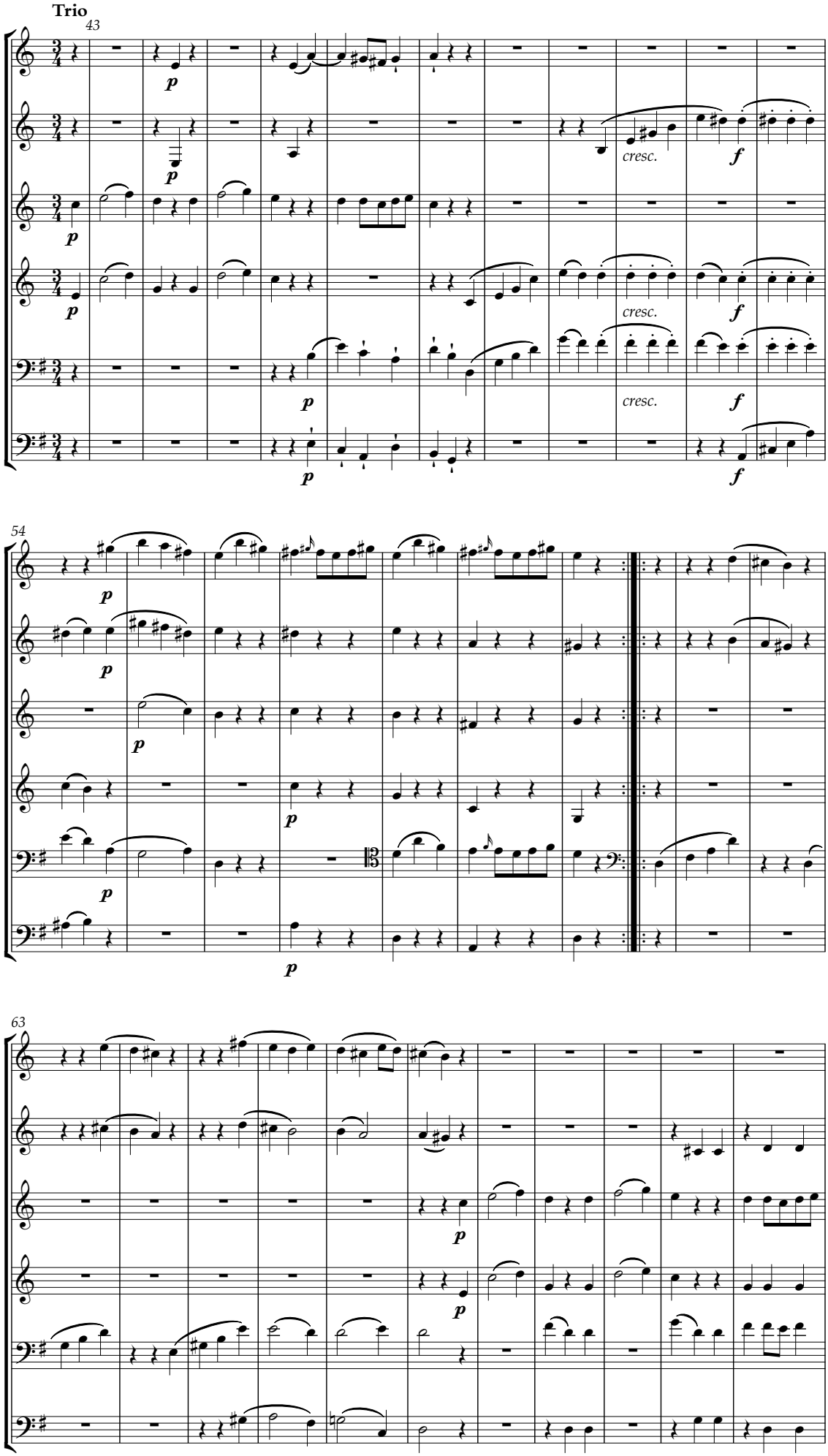


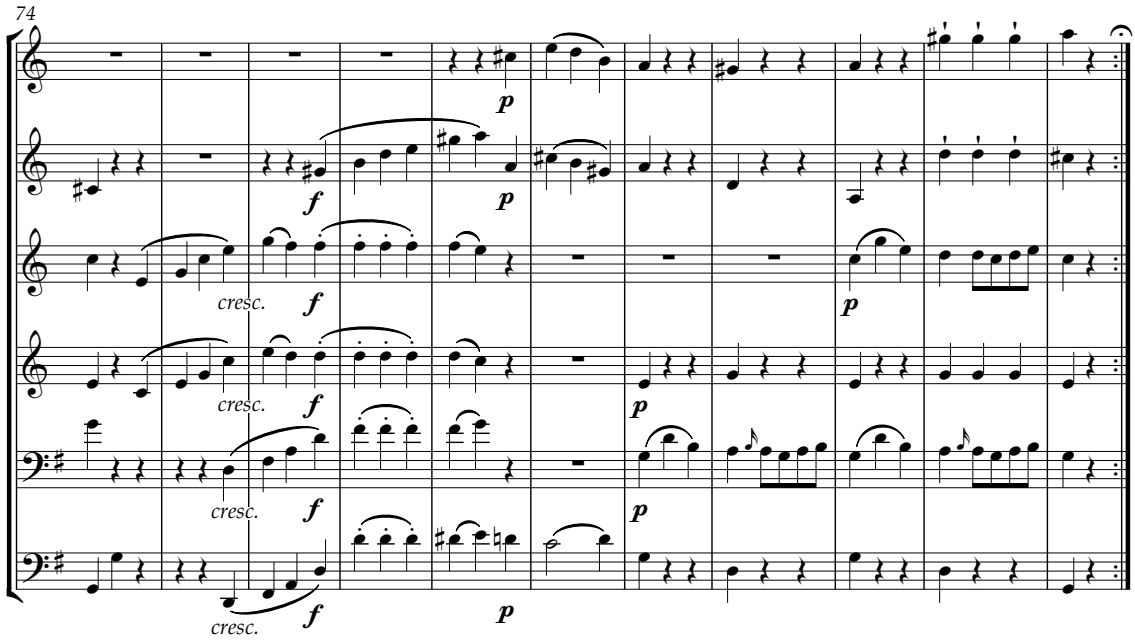
MENUETTO
Allegretto



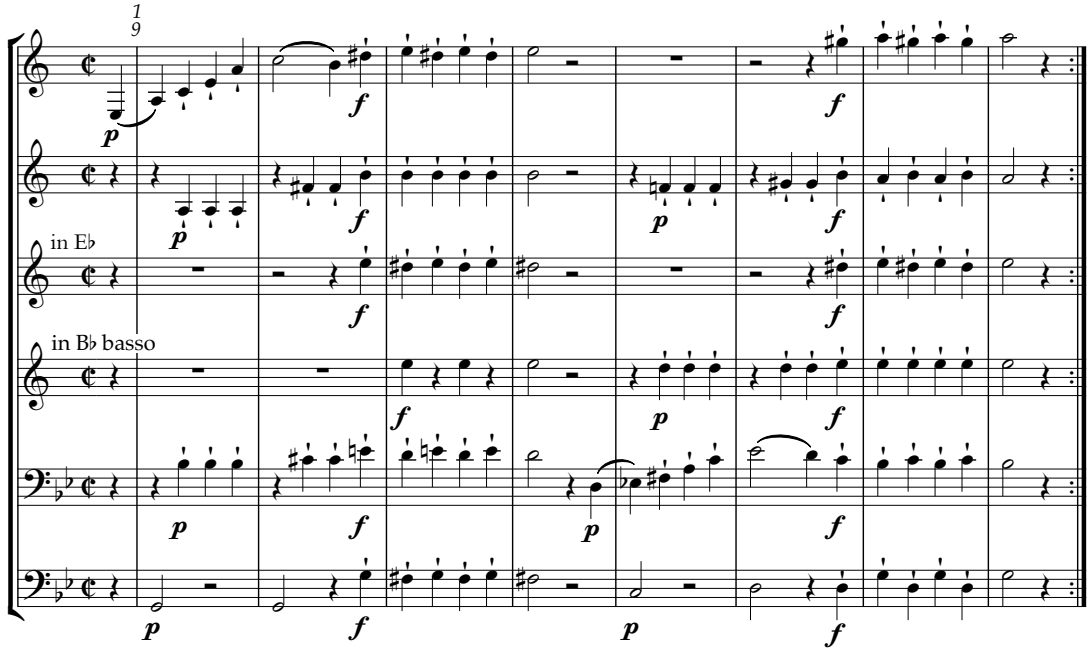


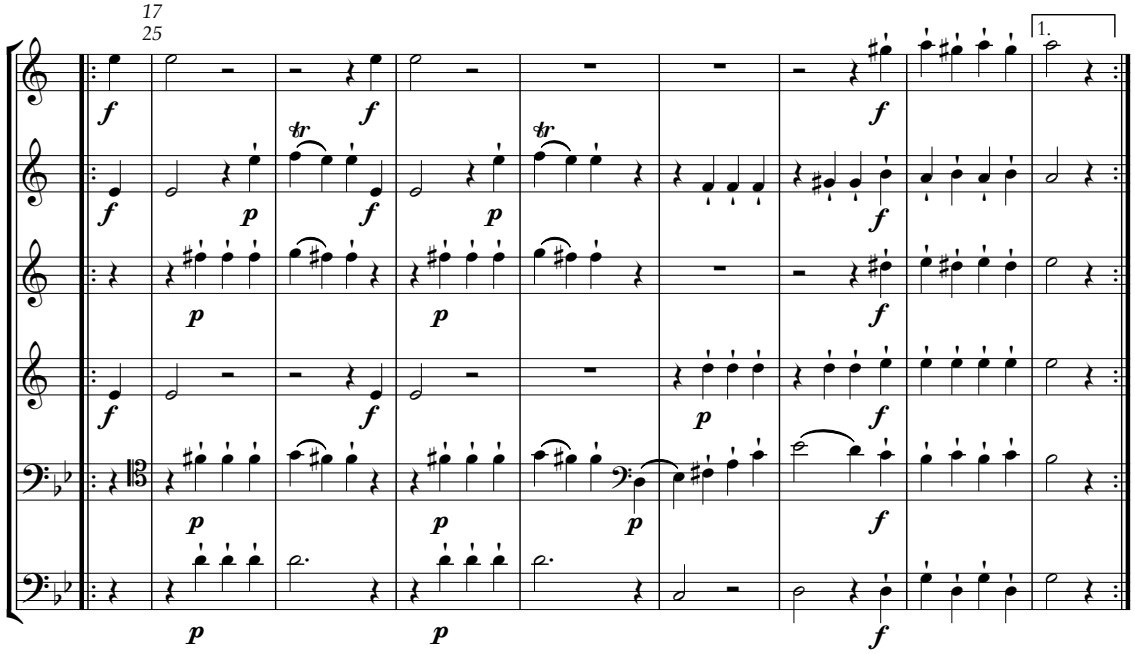

18
f
f
26
34
p
p
p
p
p

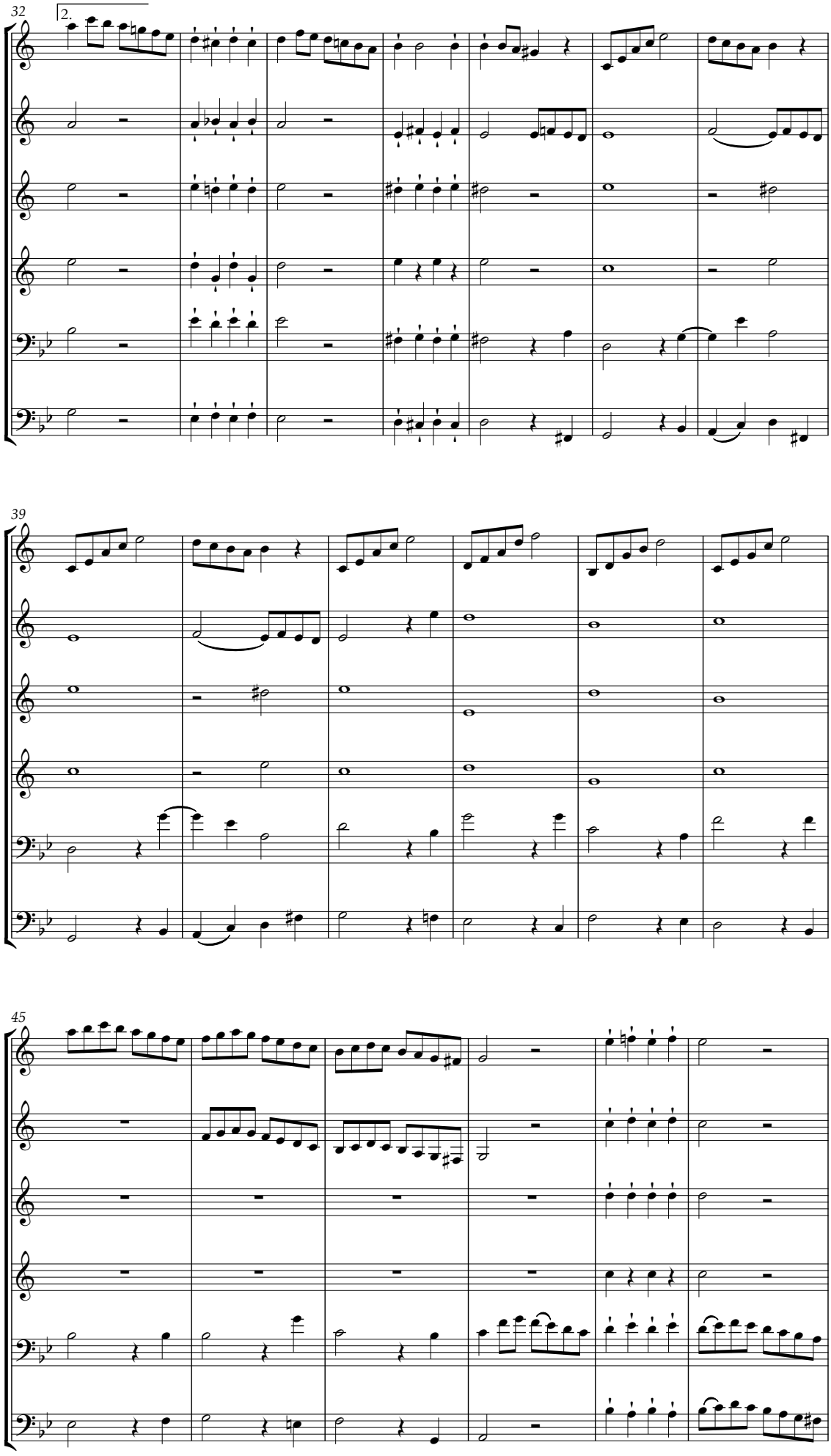

Trio
43
54
63
p
f
cresc.

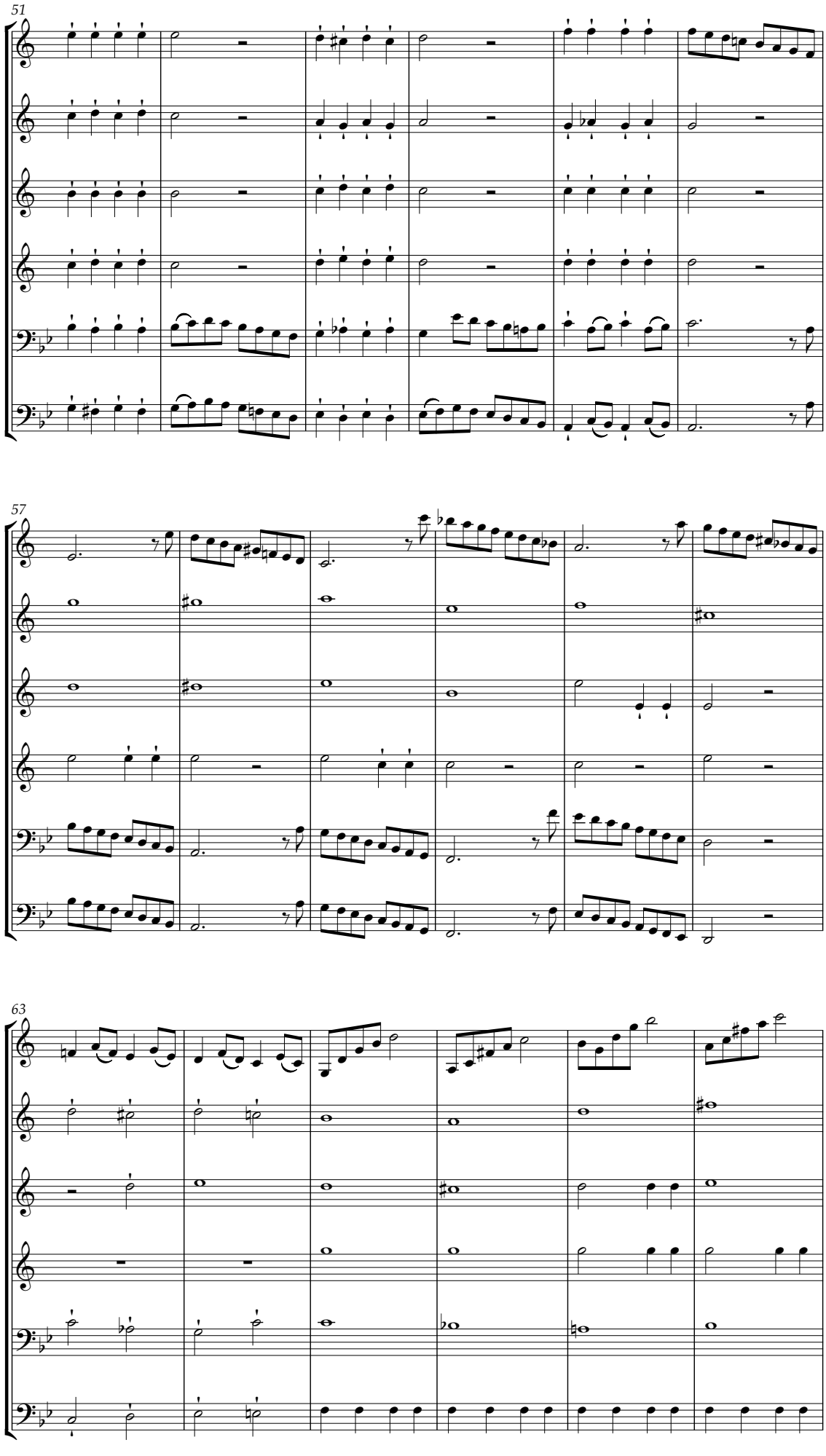


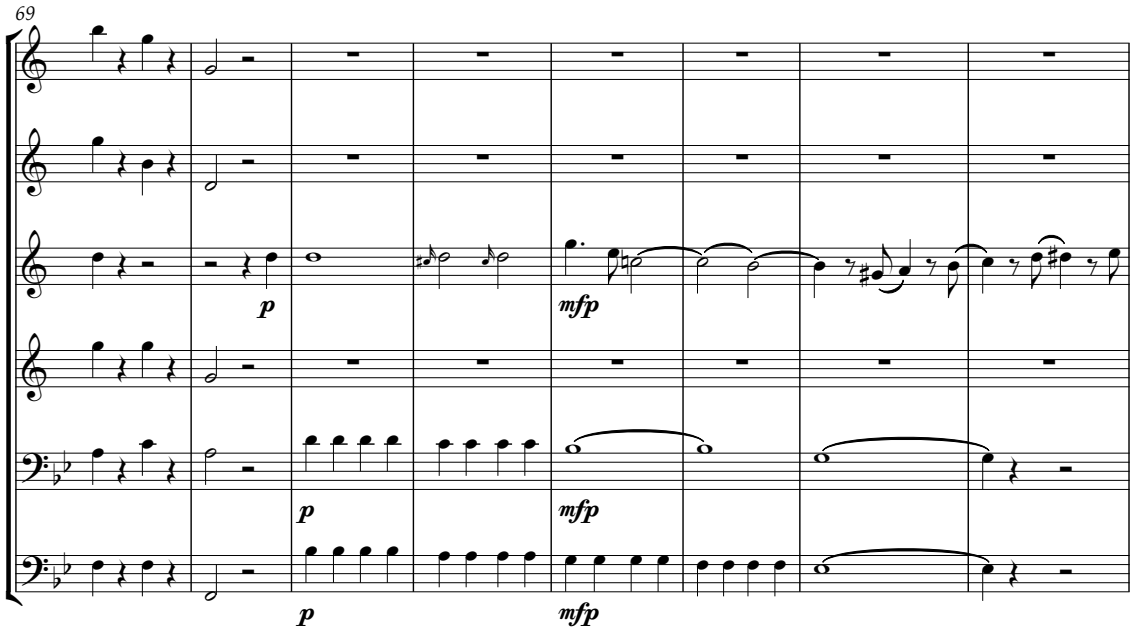
Allegro assai

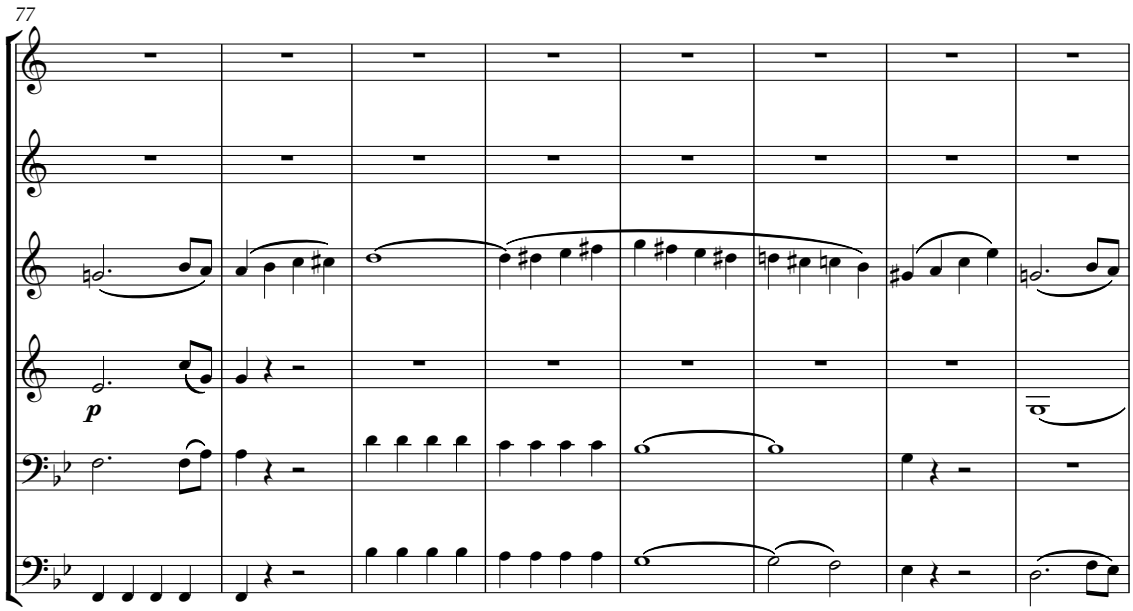


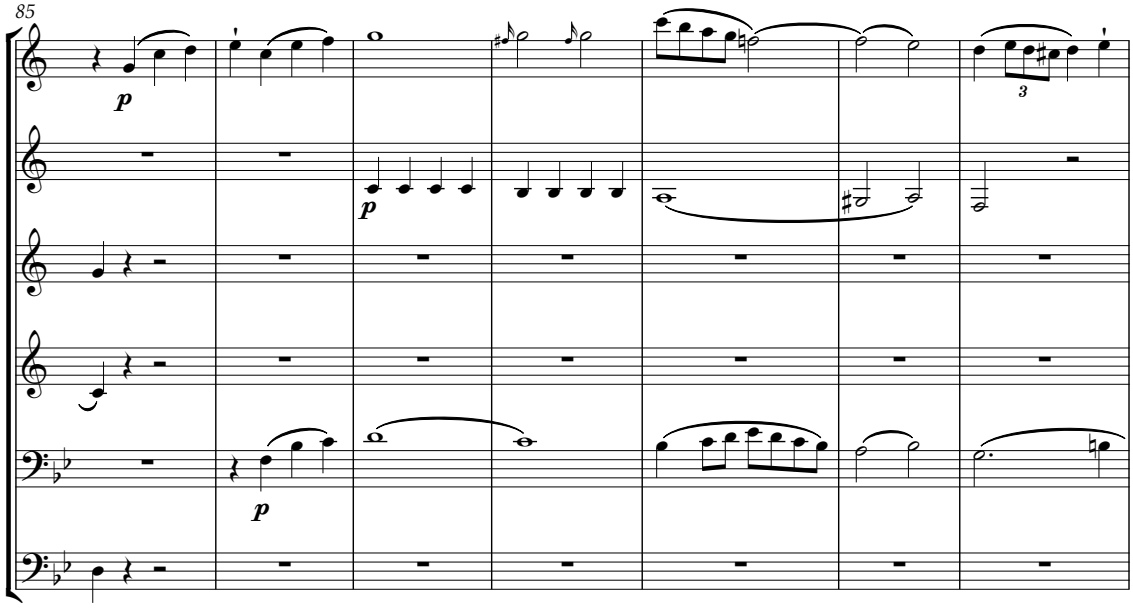


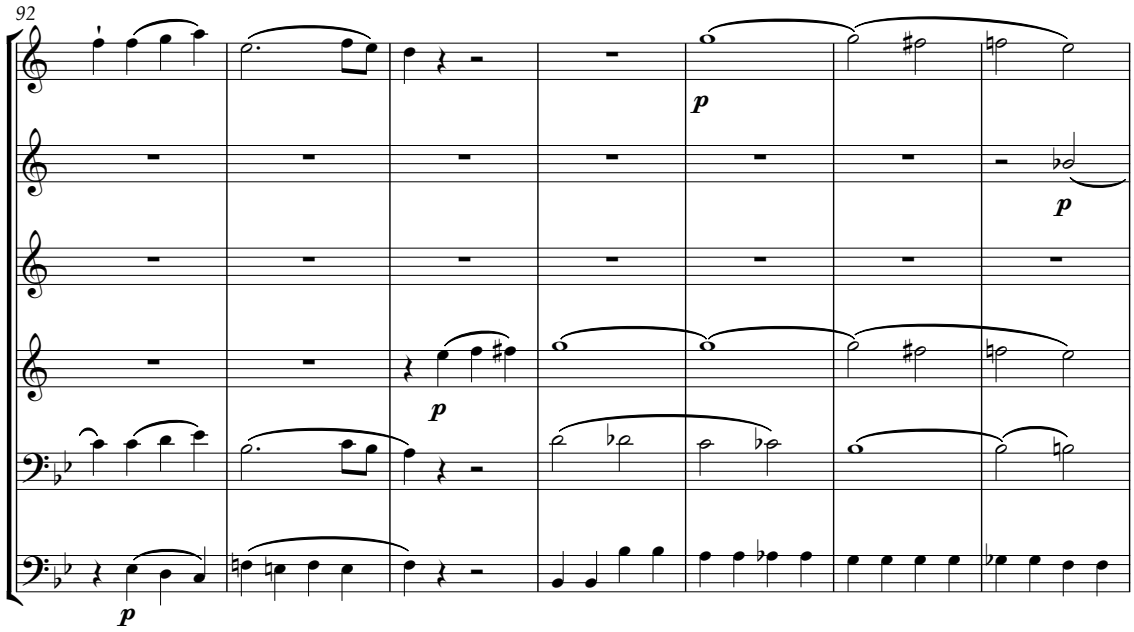

32
2.
39
45

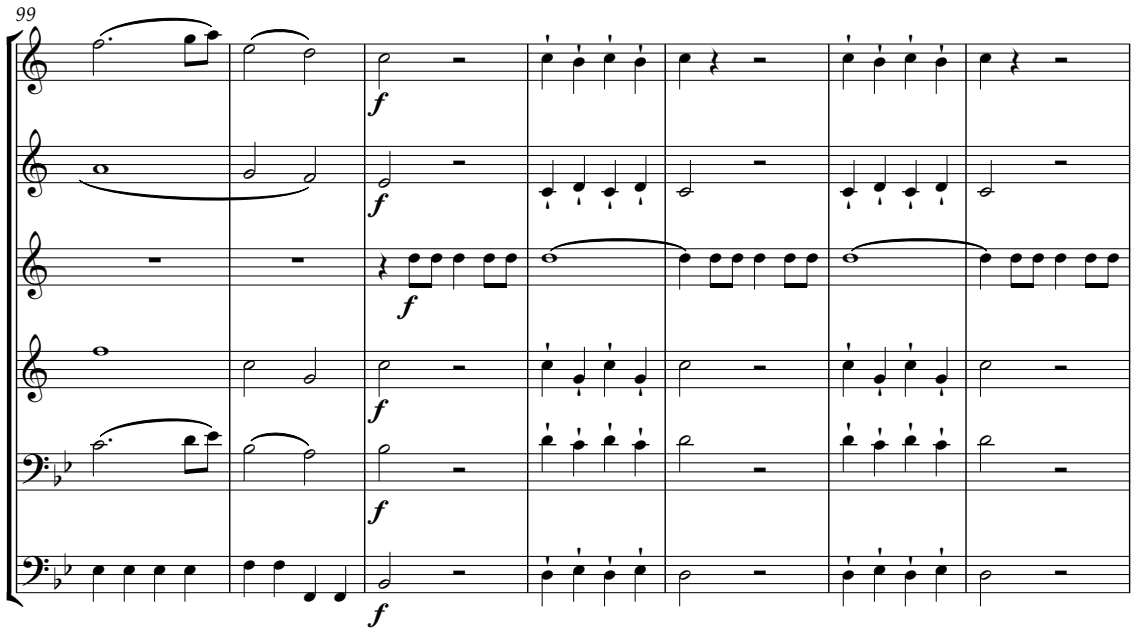

51
57
63

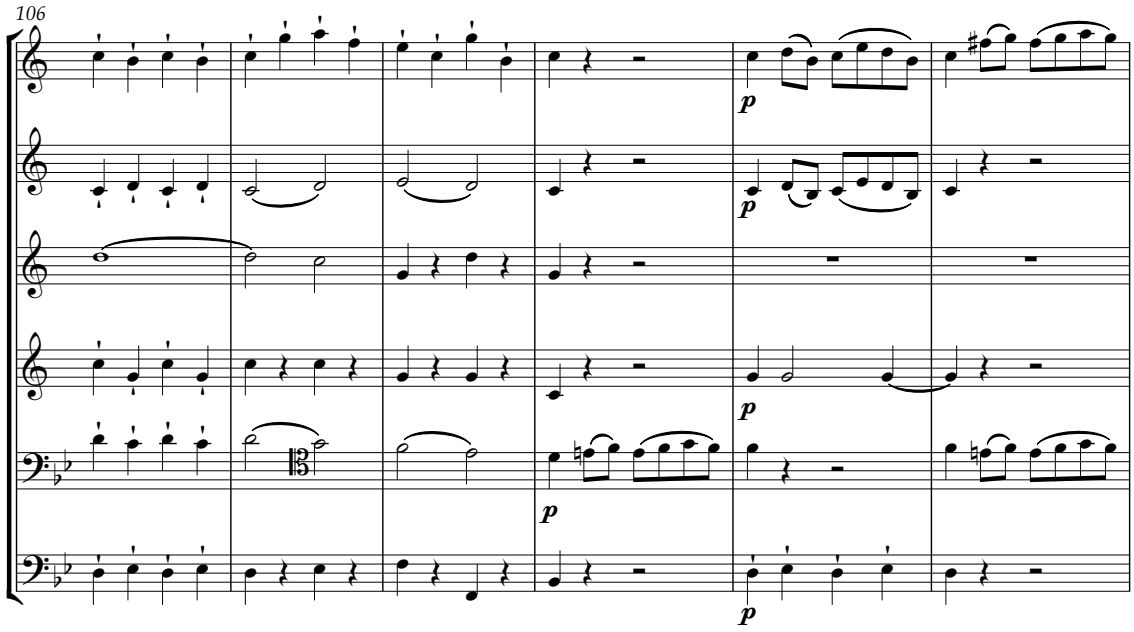

69
p
mfp
p
mfp
p
mfp

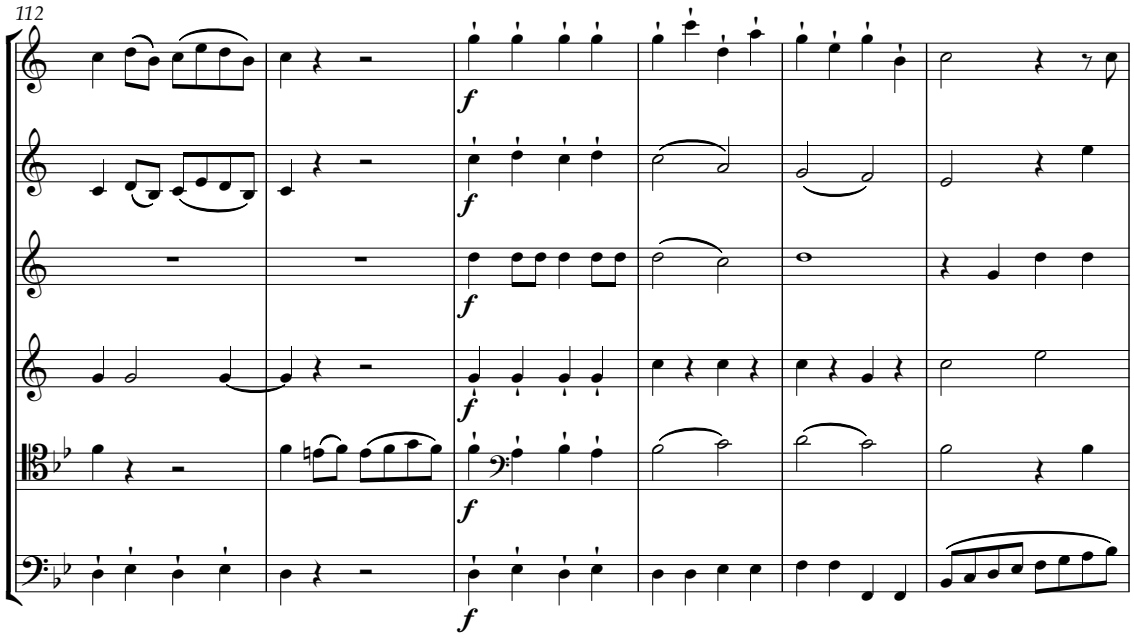

77
p


85
p
p
3
p

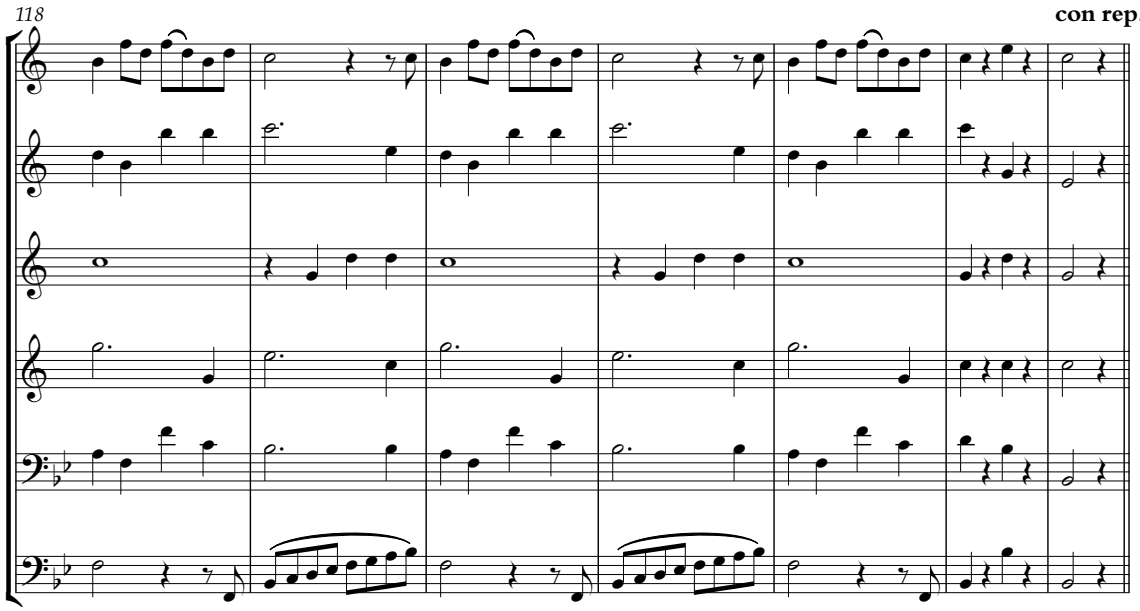

92
p
p
p
p

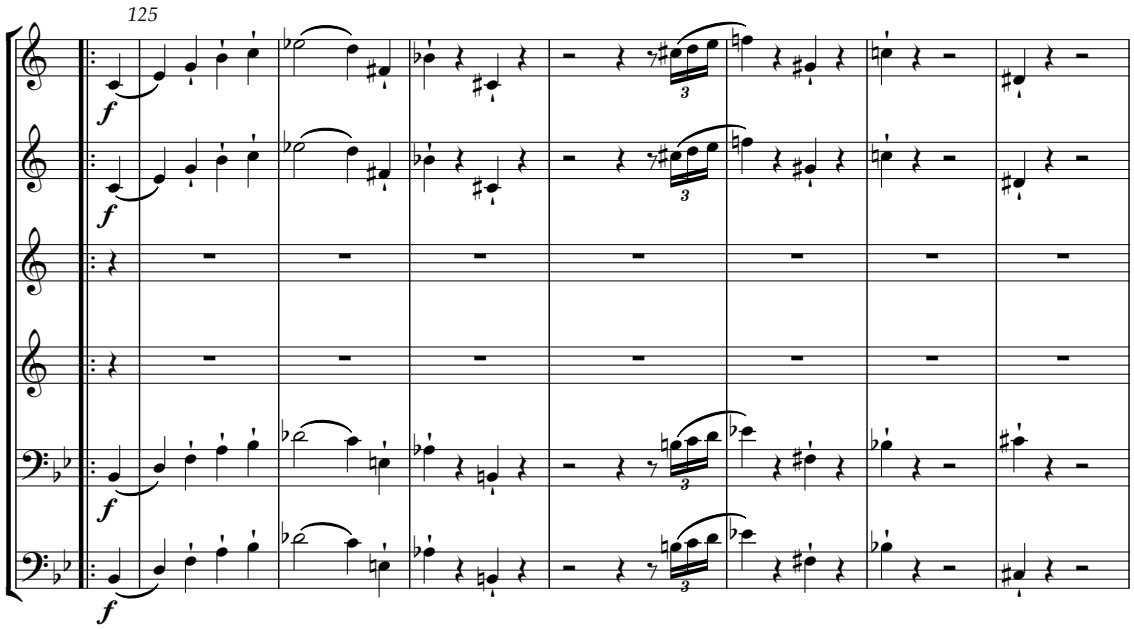

99
f
f
f
f
f

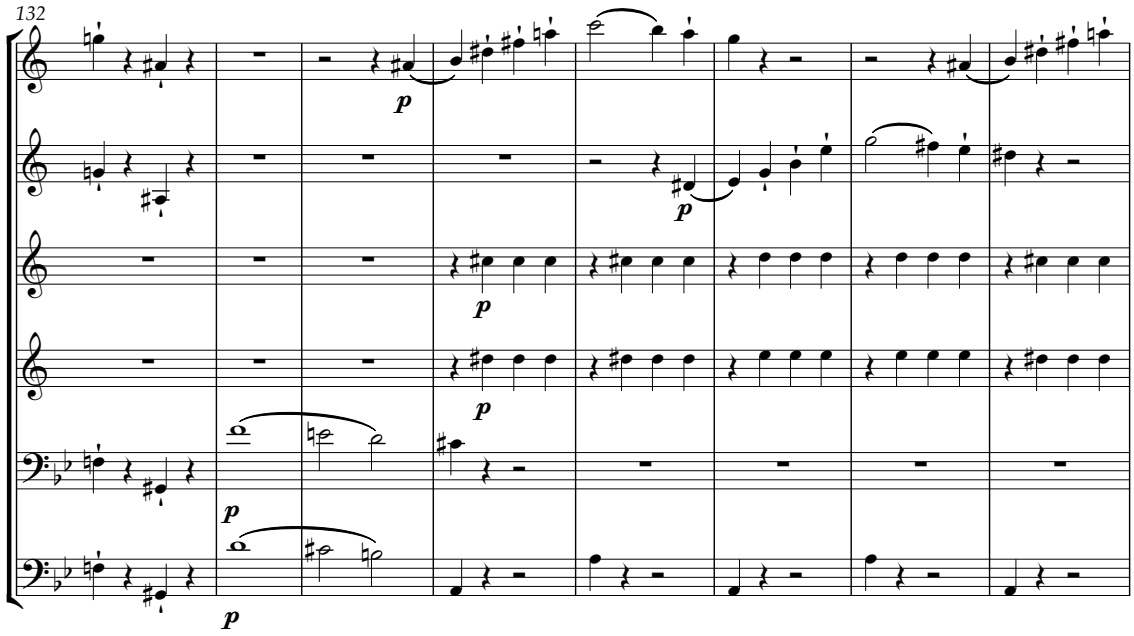

106
p
p
p
p
p

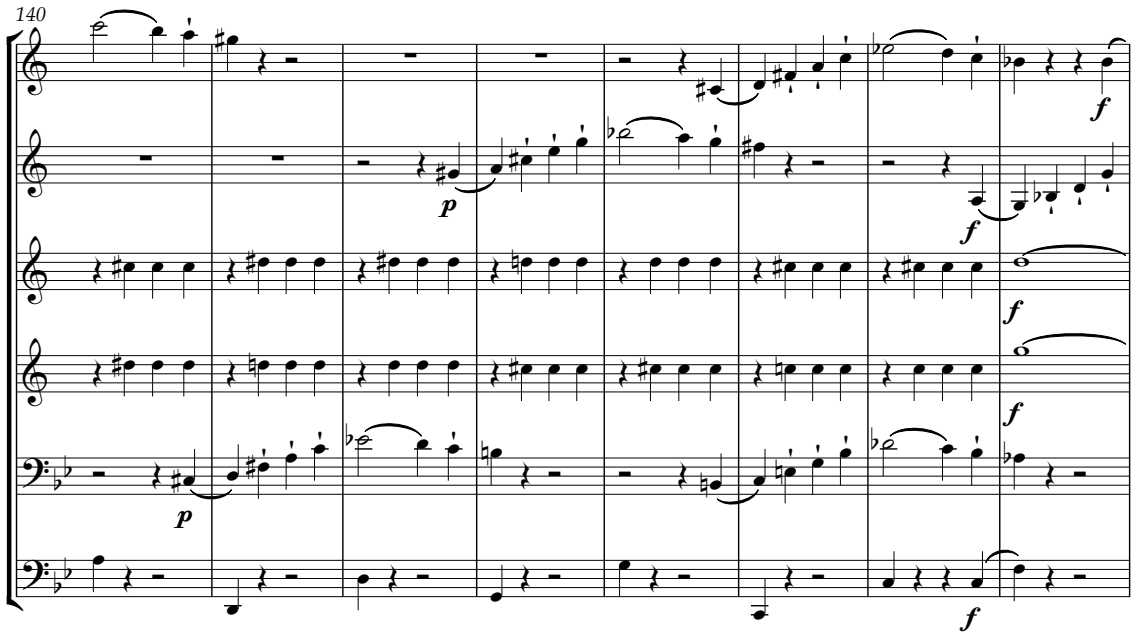


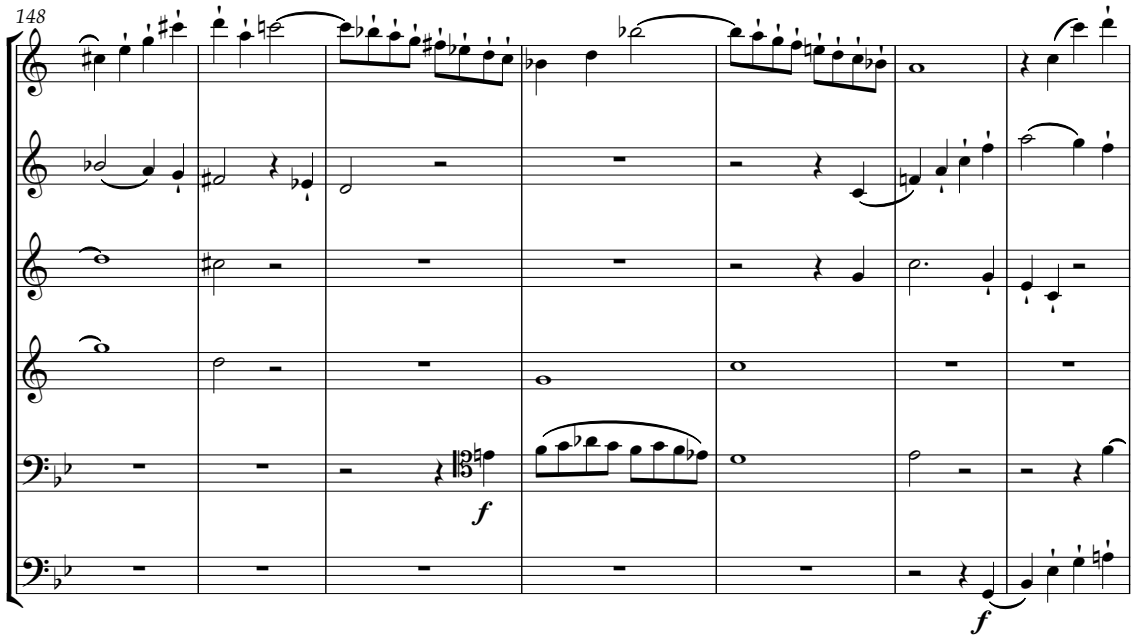
D.C.
con rep.

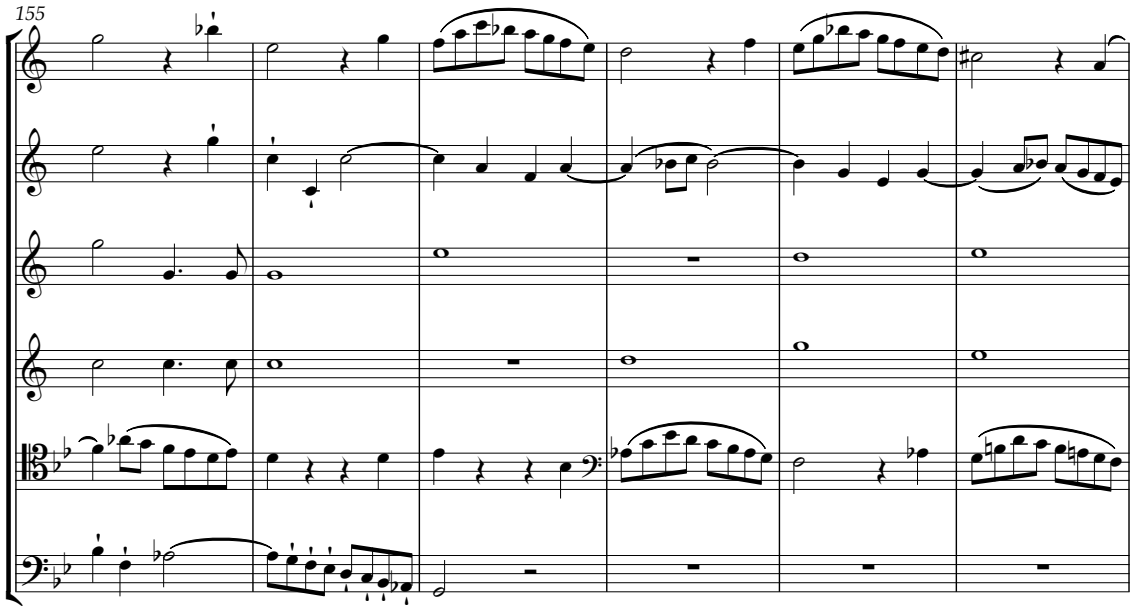


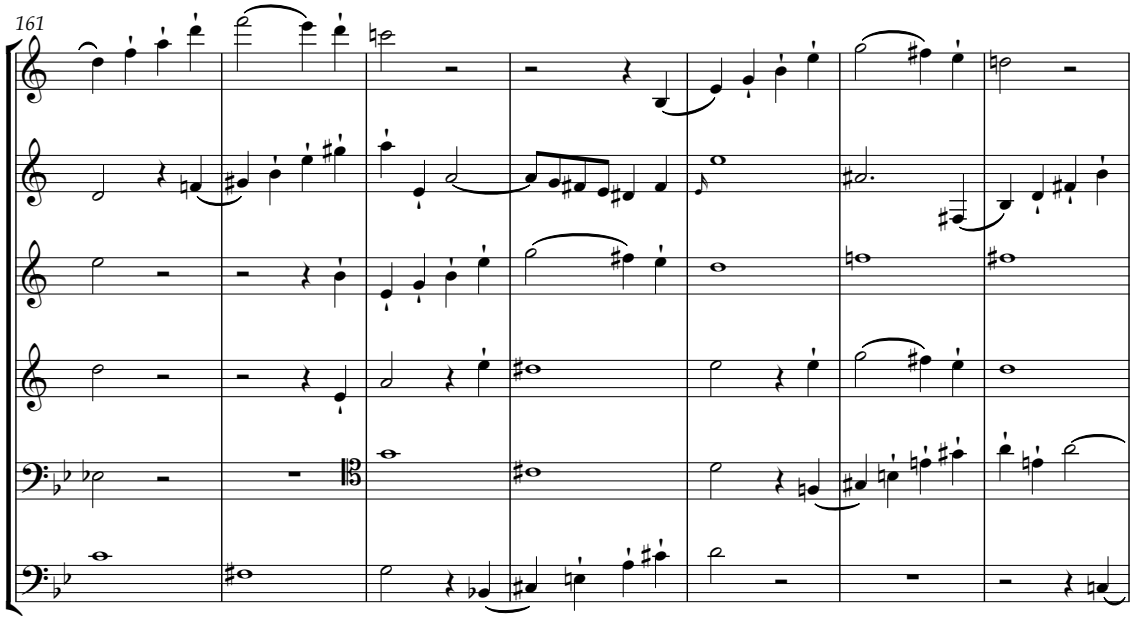


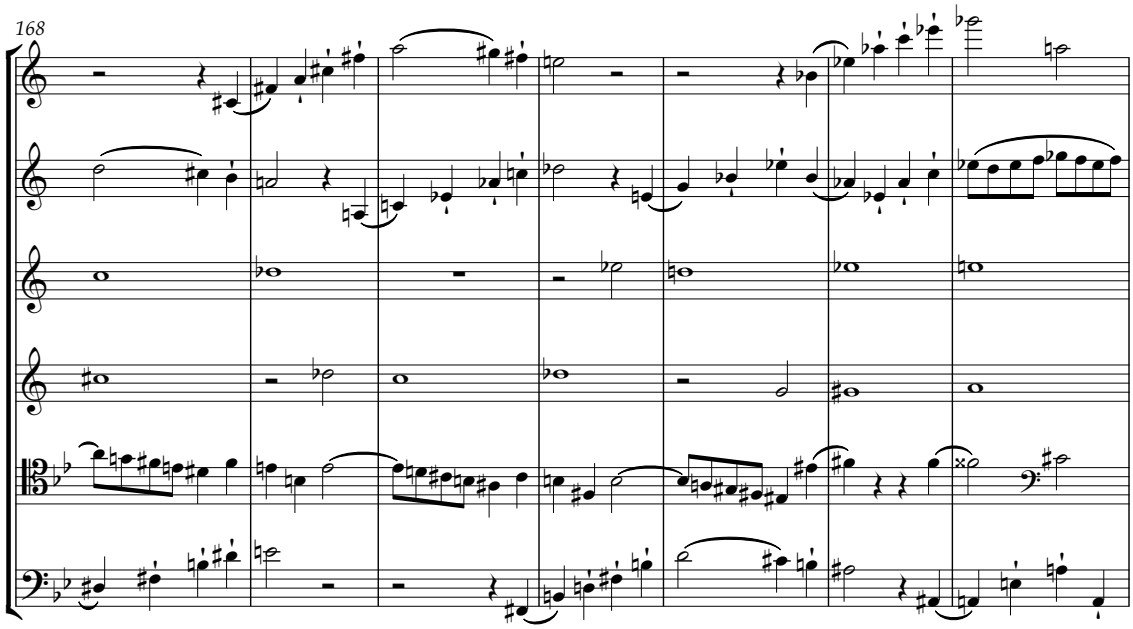

132
p
p
p
p
p

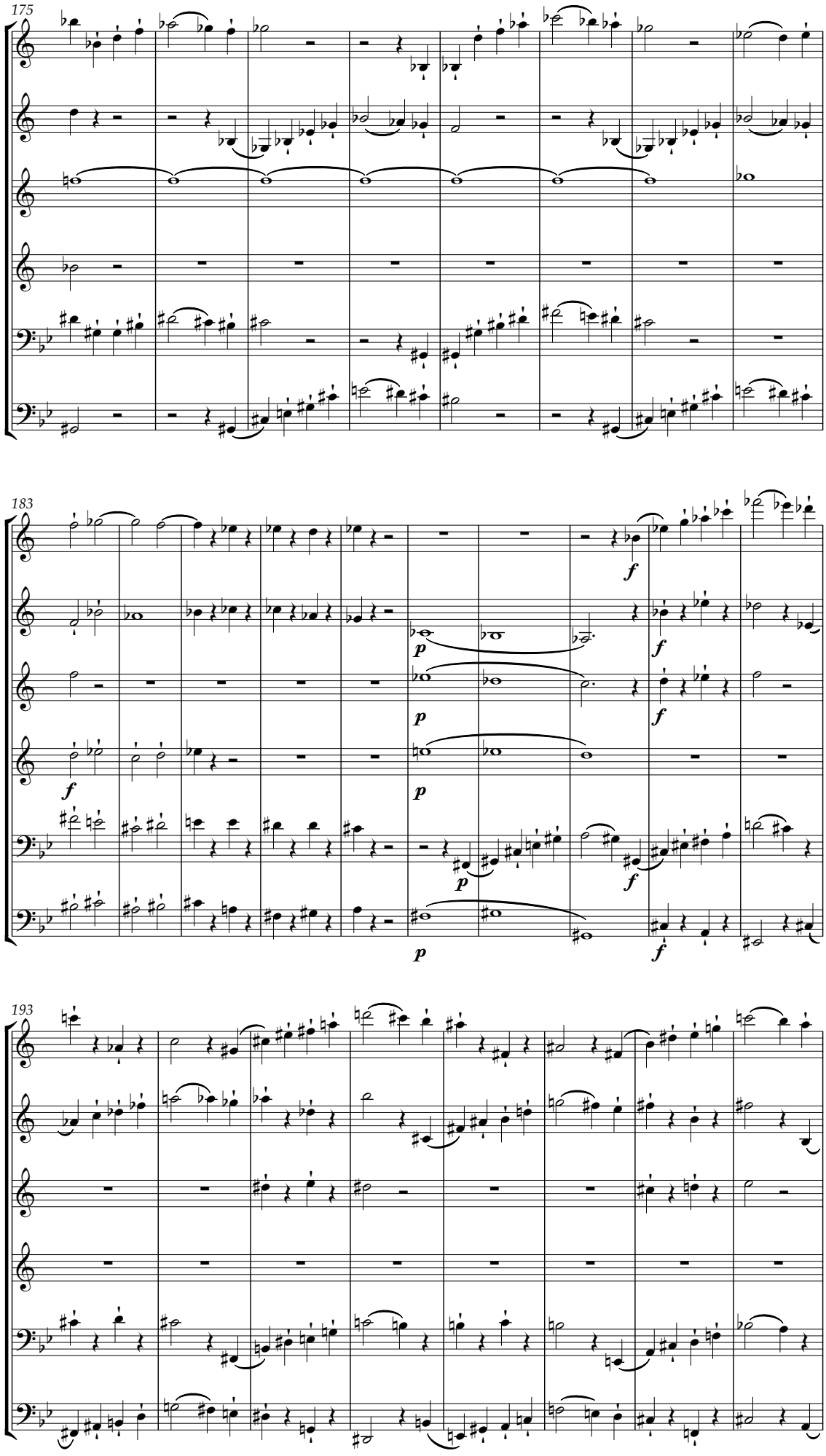

140
p
f
f
f
p
f

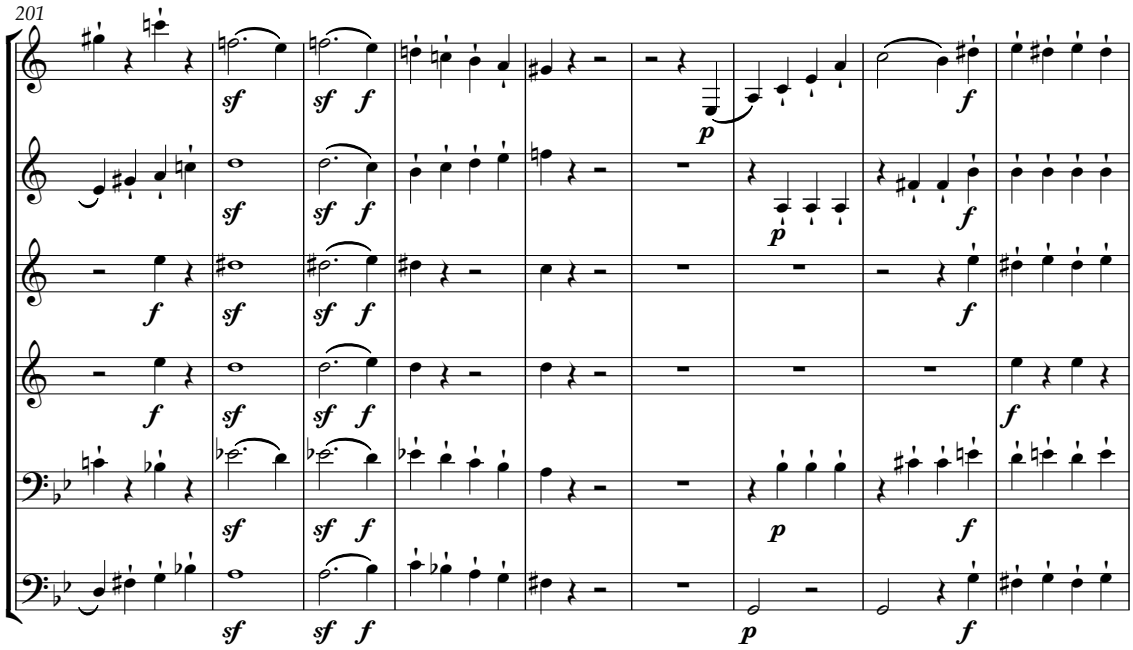

148
f
f

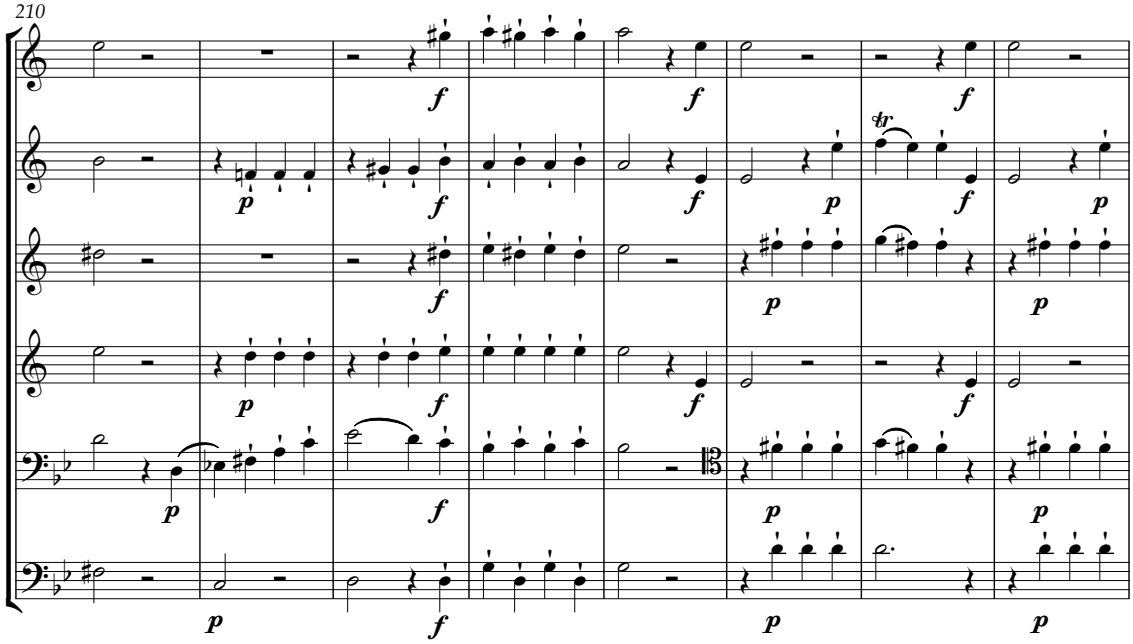

155

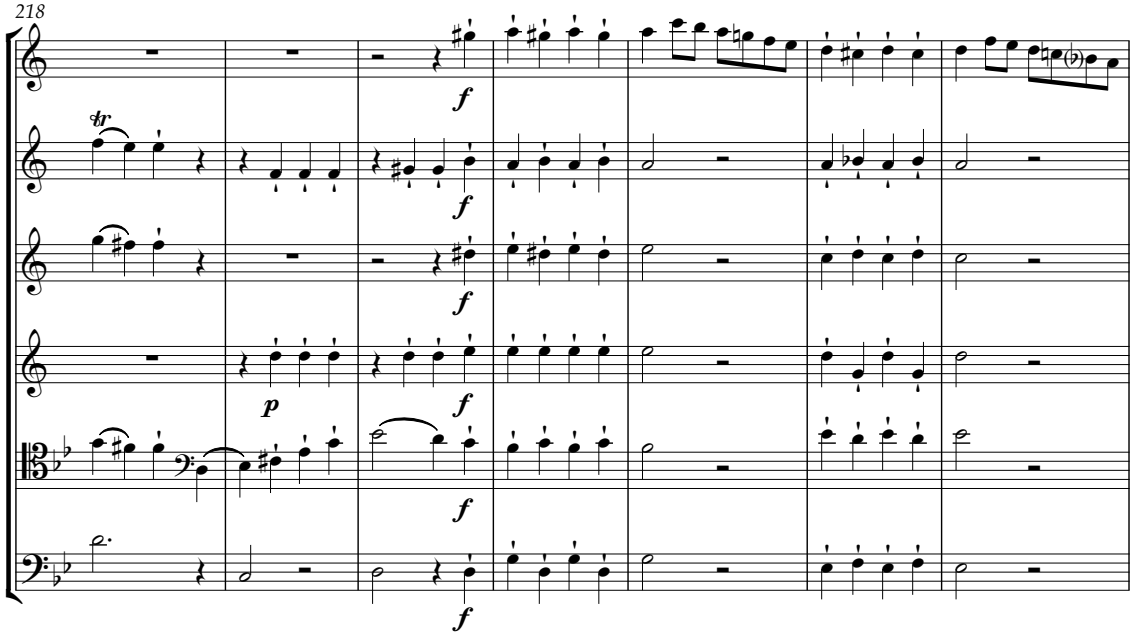

161

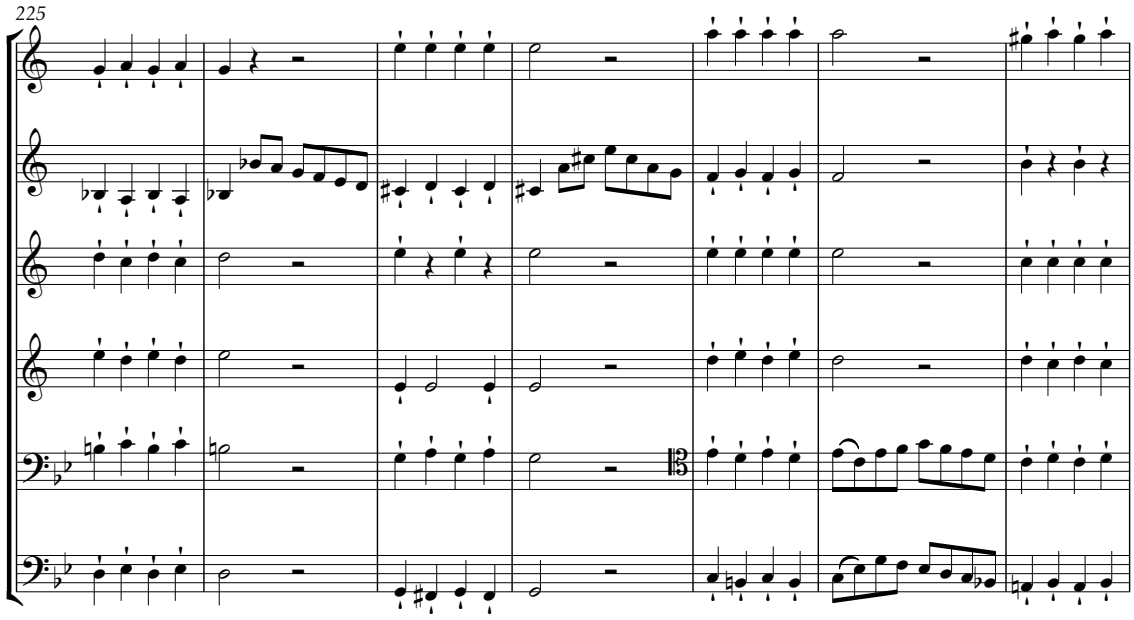

168

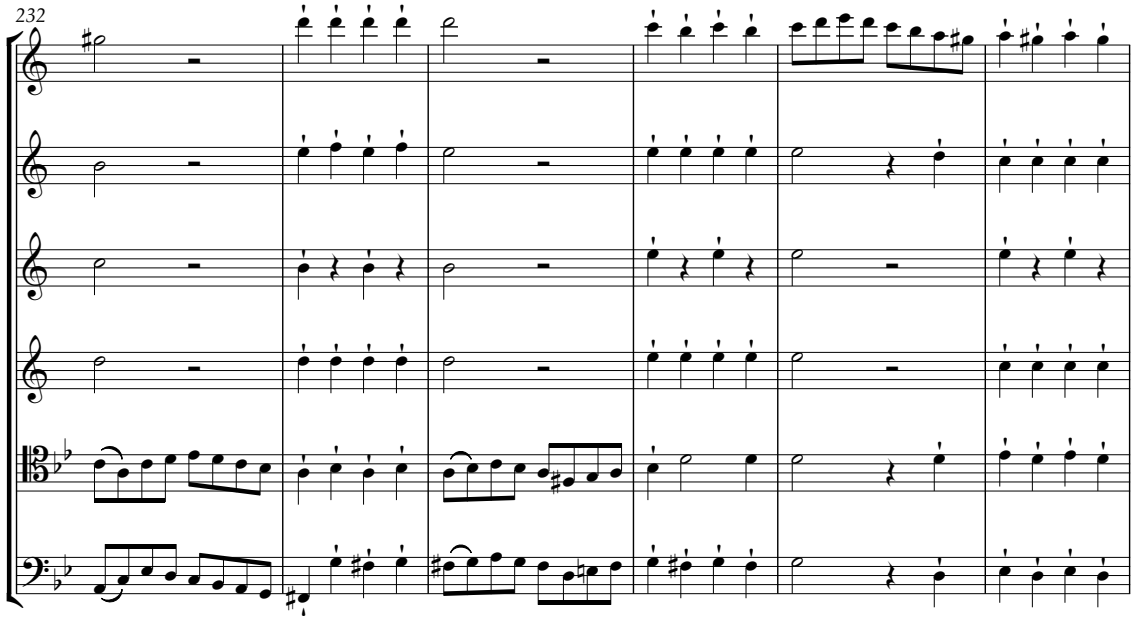

175
183
193
f
p

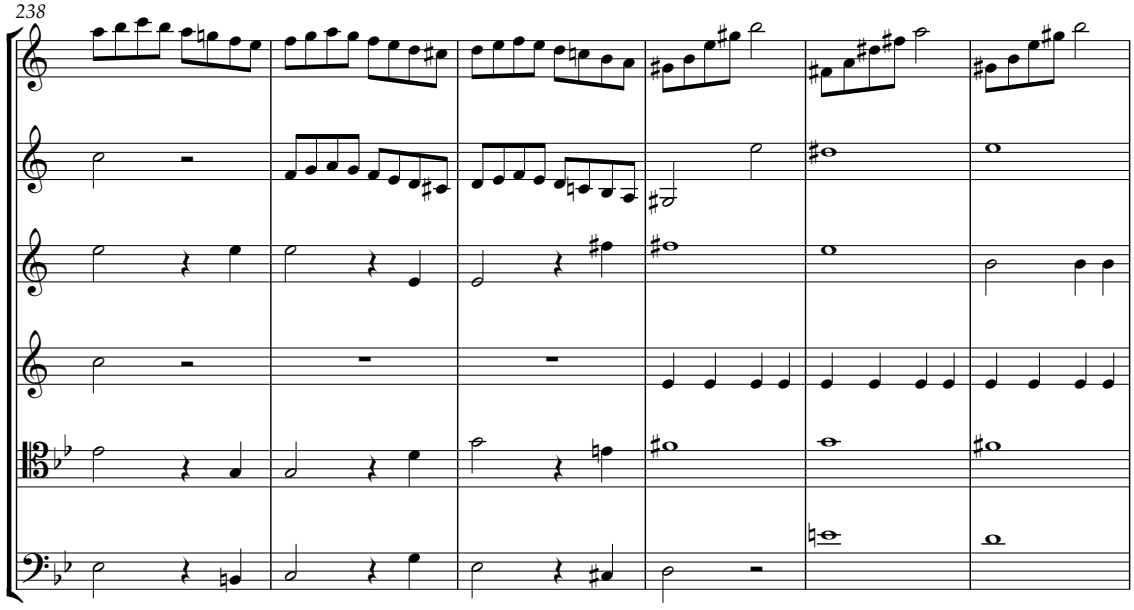

201

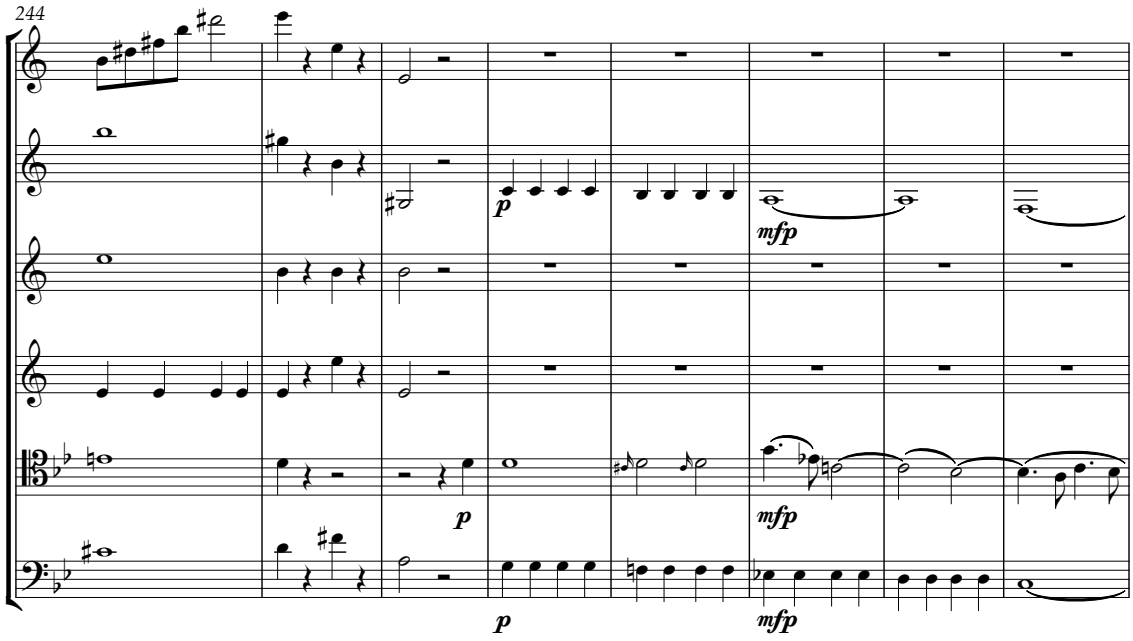

210

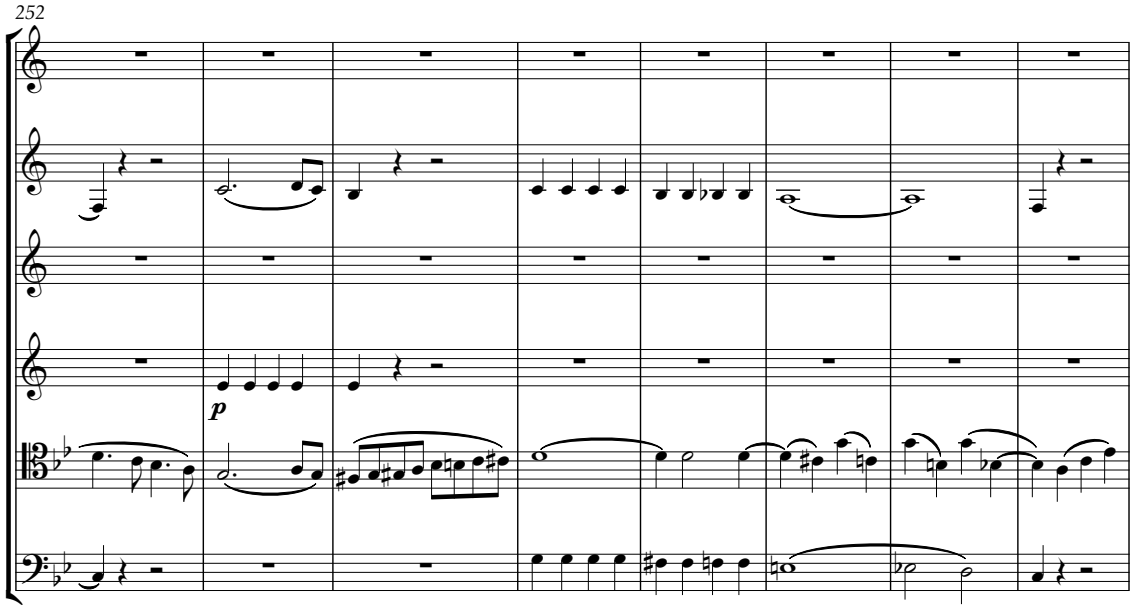

218

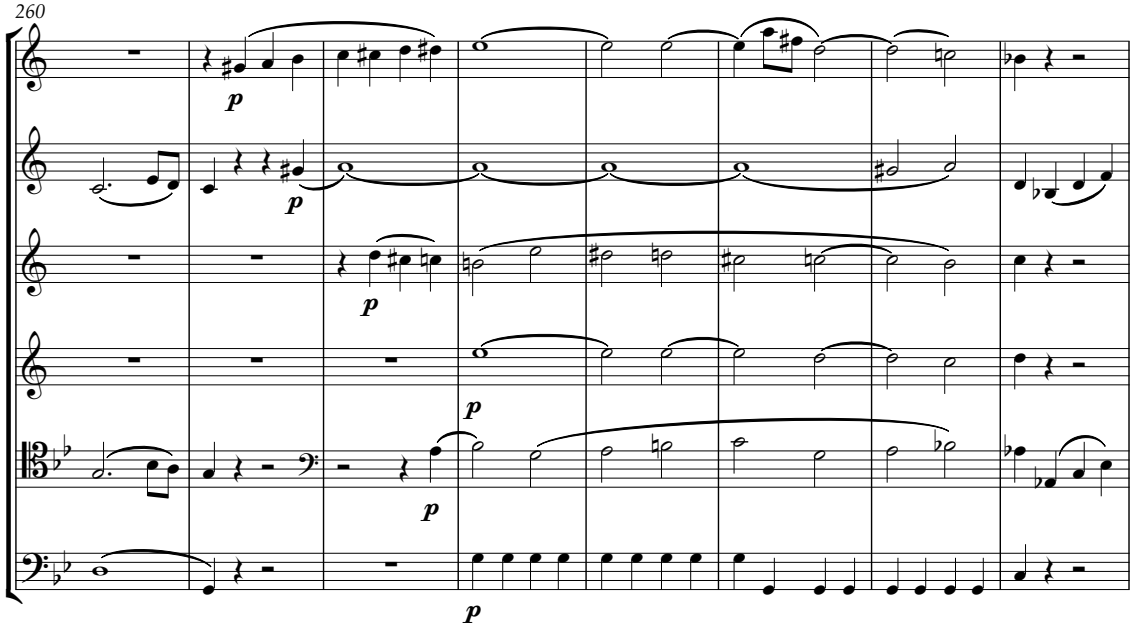

225

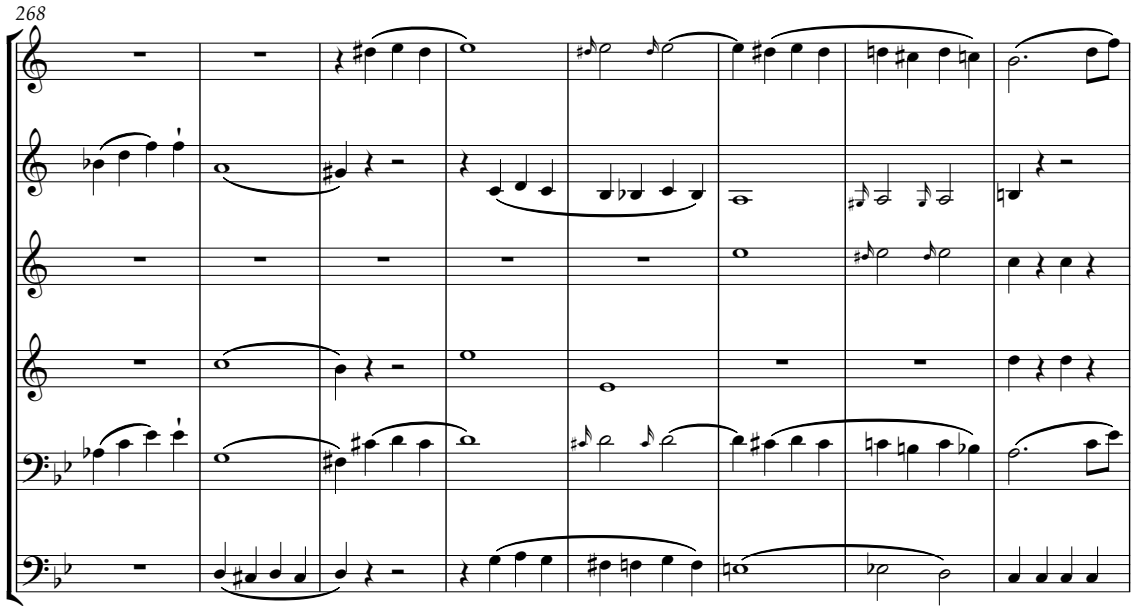

232

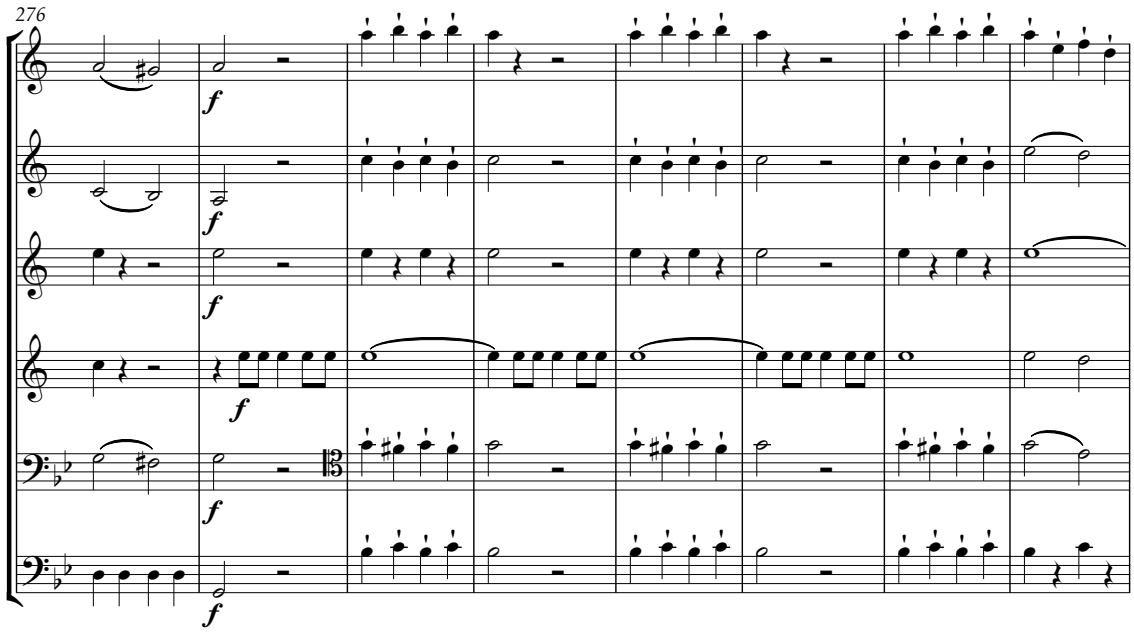

238

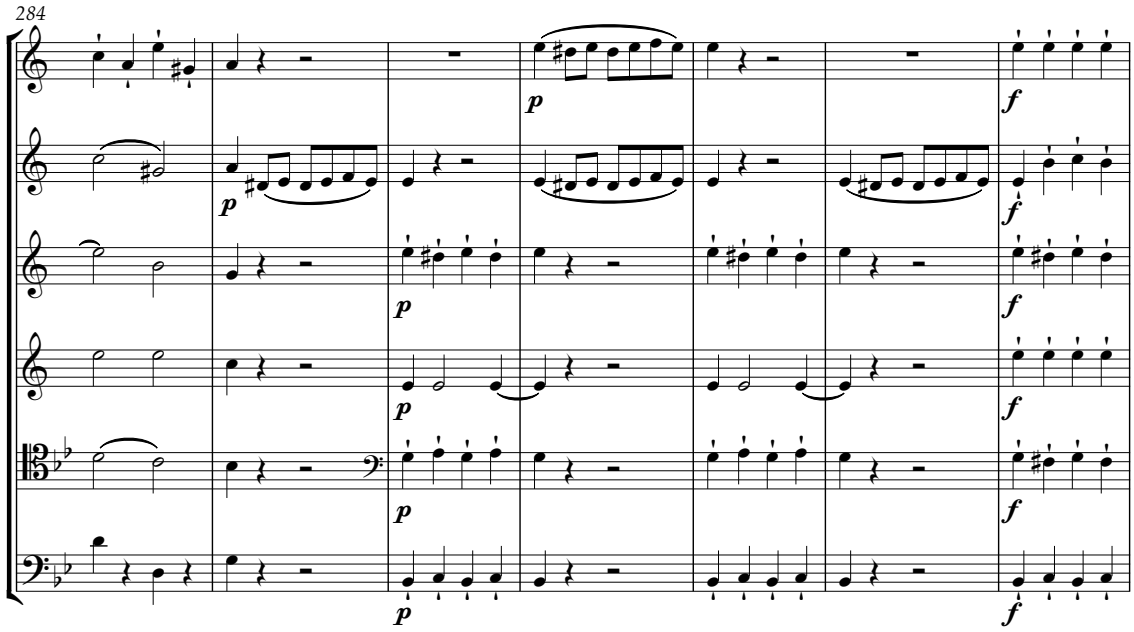

244
p
mfp
p
mfp
p
mfp

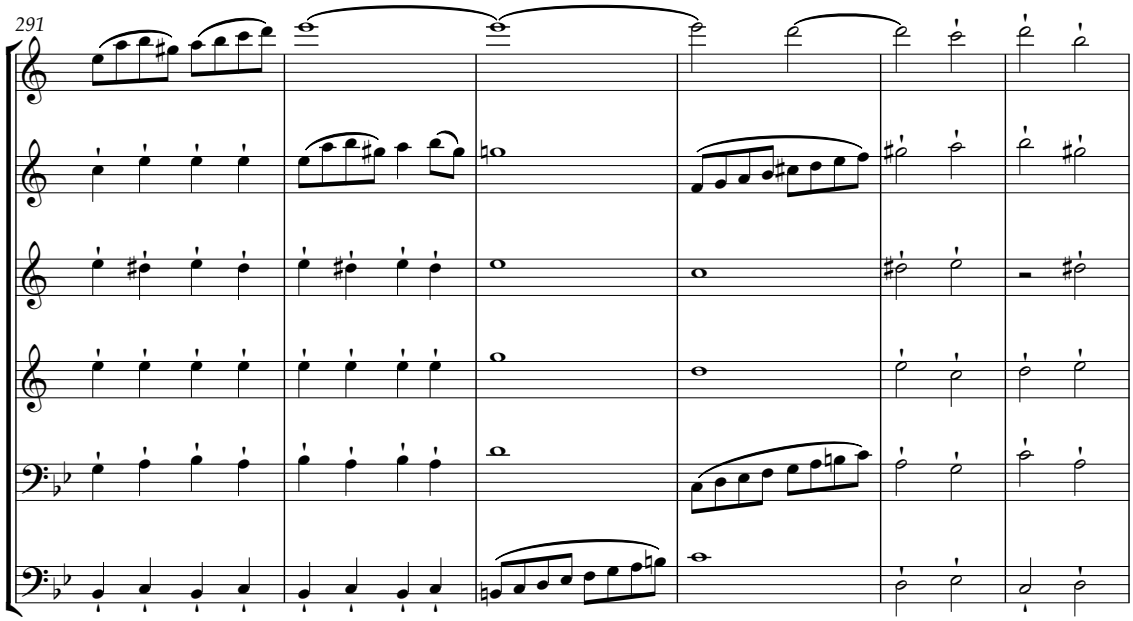

252
p

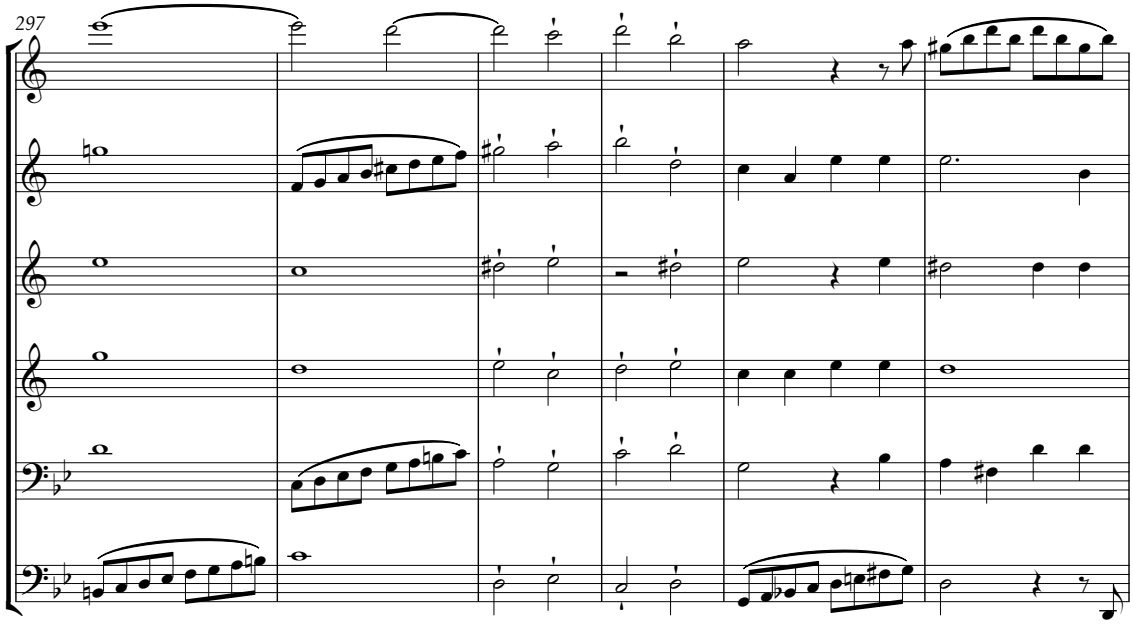

260
p
p
p
p
p

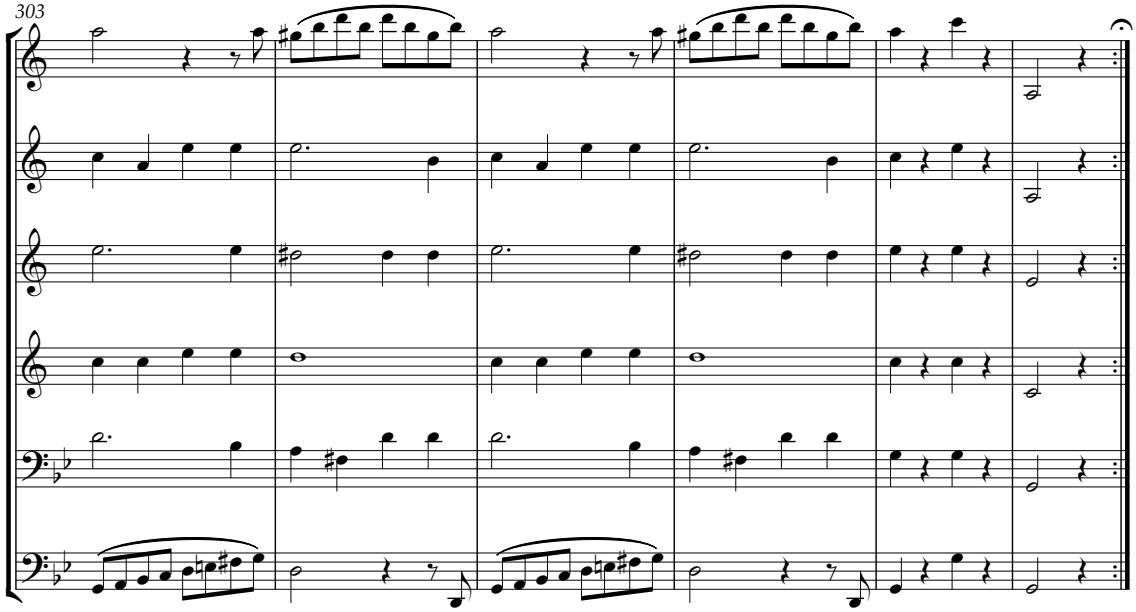

268


276
f


284
p
f


291


297


303

Chapter 6

Arranging Beethoven's String Quartet op. 18 no. 1: creating Chamber Music for Harmonie

The string quartet (Haydn, Mozart, Beethoven, Schubert, Mendelssohn, Brahms…) is the mainstay of chamber music, central to the canon, and I was fascinated to explore what happens when the Harmonie directly confronts this repertoire. I was interested to see if there is a way that we as wind players can meaningfully co-opt any of these core pieces whilst preserving and embracing their chamber music aesthetic. I already knew that a significant challenge in reworking string music for winds is the problem of the 'cello: its tessitura is rather lower than that of the bassoon, and the two have completely different resonances and timbres in their lowest octaves. How to deal with passages that depend on that strong bass sound? Is doubling the line at the octave enough, or are there more radical solutions? And what about low 'cello solos: should they be taken by bassoon 2 at the bottom of the wind ensemble, or should bassoon 1, the 'soloist', be below 2, both of which might be some sort of subversion of roles? The quartet's solo viola adds a further wrinkle: its range and tessitura in classical repertoire is rather too high to simply transfer its parts onto the bassoon, which means using clarinet 2. But what then to do with the second violin's part, which is certainly too high for the horn? There is also the nature of each ensemble and the typical way of writing for it: Harmoniemusik stereotypically is concerned with instruments in pairs with little counterpoint; quartets are the expression of learned conversation and debate.

There are a number of precedents for Harmonien playing string chamber music. The clarinettist Simon Hermstedt made arrangements of Mozart quartets for a small band of 13 parts, including *flauto terzo* and basshorn,[1] but only his version of K428 has survived intact.[2] The piece usually attributed to Triebensee, *Variationen über das Volkslied: Gott*

[1] i.e. a flute sounding a third higher than a concert flute. The basshorn is a sort of wooden, keyed serpent in bassoon form, also used by Mendelssohn.
[2] Marshall Stoneham, Jon A. Gillaspie, and David Lindsey Clark, *The Wind Ensemble Sourcebook and Biographical Guide* (Westport, CT: Greenwood, 1997), 195; and Peter Heckl,

erhalte der Kaiser (Figure 6.1) is an arrangement of the second movement of Haydn's Quartet op. 76 no. 3, 'Emperor', but which interpolates two of the arranger's own variations.[3]

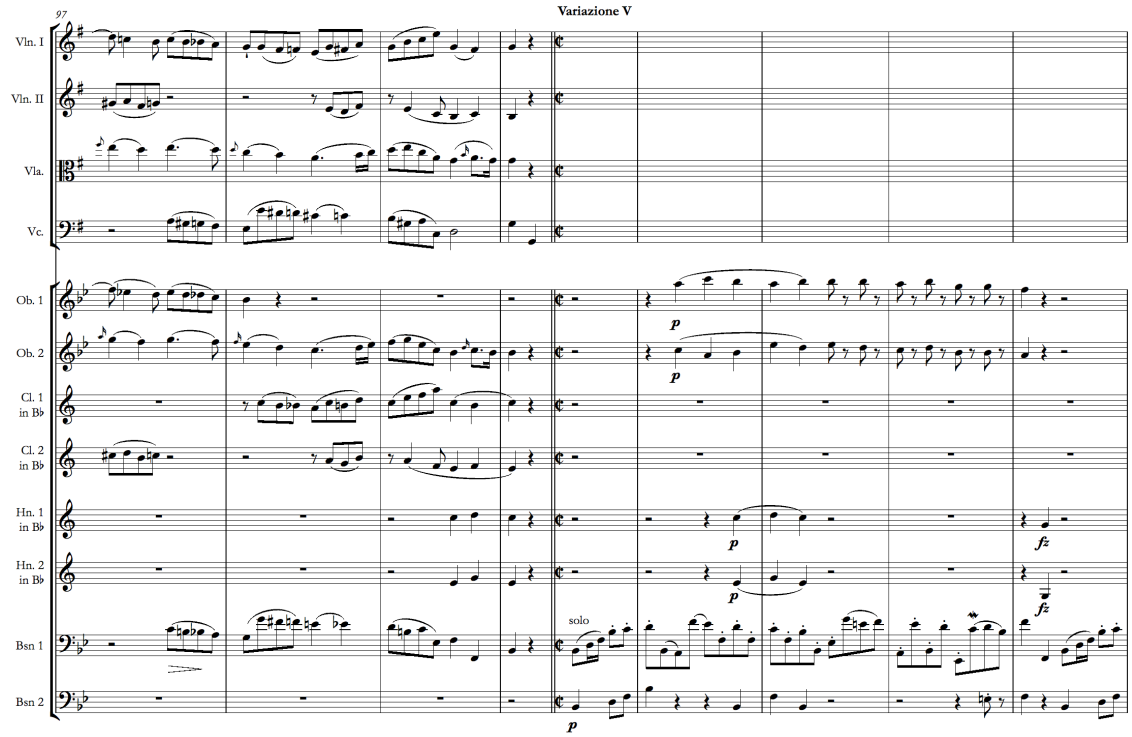


Figure 6.1 attrib. Triebensee/Haydn *Variationen über das Volkslied: Gott erhalte der Kaiser*: the end of Var. IV (i.e. Haydn's Quartet op. 76 no. 3, mvt II, var. III) and the new Var. V, showing the original string parts, and the 8-part arrangement

Stumpf's arrangement in six parts of Mozart's String Quintet in E-flat K614 is interesting, and so nearly a valuable contribution to the repertoire, but the horn parts are very basic, and the arranger omits many important details of the score such that a large amount of editorial intervention is required to make the arrangement performable. Some aspects are almost incompetent, including the chain of *14* consecutive fifths between clarinet 1 and bassoon 1 (Figure 6.2) caused by putting the violin 1 into the bassoon part

W. A. Mozarts Instrumentalkompositionen in Bearbeitungen für Harmoniemusik vor 1840 (Hildesheim: Georg Olms, 2014), vol. 2, 297–383.

[3] Jon A. Gillaspie, Marshall Stoneham, and David Lindsey Clark, *The Wind Ensemble Catalog* (Westport, CT: Greenwood, 1998), 280, where the piece is conjectured to be a composition of Triebensee's, with the catalogue number JZT-5c.

below the violas/clarinets, thereby changing a string of 6/4 chords into root position triads.[4]

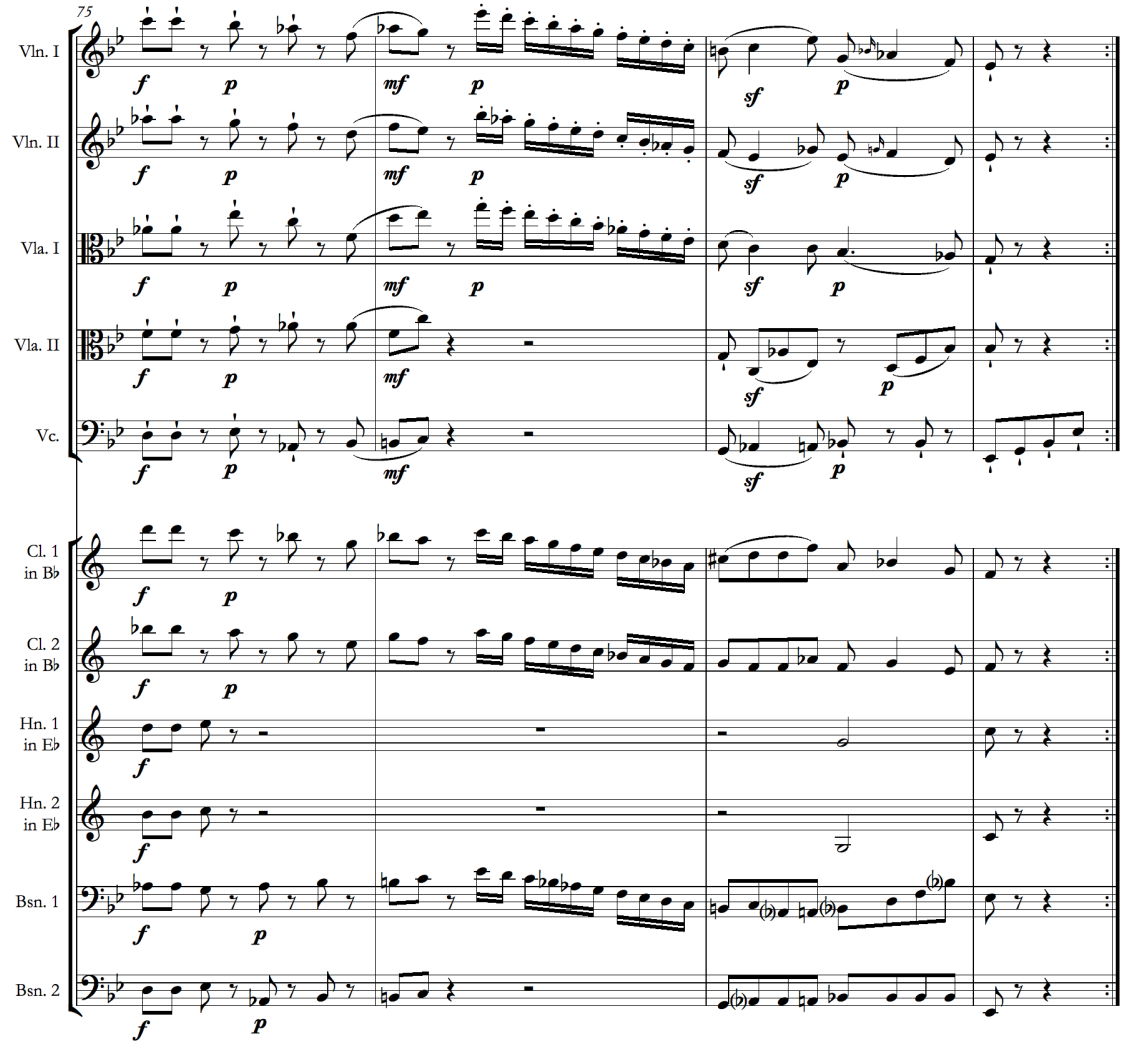


Figure 6.2 Mozart String Quintet in E-flat K614; and Stumpf *Grande Serenade tiree des oeuvres de Mozart*: mvt. II, 75–78, numbering as per Heckl

There are also a number of *Suite d'Harmonie Concertante* using movements of Haydn's quartets arranged for sextet by 'Schmitt', but these are very straightforward transcriptions. There is also, however, the case of Beethoven recomposing (it is rather more than an arrangement) his op. 103 wind octet for string quintet as op. 4, and the

[4] See Heckl, *Mozart*, vol. 2, 266–290 for a full, unedited transcription of the original publication (Hamburg: Meyn, 1797). Because of these errors, and other details of the arrangement, and the publication in Germany rather than Paris, I am doubtful of the attribution to *Johann Christian Stumpff*, who was a prolific and rather more competent arranger for sextet, mostly of operas.

challenge of seeing if the reverse procedure is possible, arranging a string piece for winds, is appealing.

The prosaic fact that I also wanted to arrange a piece of music not in E-flat major – so much of what we have is in E-flat, and for the practicalities of programming there is a need for some contrasting repertoire – meant I selected Beethoven's first quartet, Op. 18 no. 1 in F. For a source text I simply chose the standard Dover reprint of the Breitkopf & Härtel score, but over the course of making the arrangement I have changed much of the notational detail: historical attitudes to other genres within the Harmoniemusik sphere (symphony, piano music, vocal) do not convince me of a need to become suddenly deferential when working with a string quartet.

My first step, as a proof of concept, was to arrange the exposition of the first movement, the opening and closing bars of the second, the opening 30 bars of the fourth, and all of the third: I was already aware that this movement might be where problems would lie. The arrangement was fairly literal at this stage, but I had started looking for things for the horns to do, so e.g. bar 13 in the first movement was a horn solo from this first draft. I also decided from the outset that I could adapt Beethoven's notation to distance the arrangement from the original, so I had no reservations in changing even the first note from a crotchet tied to a quaver to the simpler dotted crotchet. Beethoven, anyway, is not consistent in his notation of this motif, and at least one 19th century piano arrangement also makes the same change.[5] At this point I was writing for clarinets in B-flat and horns in F, and to identify possible problems in the clarinet parts I went through my arrangement and highlighted all the little-finger slides. Looking at this draft, and also a harmonic analysis of the entire quartet, I realised that some of Beethoven's modulations were going to make the arrangement challenging to make, and potentially difficult to play. The second movement presents no problems, but the outer movements have passages in A-flat and G-flat major, and F and B-flat minor. Of more concern for the clarinets are passages sounding in A major, and the Trio of the Scherzo has some very technical writing in D-flat. I decided that this would be a good opportunity to try

[5] see Edition Peters arrangement of the Quartets op. 18 for piano solo.

making some historically informed cuts in the arrangement to mitigate the difficult tonalities.

Next, I completed the arrangement. Having studied the preliminary results of writing for clarinets in B-flat, I decided that it would be better on balance to use clarinets in C, which was the typical historical practice for F major until about 1810. For the third movement, however, to try and find a solution for D-flat major, I followed the occasional practice of Sedlak and Triebensee and scored for one clarinet in C and the other in B-flat. I also implemented three cuts: eight bars in the first movement (in the string quartet 198–205 inclusive) and in the last movement one of 35 bars (124–158 inclusive) and another of 55 (272–326). The first two avoid difficult tonalities – G-flat, F minor, D-flat – and the third is primarily to make the finale shorter and less strenuous. In the finale, the first cut is a kind cross-fade over four bars, as the bars and phrases before and after the cut are almost identical, allowing a merging of their material. The second cut in the finale is a jump at a point where there is a similar harmonic progression.

As well as the cuts, many of the changes I made to melodic lines for technical reasons are present in this complete draft, particularly the changes to pitches to avoid little-finger slides for the clarinets. The use of two different clarinets in the third movement allowed the Trio to be quite literal to Beethoven, but bars 90 and 94, a passage in D-flat major and forming a sort of turn on D-flat, are still changed into an arpeggio figure as even on the B-flat clarinet this figure (now in written E-flat) is still poor as it uses a lot of throat notes. I divided other lines in the Trio between the clarinets as seemed to best suit their tonality.

Throughout this initial version I took a fairly straightforward approach to fitting in the horns, giving them a little melodic material, and not creatively inventing too much new material for them, simply assigning them pitches and progressions they can play from the original quartet. I wrote for the bassoons doubled in octaves where I thought it necessary to increase bass resonance, but avoided over-using this technique.

Boxwood played this version through in a repertoire session, with a tape running, and this confirmed trivially, that, yes, a Harmonie can play a string quartet! However, my more serious conclusion after listening back to the recording was that I needed to do rather more work to make the arrangement sound like Harmoniemusik. Clarinets in C didn't work in this context: their sound is very particular, and whilst it suits a certain kind of wind music, it doesn't suit this. I also found the F horns remarkably bright, and even the bassoon parts, for once in their home key, are just a bit too high for comfort.

I considered various solutions to these problems. The first was to leave the piece in F and change the clarinets from C to B-flat. However, attempting this confirmed historical practice that clarinets do not play in G major, except in a relatively limited way. It was clear looking at a score with this new transposition that there were too many low Bs, and that the modulations rapidly introduce lots of sharps.

I also considered whether the quartet would function as a piece in D major, with clarinets in A and horns in D. Of course, because of transposition, the clarinet and horn parts did not change at this point – they were still written in F and in C respectively – it is only the bassoons that function in concert pitch. But the bassoon parts in D have a tessitura that would often be too low, and the modulations look ugly. Inescapably, my conclusion is that E-flat is the key that will be most effective: the bassoon parts look good, and of course the clarinets and horns are in the key where they function best.

Deciding on E-flat led to major revisions, with more alterations to clarinet lines to avoid the little-finger slides, and changing internal parts, especially in the horns, to improve voice leading and improve jumps. I moved passages from clarinet 1 to clarinet 2 so that there are more personnel and colour changes, suggestive of the dialogue associated with chamber music, further helped by rewriting more of the solos I had originally assigned to the clarinet for the horn. Through the course of my research, and also editing and performing Harmoniemusik, I have come to the conclusion that when scoring for wind instruments the actual sounding octave of a line is less important than its tessitura or where it fits in the instrument's range: pitches written *on* the stave for clarinet and horn have the same timbre, and appear to sound as high as one another, even though their

actual sounding pitches are a fifth or more apart. The important thing is how these lines are accompanied, so a solo in the horn, or especially in the tenor register of the bassoon, has less space available below it in the ensemble to fit counter-melodies and bass line than does a solo in the clarinet.

The change of home key also forced some radical changes to the bassoon parts: bottom B♭ did not often feature in the original parts in F, in part because of the tonalities, and in part because of course the 'cello only goes to C. Transposing the parts to E-flat created too many bottom B♭s and figures scrabbling unidiomatically around the bassoon's bottom octave, out of keeping with the low proportion of pitches that are below bottom F in a typical bassoon part. Therefore I transposed many bassoon lines by an octave, in whole where I could or in part, to make something more rewarding and idiomatic to play.

This phase was a process of constant tinkering: adding small rests for breathing; consolidating repeated notes into more expressive longer note values; removing redundant doublings, even unison phrases as these are difficult for blend and tuning and are more of a feature of string writing than of writing classical winds. I was also already adding extra horn lines (more came later) to distance the arrangement for Harmonie from the string quartet.

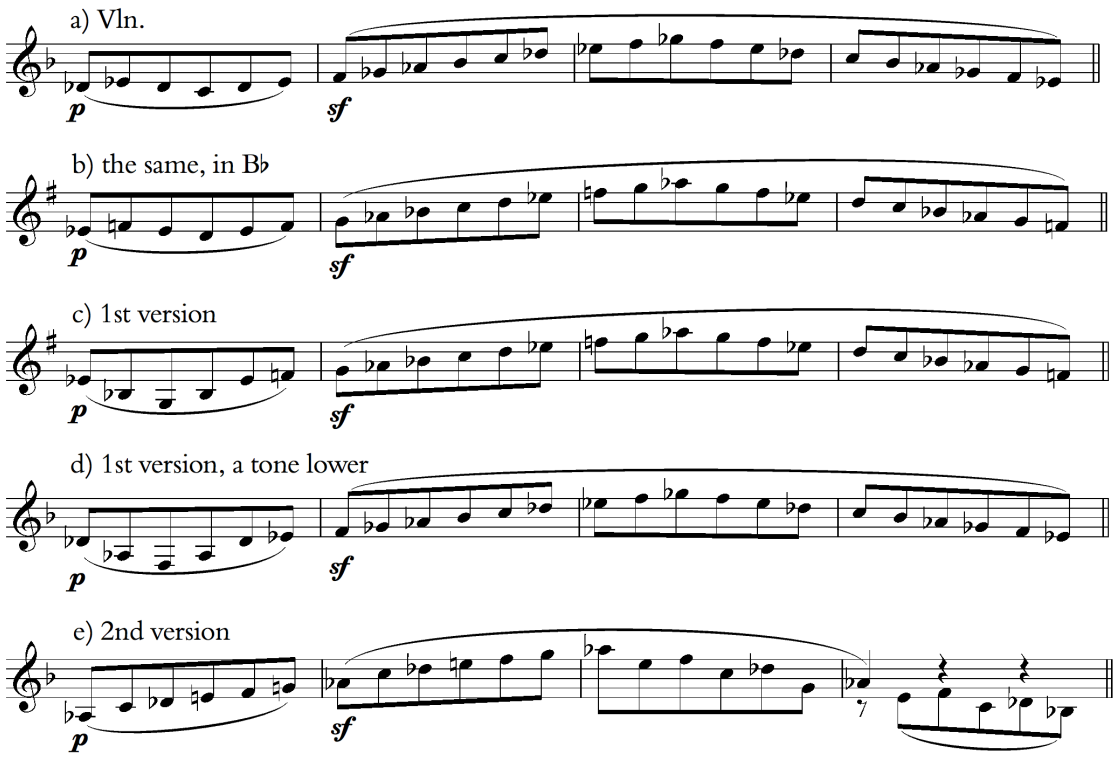


Figure 6.3 Beethoven Quartet op. 18 no. 1, Scherzo, b.90–94, original version and possible arrangements

Because the piece was now a tone lower, both clarinets need to be in B-flat for the Scherzo, which requires a different solution for the Trio. Figure 6.3 shows the first phrase, which begins in bar 90. (*a*) is the original violin 1 part; (*b*) is the same transposed for clarinet in B-flat; (*c*) is the version of these bars from my first draft; (*d*) is the same now transposed down a tone, as in the version of the arrangement in E-flat; and (*e*) is my final version. (*a*) is not playable on the clarinet: in the first bar only the C is not a forked fingering, which makes a technically very difficult pattern, and the sound of all these pitches is very muffled. These bars are too far outside of typical classical clarinet writing. (*b*) is marginally better, but patterns like this in E-flat major are still too demanding to be idiomatic writing. (*c*) changes the first most problematic bar into something more playable, but the following scale is still a problem: this is a question of the unfamiliar in this case not being acceptable. In (*d*) because the key of the arrangement has gone down a tone, the figure is back in D-flat major, and is unplayable. The workable solution I found is (*e*) which completely transforms the four-bar figure from a turn followed by a scale into an extended D-flat major arpeggio with chromatic lower auxiliary notes before each note of the arpeggio. This is an unfamiliar pattern, but no two ‘bad’ pitches are next to each other, and there are no finger slides. The rest in the

fourth bar where player 2 takes over allows player 1 to breathe, and also to reset their brain and fingers mid-phrase. The quavers in this phrase define the character of the Trio, and so from bar 122 I also made all of the other iterations of this motif more like the first. Additionally, because this is now a motif that is more suited to the clarinet than the violin, this helps with distancing the arrangement from the original.

I did explore another solution to this problem, which is to exploit Beethoven's semitone shifts of harmony – at bars 89–90 a unison B♭ (in the transposed Harmonie version) becomes the leading tone for C♭; at 120 the unison rise from B♭ to B♮ to C – and experimented with reversing the directions of these shifts, or make them into other intervals. But nothing sounded to me as convincing as my solution at (*e*) above.

Up to this point I had written for the two horns to use the same crook throughout the arrangement, but I now realised I should examine how using an unmatched pair in the C minor slow movement would work. Having one horn in C basso and one in E-flat was an important change, and transformative for the movement, leading to a number of significant revisions. These included deciding which horn plays which line, and also redistributing more material into the horn parts as there were now different 'good' pitches available.

At the point at which I was sending parts out to players I decided to add metronome marks to my score. Beethoven's own set, published some years after the quartet's composition, are characteristically very fast in the fast movements (dotted minim = 54; quaver = 138; dotted minim = 112; crotchet = 120) but they must reflect something of the character and virtuosity he had in mind for piece, even if they are not literally applicable to every phrase. Mine are practical for the Harmonie, translating the character of Beethoven's into something similar for wind instruments, and reflect the tempos I was thinking of when I was calculating, or imagining, what players might be able to achieve.

Commentary on arrangement of Beethoven's op. 18 no. 1

The following reflects on some of the further choices I made during making the arrangement, or during its revision and refinement. Almost every bar has some sort of point of departure from the original string quartet, too much detail for the scope of this discussion, but to include as much information as possible without using repetitive language I use the following abbreviations:

8va, 8vb	octave higher, lower
bn, bns	bassoon, bassoons
cl, cls	clarinet, clarinets
hn, hns	horn, horns
OV	Original Version, the first version of my arrangement
rev	revision
SQ	string quartet
va	viola
vc	'cello
vn, vns	violin, violins

Bar numbers in this discussion and in my arrangement match the score for quartet, so the numbers jump at the points of the cuts.

First movement

1, 3, 5 hns in OV played a crotchet C on beat 1: too idiosyncratic in *piano*, save this for the *forte* in 9 and 11.

9, 11 hns in OV had crotchets, but to encourage them not to play a generic short note, I lengthened them to minims.

13 hn 1 solo, rather than cl 1 as more interesting, and helps with integration of hn. Being in the hn requires other pitches to all move 8vb or where possible.

19 hn 1, bn 1 SQ turn omitted because unidiomatic; SQ vc (= bn 2) octave jump to bottom B♭ omitted; hn 2 instead provides motion through the bar.

31, 33, 35 bn 2 use of bottom B♭ is difficult technically, but probably has precedent in repertoire. Other solutions to have this figure 8va would require too much of re-jigging of other parts.

38, 40 cl 1 note 2 – first semiquaver – raised a third to avoid awkward technical problems, either little finger slide, or throat-note; and in all other similar instances of this motif.

42–46 hn 2 middle G, A♭, B♭ was originally in hn 1, but because there is no precedent for B♭ to high E jump (in 46), these pitches moved to hn 2: it is anyway more in the register of hn 2.

63, 64 pitches added and lines changed in cl 2 and hns for better voice-leading.

72 no third of chord on downbeat in SQ: added to cl 2.

78–80 cl 1 (from vn 1) semiquaver line contains repeated use of throat A, middle B, middle C♯ slide, which is very awkward, so OV changed this to E, D, C♯. This, therefore, would then also need changing in 80 for cl 2 and bns entry, and perhaps for this motif throughout the movement. There is precedent for this (c.f. Triebensee in Mozart 39) but it would be quite 'invasive', and A, B, C♯ is anyway standard challenging clarinet technique. Therefore I decided to stick with the original.

82 hns in OV entered on beat 1, but here is more individual and thrilling, and keeps drive through bar by filling beat 2.

84–87 and 92–95 in OV quavers were in cls and bn 1, but were more distinctive as a cl 2 top line with bsns, and also to give cl 1 a rest. Repeated pitches in SQ vn 2 line now made a single long note. vn 1 line almost 'fits' in hn 1, but finishing on top C is too heroic in this context and dynamic, so placed in cl 2.

115–116 semiquavers presented a big problem. OV had this in cl 1, but this resulted in an A major scale. Rather than completely re-write it using chromatic auxiliary notes I moved it to bn 1, altering the position of the scale so that it is high enough in the tessitura to be able to fit the pattern into the number of beats available.

119–122 in OV the va/vc octaves were in bns, but va is more suited to cl 2, which gives a more characterful timbre.

120, 122 vn 1 figure changed for cl 1 as 3rds and 4ths, esp. down to throat B♭, would be very tricky.

145–150 the added notes in hns add interest and integration, so that they aren't simply *tacet* at difficult moments. But these pitches also allow continuous voice-leading through to 151 so that they don't have to come in cold on hard-to-pitch notes.

155 SQ has vn 2 answering vn 1. This phrase is the wrong key and register for cl, but 8vb fits bn well. This also allows cl 2 to play it in 159 (where it is 'only' F minor); 163 not possible on cl so bn again. And this dialogue all gives a big rest to cl 1.

191 hn 2 (= va) A♭, D♭, B♭ not allowed; B♭ crotchet works.

198–205 cut after beat 1 of 198 as tonalities and trills too awkward. 198 and 206 are almost the same bar and so can be cross-faded.

216 OV and later solo started on cl, then moved to hn, but hn movement to top A as here is idiomatic, so it can take whole solo.

286 solo in cl 2 in OV, but very idiomatic for hn 2, although tricky, but very much their register, and very chamber music-like.

303–306 hn 2 low A♭ although a rarely-used note is completely characteristic of Beethoven.

309 bn 2 is 8va of SQ vc because whilst the vc line is playable, just, there is a high risk of notes not speaking, and it sounding grotesque or humorous. Although this is balanced by the fact that figure as here is a fork-fingering passage that is not easy for other reasons.

Second movement

Whilst it is unusual having horn 1 play in a lower crook than horn 2, the solos here that require the C crook are more typical of a first player than a second. This also dictates or permits rewriting of other features to characterise each part to the genre of player.

1–9 SQ/OV accompaniment seems a bit relentless, loud, and is difficult to control. 'oom-cha-cha' (as from b. 5 here) works well, and is more idiomatic for winds, once the theme proper starts in b. 4. I opted to keep the SQ 3-quaver texture for the opening in cl 2 and bn 1, but to have only the strong beats in bn 2. The voice swapping in cl 2 and bn 1 is too avoid written C♯ in cl. Note that making the accompaniment oom-cha-cha makes this movement more closely related to the slow movement of the Septet op. 20, possibly revealing it as its tragic sibling.

9–12 hns: decision to make hn 1, and therefore nominally the upper part, in C and hn 2 in E-flat changes their role in octaves, so these sounding Gs in octaves could go the other way up with hn 1 8vb and hn 2 8va, but that would be, I think, weird for the players.

20–21 SQ vn 2 figure has too many unprecedented intervals for either horn. If in cl 2, b. 21 would be a long D♭ as the bass of the following progression, which would be ineffective. At sounding pitch bn = vn 2 would be too high, a squeeze up to top B♭. Having it 8vb in bsn 2 (coincidentally, this is the original SQ reading in the so-called *Amenda* version) is not enough colour contrast with what must be the scoring in 22. So, ultimately, I put vn 2 in cl 2, but changed the long written concert C♭ to E♭, and added bn 2.

26 As an example: vn 2 solo in cl 2 is too boring, and vn 1 in 27 is too high for expressive clarinet. But, perfectly, bn 1 can take vn 2 8vb, right in the middle of the solo register, and cl 1 can take vn 1 also 8vb. Octaves of the other activity not so important, as long as bass is in right place. Cl 1 must jump 8va at some point, and rhythm of 29 allows this in 30.

31 bn 2 = vc, octave must change somewhere to avoid the low register: Beethoven does it in 32 with 2 Cs and an octave jump; for the bn it is better to instead change the semiquaver phrase, as in other places.

35 similarly, it is more expressive, and interesting to play, if bn 2 is in the tenor register here rather than at the bottom. Bn 1 takes over same line in 36 to preserve upper octave.

38 va must be 8vb, which is good in bn 1, initiating 8vb change for vn 2 = hn 2.

42 having 6 instruments means Beethoven's scoring can be changed so that the descending line of va passing to vc can be in one instrument (bn 2), and others join the texture to help the crescendo.

56 in theory cl 2 could continue to double bn 2, but very fast F♯ E F♯ is theoretically impossible, unless using the thumb-underneath technique, as discussed in Chapter 3, so I prefer to miss it out as a quirk of historical-looking detail.

58 vc/bn 2 D♭ C D♭ would be impossible on the classical bassoon in the SQ octave, so again I prefer to make 8va and keep 8va doubling in cl 2, which is not present in SQ.

63 opening ‘oom-cha-cha’/Septet figure can be employed again much more idiomatically than strings’ brushed repeated notes.

69 again, cl 2 (= vn 2) line is reflection of fact that technically doubling the bn and playing all the notes is possible, but very difficult.

76 solo for C horn is lovely: the right register, and the technical figures are centred on good notes. Some of cl 1 is rewritten to match hn, whose line has been rewritten to give them pitches they can play, and to avoid the highest pitches, but ossia in 79 is to give them the choice of either echoing the horn or play more of the SQ vn 1 line.

93 hn 1 rising to top C is difficult, but too good an opportunity to miss, and there are 2 bars’ rest before it.

97 etc. hn 1 solo in C minor is challenging, and a little difficult to balance with the ensemble on the C basso crook and with the stopped pitches, but it would not be effective on the E-flat hn. Putting in bn 1 would not sound appropriately heroic, and it has to take the vn 2 part as it is too throaty for cl 2. The combination of stopped pitches in hn 2, and the relatively light scoring of the other parts allows it through enough. And the colours and contrasts of the stopped and notes are too good to pass up.

Third movement

9 spacing of chord here is determined by avoiding b♮ in cl 2. Hn 1 stopped F♯ adds further ‘dirt’ to the *forte*.

17 SQ has va and vc (= bns) an 8va apart in this duet: not possible here, but character of different players should be enough.

21 va and vc line in 8vas needs to be 8vb for bsns, but I have added a jump of a seventh (as in b. 68 of SQ) to avoid bn 2 being too low.

51 cl 2 takes va line as it is much more resonant a colour in 8va with bn 2 than bn 1 would be.

58–64 new horn parts added for rhythmic interest, fun, integration of hns, and distancing from the original.

78 hns mostly 8va taking approximation of vns is more thrilling and idiomatic than other versions would be, and I can repeat it in following bars with cls above them, adding extra line through middle of ensemble.

Trio. See above for full discussion of problems here.

86 octave jumps chosen to suit individual instruments.

90 again, hn 2 low A♭ is quite characteristic of Beethoven, and the fact it is *piano* should allow it function as bass. Other aspects of the voicing of chords are governed by good/bad notes in cl.

102 obviously a solo for hn 2!

113–117 the fun of the hn 2 octave G solo! cf. Krommer in the Horn Examples.

Fourth movement

1–18 cl 1 = vn 1 as is almost perfect cl writing: right register, right notes, relatively easy to play very fast. bn 1 = va (from 9) is a different proposition: this is difficult, concerto-level stuff, and (for this bassoonist!) needs a few special tricks to play at speed, even at my suggested 15% reduced metronome mark!

27 as an example: having 4 woodwind play this in unison, as the SQ, would, I feel, be less characteristic than the two principals – the nature of woodwinds is that the 4 together is not so characterful and would be more difficult to get together and in tune than 4 strings. I don't perceive this unison motif as a meaningful allusion to the opening of mvt 1.

33–34 is a cadence, one of many, where Beethoven omits the third. It is more normal for Harmoniemusik to have full chords, although sometimes the 5th is omitted. Passing unisons and unnecessary doublings are to be avoided for reasons of intonation.

65–82 bn 1 solo: starts as vn 2, as SQ, but then takes the vn 1 line at 67 as this line is more distinctive in the bn than the cl. It would be a little bit low in tessitura for the cl once the vn line is 8vb and the articulation is more distinctive in the bn. Also bn needs a substantial solo at some point, and the cl needs a rest. It's an effective colour change, and at 75 the scoring rights itself as cl 2 enters.

82 Beethoven's trill in vn 1 leading to a jump of a 7th for the triplets seemed ungainly to me: the voice leading works better and there is more impact if cl 1 gets a rest before launching into the triplets.

109–111 the hns octave should be strong enough that the bn = va line does not sound as if it is below the bass. The dialogue between the 3 voices is more important than the actual harmony.

117 again va = bn is a very difficult bar: hopefully the 'gesture' is strong enough to convince the listener. Having it 8vb would be unsatisfactory; putting it in cl 2 would be much less interesting, and makes slotting in the following voices problematic.

125–158 Beethoven seems to interrupt his fugue with a short passage that he uses again later. I decided not to because cutting these bars shortens the movement and misses out a tricky tonality – C-flat major in my transposed version – and the cut is very pleasing with its cross-fade.

124 (sic)–170 horn interjections/punctuations keep them involved in a passage where they could otherwise contribute little.

177–184 I am relying on the different sonorities of the horns' G and the bassoons' B♭ to define character, rather than using the bottom Bb in the bassoon which might be a bit humorous, or even weak at this point.

185–190 good practice to rest the hns before hn 1 solo.

205–219 adopting the lower octave for this passage, without the vn 1 upper 8va, means that the horn can take over the solo line from 215.

219 is tricky for cl 2 – very throaty – but it has to be here to allow the build-up that follows. Beethoven contrasts 2 bars of vc with two of va a 12th higher: there isn't the space in the Harmonie to do this so I put the bass line all low in bn 2 and repeat the initial va syncopated pattern from 219, 220.

243 bn 1 could take va in this bar, but not in 245, so cl 2 starts as vn 2, and moves to va as bn finishes vn 2.

327 see earlier comment about this cut, although it is disappointing to cut the recapitulation of the bassoon solo, which would fit rather nicely in the clarinet this time.

346 the build-up here almost arranges itself: bn 1 plays theme, then joins bn 2 in 8va; at 350 hns in unison until top G becomes available; 354 cls in 8va with the other two pairs also in 8vas. And weight of hns allows vc line to be doubled 8va for proper impact.

358 cl 1 is high, but in good key/register.

362 top C in horn 1 would be ideal, but some players might not thank me at this point.

368–end several changes to make cl 1 (= vn 1) playable and preserve the correct harmonic progression – tessitura of vn line becomes too high, but the vn idea is too important to lose altogether. I aimed to create active horn lines that (*1*) from 374 hint at opening triplet theme; (*2*) don't immediately overpower the rest of the texture, but have the potential to if the performers so want it; (*3*) keep out of the way of bn 1; (*4*) have correct harmonic and voice-leading – consecutive 5ths in particular become a problem. Upbeats added to cl 2 and bn 1 triplets because that's what Beethoven would do.[6]

380 final two chords: difficult decision of pitches: cl 1 and bn 2 are fixed. But so are the hns who always (nearly!) play these pitches in a cadence in E-flat. This only leaves cl 2 and bn 1. 7th–3rd is better here in bn because of the pitches. Cl 2 could play 5th 5th (c′ c′), but that is very dull. Two low notes like this adds resonance, contributes more to the timbre, and hopefully nobody notices the octave doubling with hn 1! The lack of 5th in the last chord is not unusual in wind music, or Beethoven.

Playing, and listening, to this arrangement I am very pleased with it: I find the slow movement and finale to be particularly effective. The third movement's Trio still does not sound as fluid and effortless as I would like, even given the tonality, but I think this will improve with familiarity and performance. In particular I should have slurred the clarinet 2 quavers into the long note preceding them as having the break after the tied note inevitably makes the quavers late. And looking again at my score as I wrote this, I came to the conclusion that I should remove one more bar in the last movement at the larger cut (i.e. bar 271) so that there is a better harmonic flow at this point.

Have I created a piece of Harmoniemusik? In so far as I have made a piece to be played by pairs of wind instruments, obviously yes, although the nature of the source-piece means that at times the ensemble does not function in a way that it does in other pieces of Harmoniemusik, for instance where there are four contrapuntal lines for individuals rather than the somewhat more typical texture of a solo or a pair plus accompaniment. With all arrangements it can be difficult to separate our hearing and perception of the

[6] See Chapter 7, p. 319.

arrangement from the memory of the original, and I think this is particularly the case here. An arrangement of a symphony is obviously a different aural experience, a different medium, and, as I will show, an expansion of a piano sonata is also radically different. With a quartet, however, there is a danger that the listener feels the original lines are simply being played by the new instruments, particularly when the new ensemble is a small one. For me string orchestra transcriptions of quartets (eg. Mahler's of Beethoven's F minor, the various versions of Schubert's 'Death and the Maiden', even the two version of Schoenberg's *Verklärte Nacht*) suffer a similar fate: this is not a piece for string orchestra, it is a quartet played by too many people. Correspondingly, in this case there is a danger that this is simply a string quartet being played by wind instruments. For the most part, however, because I found solutions to the challenges relating to the 'cello and viola that I identified at the outset, and I did so whilst still providing idiomatic and enjoyable parts for both bassoons, rather than relegating the second player to any sort of subordinate role, it really feels to me like I have achieved a piece of new Harmoniemusik, albeit one with a somewhat unfamiliar texture, and one that at the same time strikes a balance between 'respecting' the original work and creating something new and effective.

A problem with performing a string quartet is that we as wind players never normally get to do it: however familiar we are with how the music sounds, interrogating it from the inside as players is quite a different experience. So I think we approach the music both in rehearsal and performance in a different way than do string players: most of us have none of the expectations and history and baggage that goes with this repertoire, which has its positives, but it also means that we need longer to assimilate some of the performance style that might actually be a necessary part of this music. It also means that we bring something new and different to the music, which is surely a good thing.

Ludwig van Beethoven

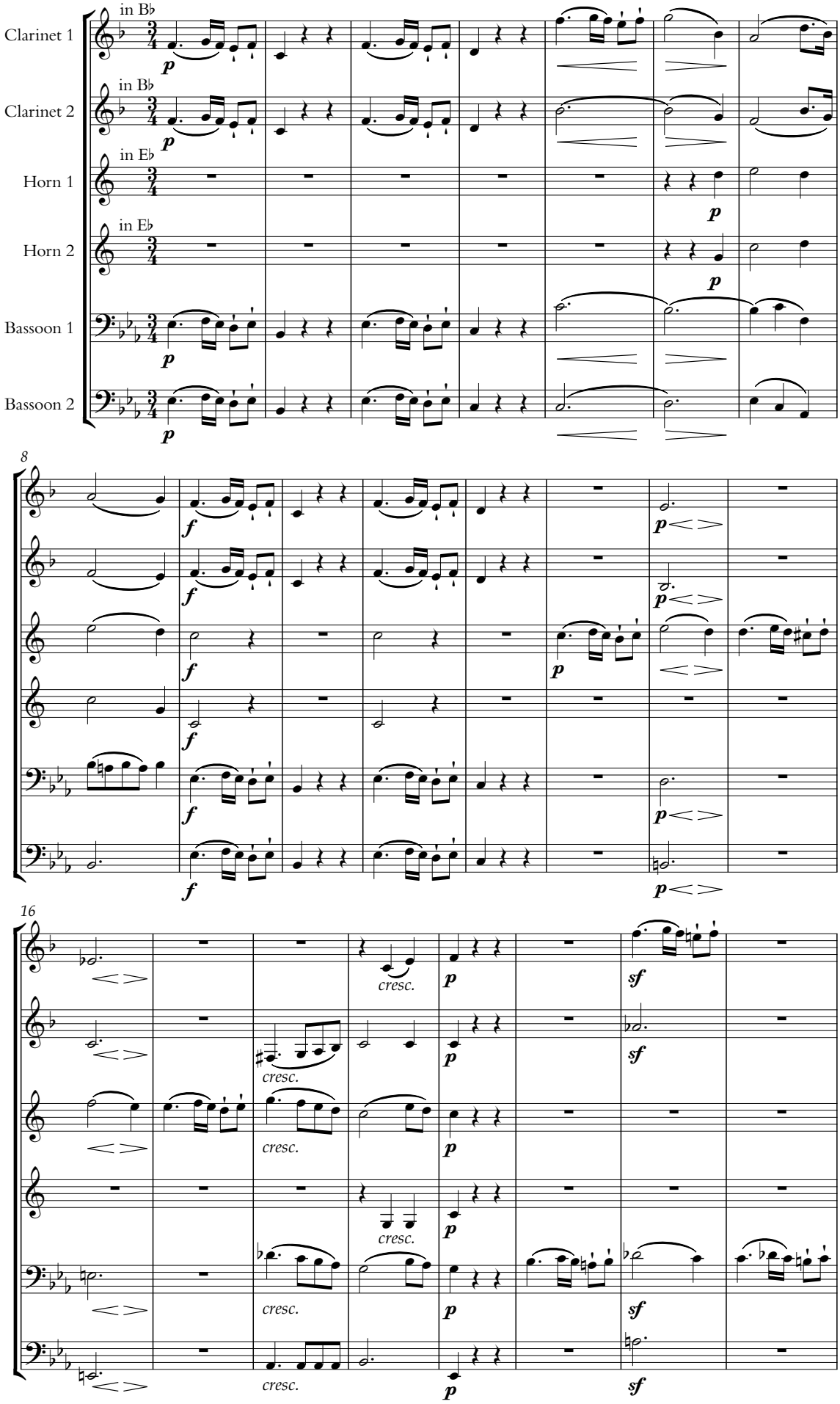
Quartet op. 18 no. 1 for six-part Harmonie

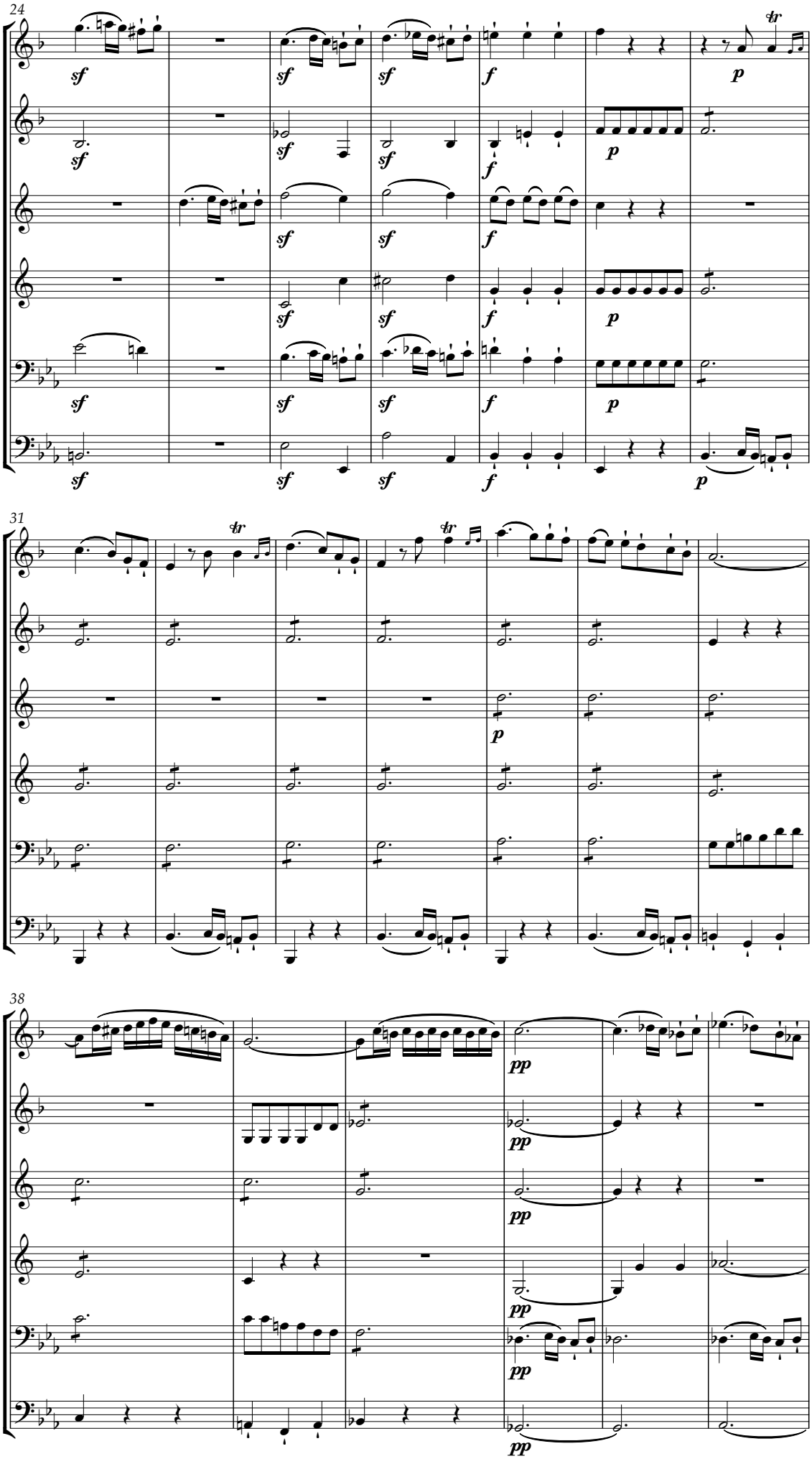
arranged by Robert Percival

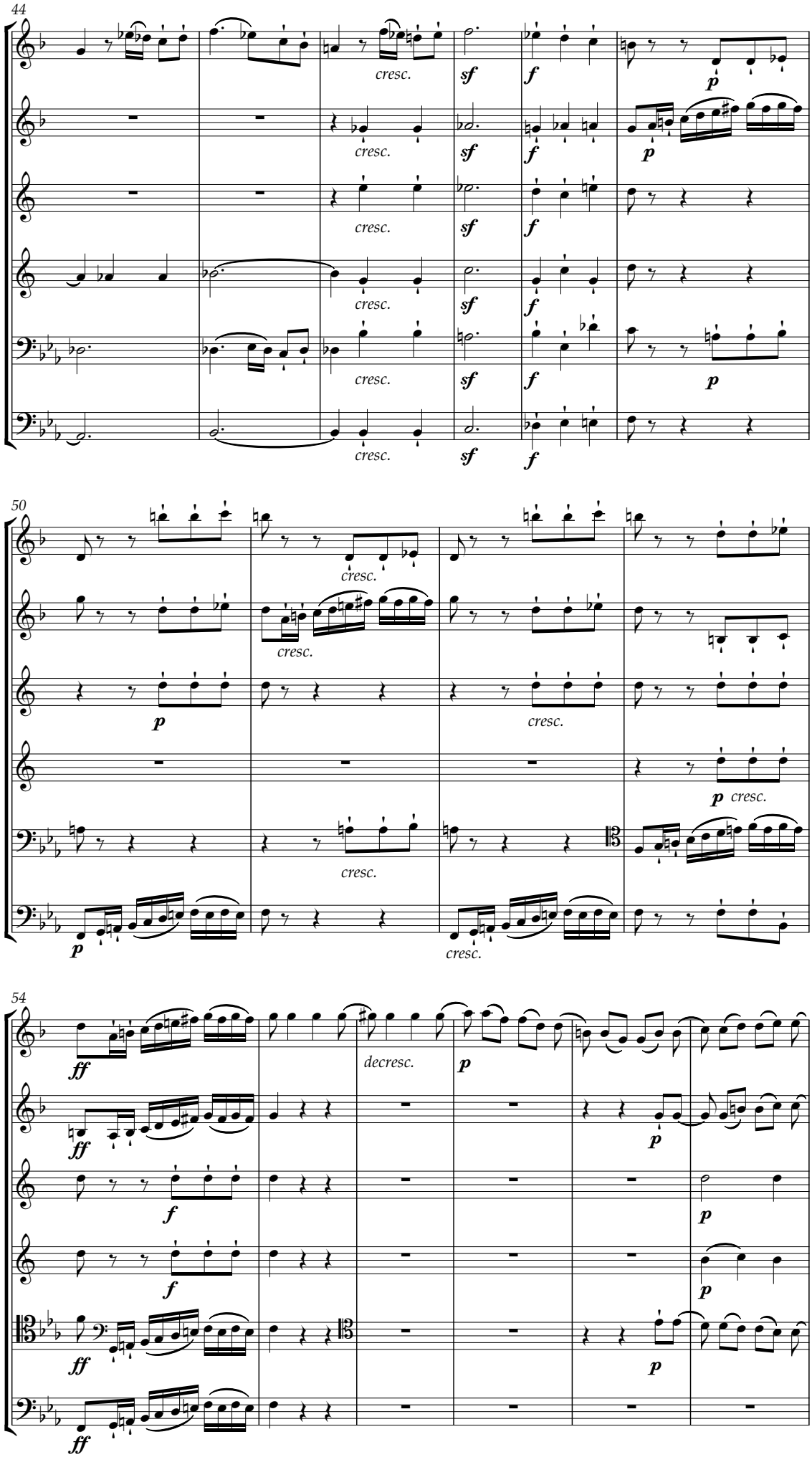
Quartet op. 18 no. 1
for six-part Harmonie

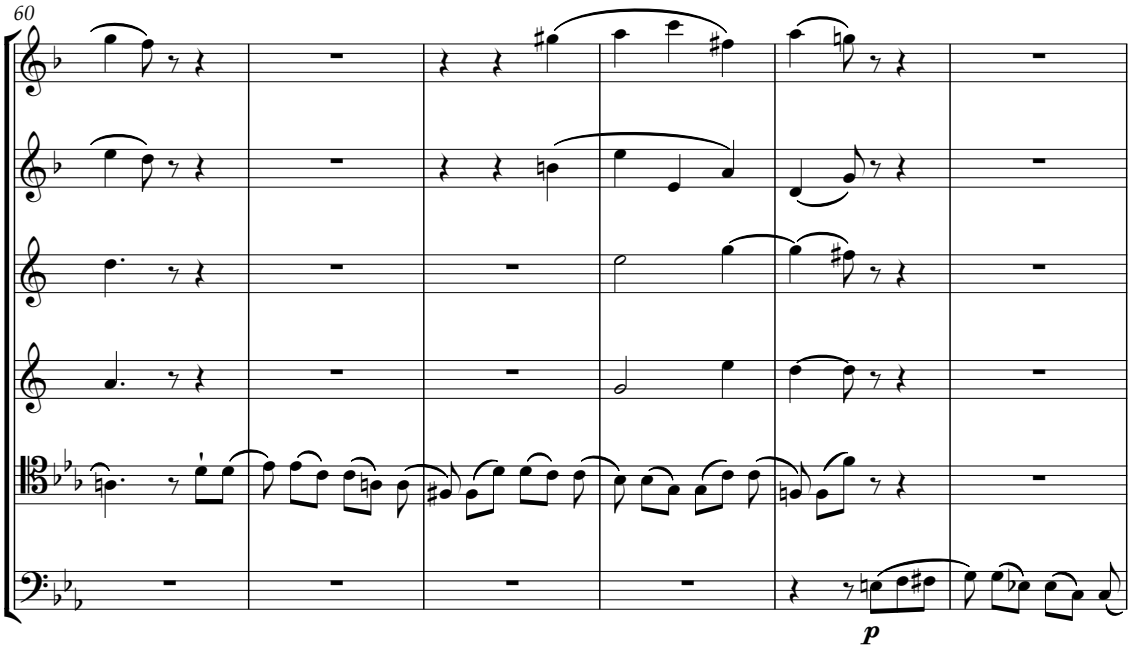
Ludwig van Beethoven
arr. Robert Percival

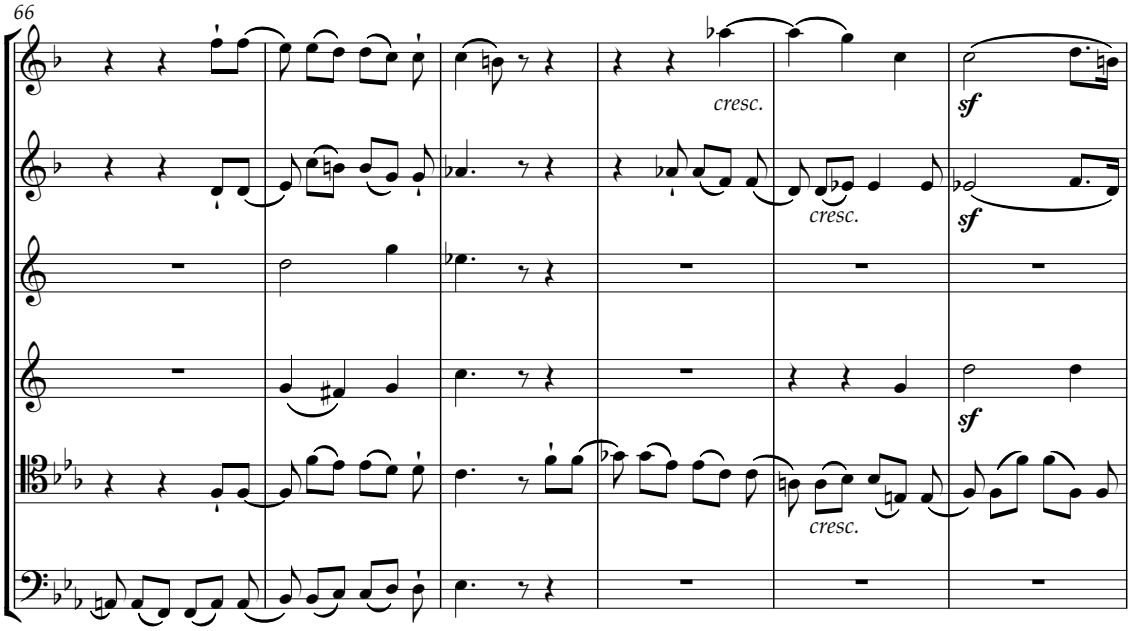
Allegro con brio [♩ = 138]

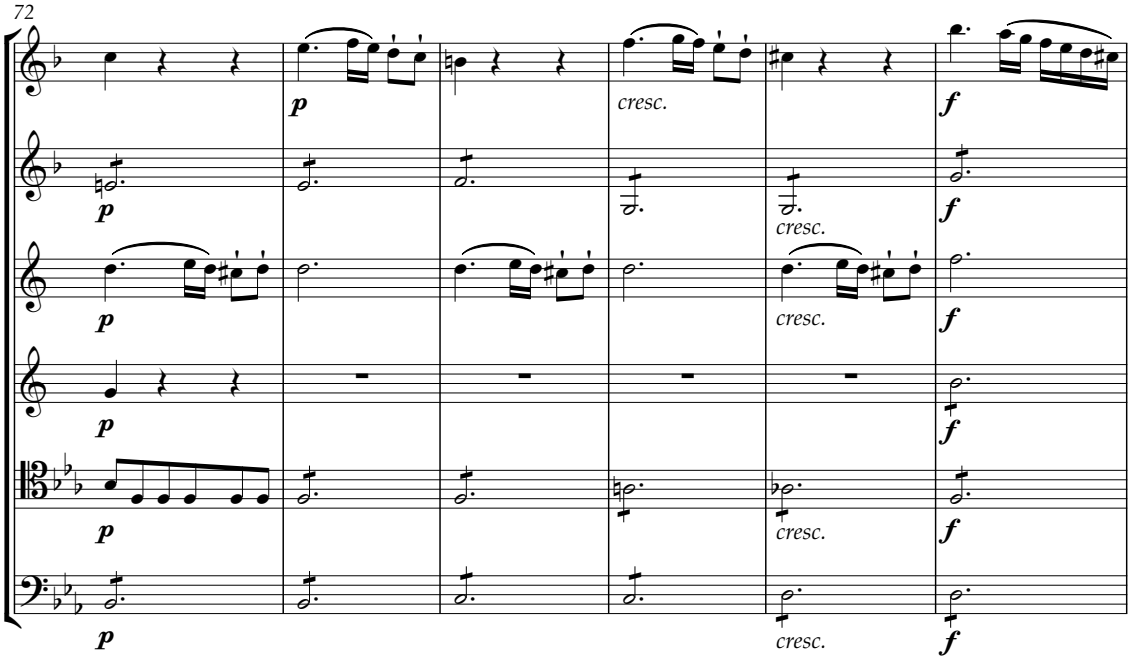


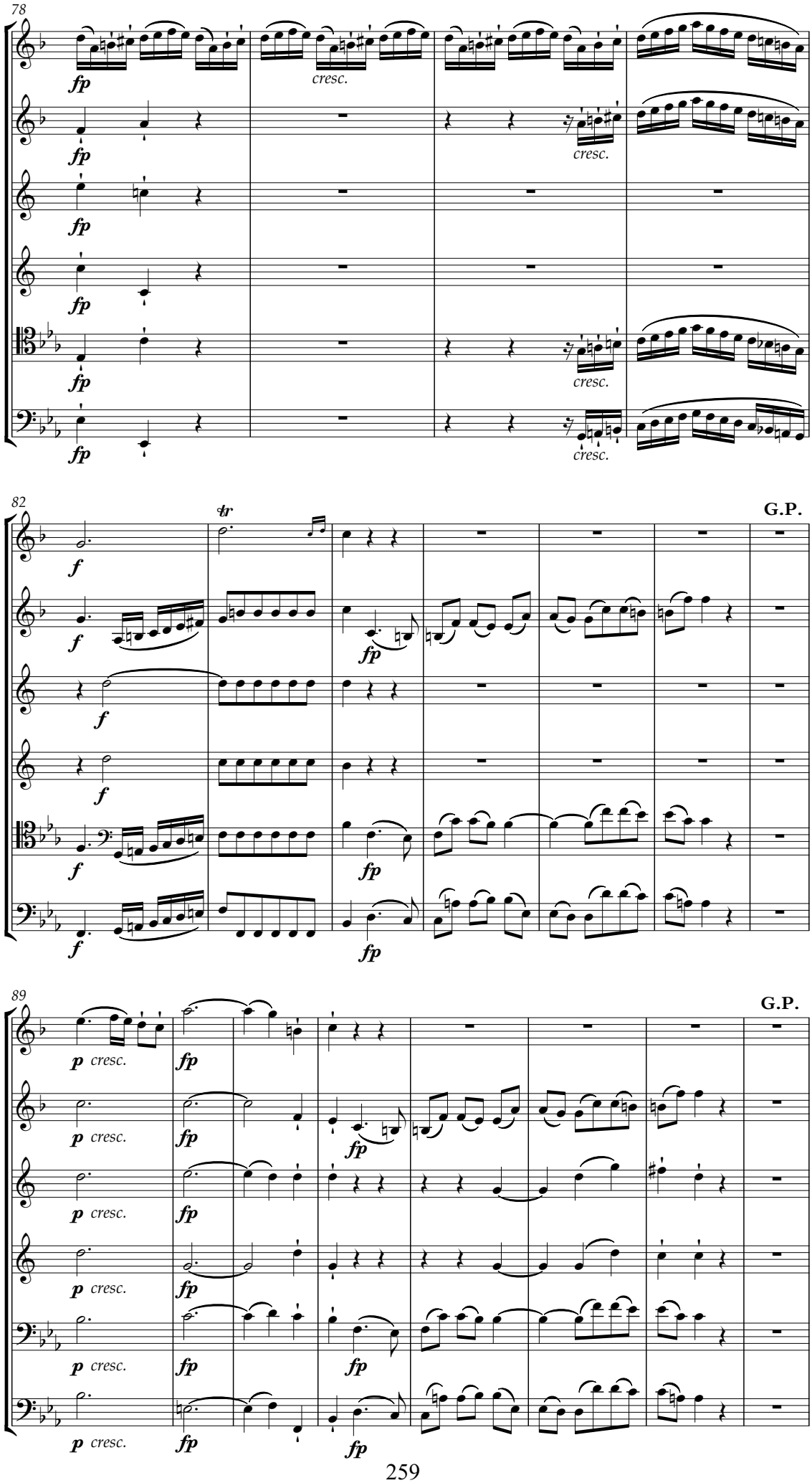

24
31
38
sf
f
p
pp
tr

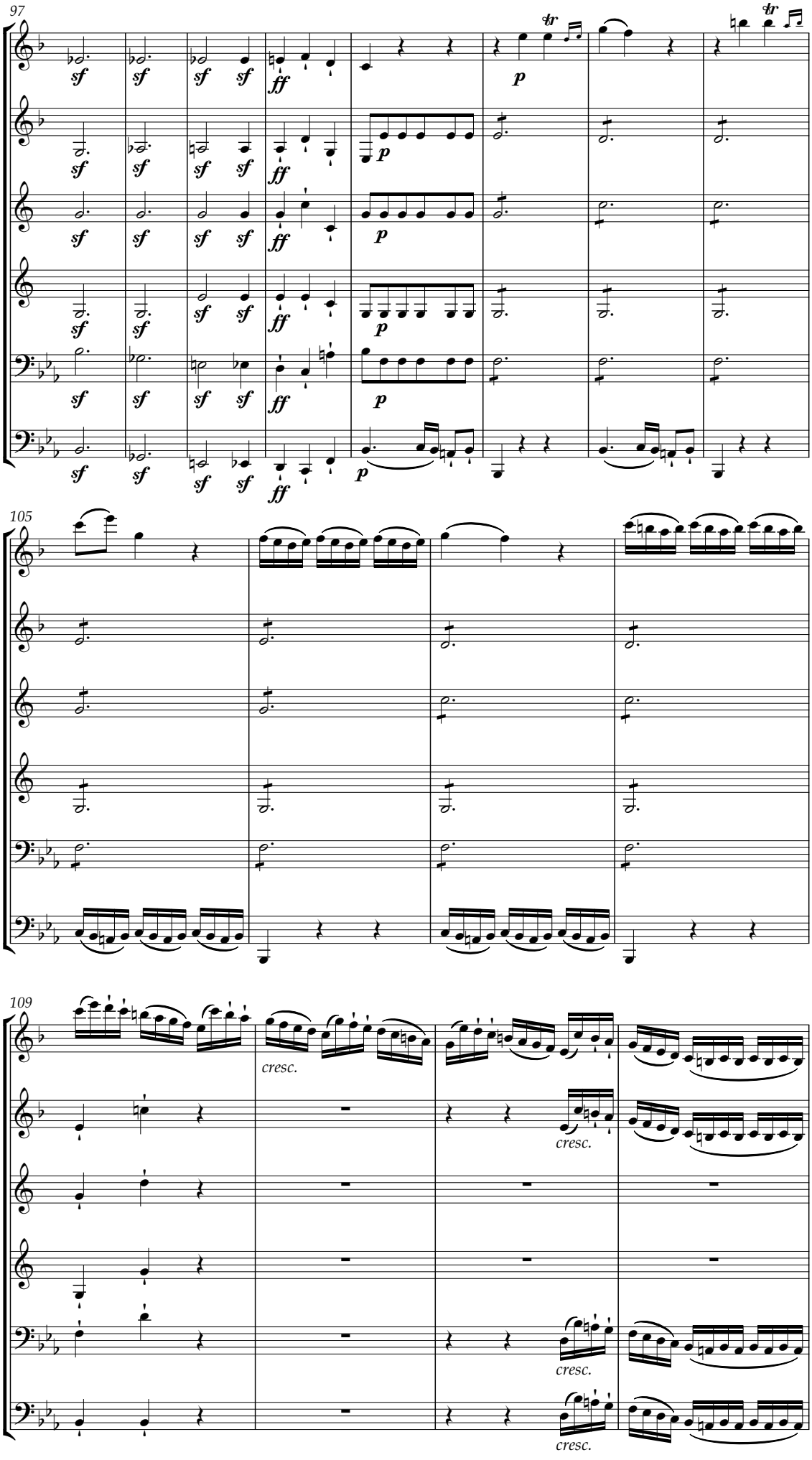

44
cresc.
sf
f
p
50
cresc.
p
54
ff
decresc.
p
f

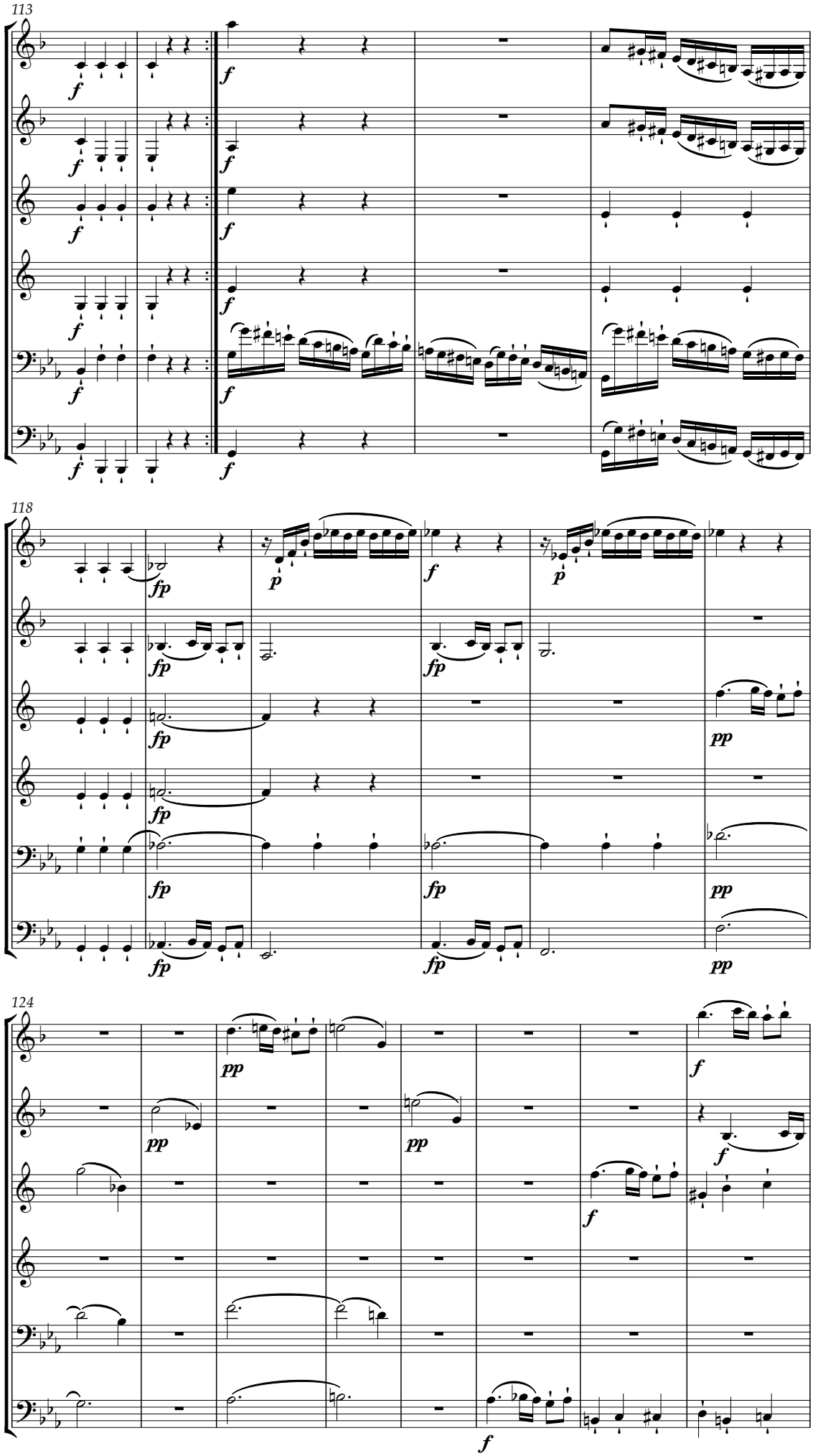

60
p

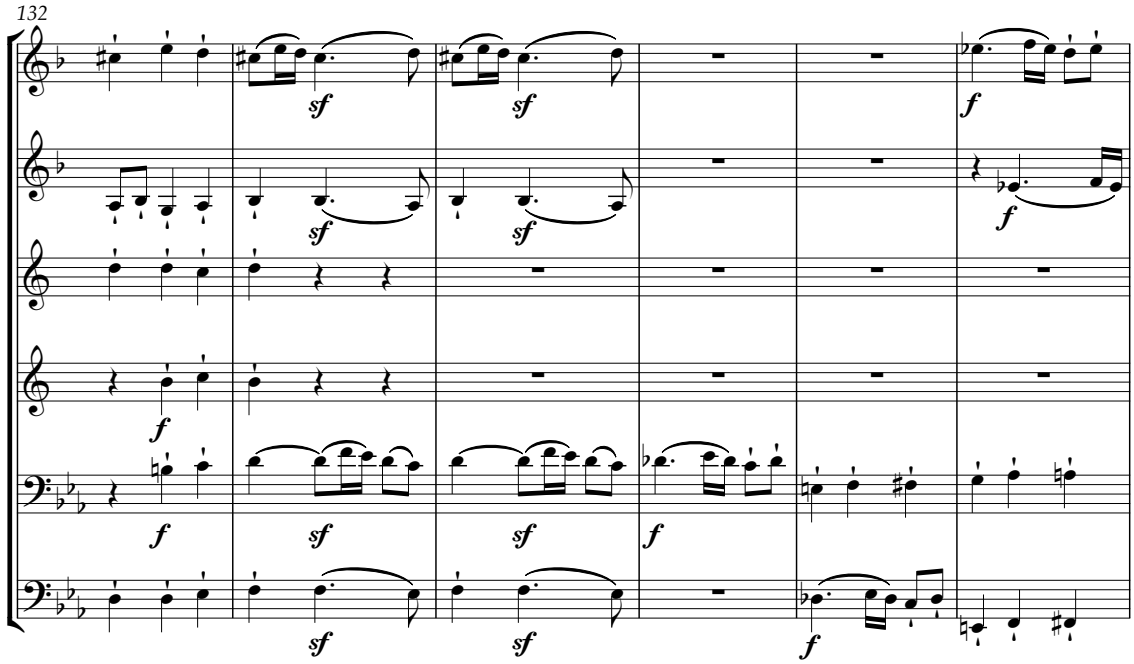

66
cresc.
sf
cresc.
sf
sf
cresc.

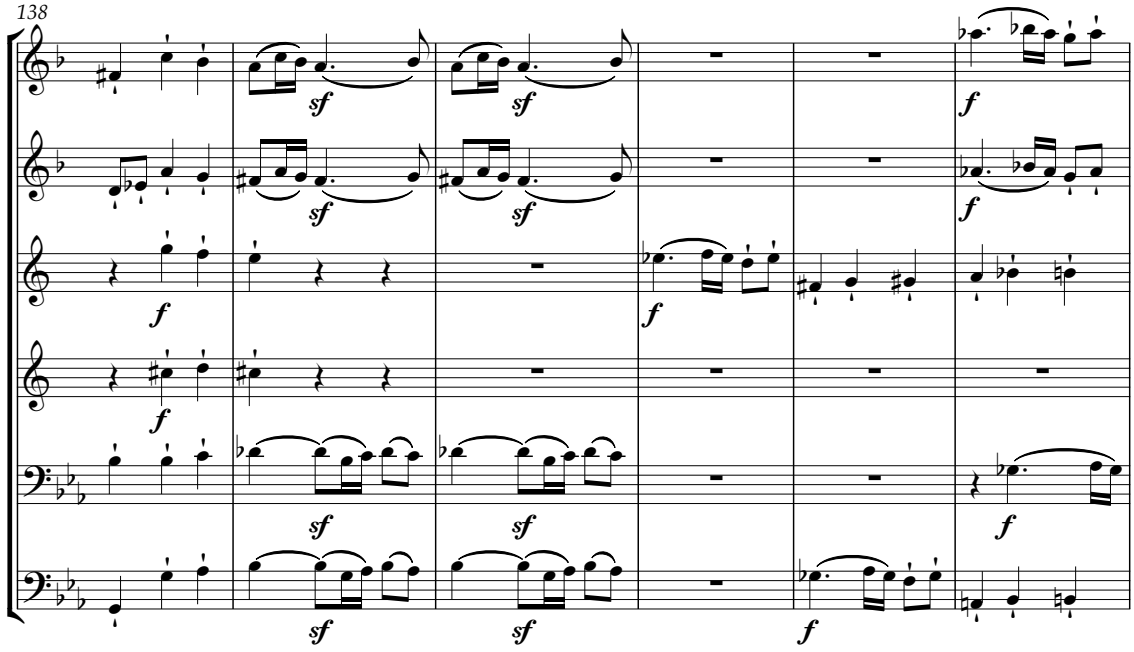

72
p
cresc.
f
p
cresc.
f
p
cresc.
f
p
f
p
cresc.
f
p
cresc.
f

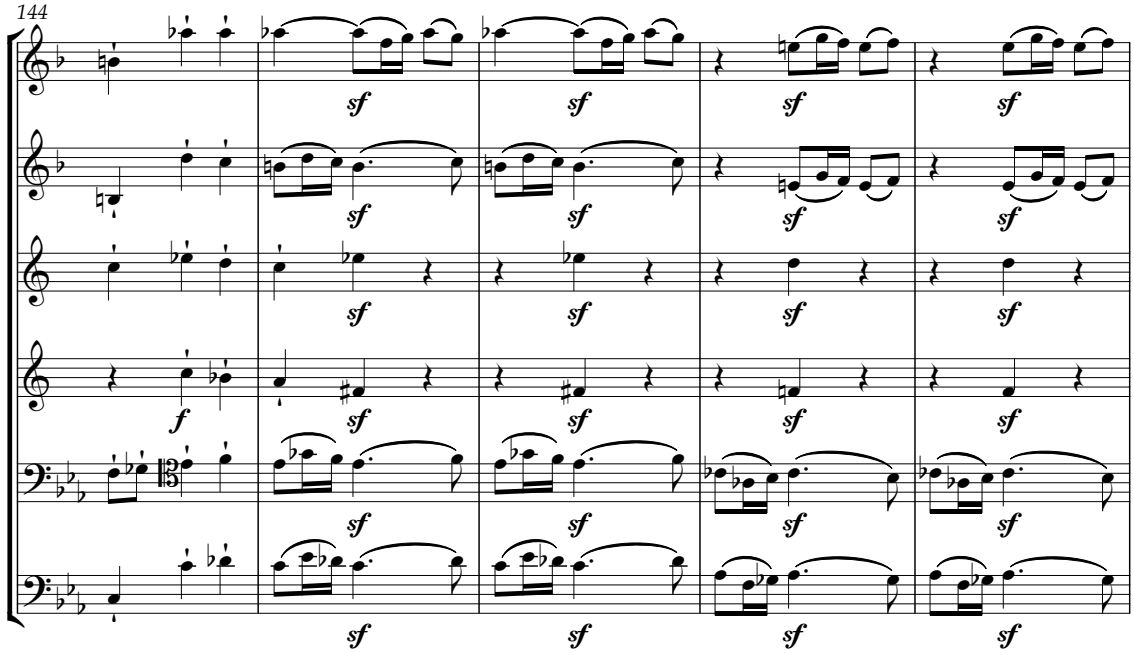

78
fp
cresc.
82
tr
G.P.
f
fp
89
p cresc.

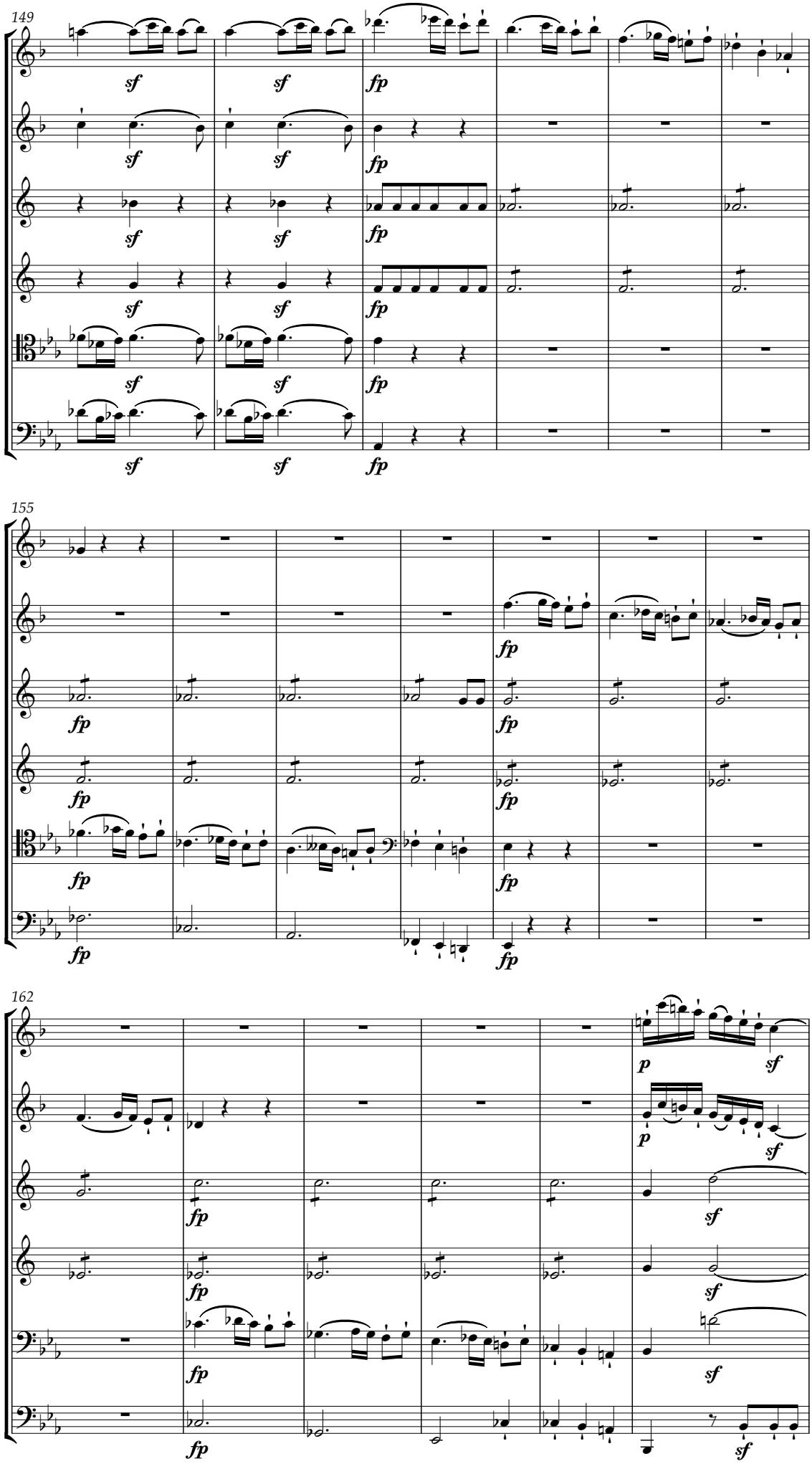

97
105
109
cresc.
cresc.
cresc.
cresc.

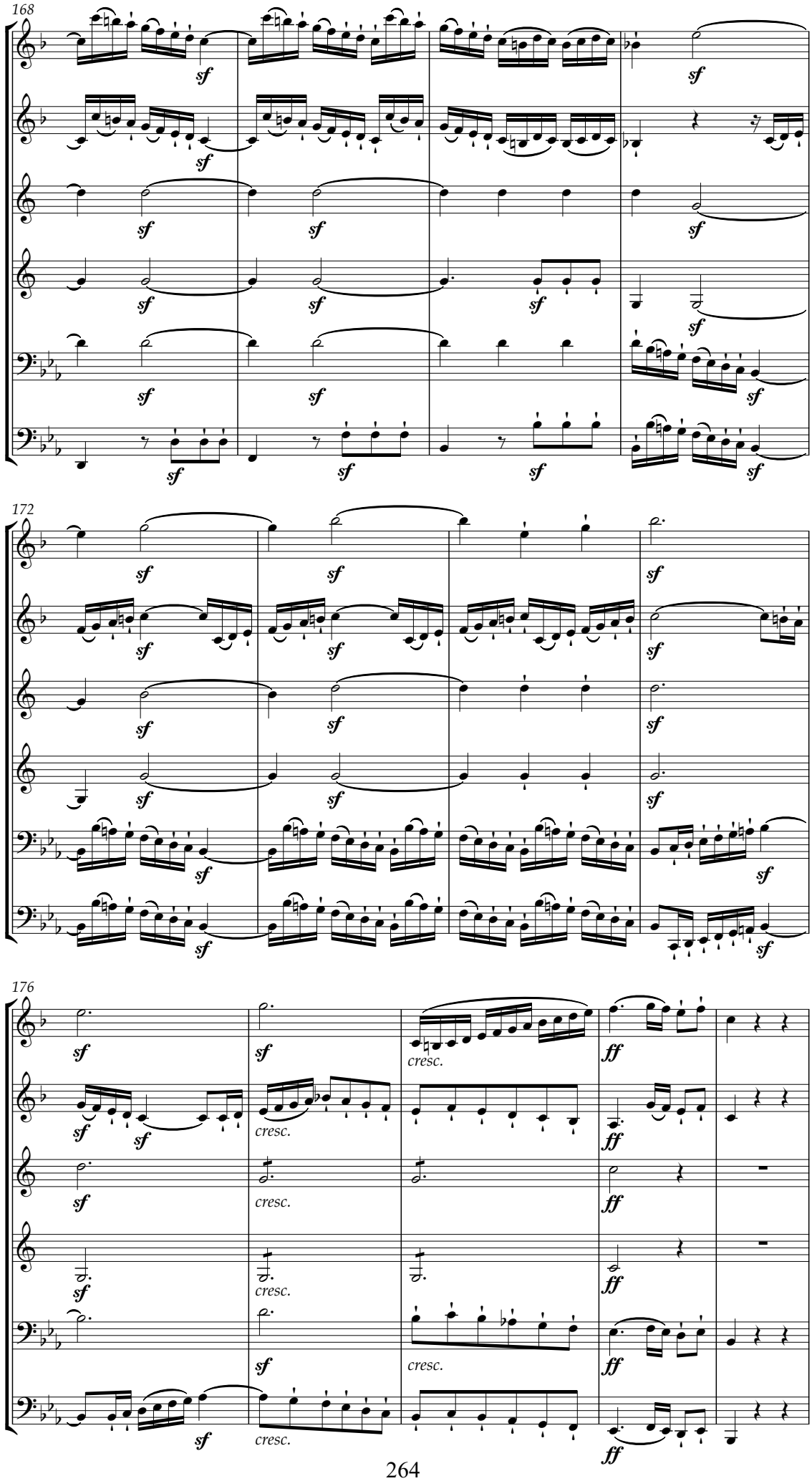

113
118
124

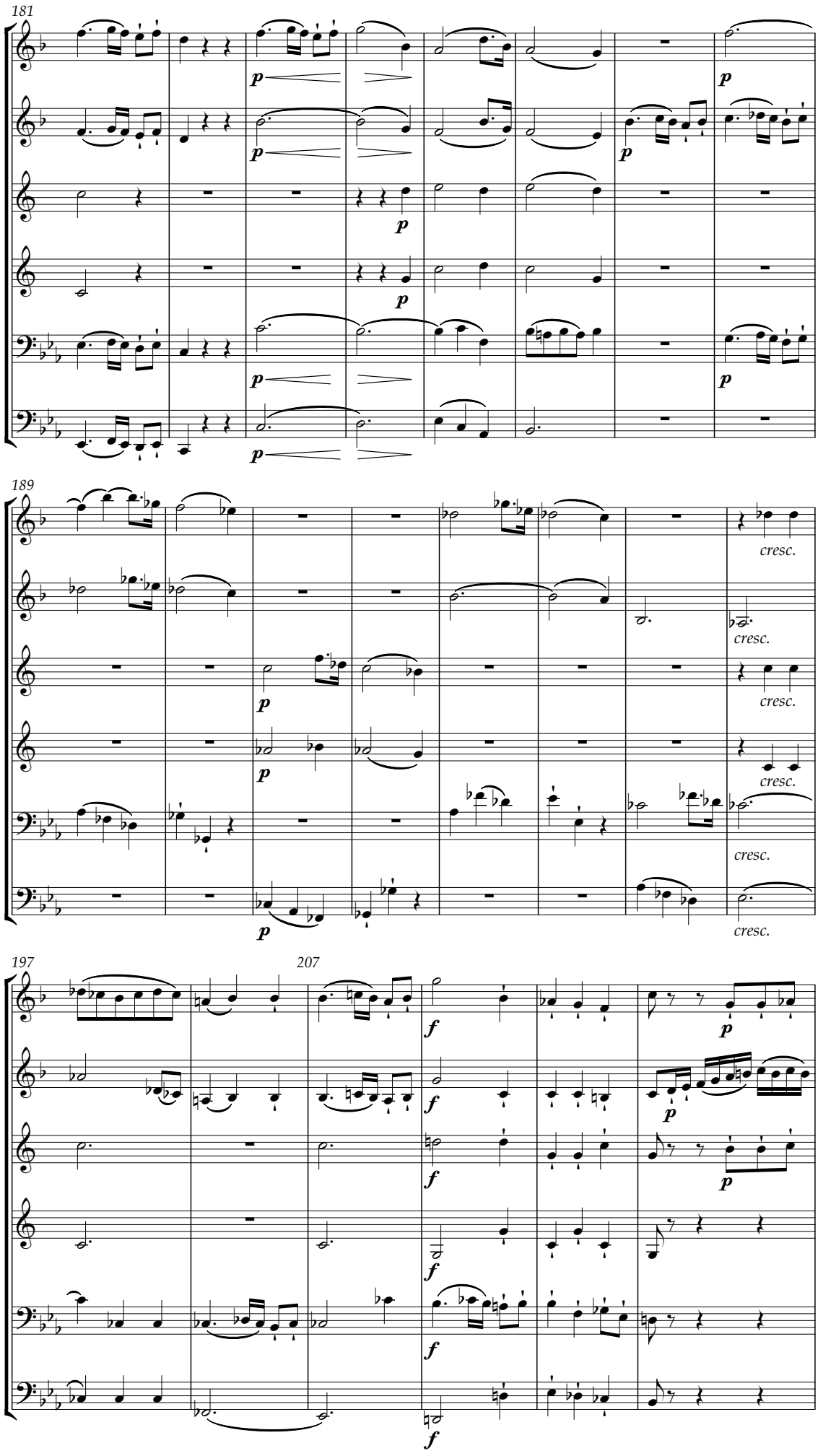

132

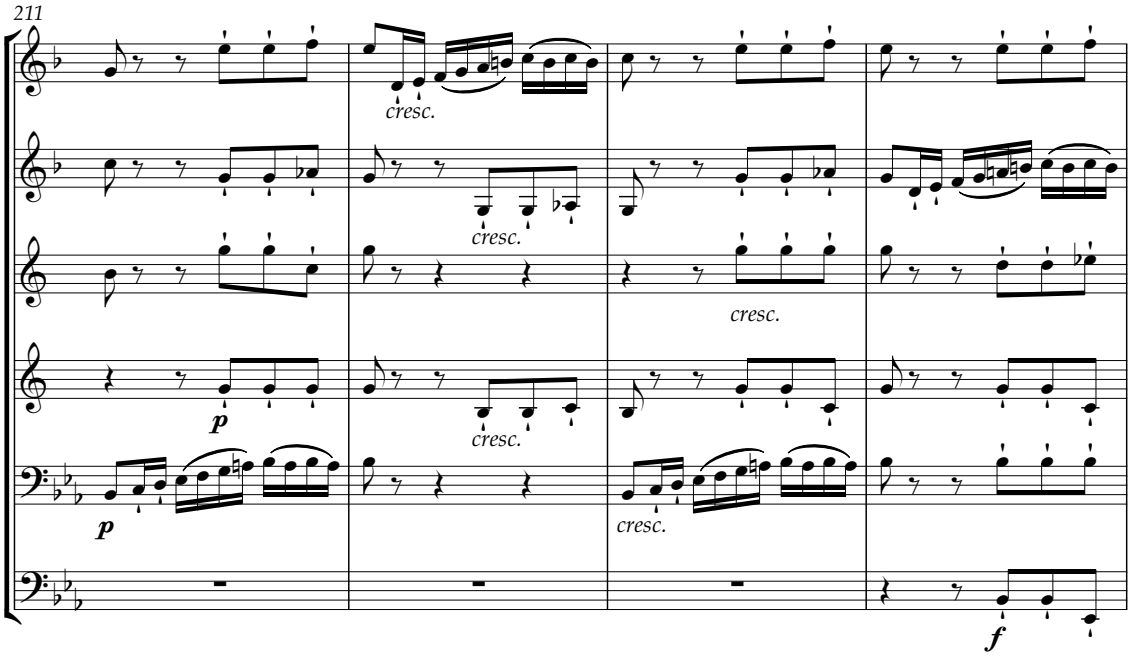

138

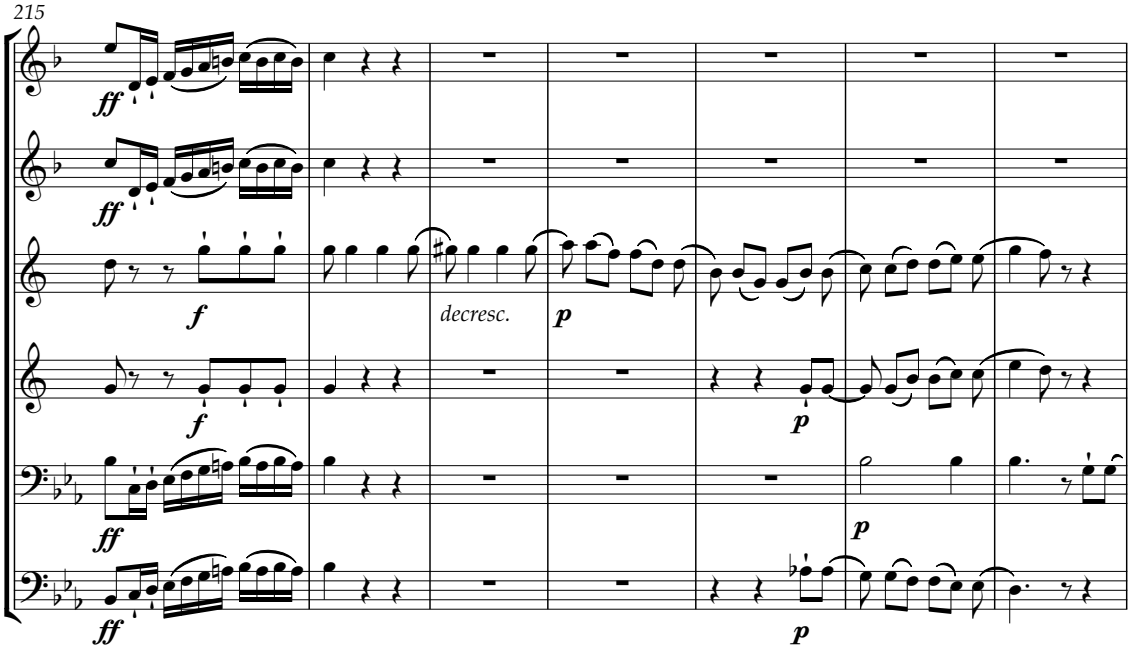

144

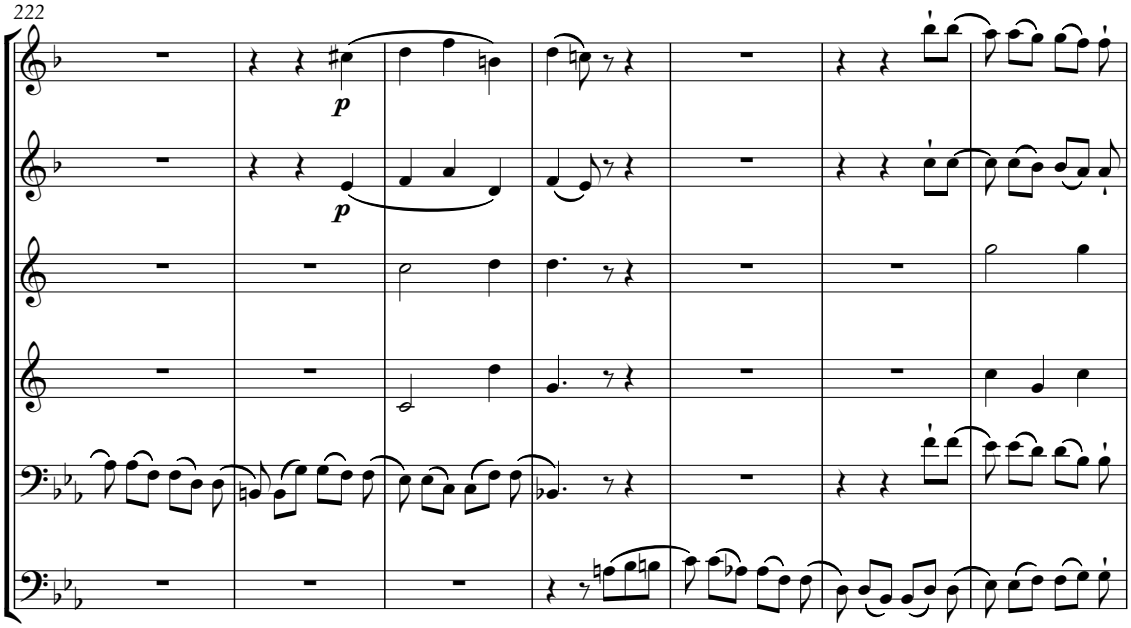

149
155
162
sf
fp
p

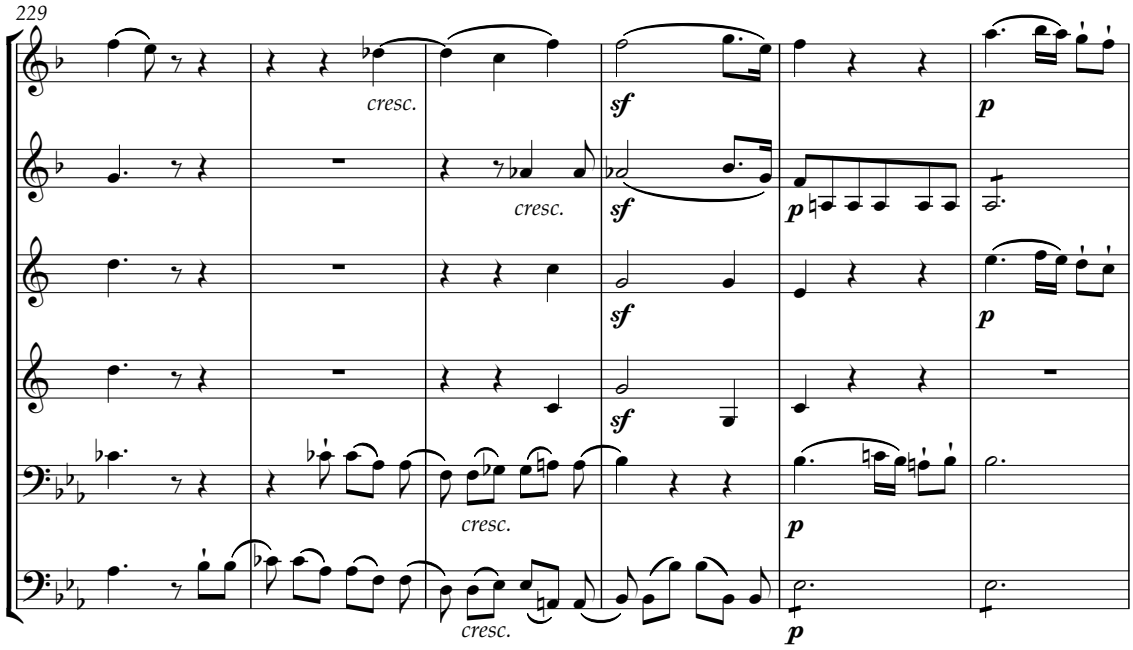

168
172
176
sf
cresc.
ff

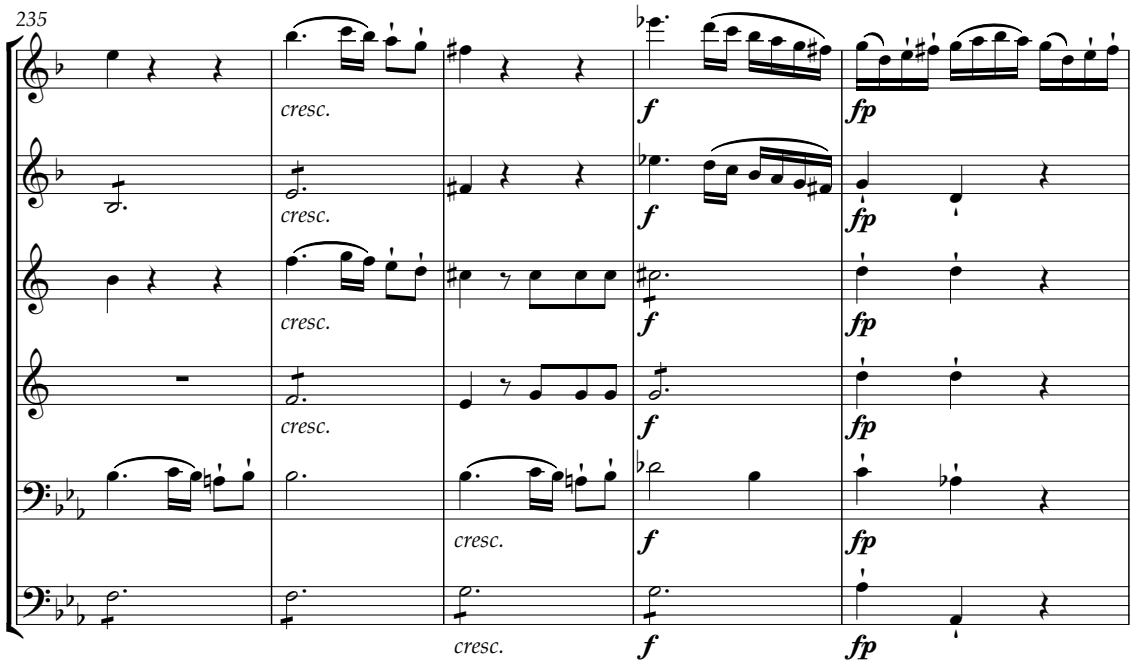

181
189
197
207
cresc.
cresc.
cresc.
cresc.
cresc.

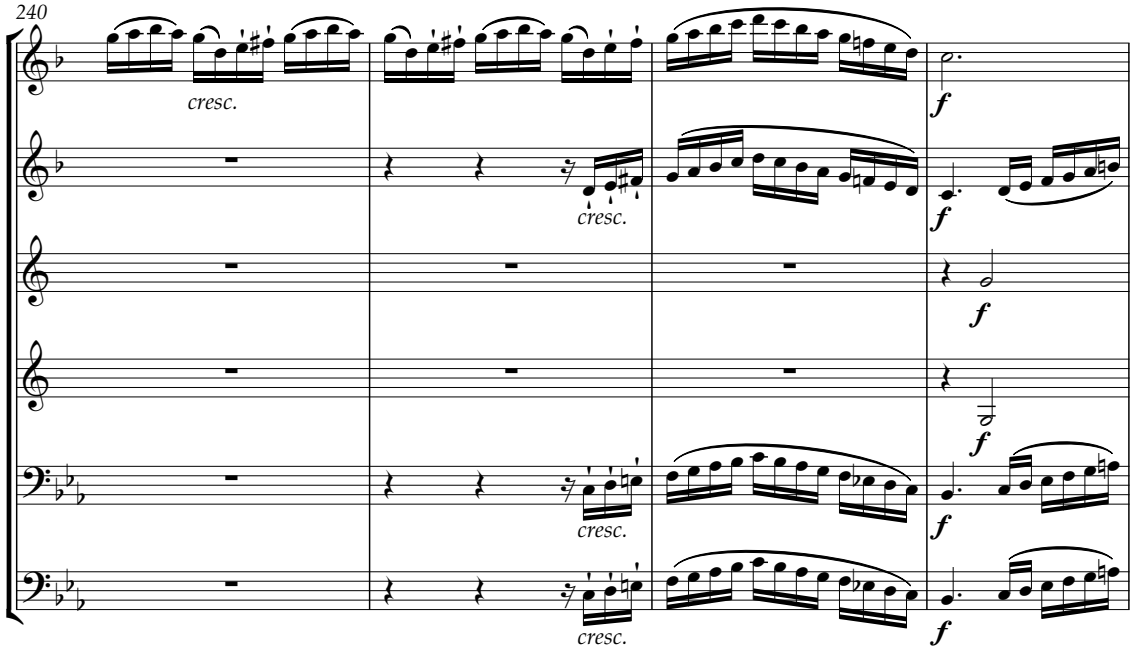

211
cresc.
cresc.
cresc.
cresc.
p
p
cresc.
cresc.
f

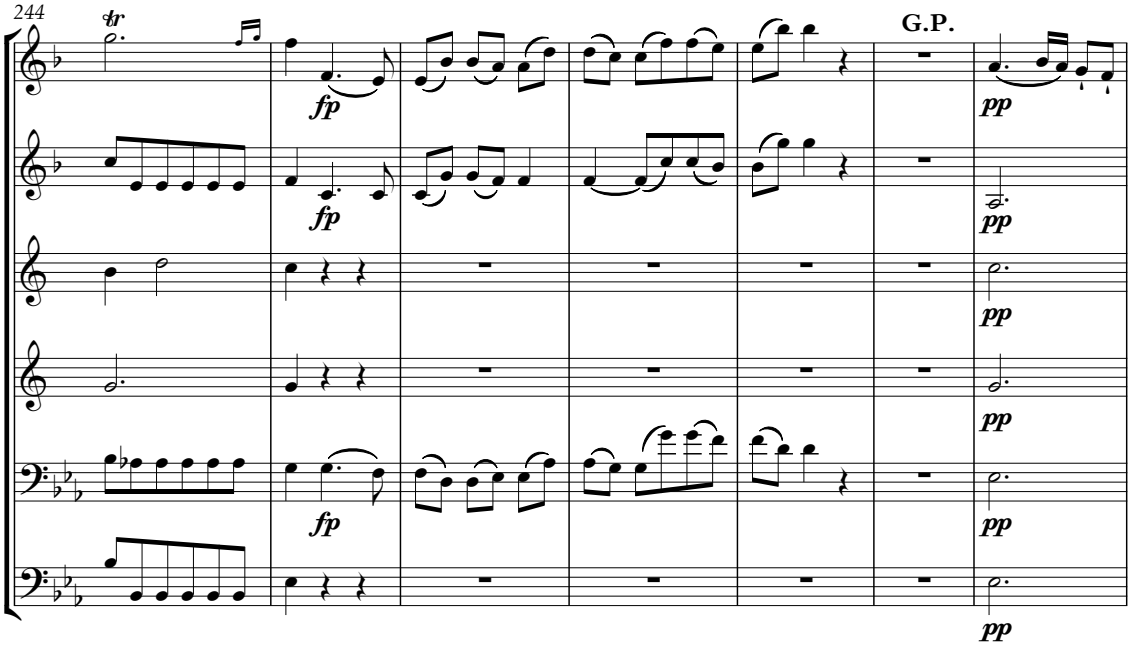

215
ff
ff
f
decresc.
p
f
p
ff
p
ff
p

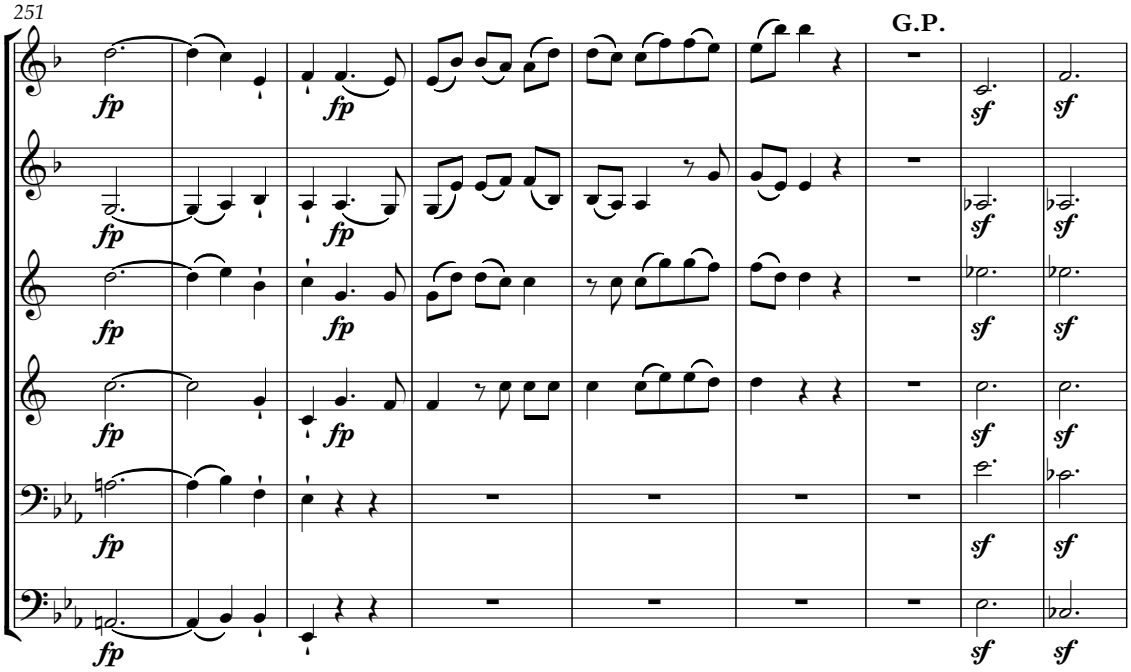

222
p
p

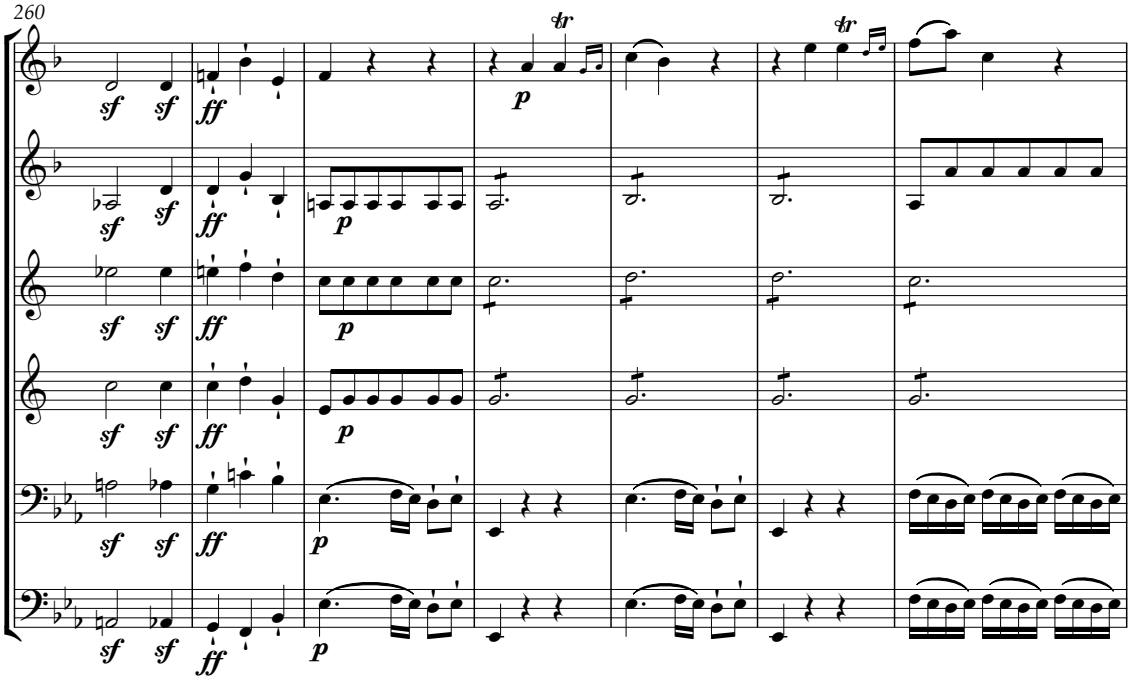

229
cresc.
sf
p
cresc.
sf
p
sf
p
sf
cresc.
p
cresc.
p

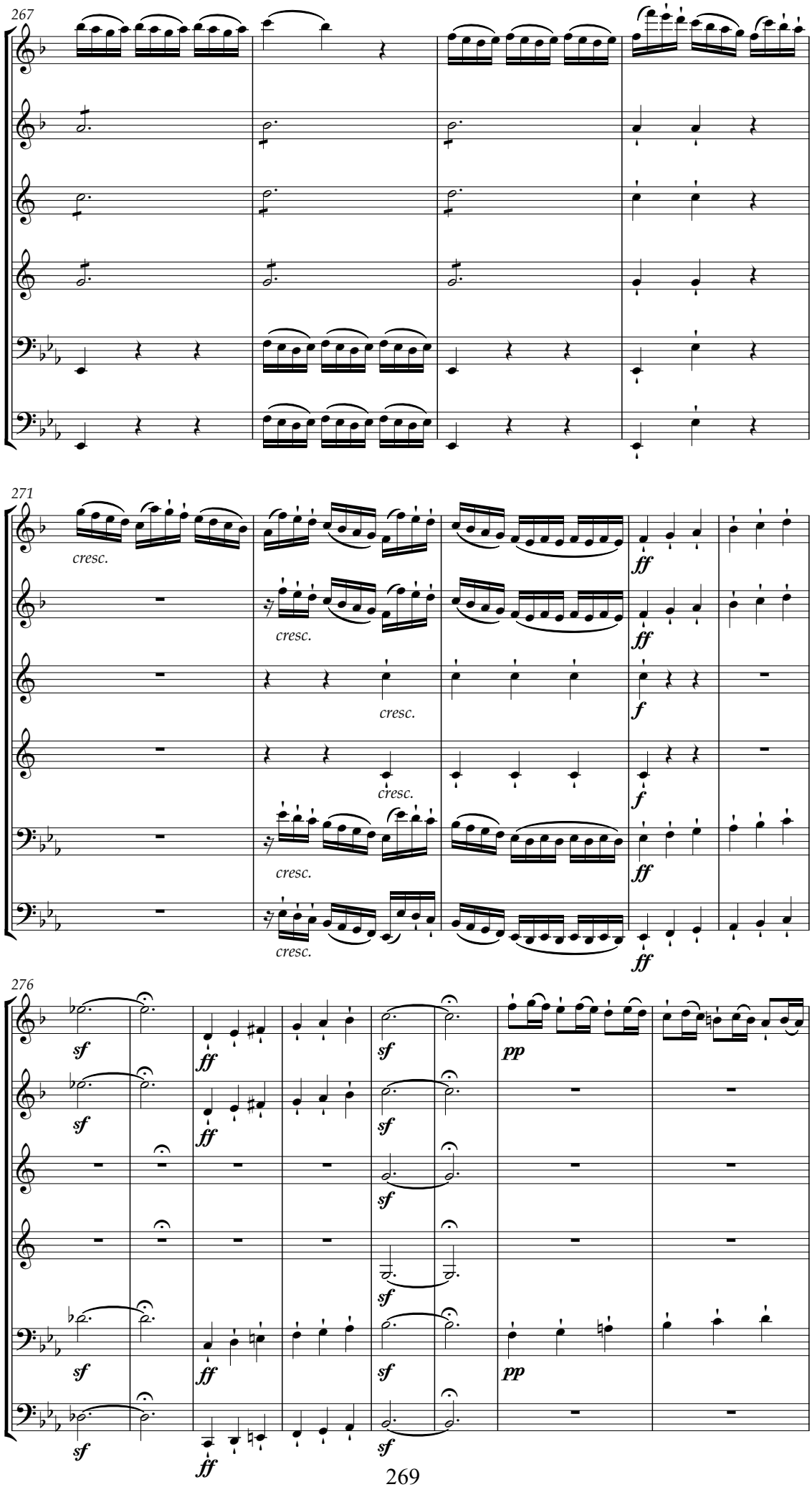

235
cresc.
f
fp
cresc.
f
fp
cresc.
f
fp
cresc.
f
fp
cresc.
f
fp
cresc.
f
fp

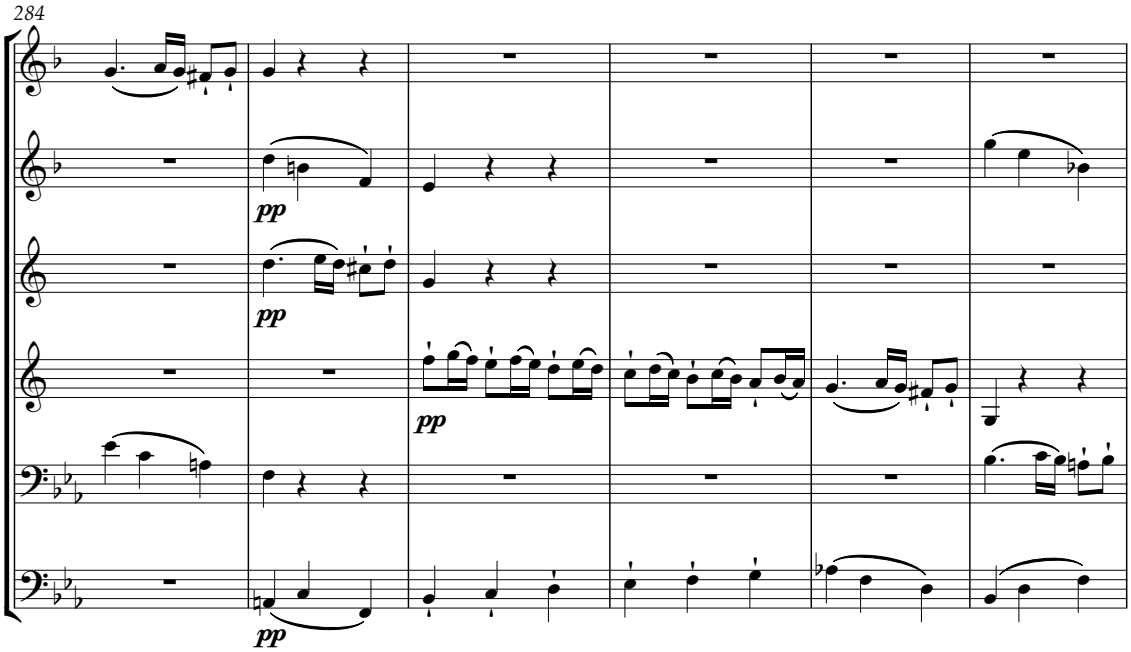

240
cresc.
f
cresc.
f
f
f
cresc.
f
cresc.
f

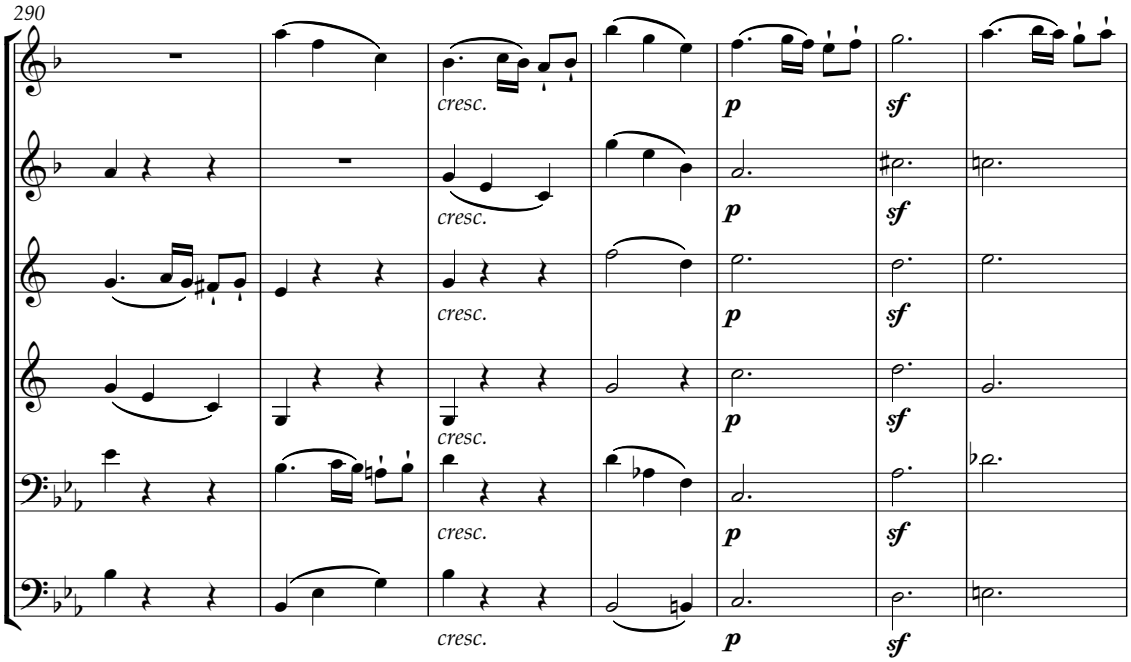

244
tr
fp
G.P.
pp

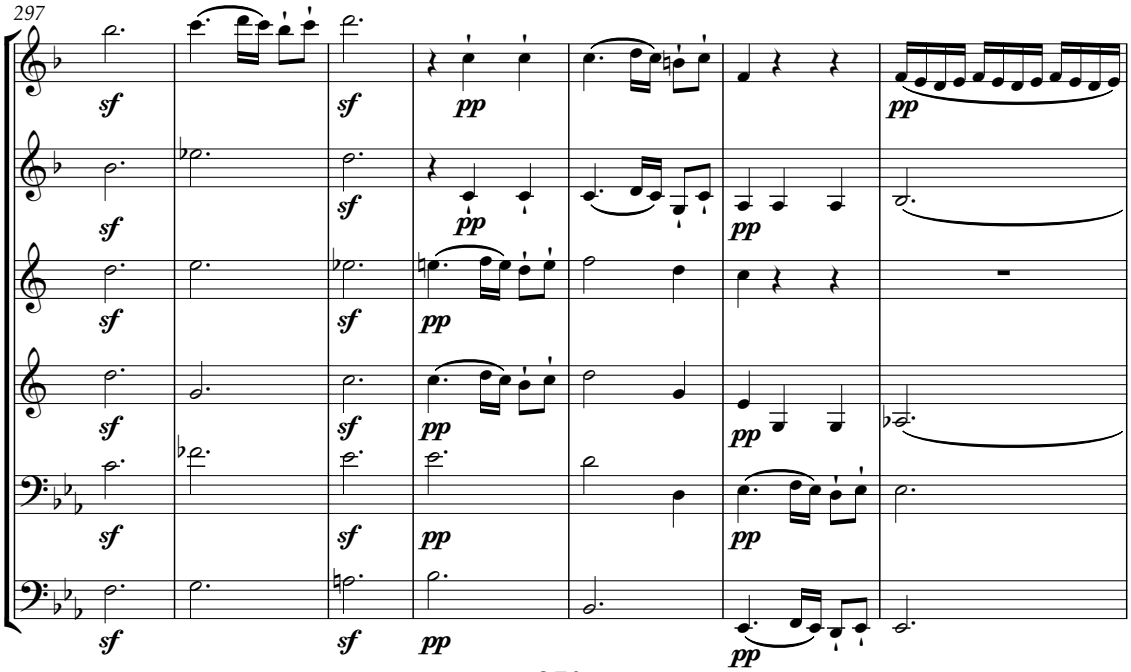

251
fp
G.P.
sf

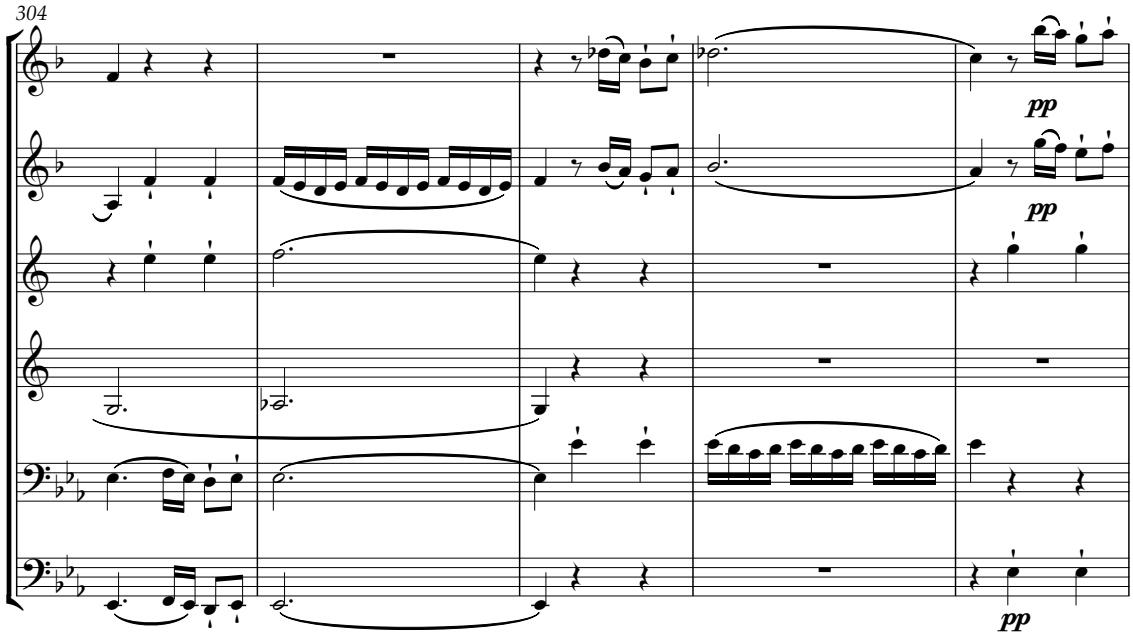

260
tr
sf
ff
p

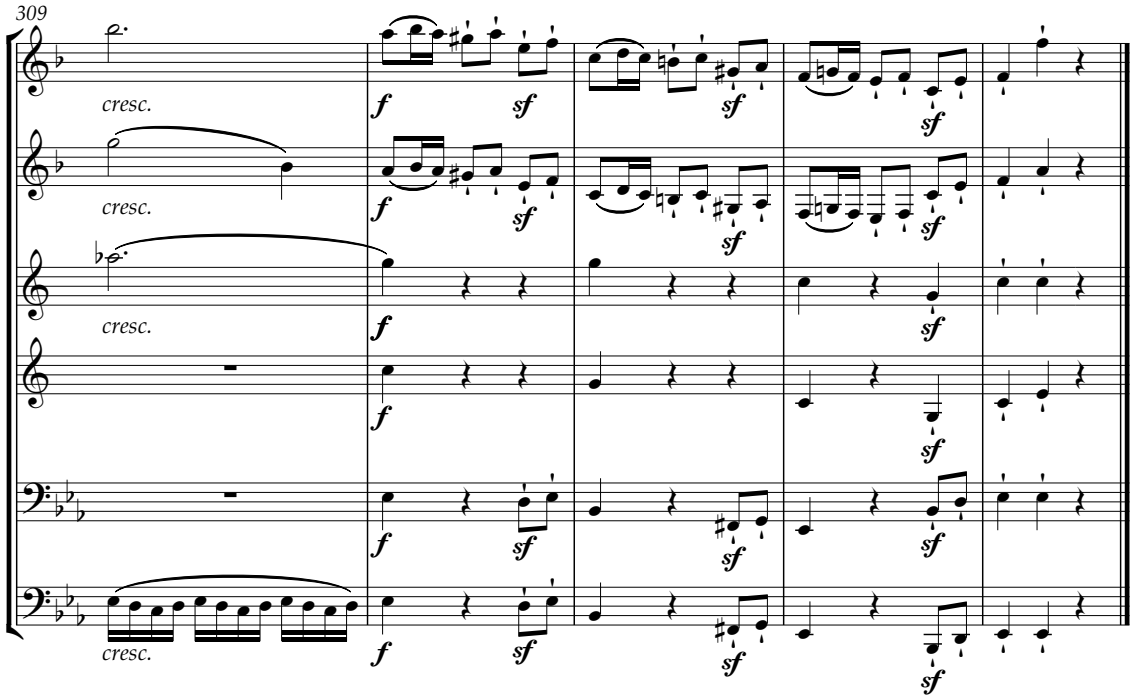

267
271
cresc.
ff
f
276
sf
pp

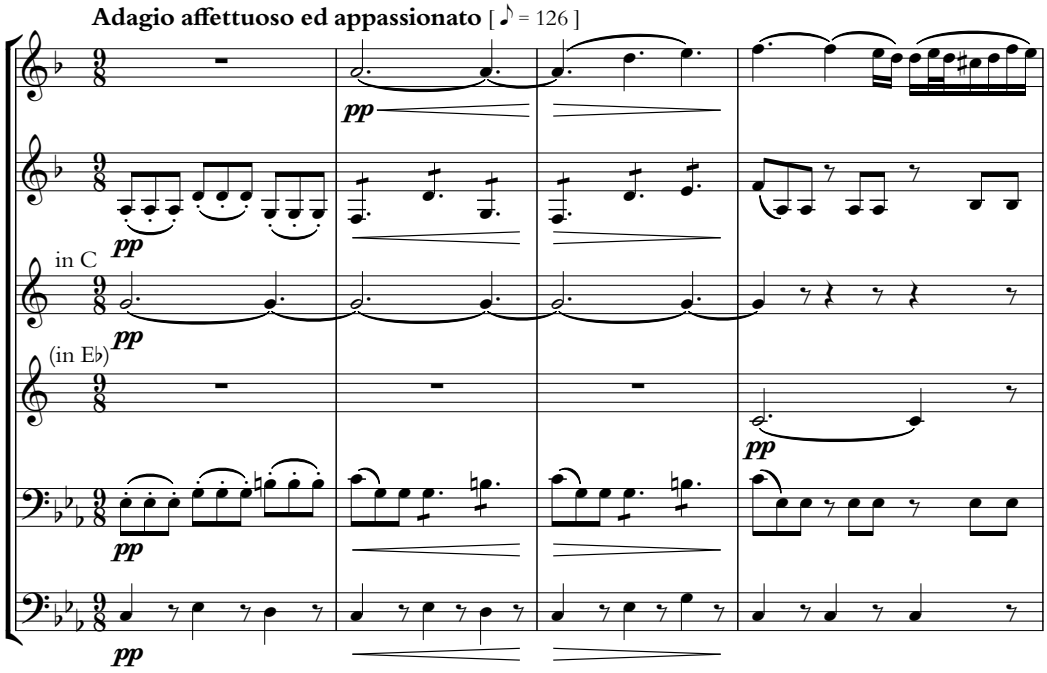

284
pp
pp
pp
pp

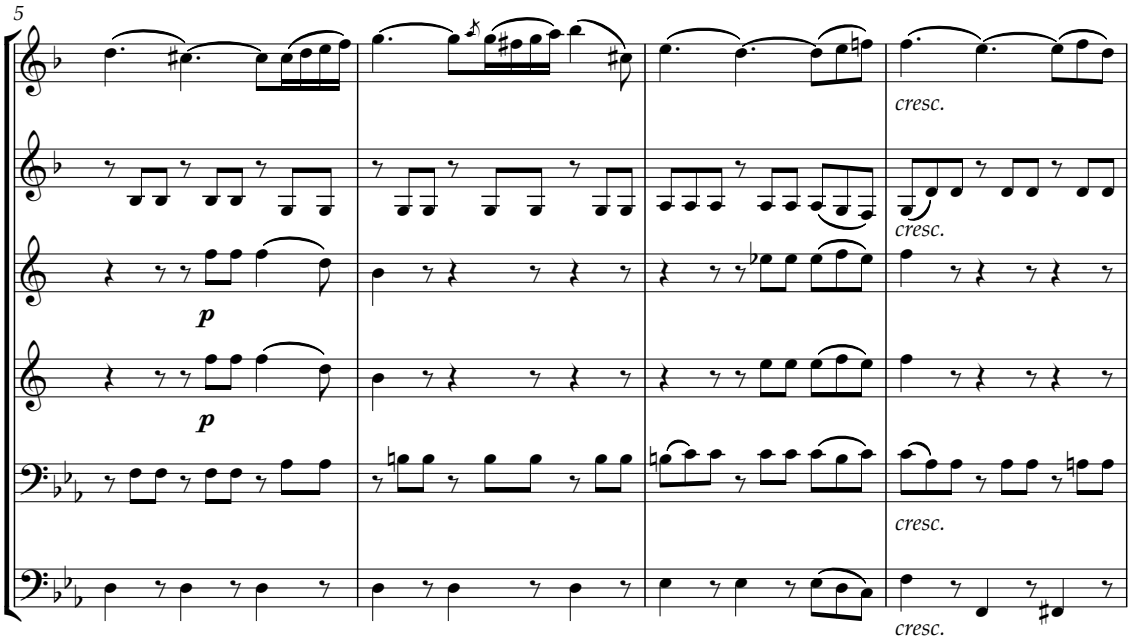

290
cresc.
cresc.
cresc.
cresc.
cresc.
p
p
p
p
p
sf
sf
sf
sf
sf

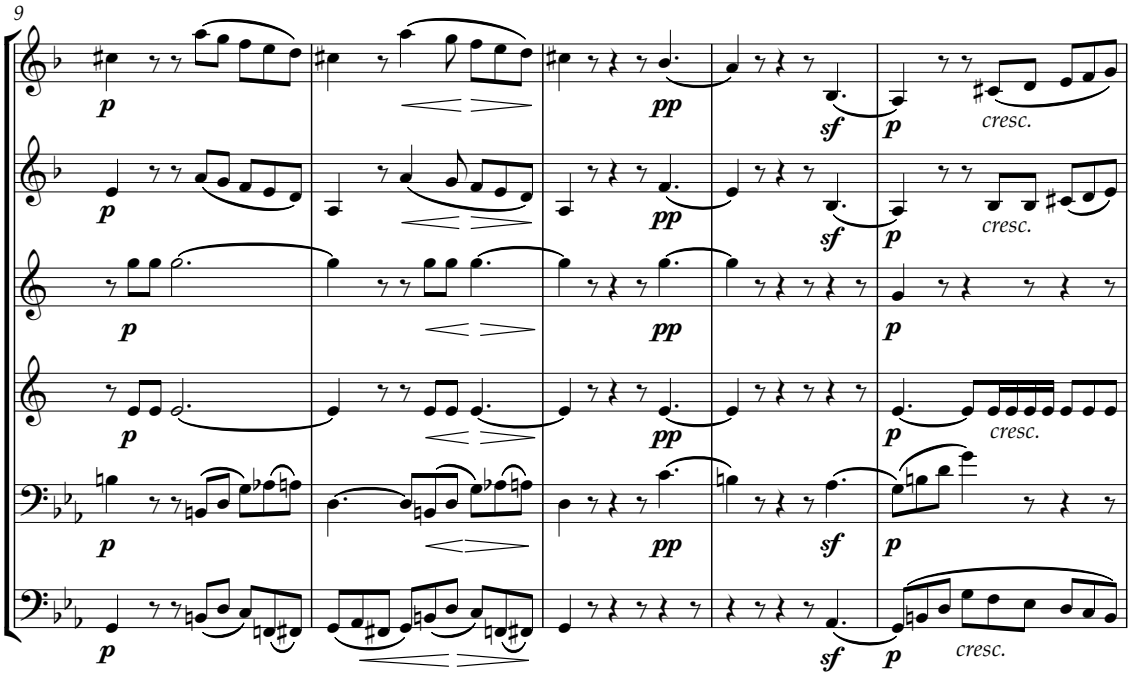

297
sf
sf
pp
pp
pp

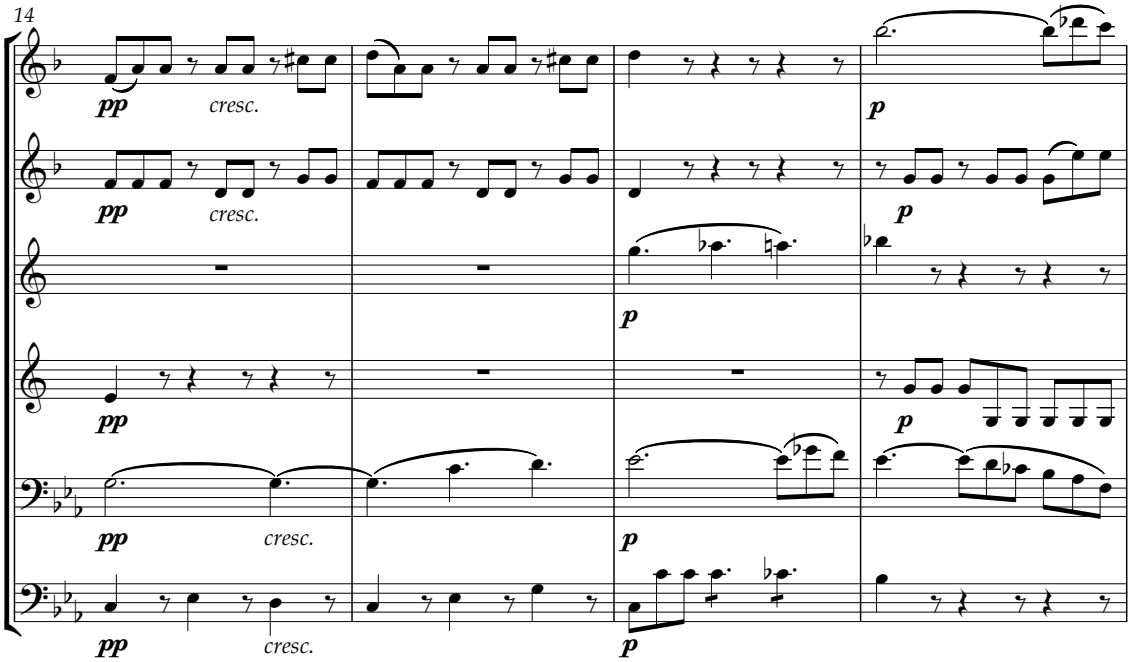

304
pp
pp
pp

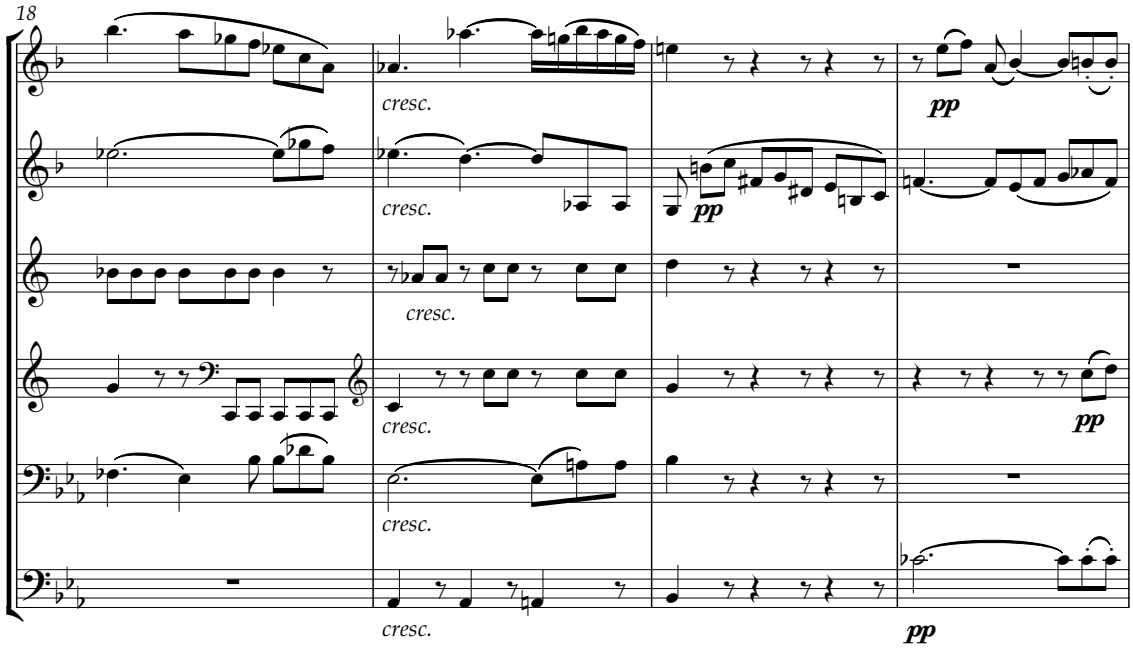

309
cresc.
cresc.
cresc.
cresc.
f
sf

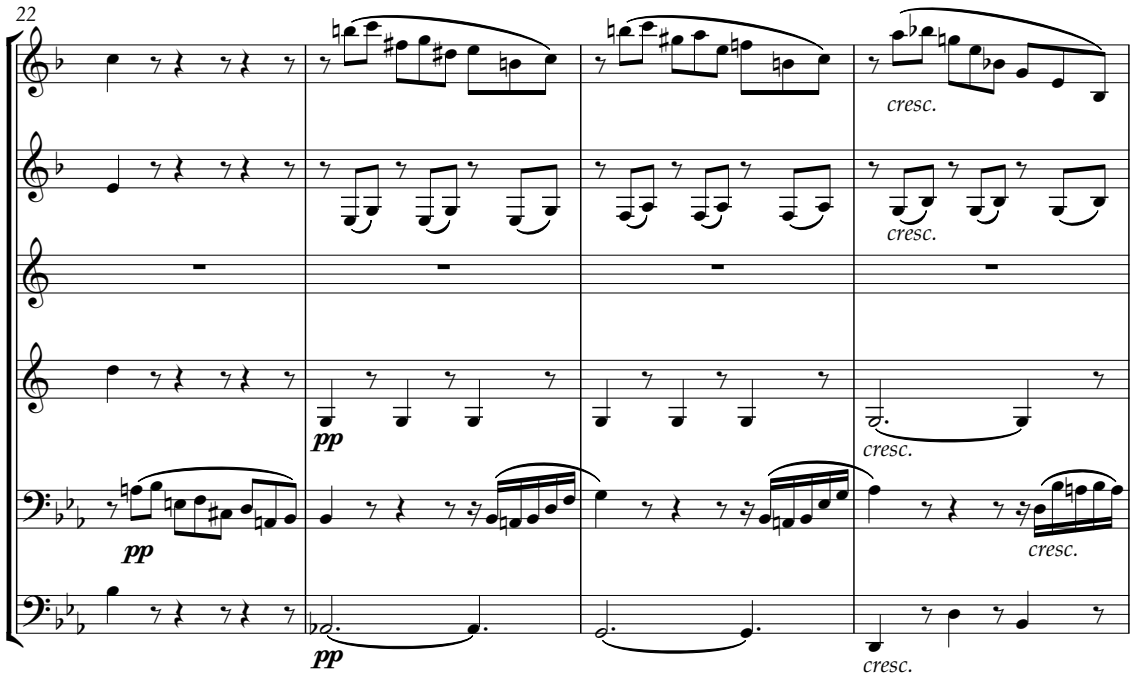

Adagio affettuoso ed appassionato [♪ = 126]
in C
(in Eb)
pp

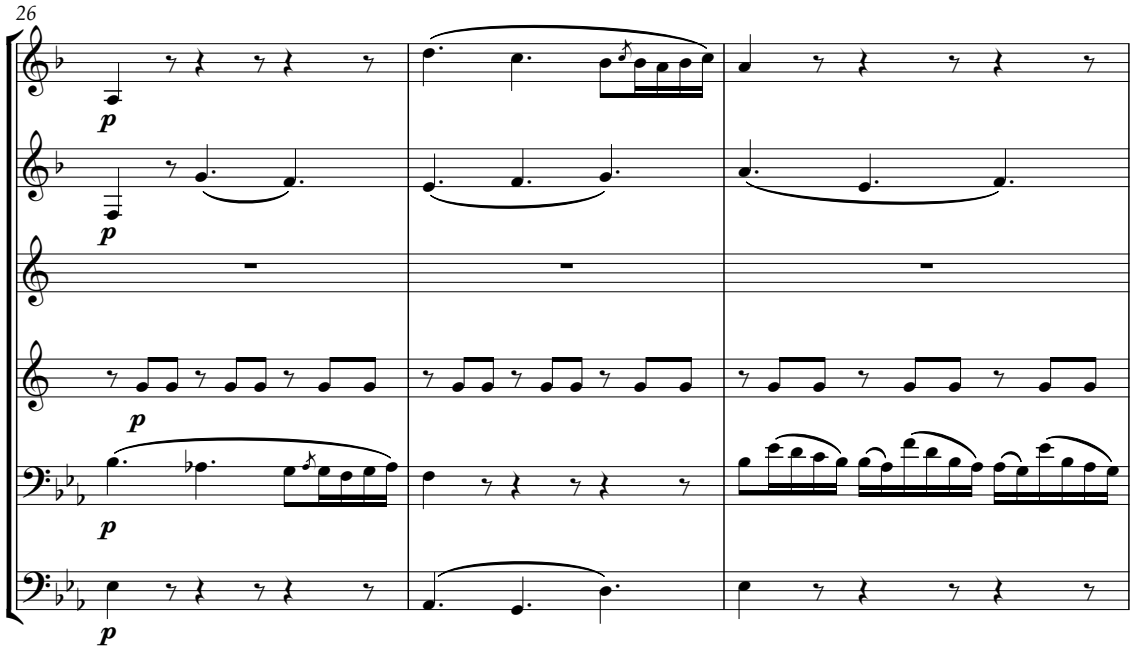

5
cresc.
cresc.
cresc.
cresc.
p
p

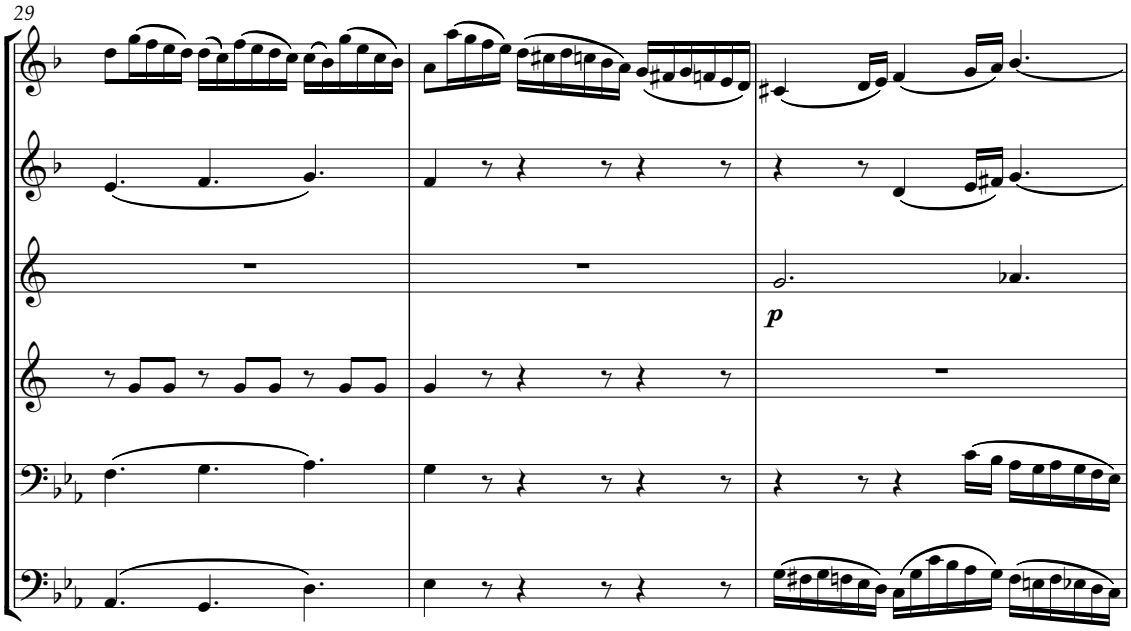

9
p
pp
sf
cresc.

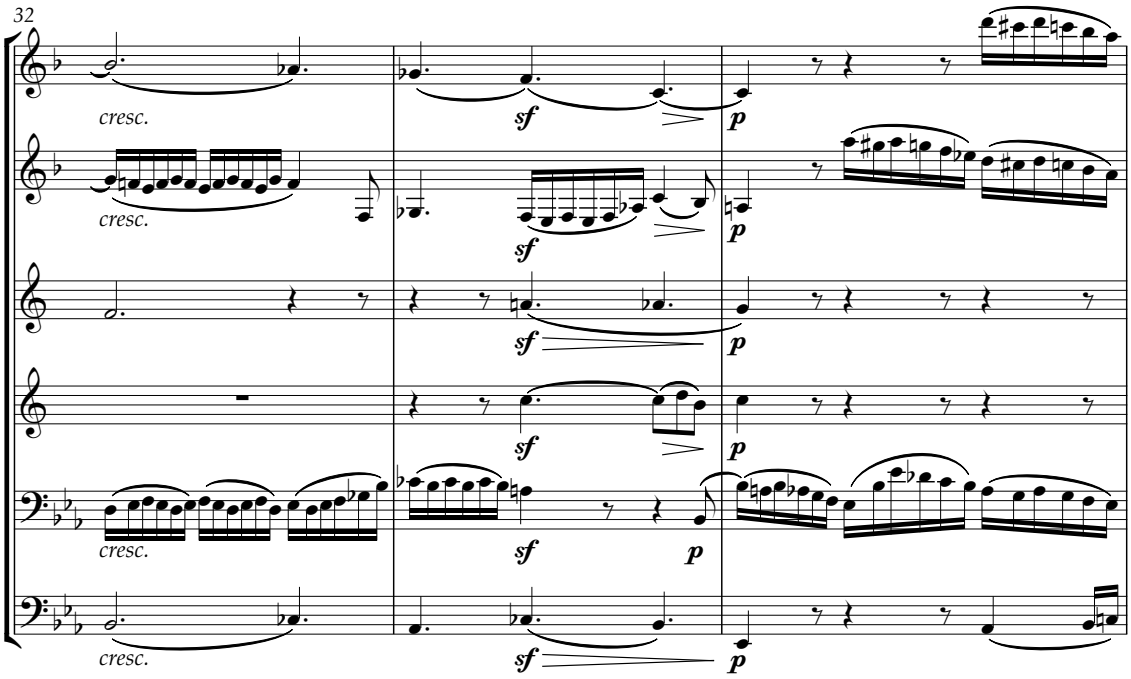

14
pp
cresc.
p

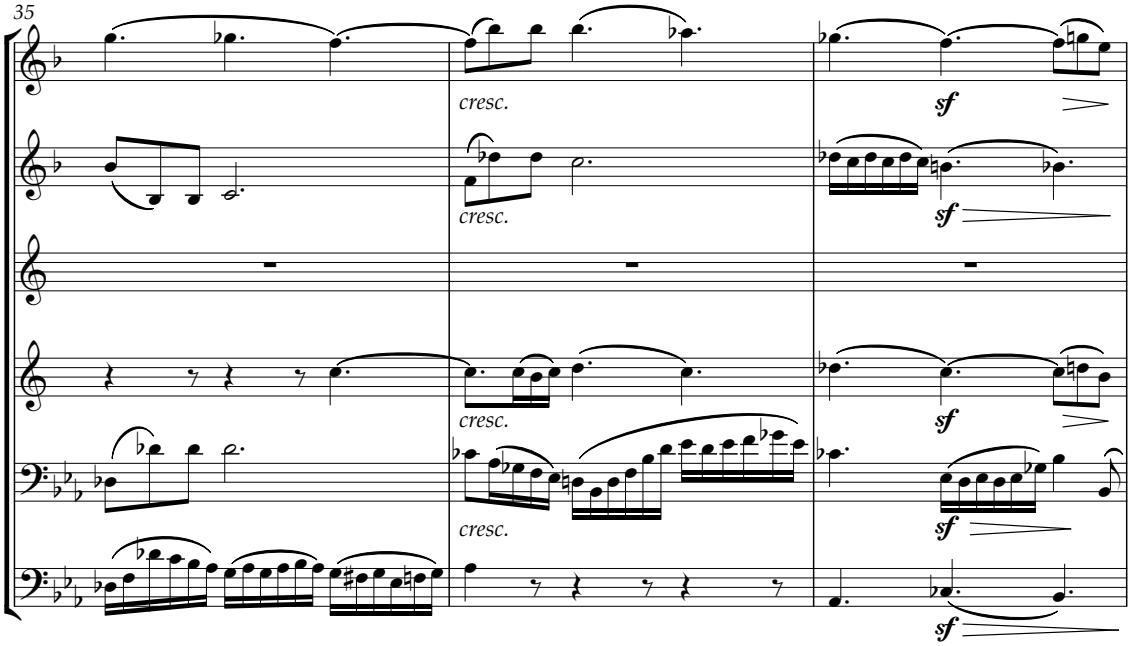

18
cresc.
cresc.
cresc.
cresc.
cresc.
pp
pp
pp

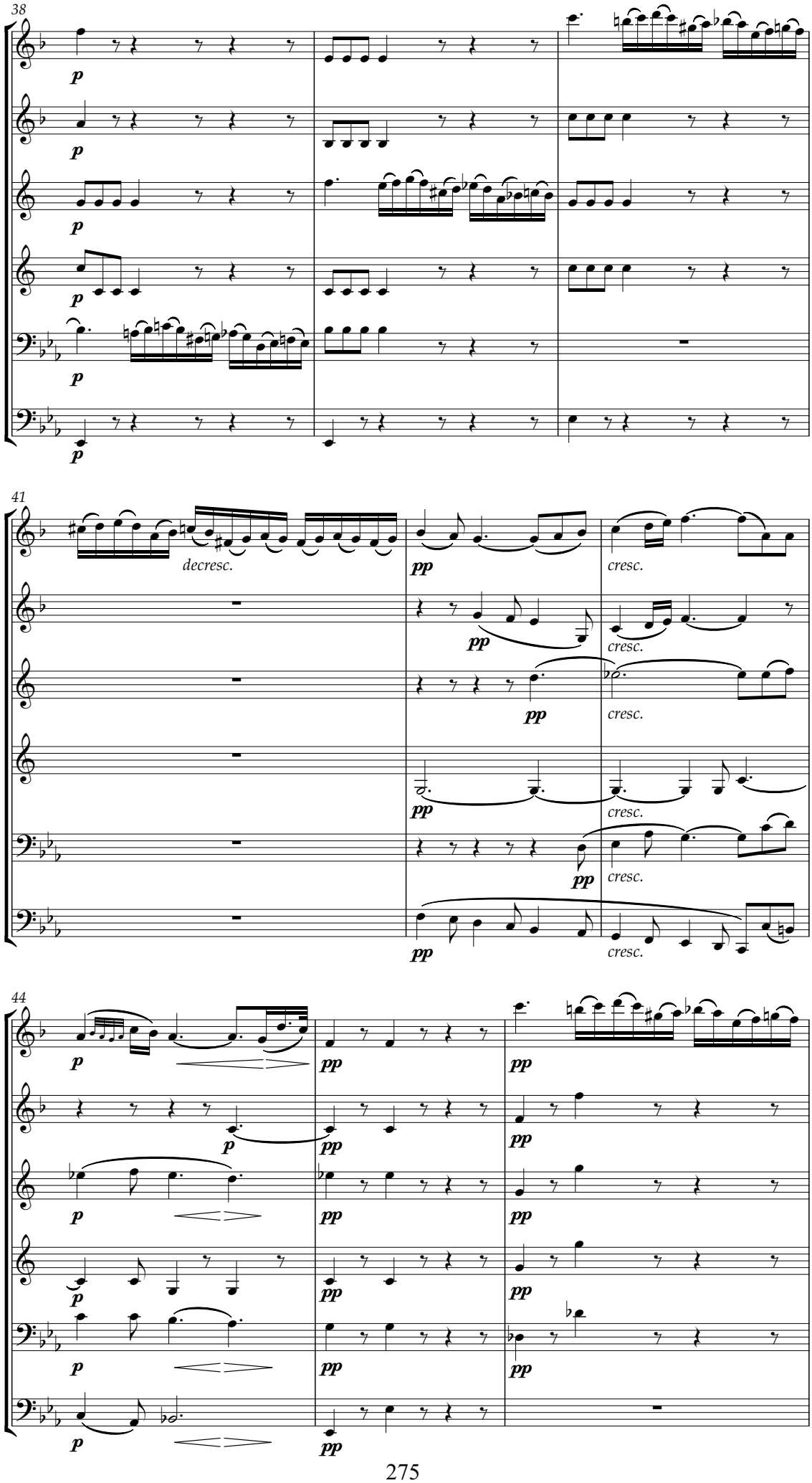

22
cresc.
cresc.
pp
cresc.
pp
pp
cresc.
cresc.

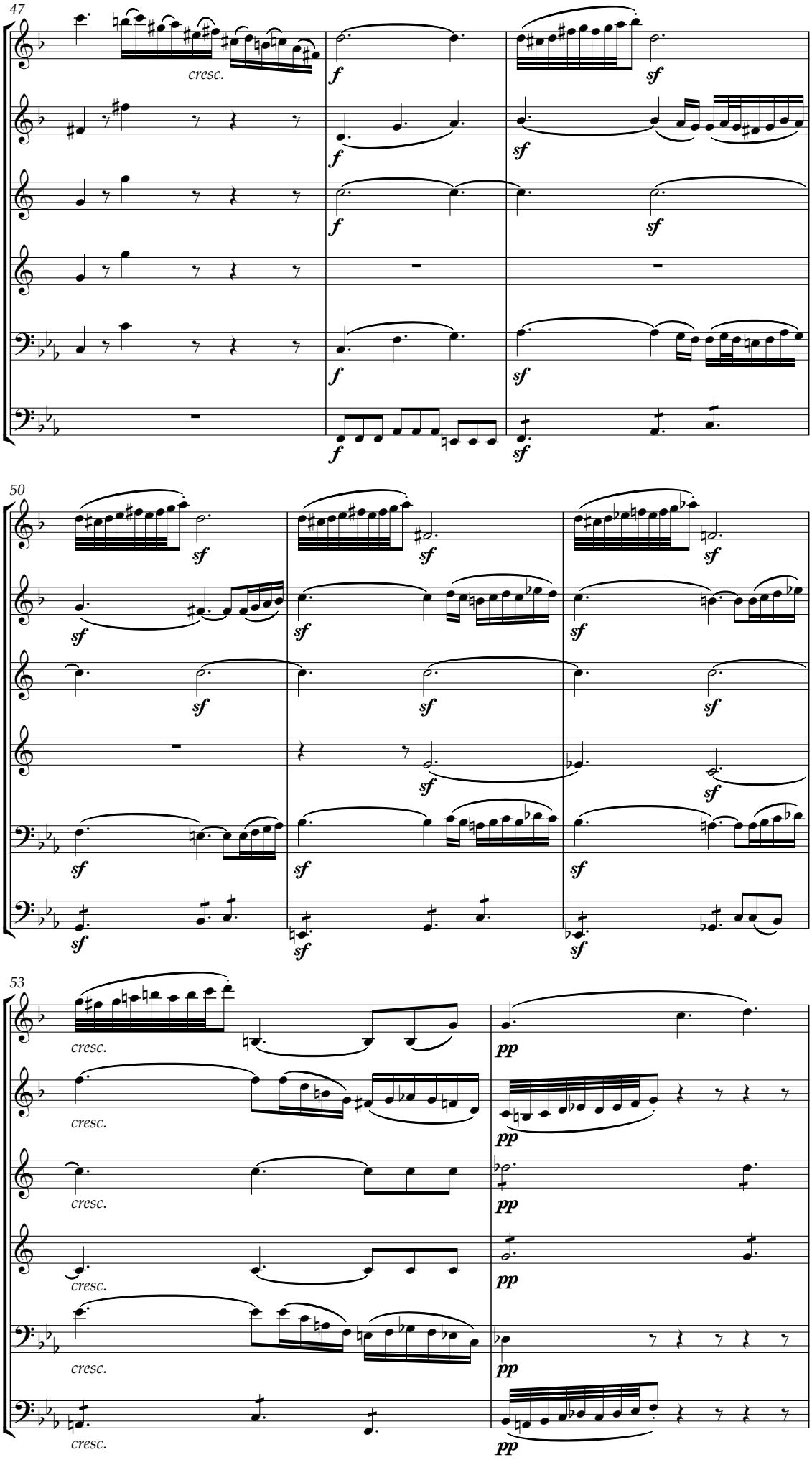

26
p
p
p
p
p

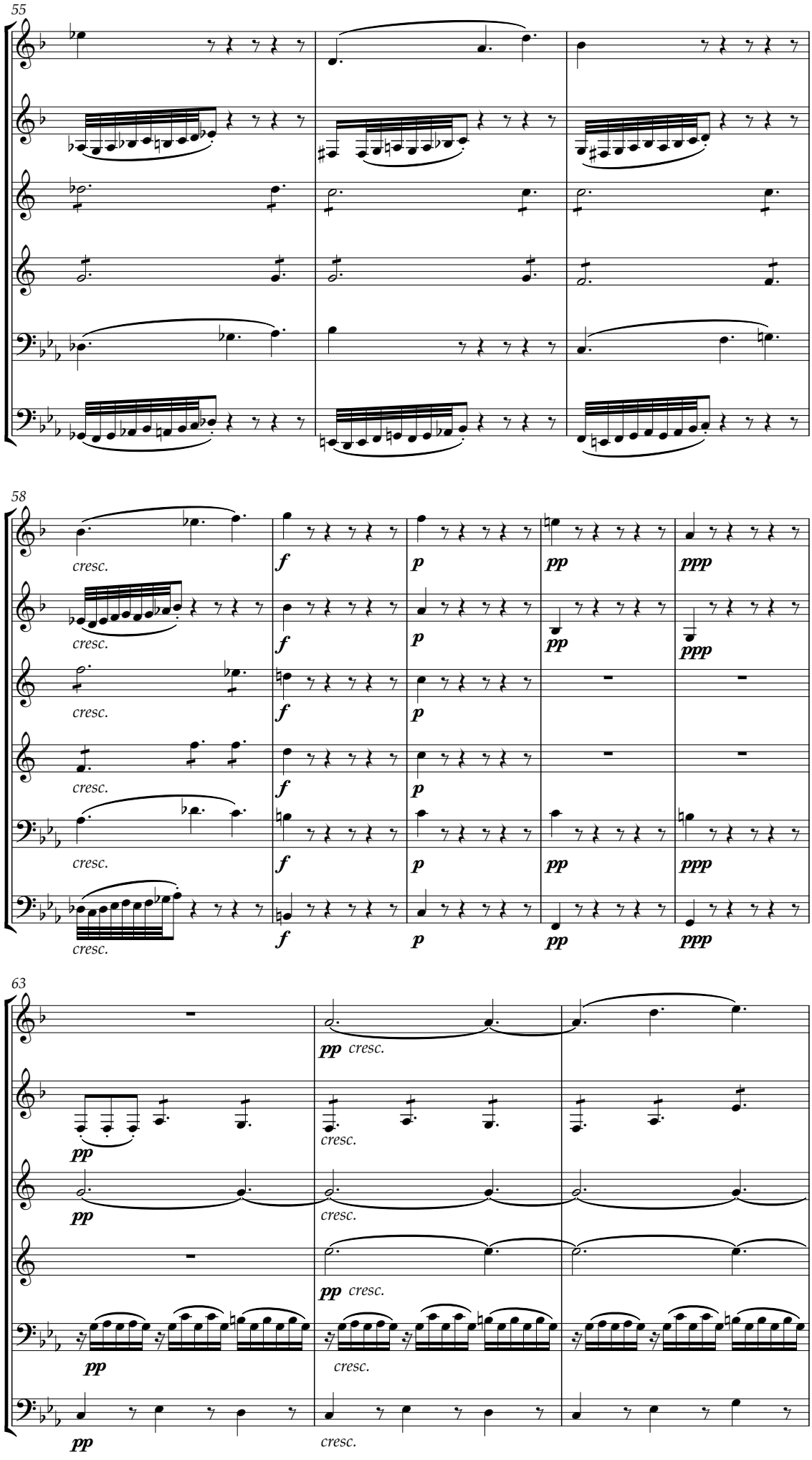

29
p

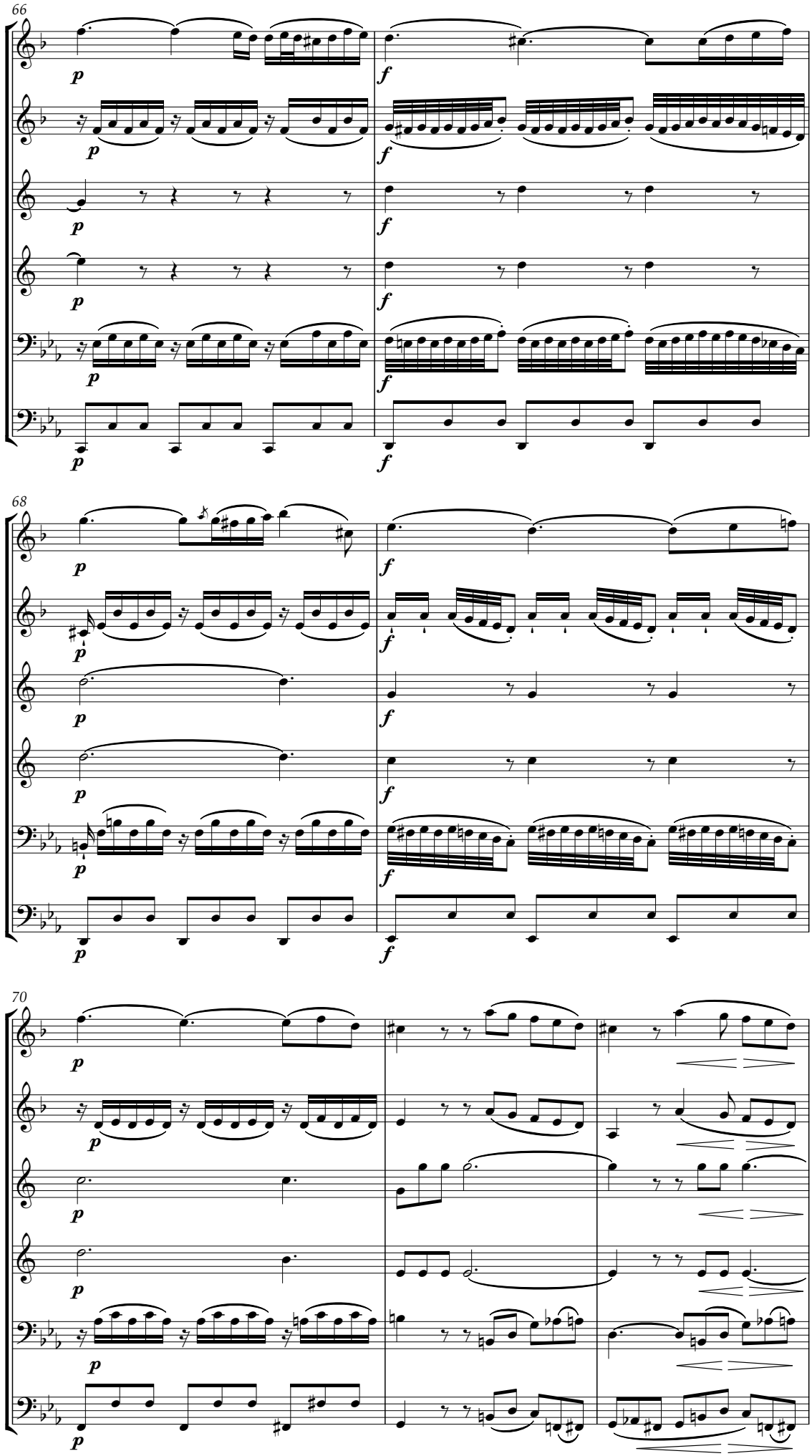

32
cresc.
sf
p

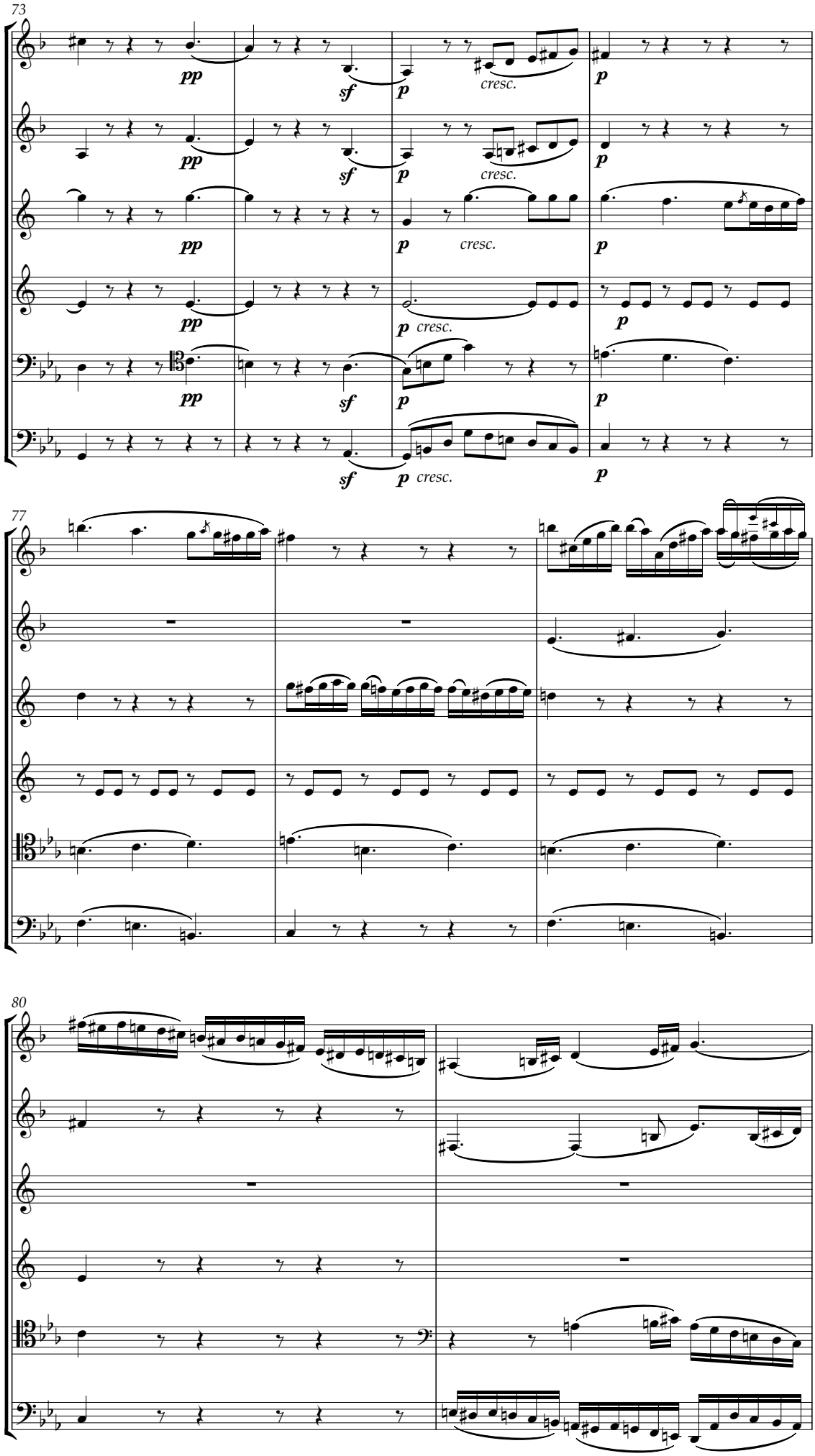

35
cresc.
sf

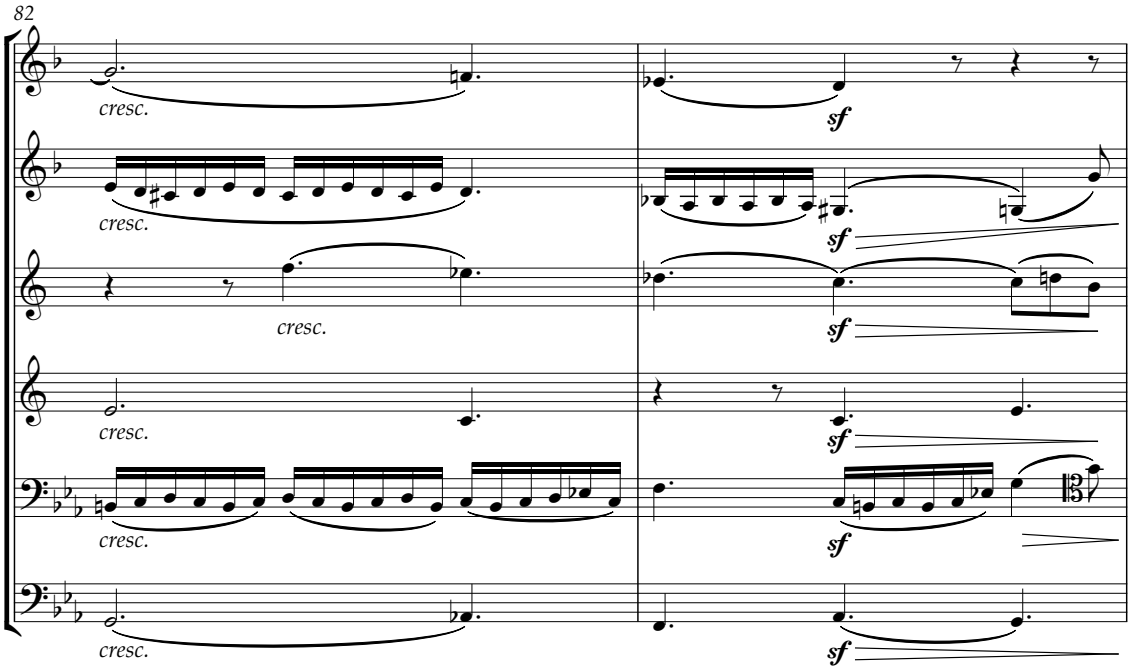

38
41
44
decresc.
cresc.

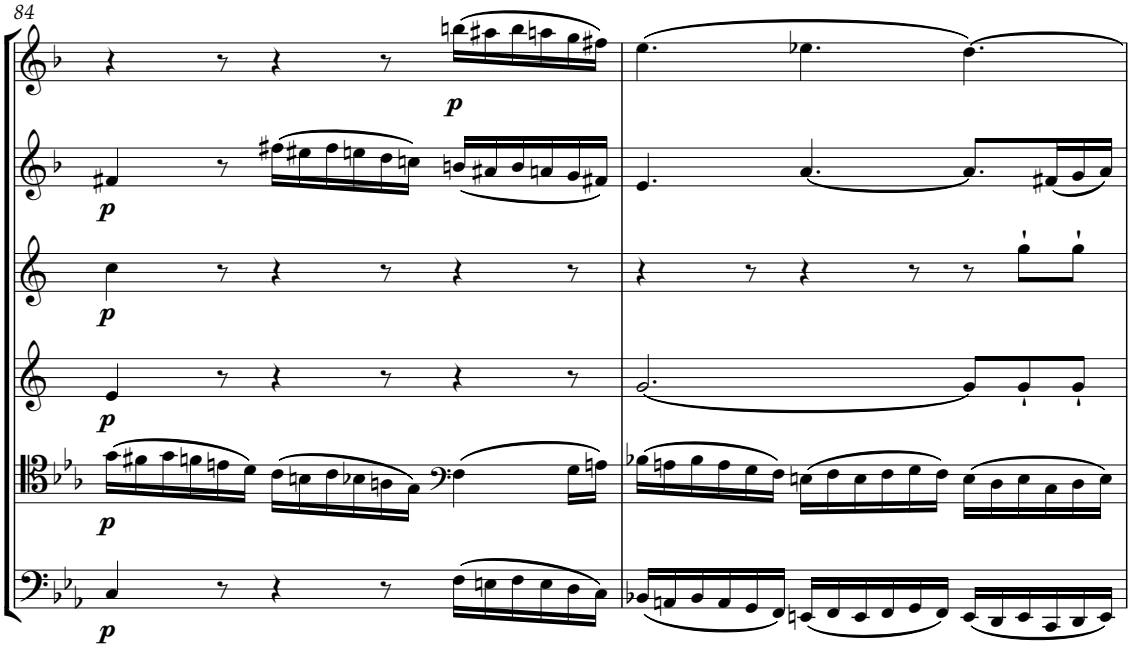

47
cresc.
f
sf
50
53
pp

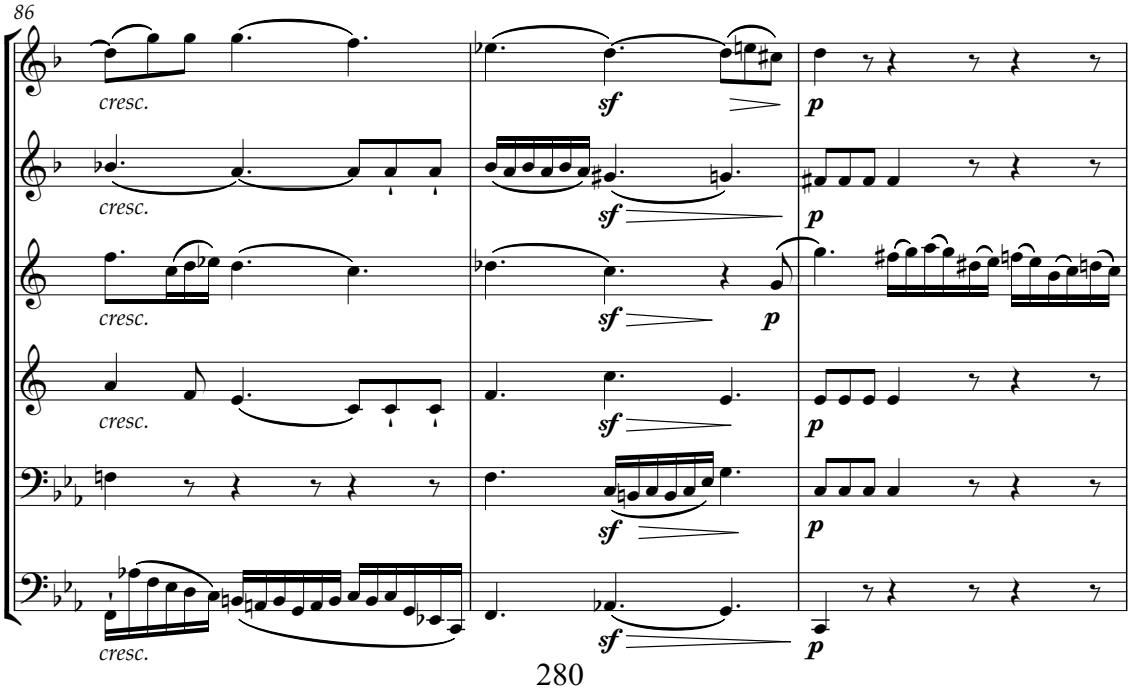

55
58
cresc.
f
p
pp
ppp
63
pp
cresc.

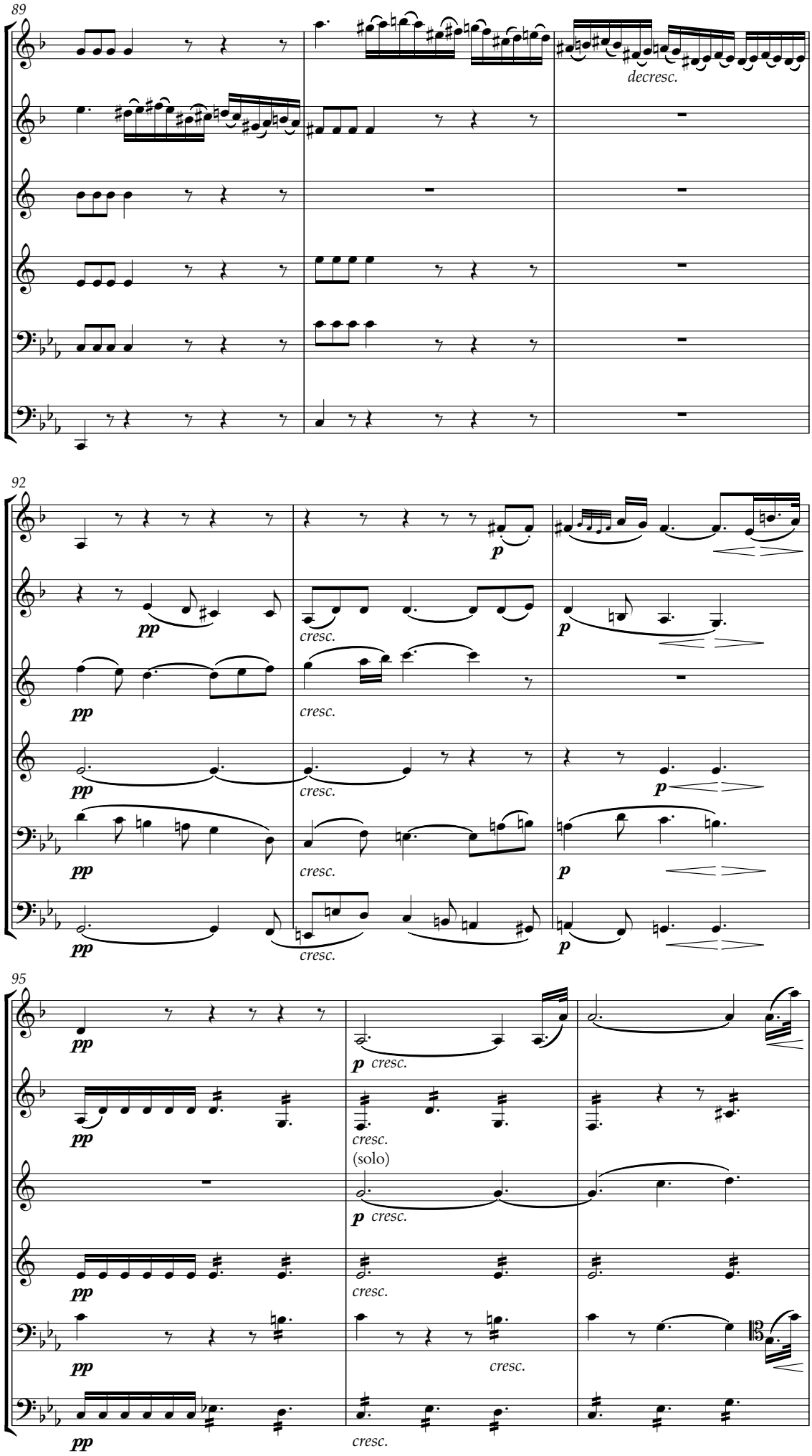

66
68
70

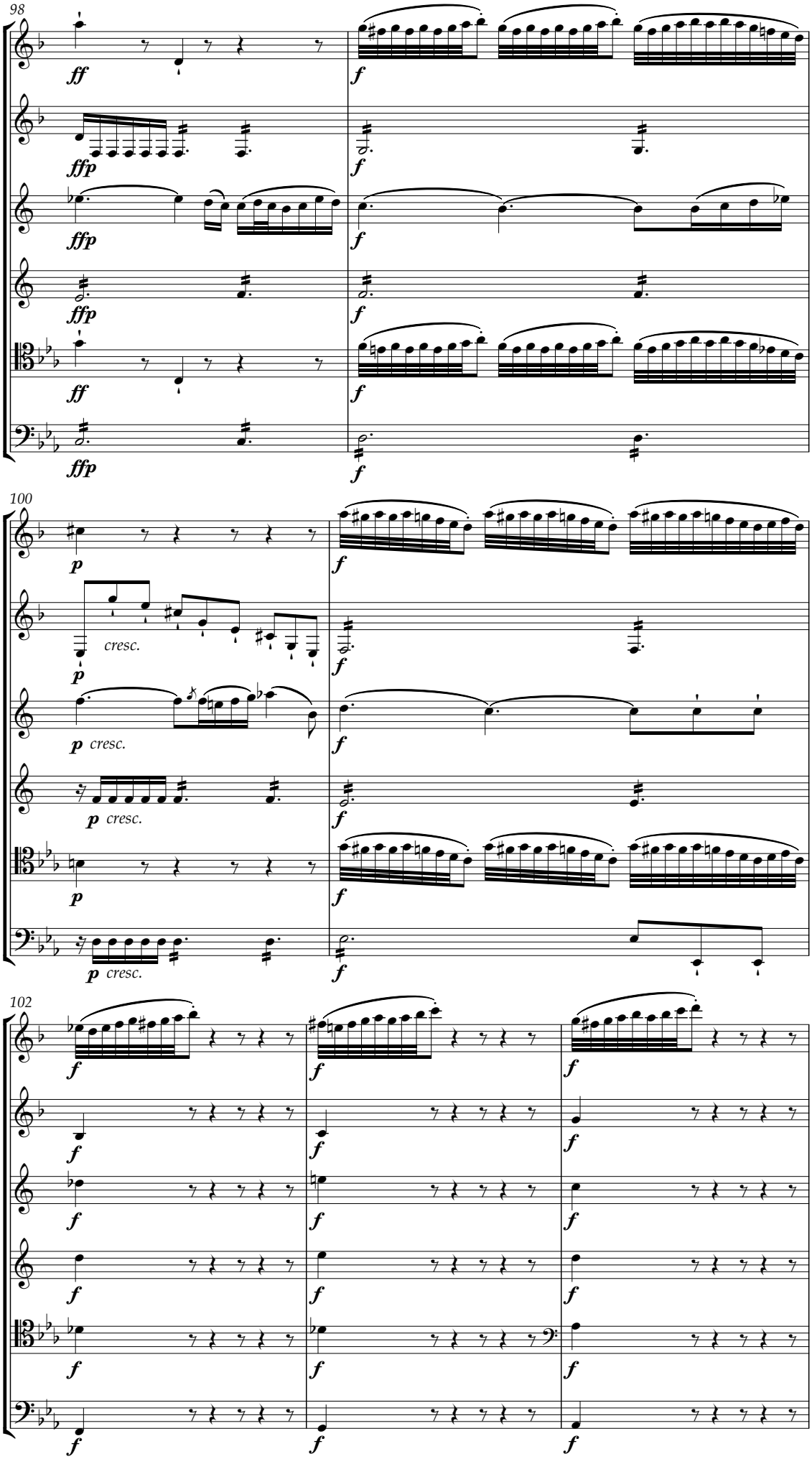

73
pp
sf
p
cresc.
77
80

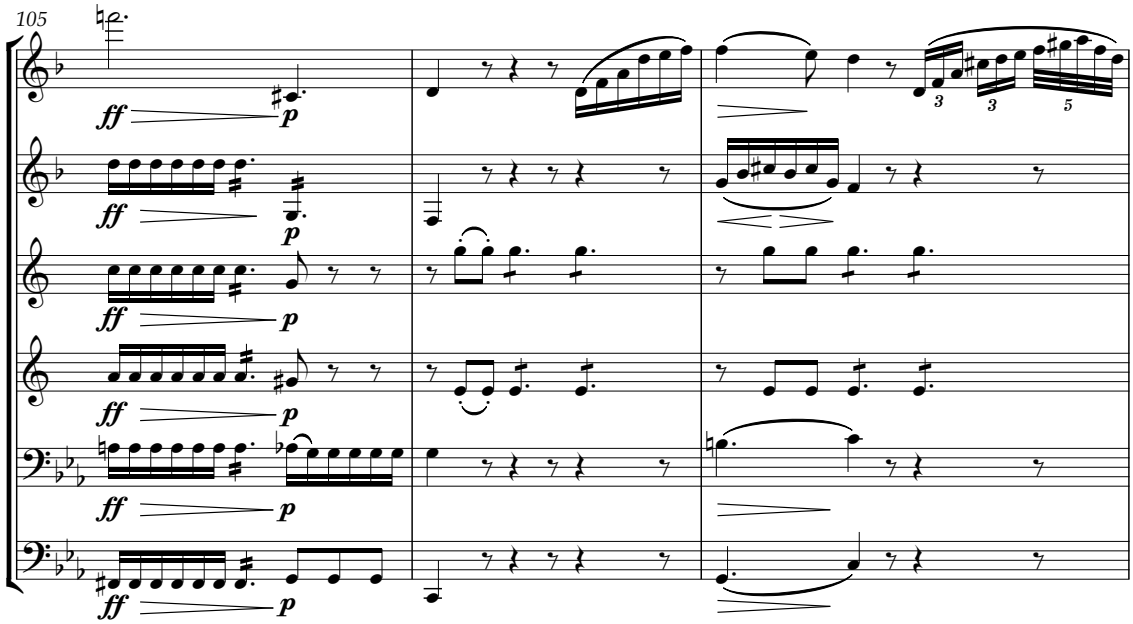

82
cresc.
sf

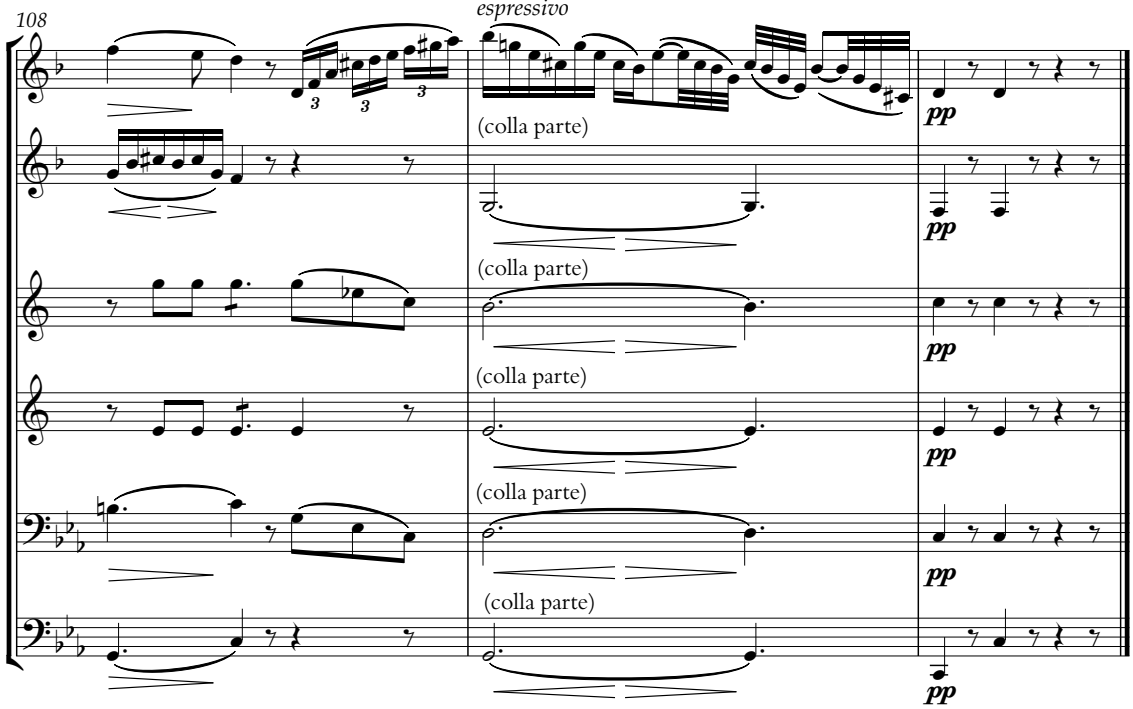

84
p


86
cresc.
sf
p


89
decresc.
92
pp
cresc.
p
95
(solo)

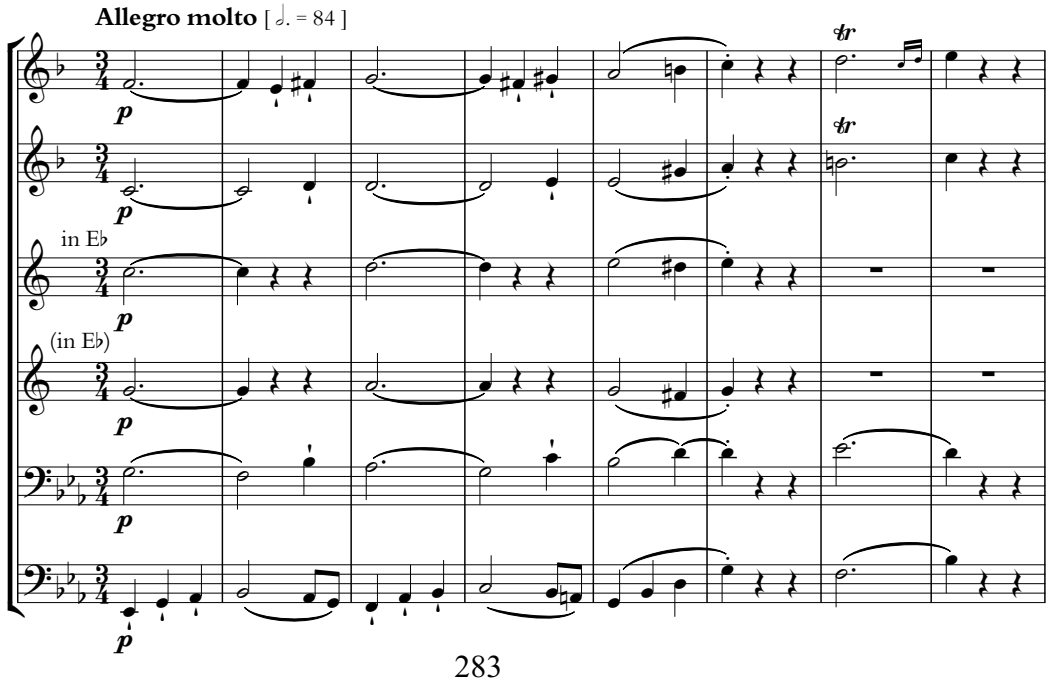

98
ff
f
ffp
100
p
cresc.
102

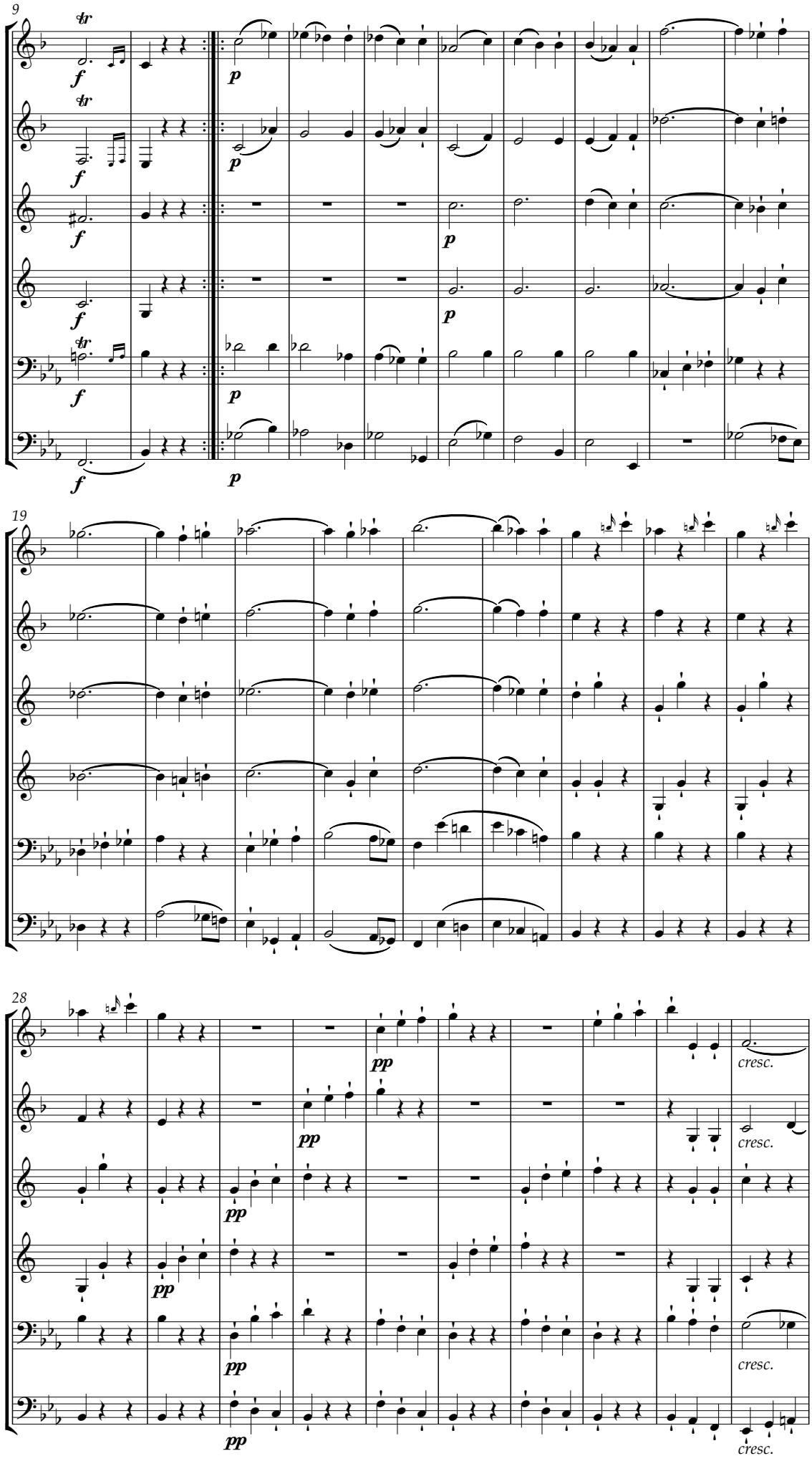


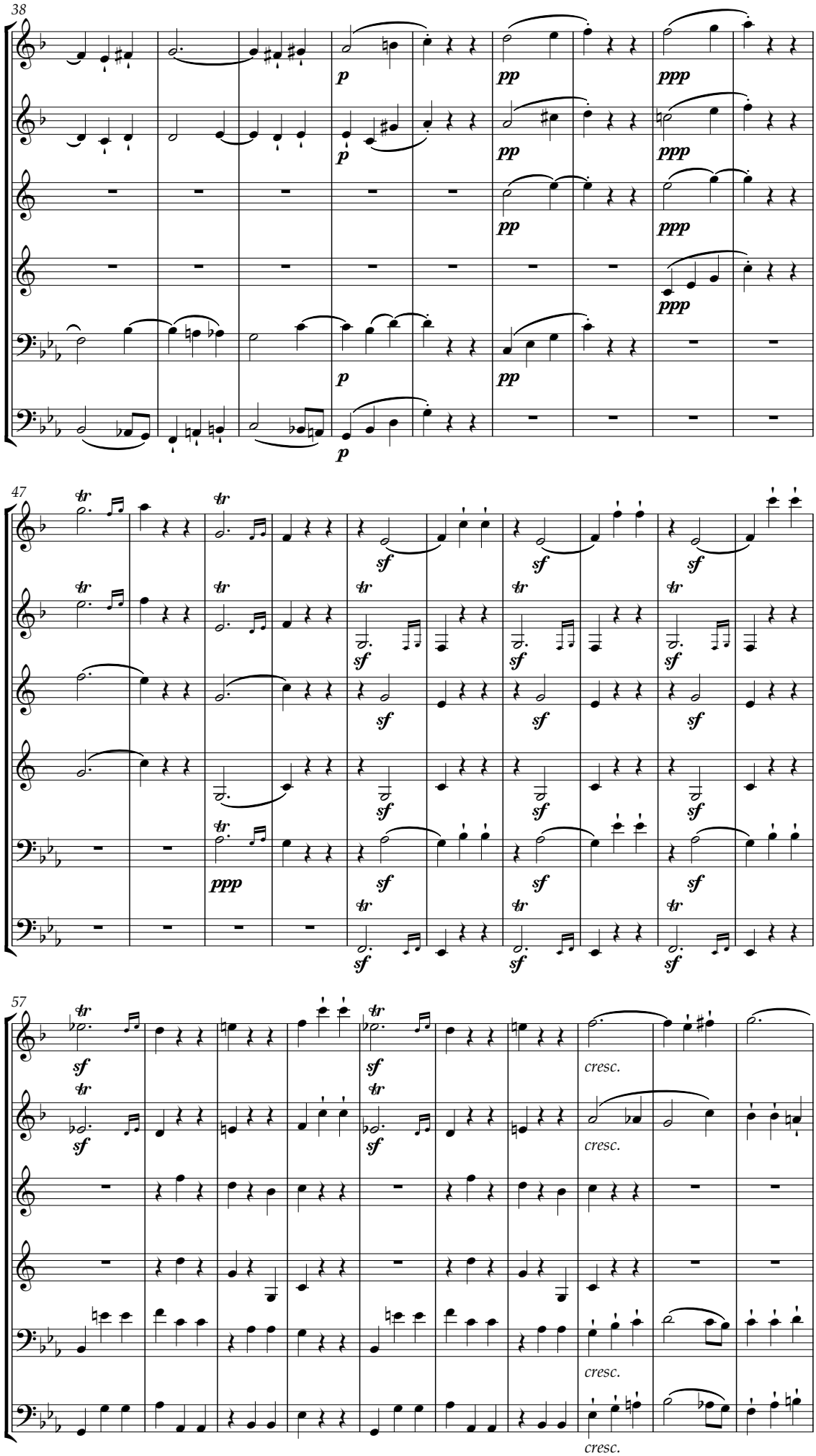


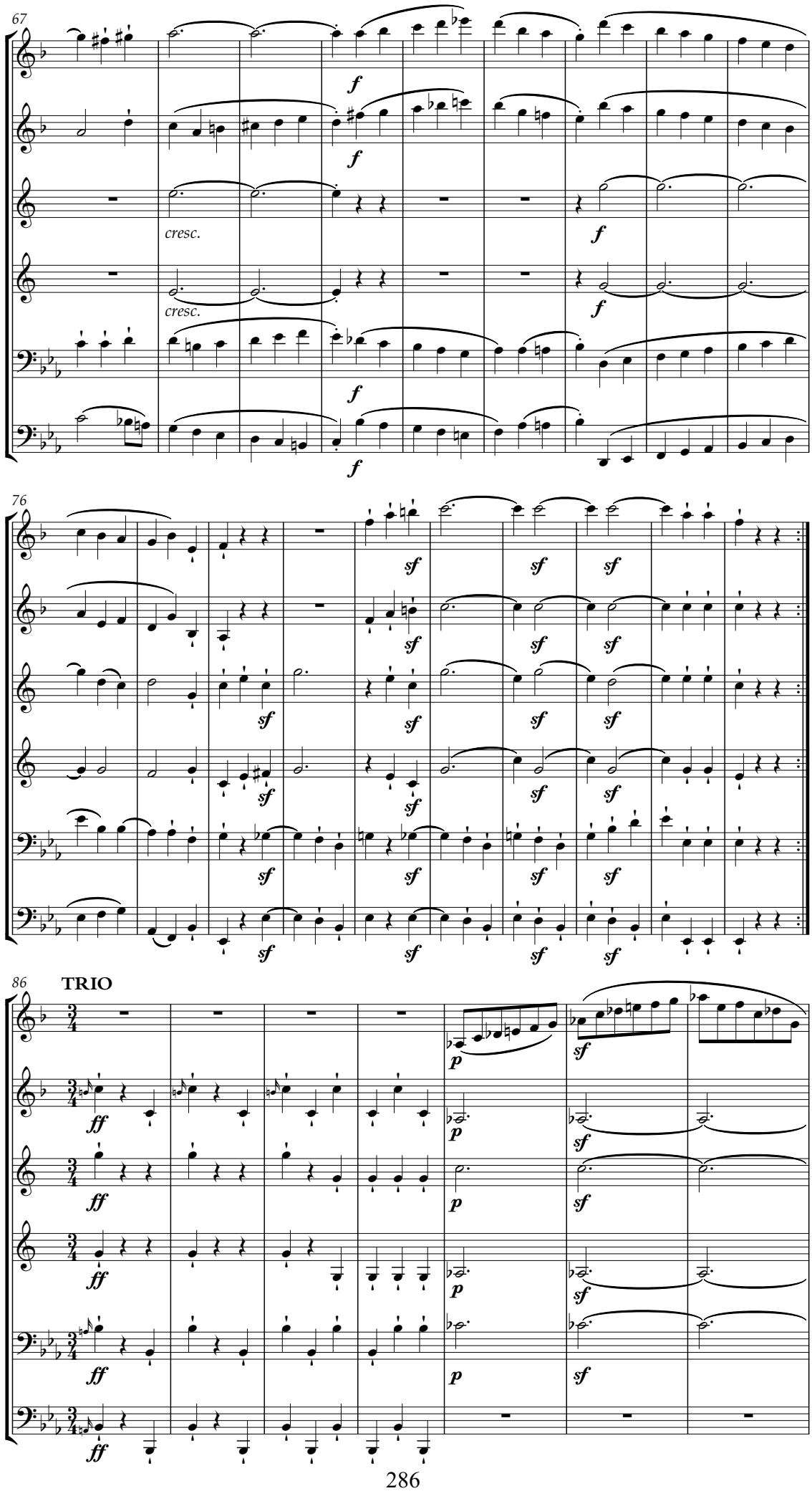
SCHERZO

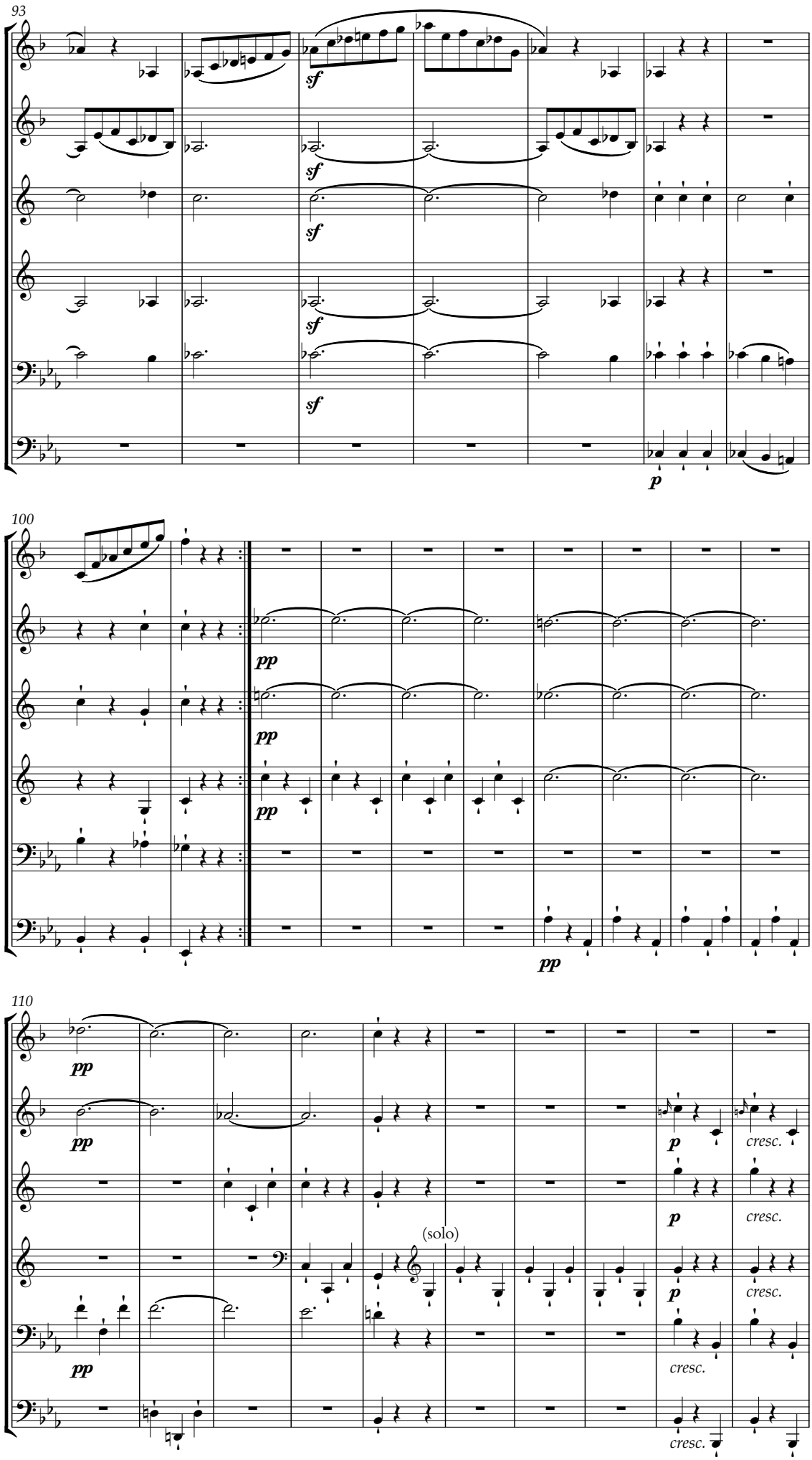
Allegro molto [♩. = 84]

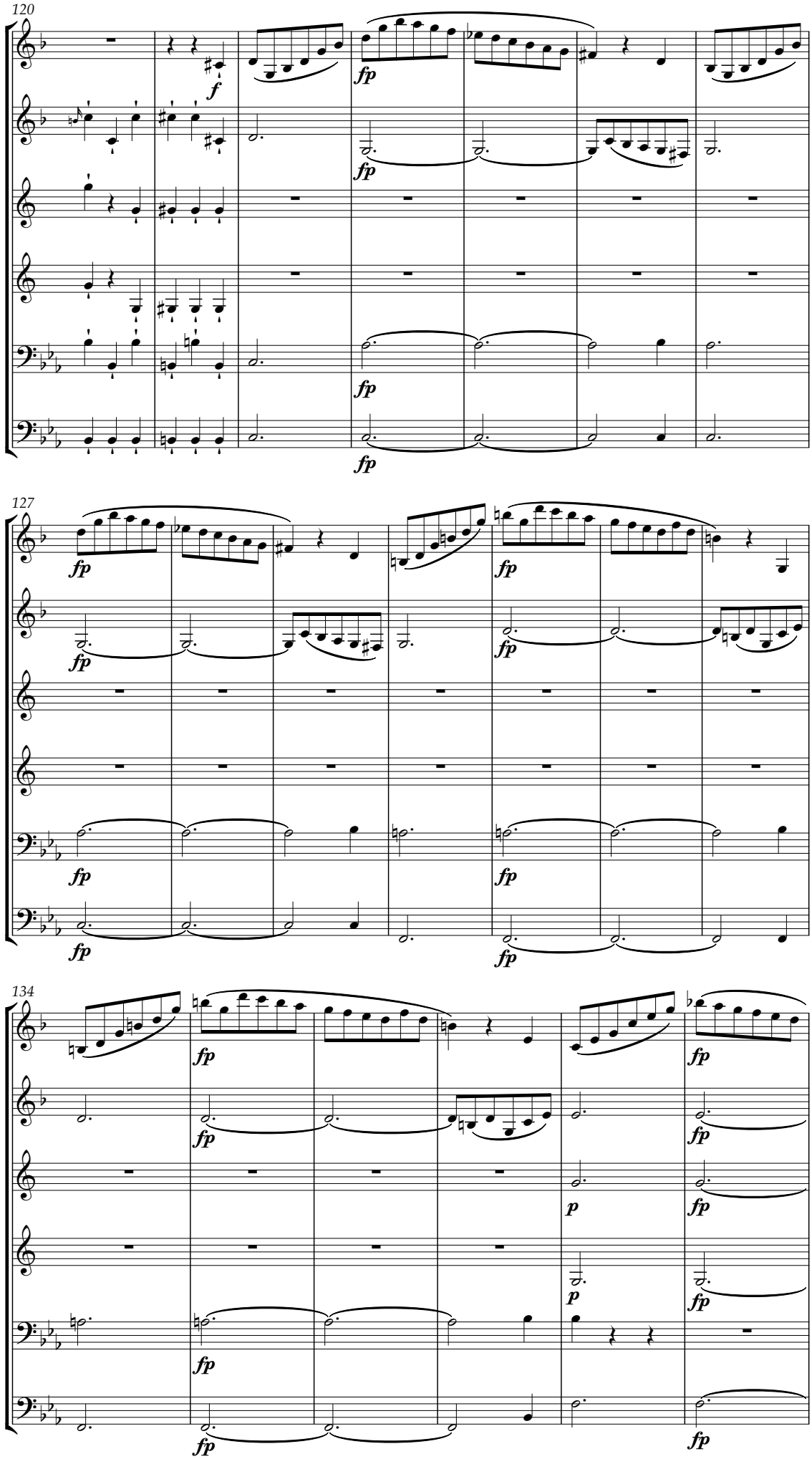


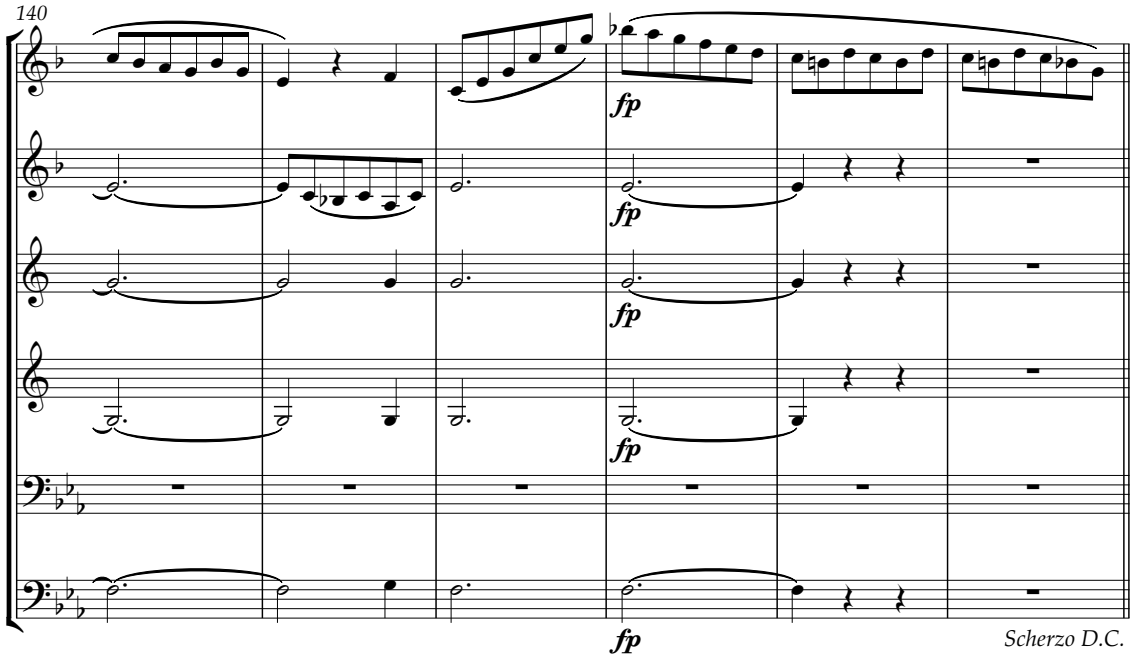

9
19
28
tr
f
p
pp
cresc.

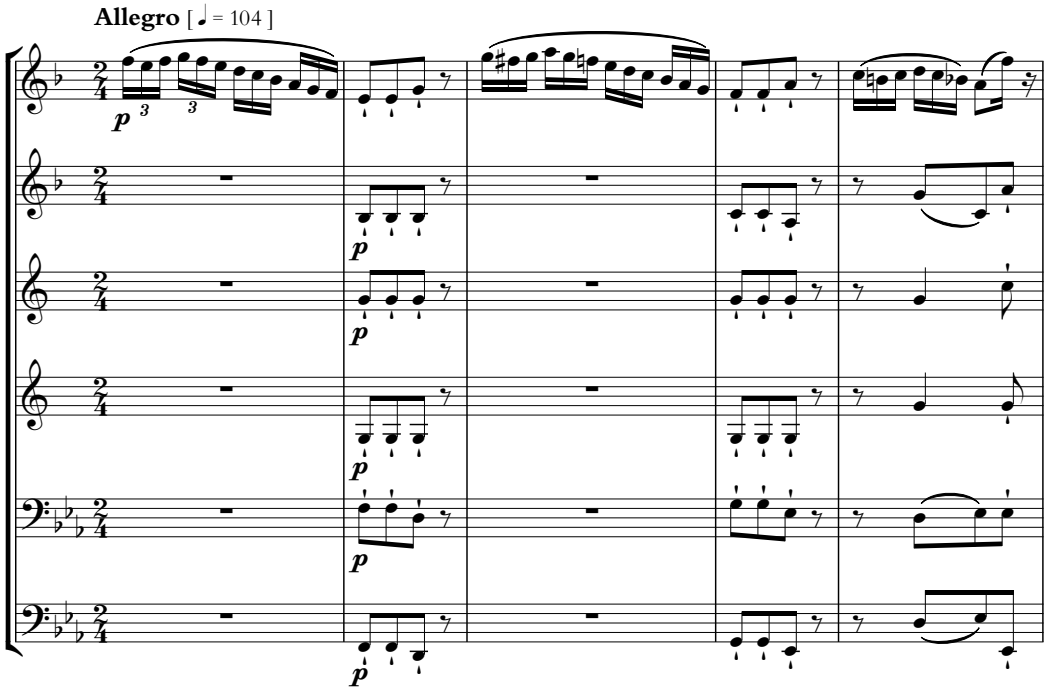

38
47
57
cresc.
cresc.
cresc.
cresc.

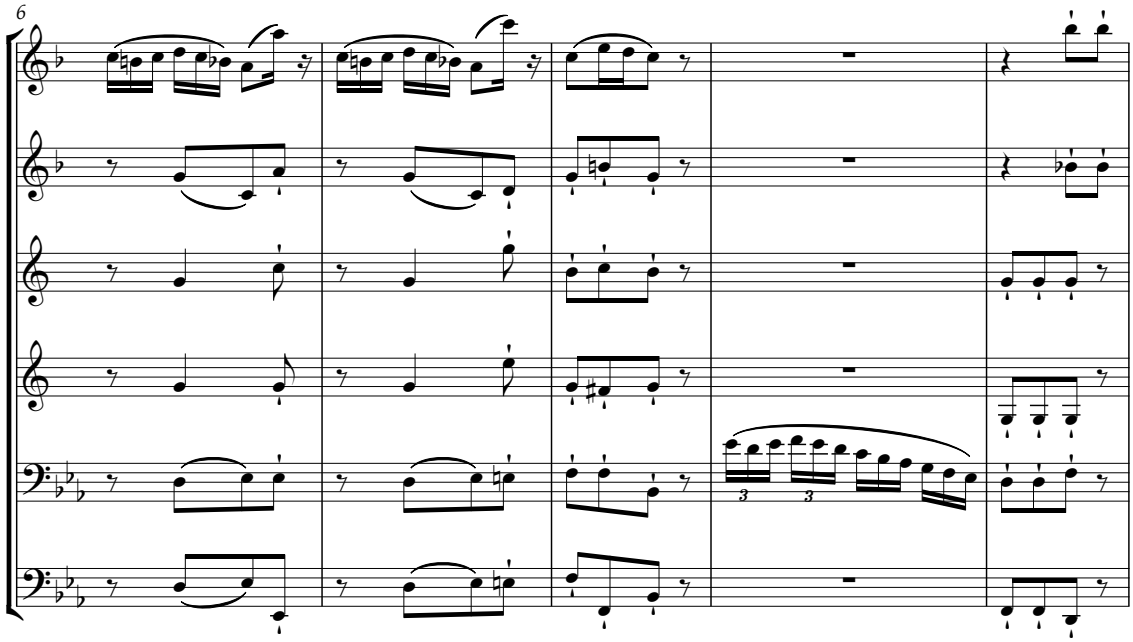

67
cresc.
cresc.
76
86
TRIO

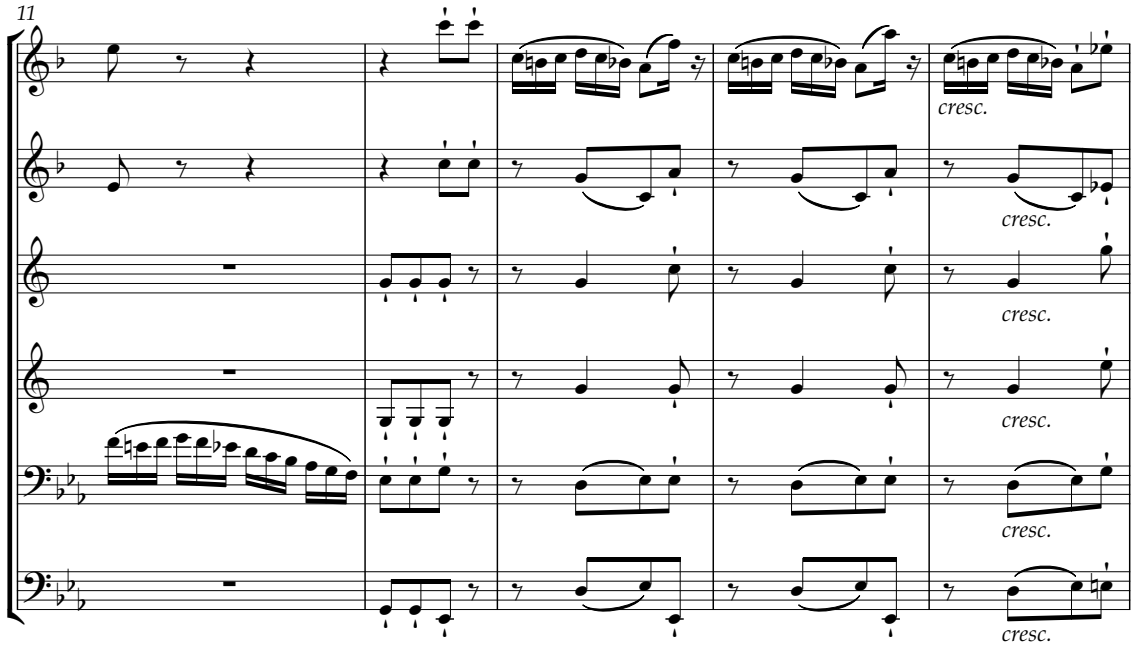

93
sf
sf
sf
sf
p
100
pp
pp
pp
pp
110
pp
pp
p
cresc.
p
cresc.
(solo)
p
cresc.
pp
cresc.
cresc.

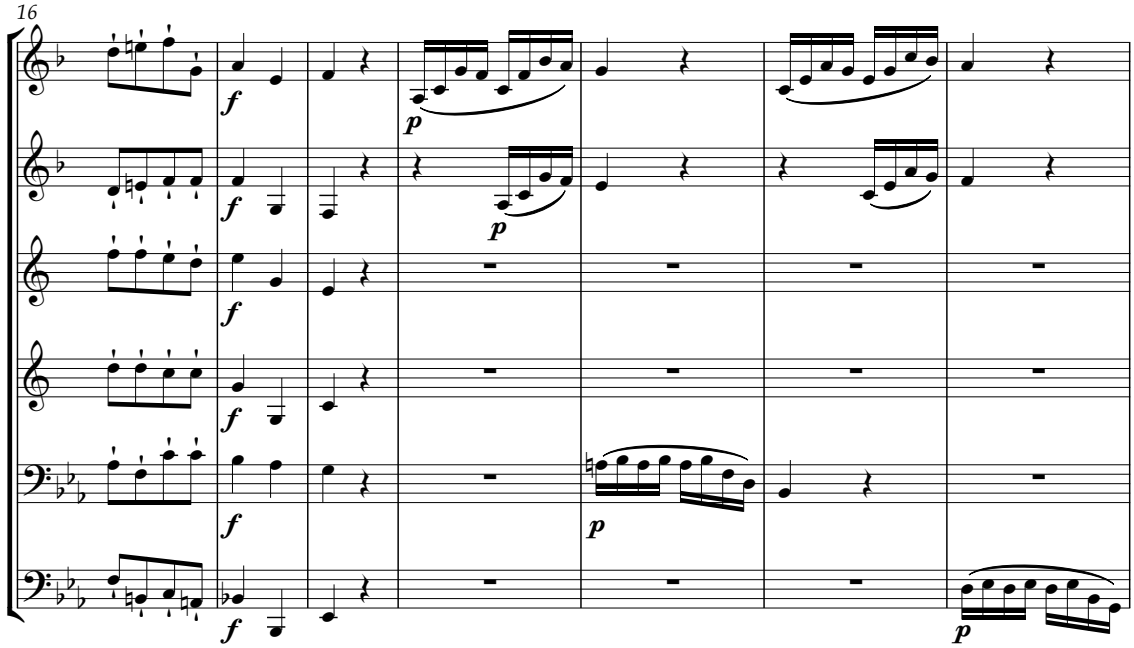

120
f
fp
127
134
p

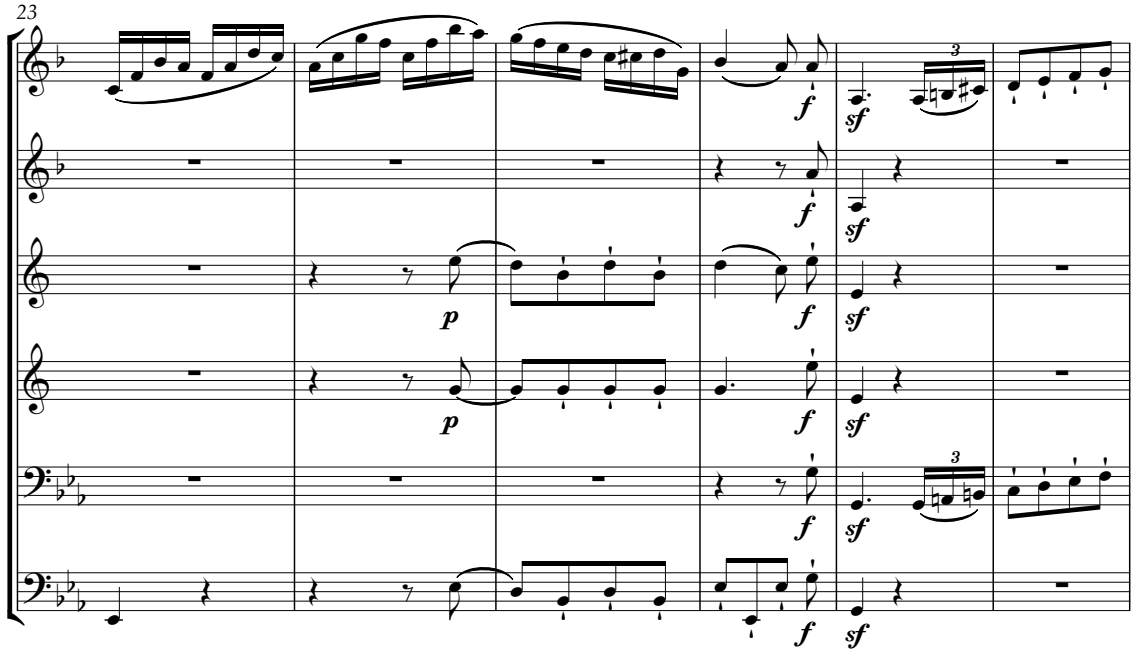

140
fp
fp
fp
fp
fp
Scherzo D.C.

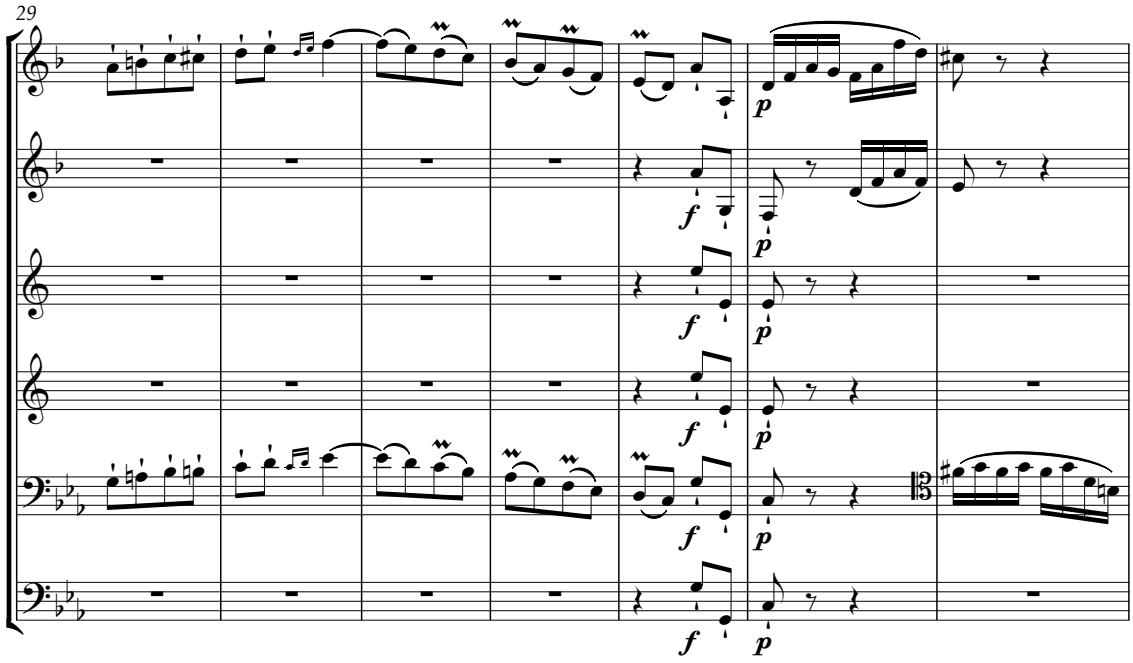

Allegro [♩ = 104]
p
p
p
p
p

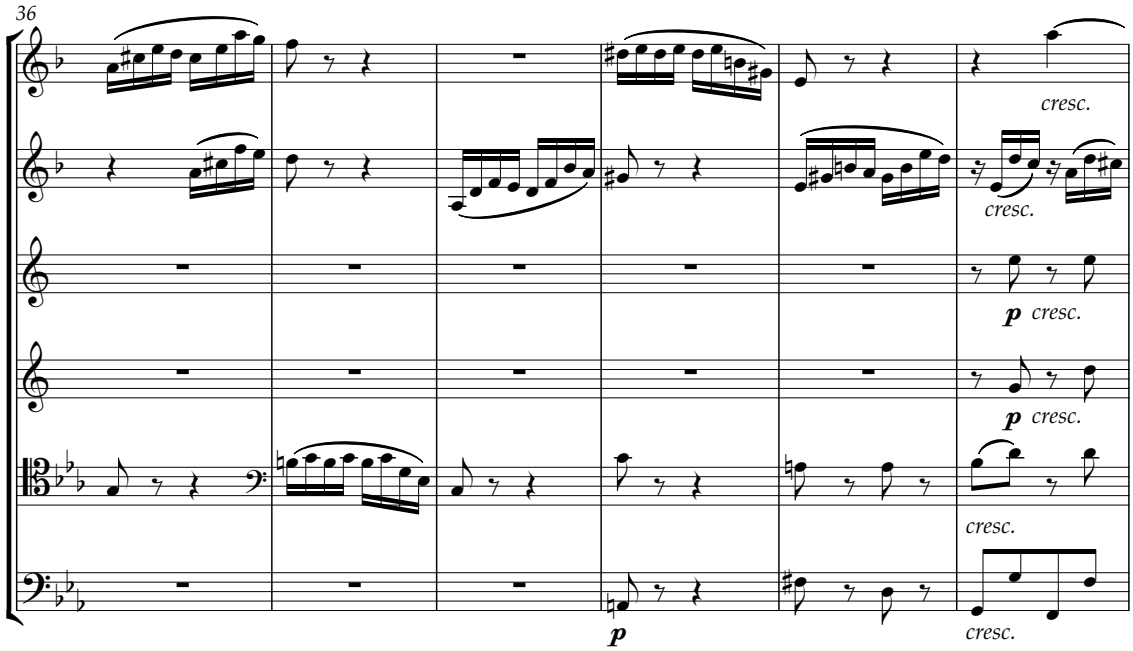

6

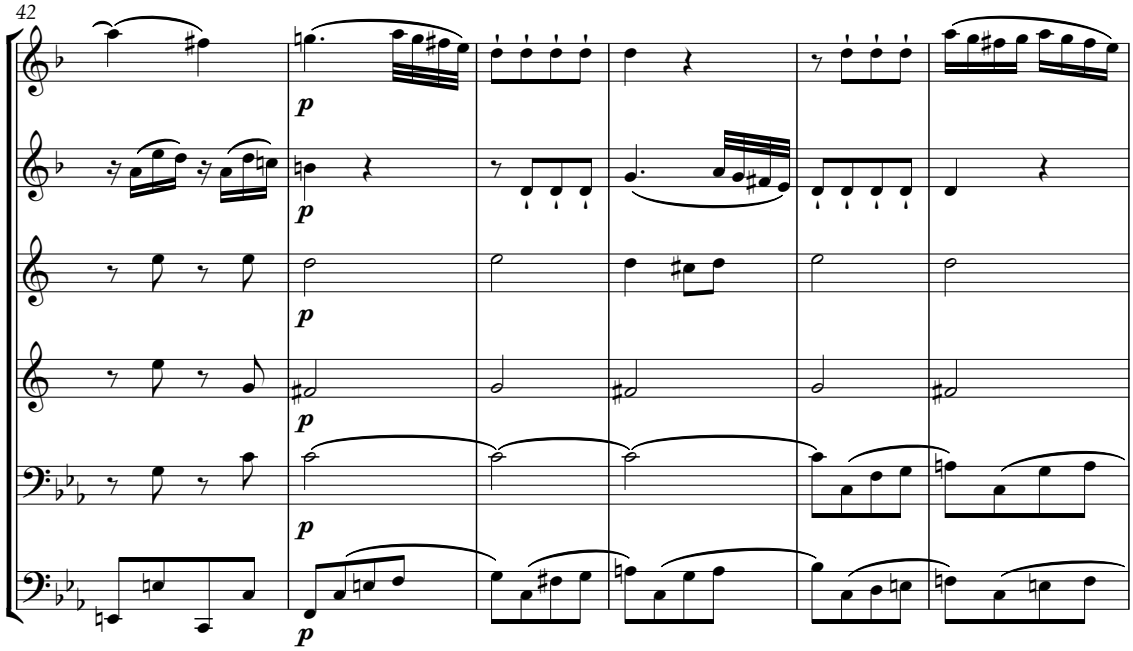

11
cresc.
cresc.
cresc.
cresc.
cresc.

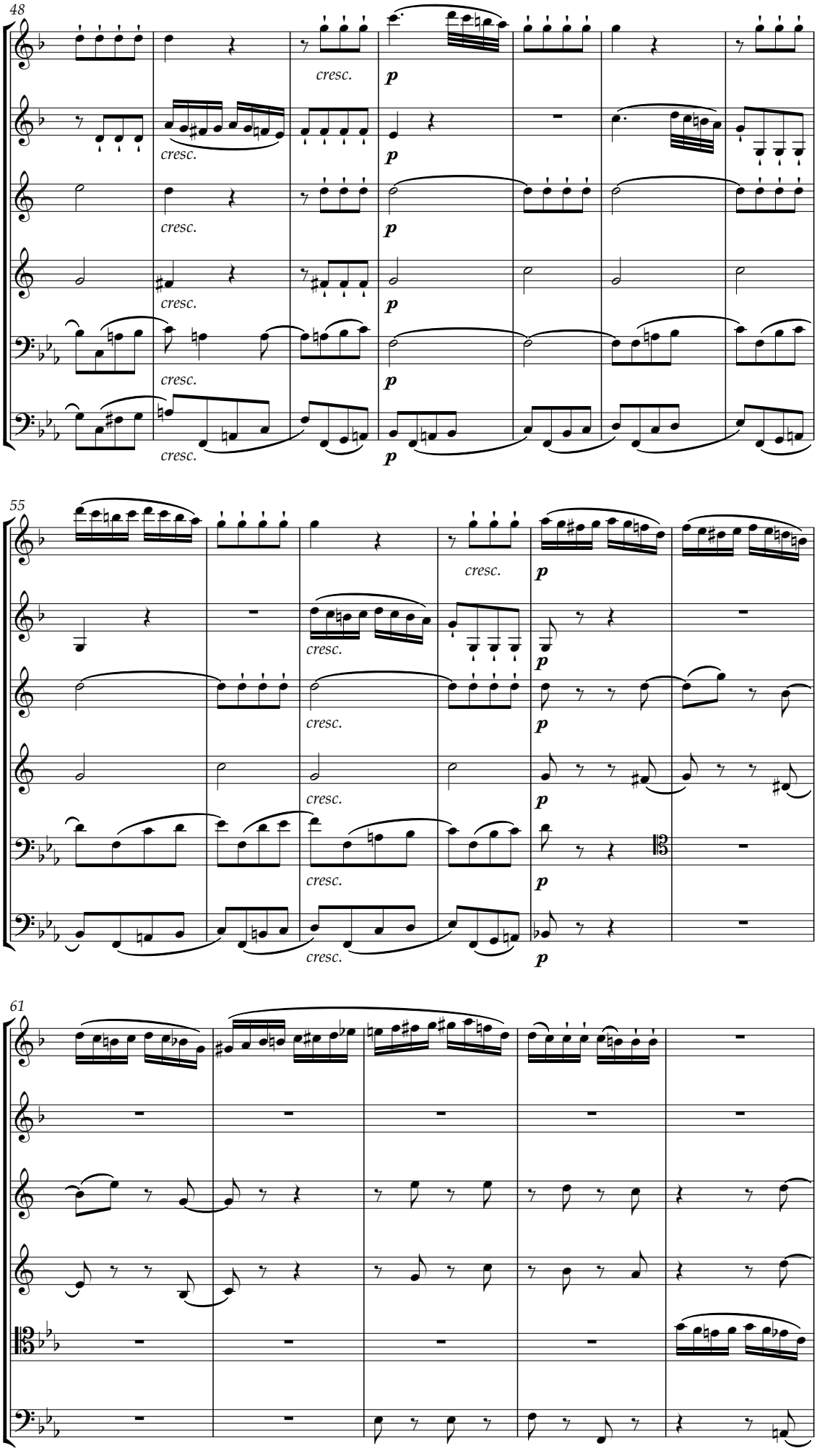

16
f
p

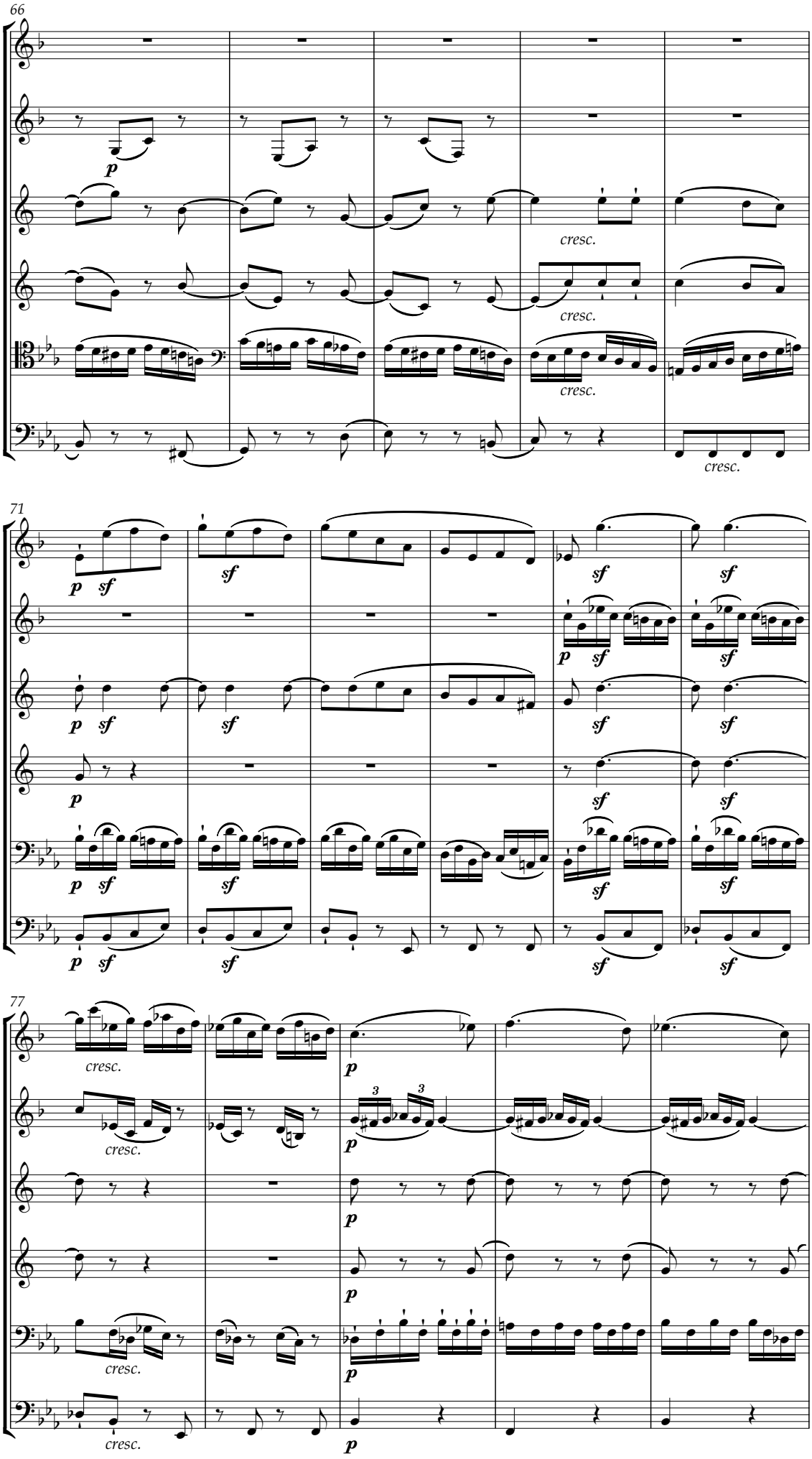

23
f
sf
p

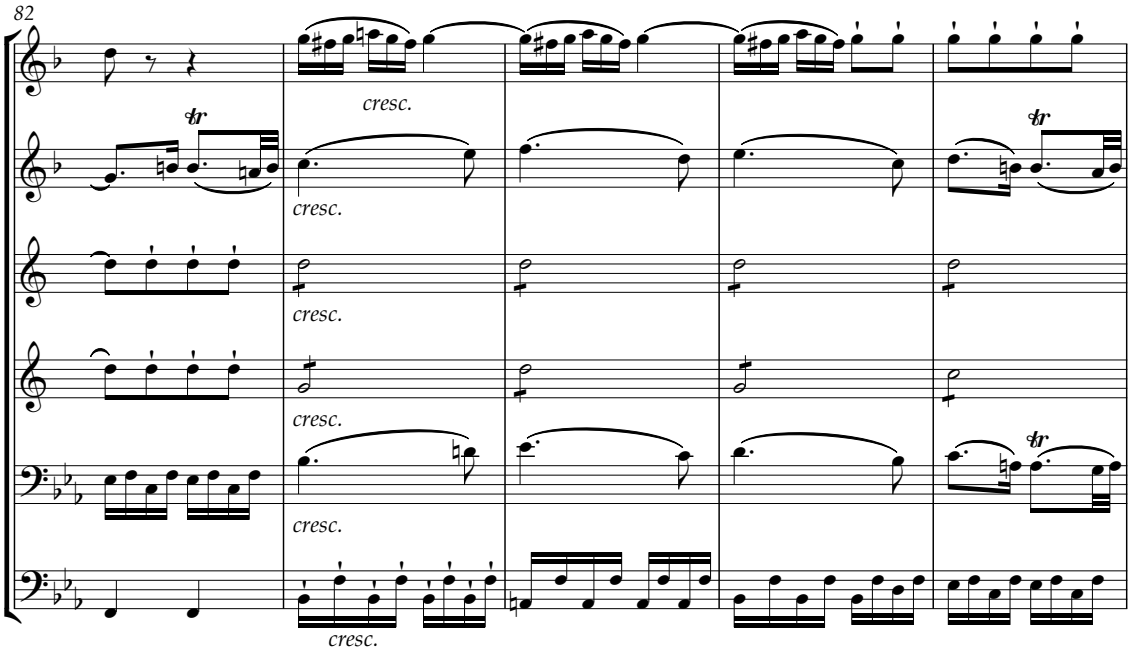

29
f
p

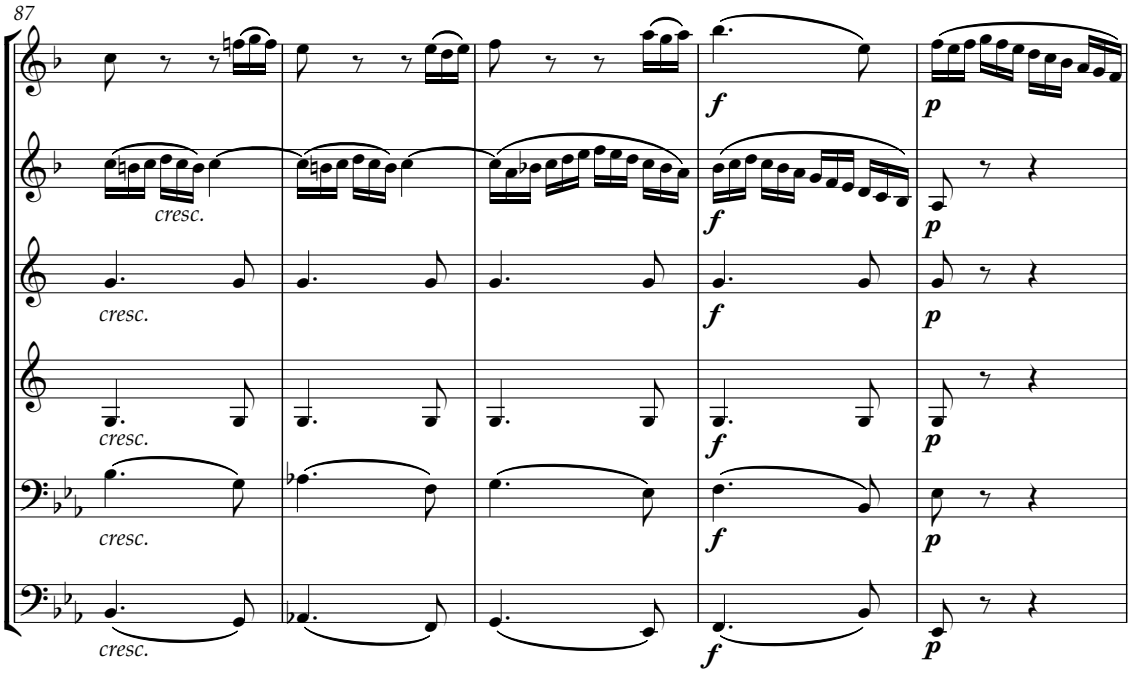

36
cresc.
p

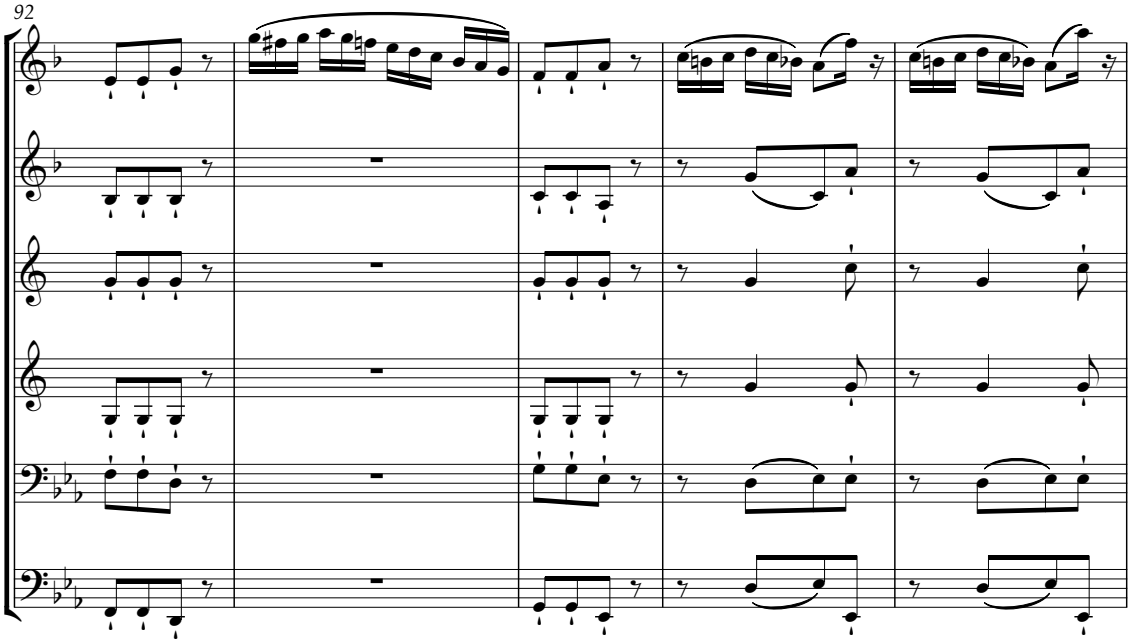

42
p

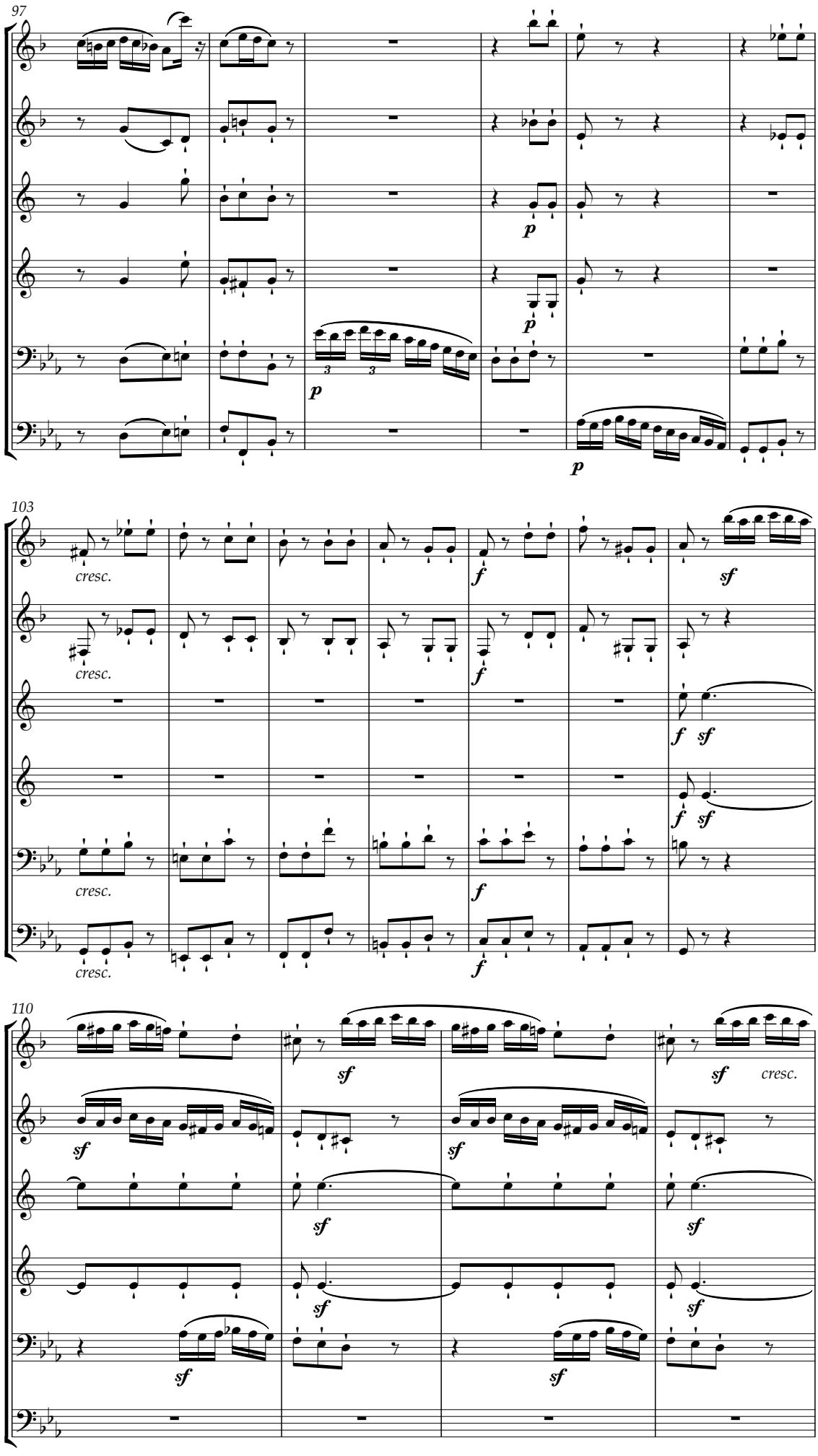

48
cresc.
p
55
61

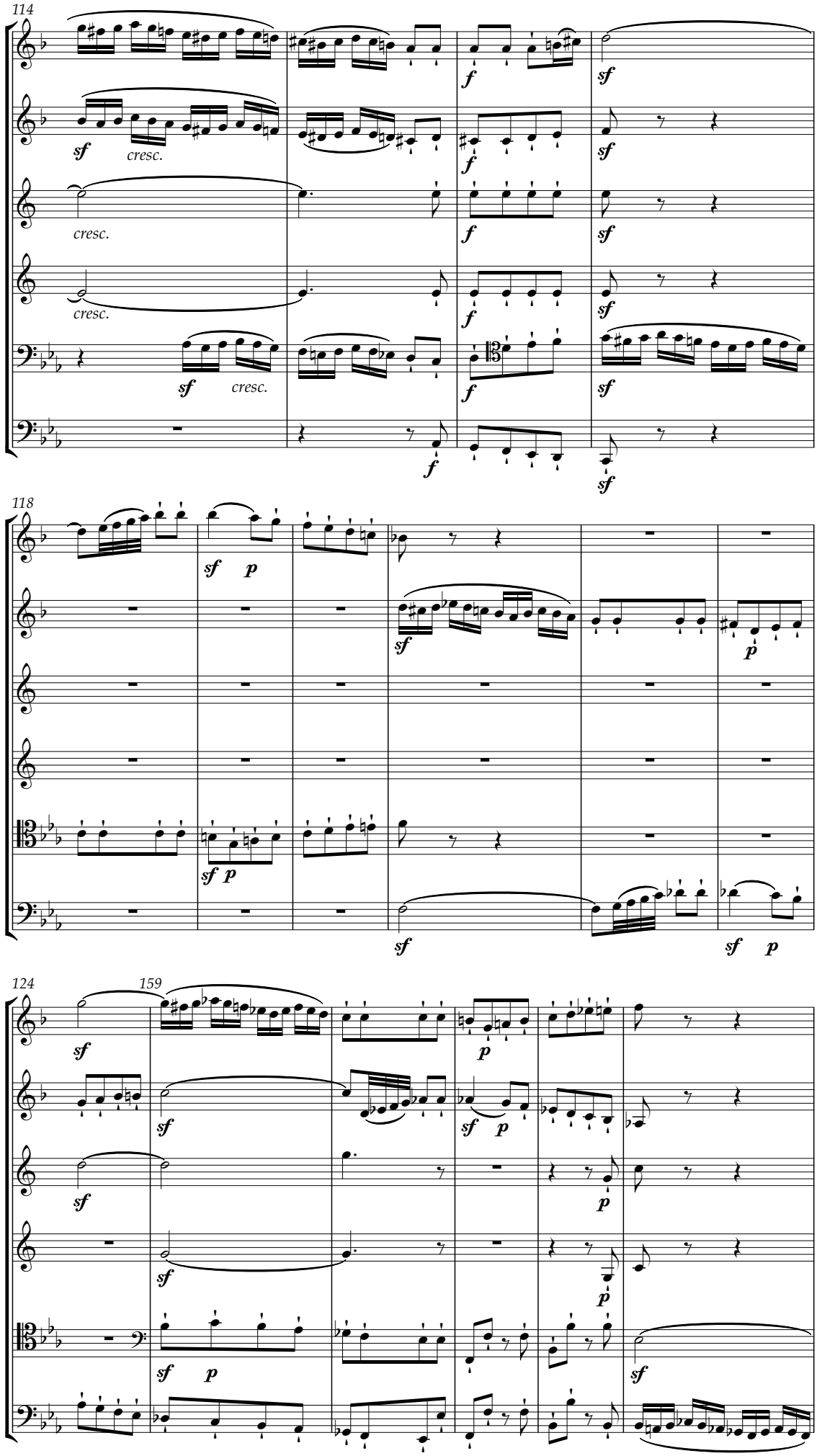

66
p
cresc.
cresc.
cresc.
cresc.
71
p sf
sf
sf
sf
77
cresc.
cresc.
cresc.
cresc.
p
3
3

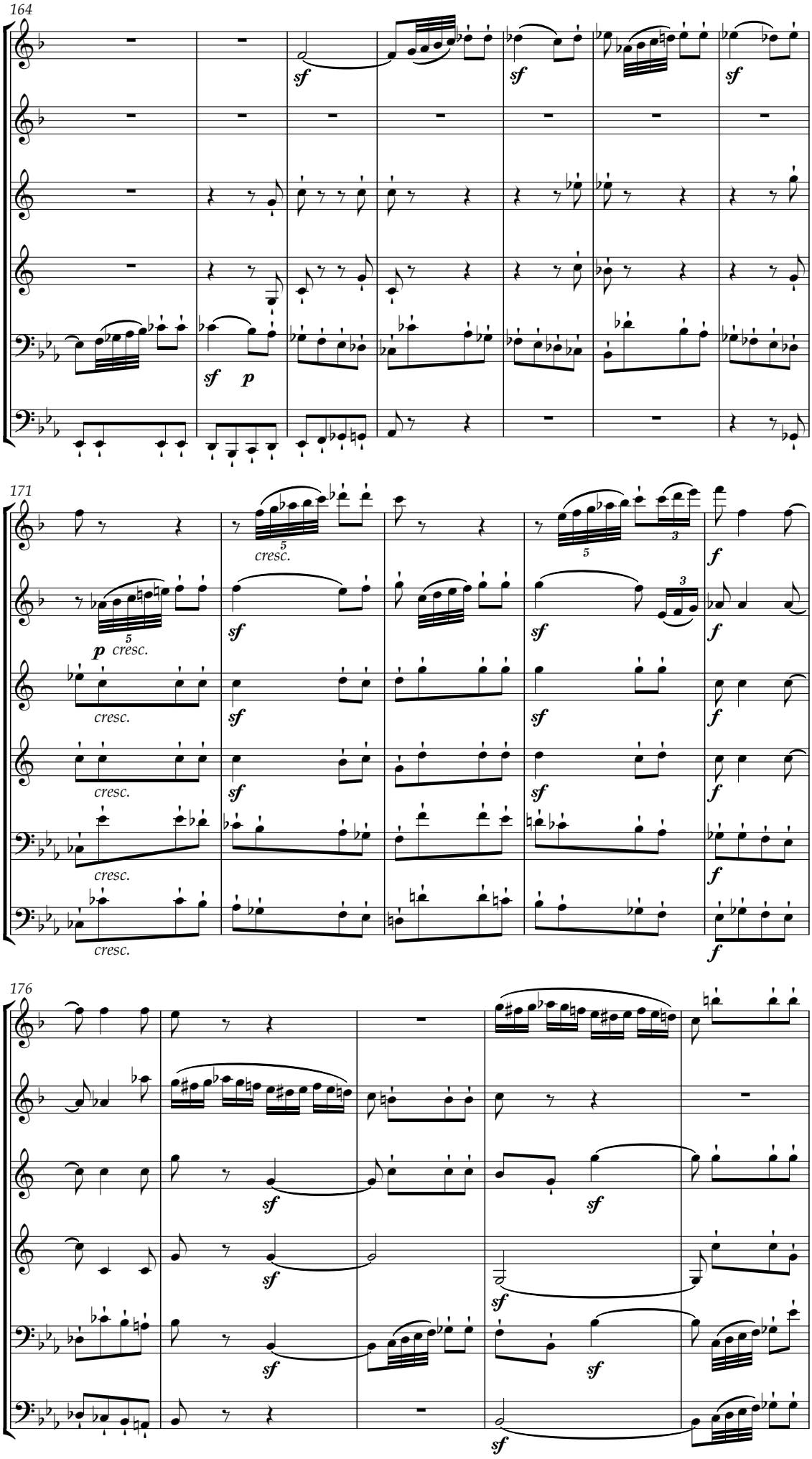

82
cresc.
tr
cresc.
cresc.
cresc.
tr
cresc.
cresc.

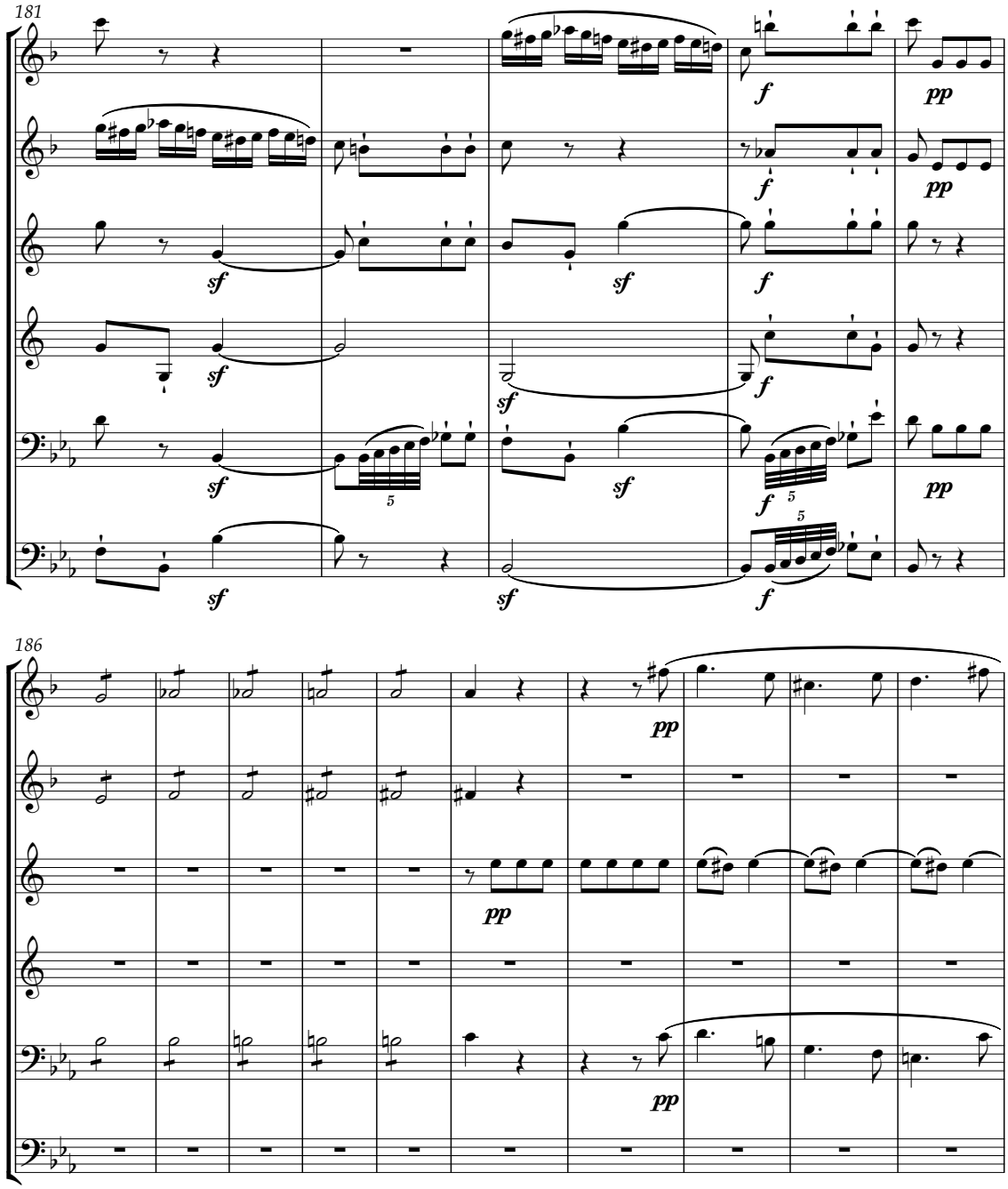

87
cresc.
cresc.
cresc.
cresc.
cresc.
f
f
f
f
f
p
p
p
p
p

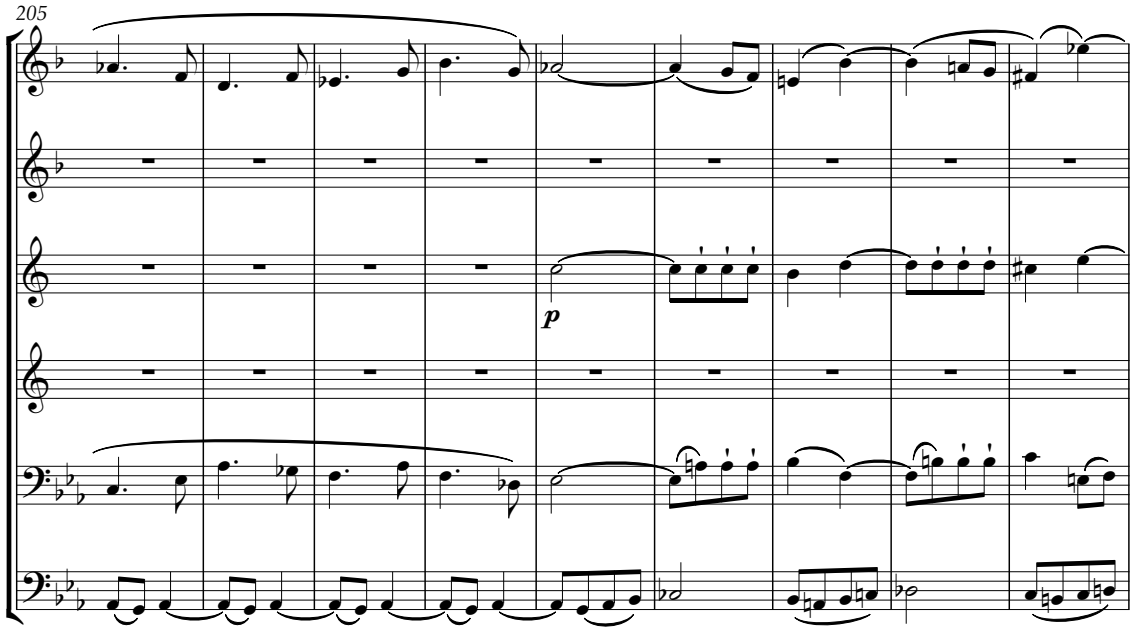

92

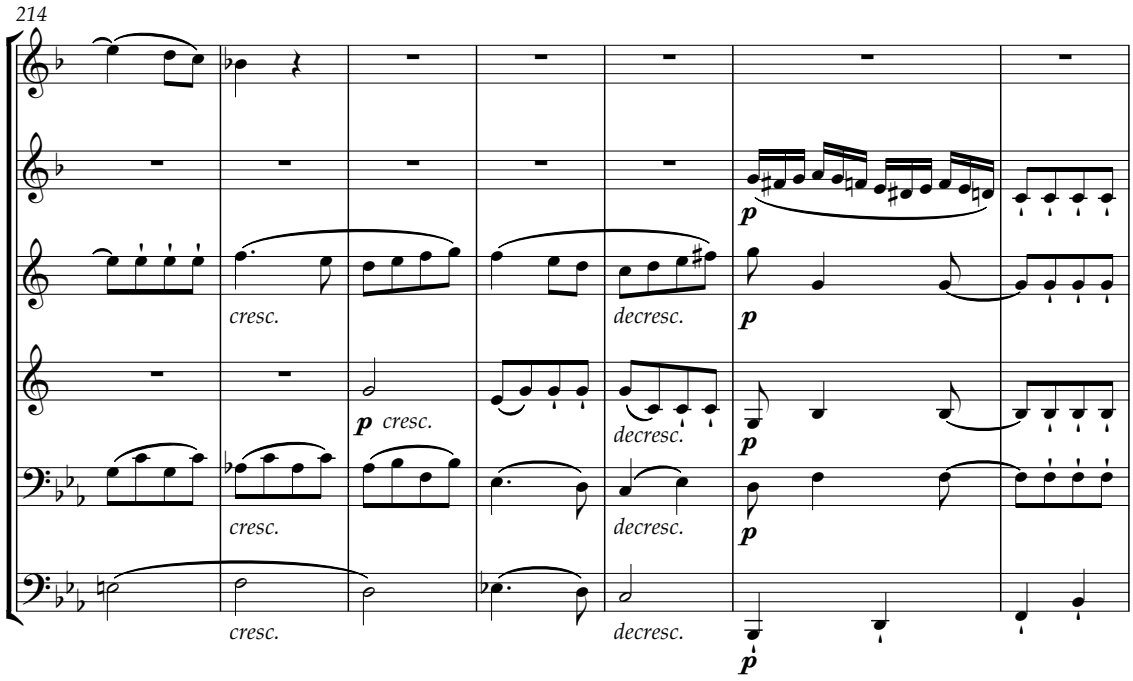

97
p
p
p
p
103
cresc.
cresc.
cresc.
cresc.
f
f
f
f
sf
f sf
f sf
110
sf
sf
sf
sf
sf
sf
sf
sf
sf
sf
cresc.

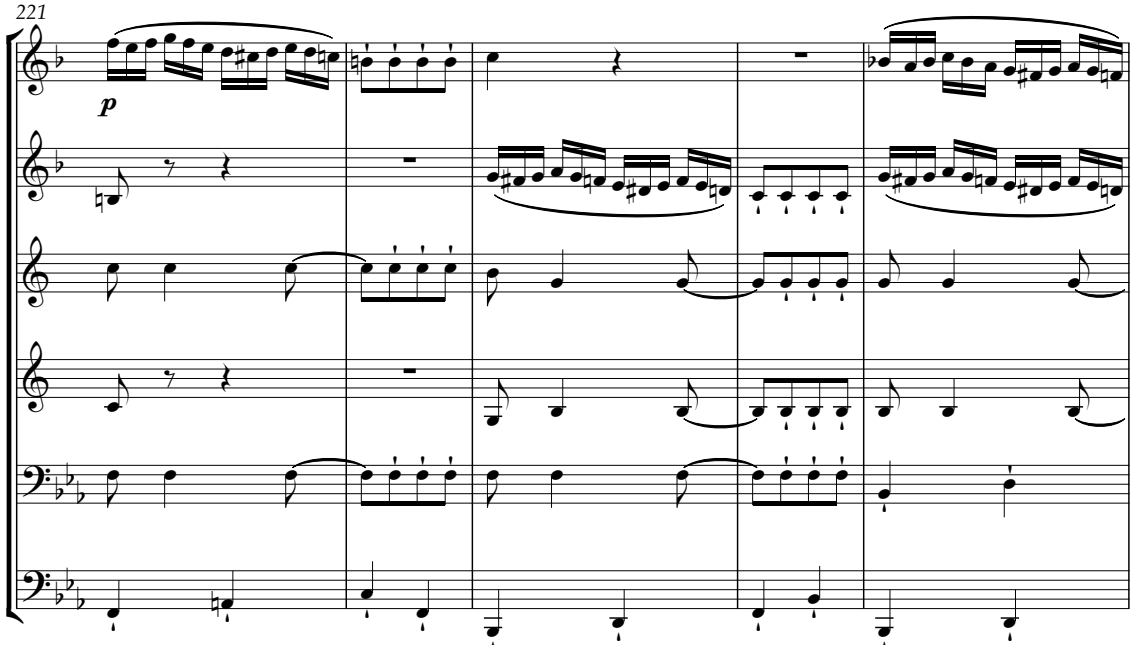

114
sf
cresc.
f
sf
118
p
124
159

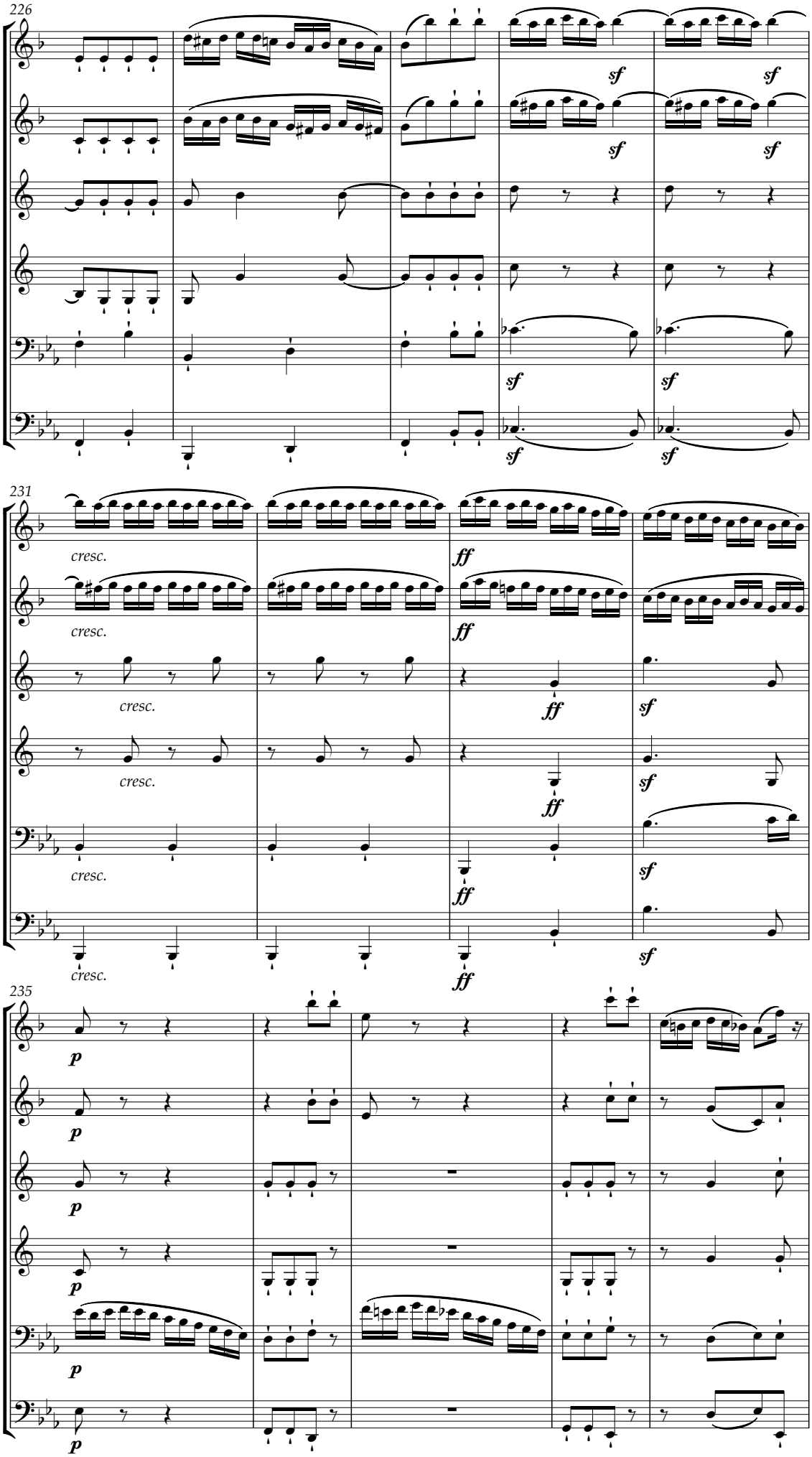

164
sf
sf
sf
sf p
171
cresc.
p cresc.
cresc.
cresc.
cresc.
cresc.
sf
f
176
sf

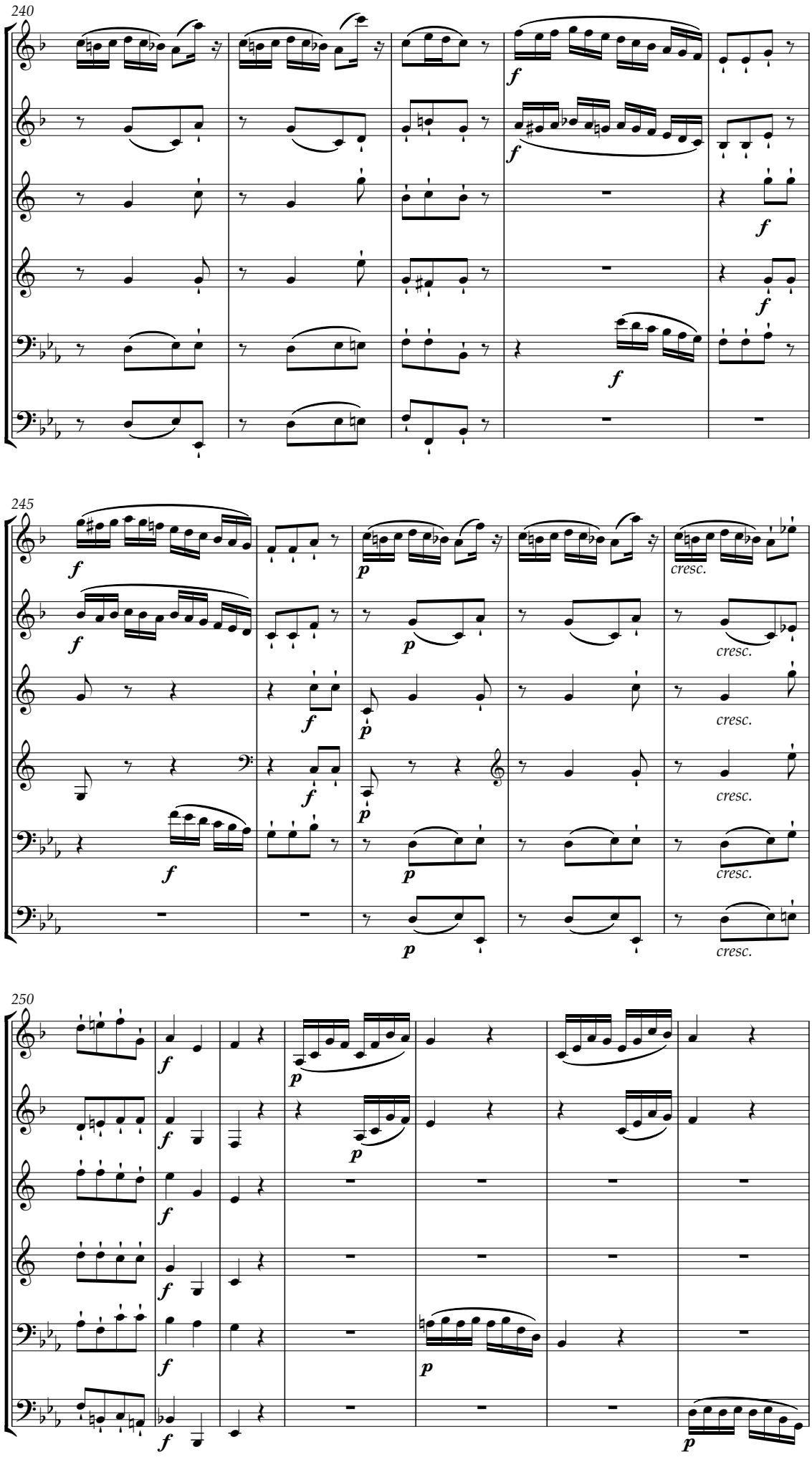

181
186
196
cresc.
cresc.
cresc.
cresc.

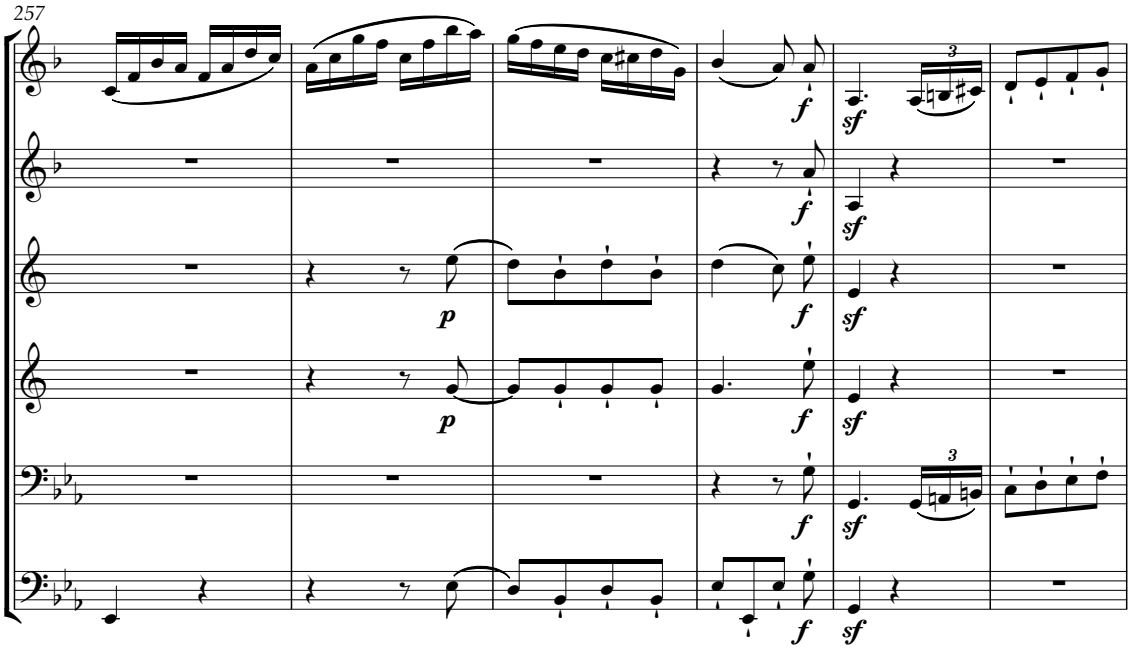

205
p

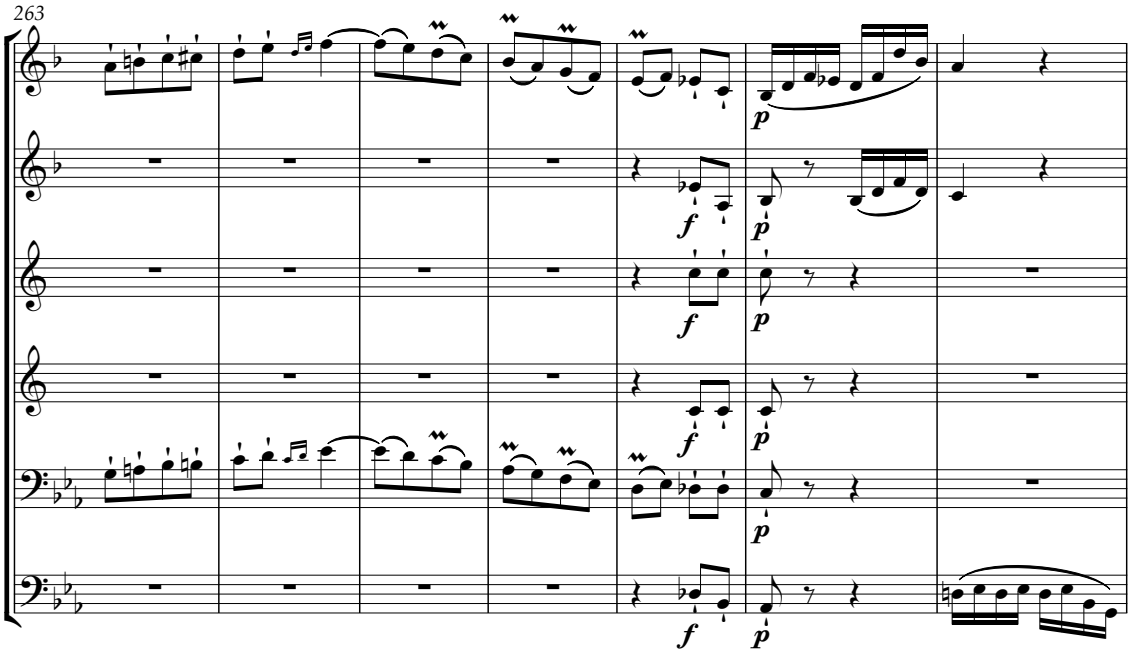

214
cresc.
decresc.
p
cresc.
decresc.
p
cresc.
decresc.
p
cresc.
decresc.
p

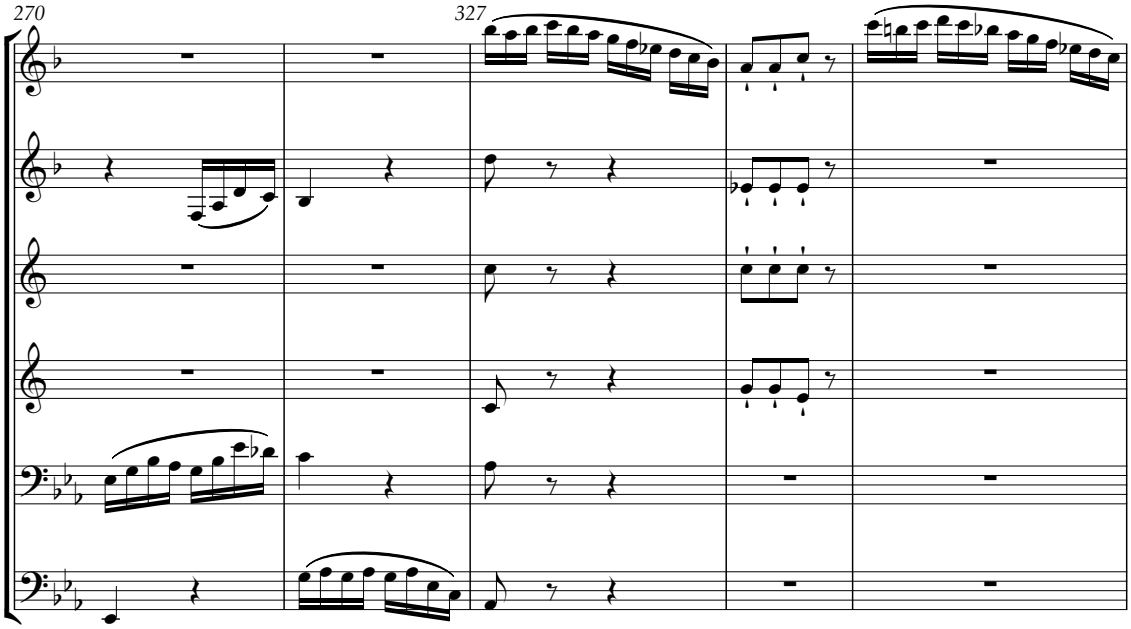

221
p

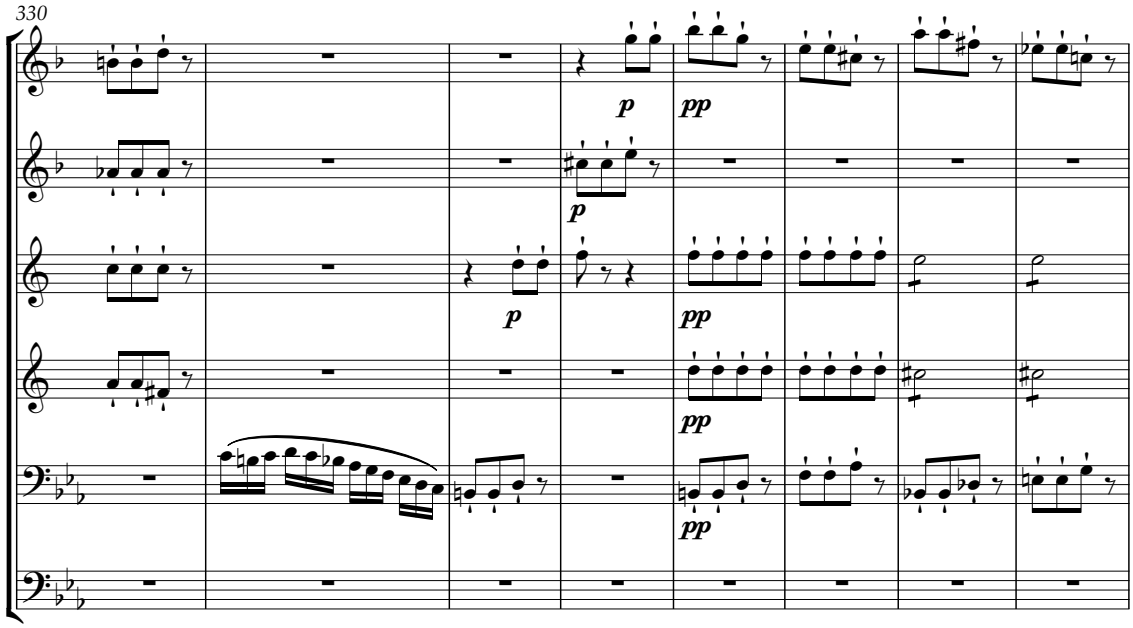

226
sf
231
cresc.
ff
235
p

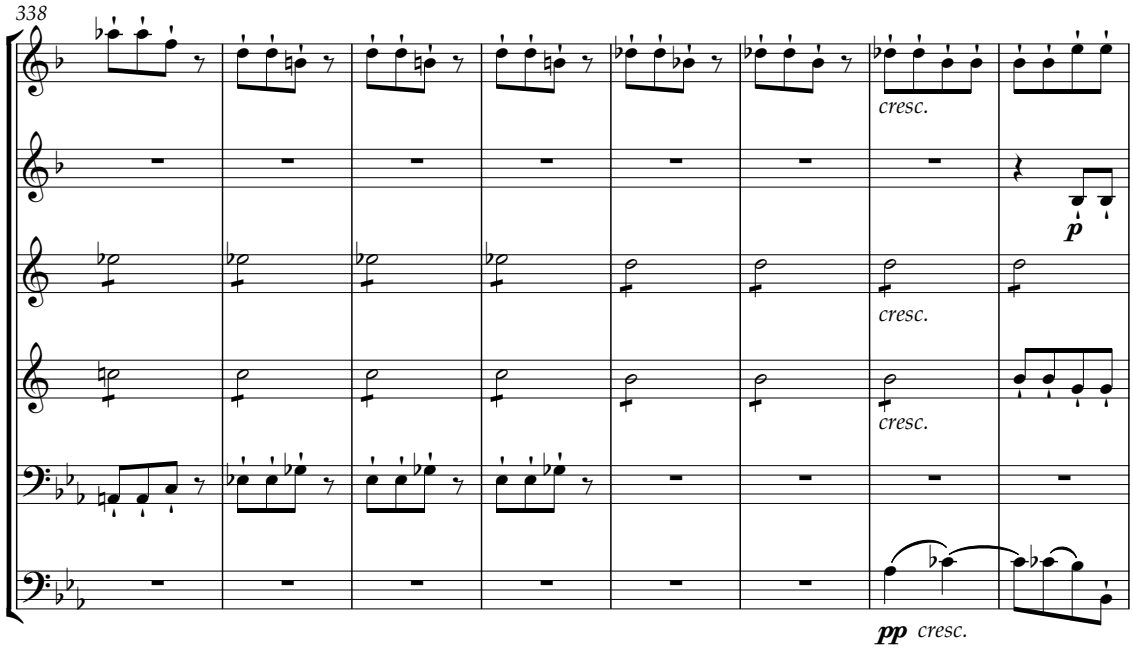

240
245
250
cresc.

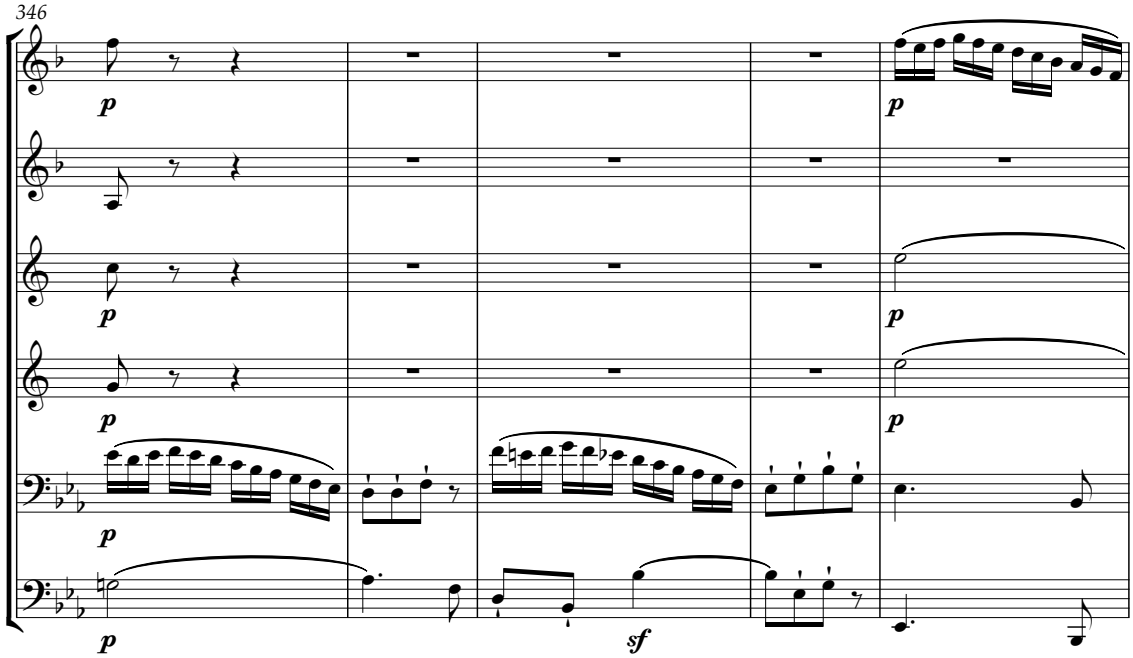

257
f
sf
p

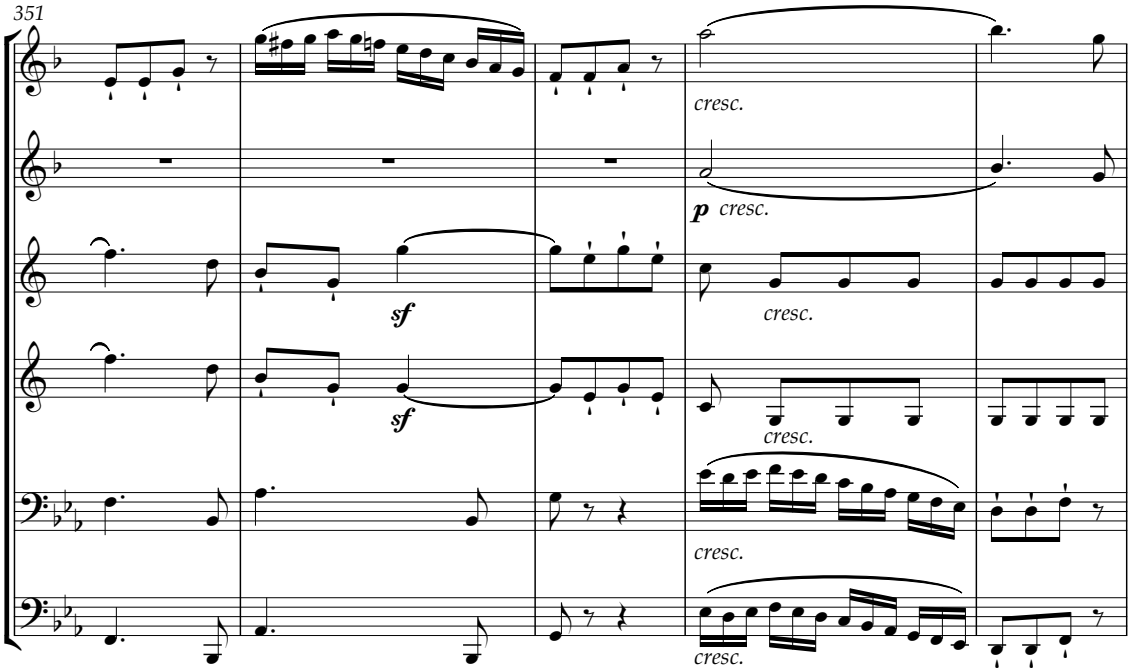

263
f
p

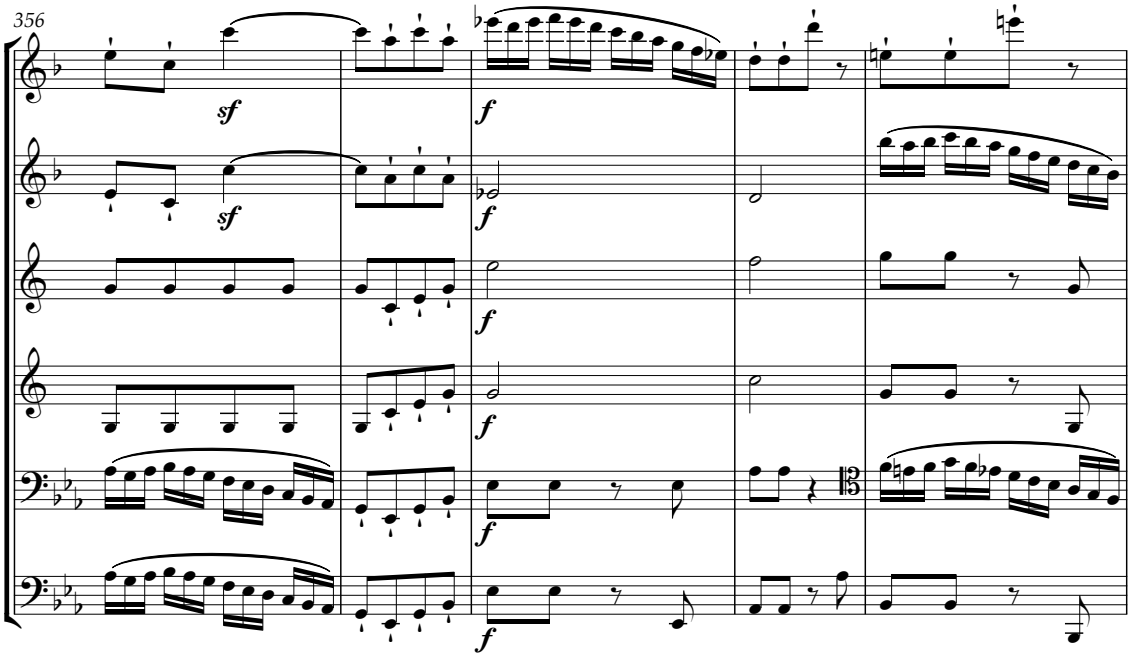

270
327

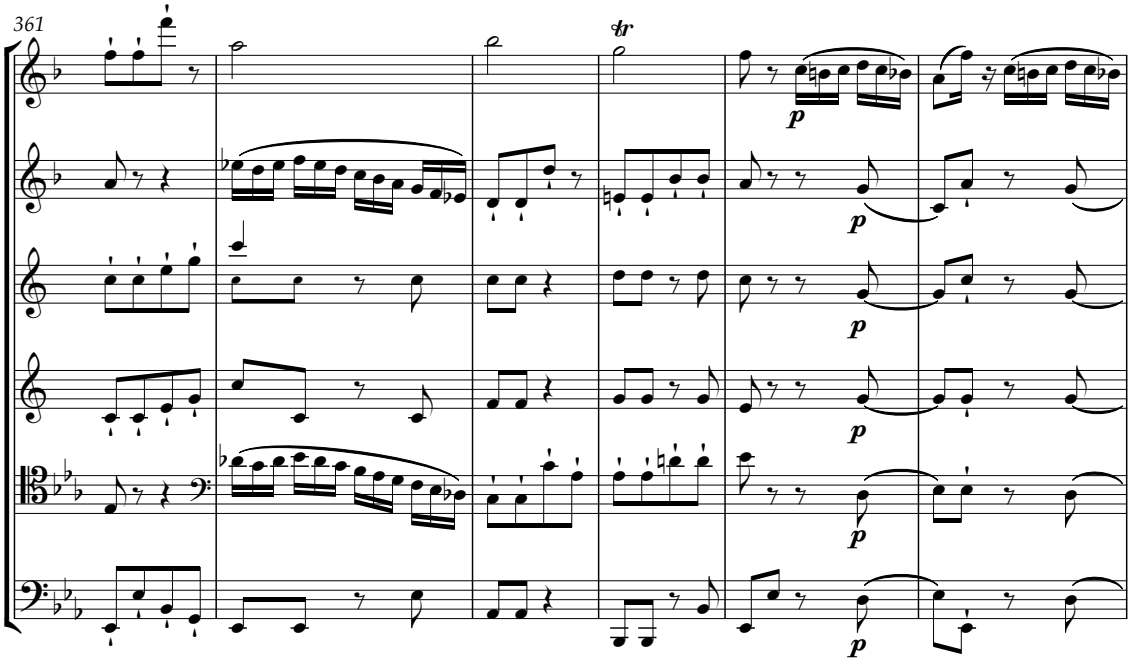

330
p
pp
p
p
pp
pp
pp

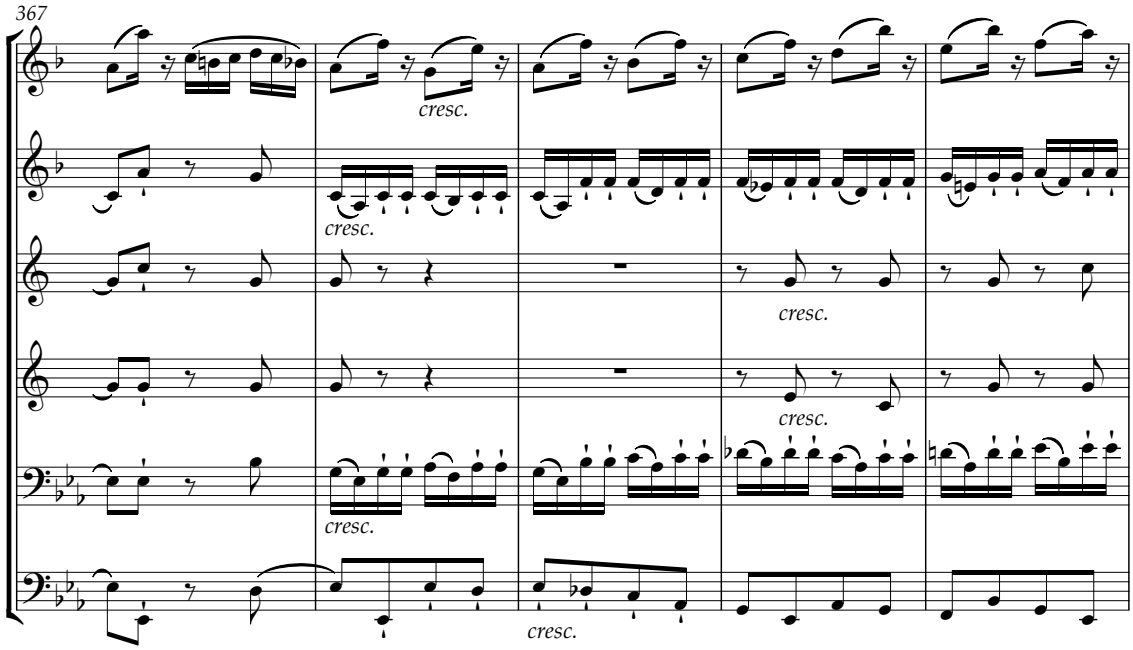

338
cresc.
p
cresc.
cresc.
pp cresc.

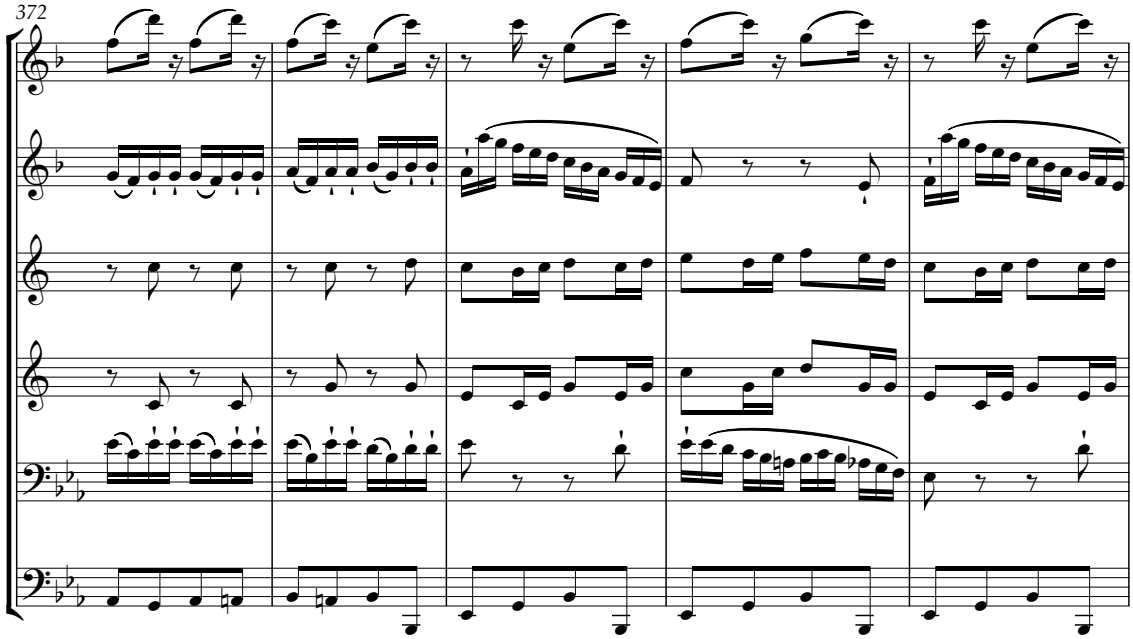

346
p
p
p
p
p
p
p
p
sf

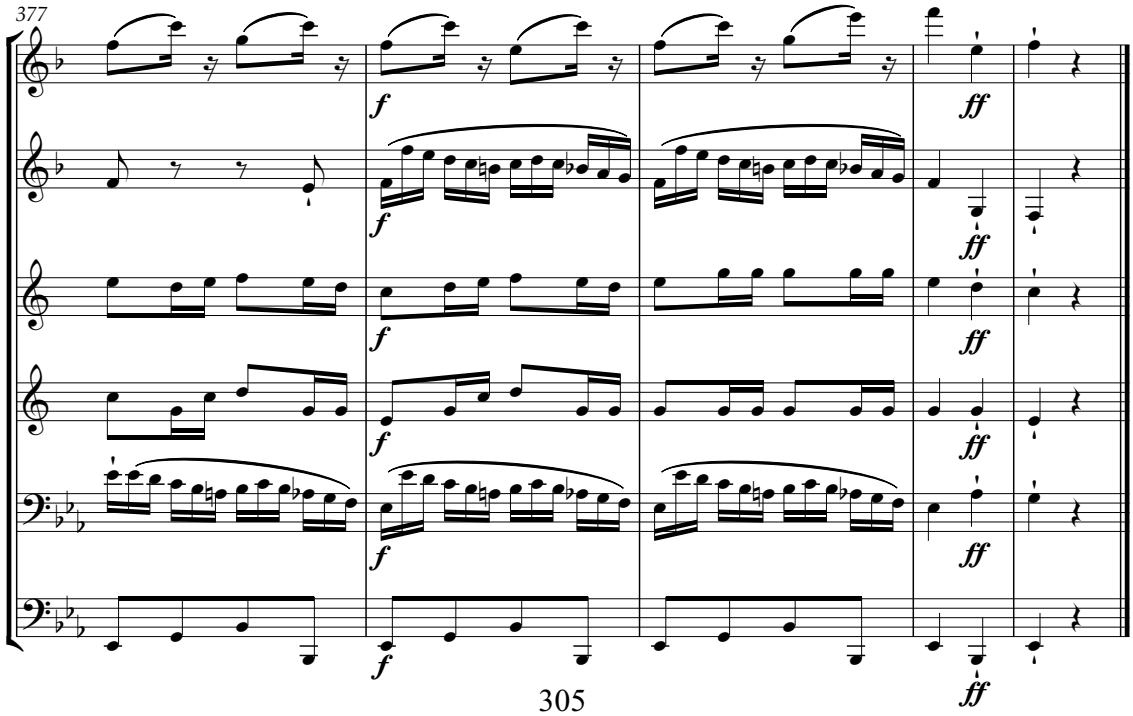

351
cresc.
p cresc.
sf
sf
cresc.
cresc.
cresc.
cresc.


356
sf
sf
f
f
f
f
f
f


361
tr
p
p
p
p
p


367
cresc.
cresc.
cresc.
cresc.
cresc.


372


377
f
ff

Chapter 7

On arranging Beethoven's *Grande Sonate op. 7* for six-part Harmonie

I arranged a string quartet in part to explore the challenges of transforming string writing into wind, and to have an opportunity to arrange a piece that might require cuts to be made. In arranging a piano work I wanted to create something long and substantial, and without previous instrumental influence, in order to challenge myself to create complete textures for Harmonie rather than simply adapting or adopting existing ones.

Which sonata? The existing arrangement in nine parts of Beethoven's *Pathétique* is so successful, is there another piece by him that will work? I am not a pianist, by any means, and prior to this project I have little experience of Beethoven's music for piano, so my choice had to come from studying scores and listening to recordings. Examination of scores only (i.e. not recordings) suggested that Beethoven's later sonatas are all too pianistic: the textures require too much re-thinking to create a piece for wind instruments. Although I was fascinated to learn of Felix Weingartner's 1926 orchestration of the *Hammerklavier*, which claims Beethovenian models, but which Rosen describes as 'nonsensical'.[1]

Middle-period sonatas were more promising. I spent some time examining the *Appassionata*, even entering the piano part into Sibelius for investigation, in part because it is *named*, and because it is lies close in time to the *Pathétique*, so should it not be as fruitful for arrangement? No. The 'accompaniments' rely too much on the sonorities of a piano to be effective, although of itself, this would be a fascinating challenge: completely reimagining the piece away from contemporary views of the canon, and how The Work sounds. But the themes also have too wide a tessitura; the

[1] Ludwig van Beethoven, *Sonate für das Hammer-Klavier* op.106, orchestrated Felix Weingartner. Preface to score (Breitkopf & Härtel(?), Vienna 1926) from https://repertoire-explorer.musikmph.de/wp-content/uploads/vorworte_prefaces/1398.html retrieved 29.v.2020. Quote from Charles Rosen, *The Classical Style* (London: Faber, 1972), 446, n.1. The only recording of this seems to be Weingartner's own, with the RPO, made in 1930 or 1933.

modulations are too wide; the last movement is very long; and the overall tonality would need changing, probably to C minor.

Looking at the earlier sonatas, the opening of the slow movement of op. 7 caught my eye as having the potential to be a very effective horn solo. C major is relatively unusual as a tonality for serenades and partitas for Harmonie,[2] but it is more common in operatic arrangements, particularly those of Triebensee and especially Sedlak. It is, though, uncommon for a lengthy, expressive movement, and the sonata's slow movement would probably require the use of horn in C basso, not a crook often used for solo writing. The rest of the piece being in E-flat is rather more familiar ground for Harmoniemusik.

Op. 7 was composed 1796/97, and is called *Grande Sonate* on the title page of the first edition by Artaria, 1797. Now numbered as sonata number 4, it is one of Beethoven's longest: Cooper says 'only the *Hammerklavier* and perhaps the *Waldstein* are longer'.[3] On disk, Ronald Brautigam takes about 30 minutes to perform op. 7, and 40 for the *Hammerklavier*.

My initial personal perception is that the sonata was clearly written by a performer-composer, initially for his own display purposes, but also as a demonstration of compositional technique. Additionally, and self-evidently, all of the sonata's material was conceived with the keyboard in mind: the piece (or certainly the faster movements) is *pianistic*. By this I mean that some melodic ideas, and most connecting material, *fall under the hand* in ways that might not fit wind instruments. Examples of this include, in the first movement, long patches of continuous quaver movement; frequent melodic jumps up or down and back of a third or fourth, apparently serving little purpose other than to preserve motion; spacing of chords so that they fit the architecture of the hand. When arranging, all of these features should be considered, and may be kept, discarded, or transformed to better suit wind instruments.

[2] Of Krommer's 13 published Partitas/Harmonien only op. 76 is in C major.
[3] Quoted at http://www.raptusassociation.org/son4e.html retrieved 23/iii/2020.

Unusually for me, my first step in arranging was to typeset the entire piano part, neatly and at engraving quality, as a quasi-facsimile of the original, into a parallel score with the wind staves. I have found that when the ensembles involved are not too large, a parallel score like this is by far the best way of making and studying an arrangement as one can see the changes and omissions easily at a glance, even when complicated transpositions are involved. Additionally, inputting the piano score was the easiest way for me to get to know the sonata,[4] and I could also use the computer's playback as a relatively objective form of recording of the piece. As a source I used Artaria's first edition, with one or two self-editorial changes, and occasional checks with Henle *Urtext*.

I then arranged the slow movement, as a proof of concept on paper, but without the opportunity for a repertoire session to try it out. Following this I worked separately on sections of the first movement's exposition, development, and recapitulation. At this point I paused for reconsideration, being unwilling to undertake a large amount of work on something that might fail. In particular, I had concerns that the passage in the first movement from bar 111 (and its recapitulation at 291) is impossible to translate to Harmonie, being a particularly pianistic effect. This concern remained until the final rehearsals and performance when I was still refining my solution. I also considered whether all four movements would make a piece that was too long for practical use, but the third movement, the only candidate for omission, arranges very well, and makes such a beautiful foil between the slow movement and finale that I ultimately decided to keep all four movements intact. I will discuss all the solutions to bar 111 below.

The arrangement of the last movement was also problematic, and I was stalled on this for some time. The movement seems to me to be quite out of character with the rest of the sonata, neither beautiful nor dramatic, a rondo with very little variation, and with what looks on paper like obsessive repetition of tenor B♭. At first I overlooked the link between the C minor episode (from bar 64) and the coda (169): I find it is rather more apparent on paper than through listening – perhaps it is more obvious when you play the

[4] Another fascinating and important facet of historical practice now almost completely un-used: composers and performers making their own copies, by hand and using indelible ink, of works they want to study or perform.

piece. But ironically this was my way into the movement: by transforming the minor-key episode and making it a passage of virtuosity for the bassoon and clarinet, I was then able to repeat something like these figures, now as accompaniments, in the coda, hopefully increasing coherence, and drama, across the movement.

Following this I found it possible to return and complete the first movement. I was able to try out most of the arrangement in the gap between pandemic lockdowns in September 2020, and I then followed my normal process of revision and fine-tuning before the performance presented here.

The nature of the source piece, a work for piano, meant that I used here a slightly different technique or approach to arranging than I normally do. As stated I am not a pianist, and while I am something of a specialist in the subject of notation I am willing to accept that some of the subtleties of piano notation are beyond me. But in a way this doesn't matter: as with any arrangement I am making a translation or re-interpretation of what I hear in my mind's ear, based on a reading of what I think I see on the page. In this particular case, my reworking is already more radical than in my other arrangements as I am using Beethoven's text only as a template for theme and harmony – as piano textures and sonorities rarely translate directly into instrumental writing even his textures will be transformed – so questions of what a staccato dot might signify, for instance, become somewhat redundant.

In general, while I revised the slurring/phrase marks as part of the final stage of drafting the arrangement (but see also below), I left Beethoven's dynamics more or less as the original, with the exception of *ff* which he uses very often, and I consider that *f* would be as effective in the context of a wind ensemble. This then allows me to use *ff* as an exception.

Part of my arranging technique here was also to be explicit about note lengths, so that I usually, for example, give the piano's staccato crotchet as a quaver. I feel that this is one of the places where a staccato marking might mean something different to a wind player now than it signified to Beethoven, as 'we' have a tendency to play isolated notes

marked with a dot short and accented, rather than just short. I also often shortened the last note of phrases (e.g. crotchet to quaver) to make clearer what I consider to be the implied phrasing. Additionally, I used note lengths a little more dramatically than Beethoven does, to intensify character, shortening some, lengthening others. I have not as a general rule made any note lengths significantly longer in order to emphasise the possible implied harmonies that might be created by the pianist's use of the damper pedal.

Whilst I have adapted note lengths, I have not 'modernised' the notation: in particular I have added no additional hairpins. Very recent scholarship based in part on early recordings means that ideas of what hairpins, opening and closing, might have meant to performers in the early 19th century are now changing.[5] For example, an opening hairpin, today interpreted as a crescendo marking, might have implied accelerando, perhaps solely; and a closing one may have been as much about a long accent over a whole phrase as dynamic change, as well as possibly implying a reduction in tempo. Other uses of things that look like a pair of hairpins, and are always (so far) rendered as such in modern prints, but are in fact a single diamond-shaped marking might be an instruction to vibrato. Fundamentally, I don't want to impose an interpretation into my arrangements that historical research might soon bring into question.

A slur is as at least as much a phrase marking as an indication of legato: it shows where something starts, not where it is going to, and I firmly believe all phrases under a slur should start strongly and decay, even when they are part of a crescendo, and this is how I mean them to be interpreted when I add them.[6] Similarly I believe Beethoven's (and Mozart's) dynamics are always placed to show the start of a musical sentence, unless they are preceded with a *cresc.* marking. This therefore, for me as a performer, implies there could be a musical comma before any dynamic.

---

[5] See for example David Hyun-Su Kim, 'The Brahmsian hairpin', in *19th-Century Music*, *36*(1), 46–57; and Roberto Poli, *The Secret Life of Musical Notation: Defying Interpretive Traditions* (Milwaukee, WI: Amadeus, 2010). Poli begins to examine some of these questions, but works backwards from a modern performance paradigm, of Chopin in particular, resulting in some interpretations that are counter to other writers and to the evidence of early recordings.

[6] Antony Pay, 'Phrasing in Contention' in *Early Music*, vol. 24, no. 2 (May, 1996), 290–321.

A digression: the anonymous arrangement of the *Sonate Pathétique*

In May 1810 Steiner announced a new series of publications by *Chemische Druckerei* for six-part and nine-part Harmonie, and an arrangement in nine parts of Beethoven's Pathétique Sonate op.13 appeared soon afterwards, in September of the same year.[7] By 1810, there was already at least one arrangement of the *Pathétique* in existence in Vienna, for string quintet, published by Tobias Haslinger. On the evidence only of listening to a recording, this is a successful, but fairly straightforward transcription of the piano original, which, for instance, preserves piano right hand features intact in the violin part.

Steiner's version for winds is rather different: highly idiomatic and very effective, technically difficult, made by someone with a great deal of knowledge about the workings of wind instruments, and with a large amount of added or changed material. In my opinion it is among the best of the arrangements for Harmonie, but, because of the sonorities and timbres demanded by the arranger, the quality of it only fully shows in performance on historical instruments. Whilst Druschetzky and Sedlak have been suggested as the arrangers[8] of the *Pathétique* I have yet to see anything in their confirmed outputs that is either as capable or as imaginative as this work, or that matches its use of instruments. Given what we know of Beethoven's own intervention and contributions in other arrangements from the same publishing house,[9] and given the quality of the arrangement and the unusual and significant divergences from the piano original, for me the possibility must remain that the composer himself had at least a hand in its creation.

A bar-by-bar analysis of this score is extremely informing of an arrangement practice of a Beethoven piano piece, but is outside the scope of this thesis. For reference, a full score, with parallel text of the piano part, is included in the Appendix, and simply examining the two texts reveals many details. However, I will briefly discuss a few important examples.

---

[7] Ludwig van Beethoven, *Sonate Pathétique op. 13 for [wind nonet]*, arr. anonymous, ed. Martin Harlow (Bologna: Ut Orpheus, 2006), preface.
[8] Beethoven ed. Harlow score, iv.
[9] Discussed in Chapter 1, in connection with Czerny in particular.

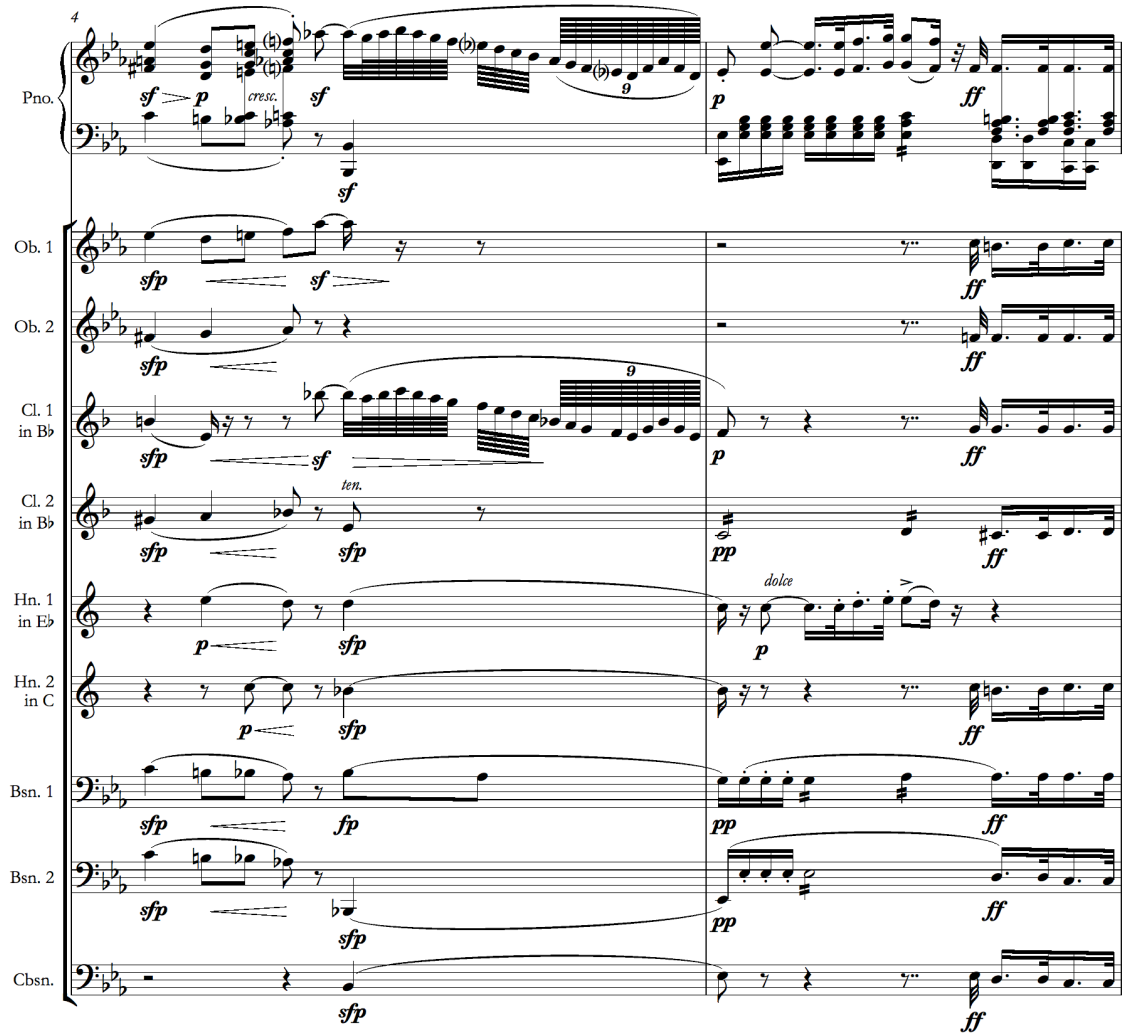


Figure 7.1 Beethoven, *Sonate Pathétique*, piano original and anonymous 9-part arrangement, mvt. I, 4–7

The opening is scored conventionally, the different instruments being assigned lines through the piano texture depending on voice-leading and dynamic. From bar 4 (Figure 7.1) we can see the gradual increase of instruments by each quaver beat as the crescendo grows. Clarinet 1 has a short rest before jumping in with the piano arabesque, which is transcribed exactly, although the arranger fills in the missing pitches of the B-flat *sf*, and bassoon 1 is given a new falling progression, in part to get to the third in the next chord, but also so that the listener is aware of an ensemble playing, rather than just the clarinet.

In bar 5 the piano left hand is initially transcribed almost exactly; only the lower octave of the right hand is present, as a solo for horn 1. At the *ff*, the entrance of the

contrabassoon adds the lower octave, and oboe 1 doubles the moving middle voice at the top of the texture, as this is more interesting than the piano's repeated f'. Note that the arranger gives the whole ensemble the dotted rhythm as a dramatic effect.

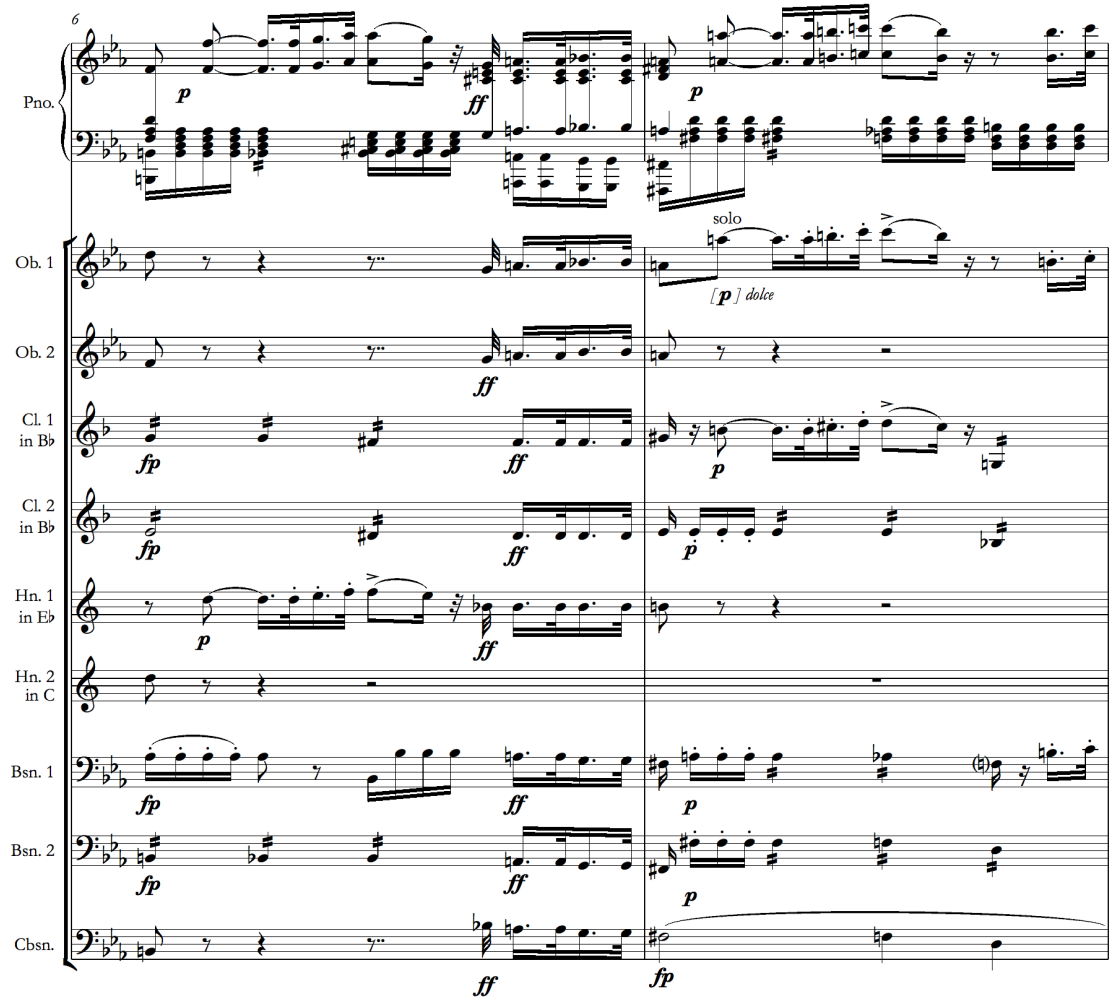


Figure 7.1 (cont.)

This pattern of scoring is repeated in bar 6. In bar 7 the next statement of the solo line is given to the oboe and clarinet, in octaves, changing the colour to something smaller and more plaintive. Note also here the addition of the contrabassoon to the *piano* texture, perhaps to bring a little extra emphasis to an increasingly interesting bass line. At the end of bar 7 the solo line continues an octave lower with the oboe and bassoon, creating the space required for the continuing rising line.

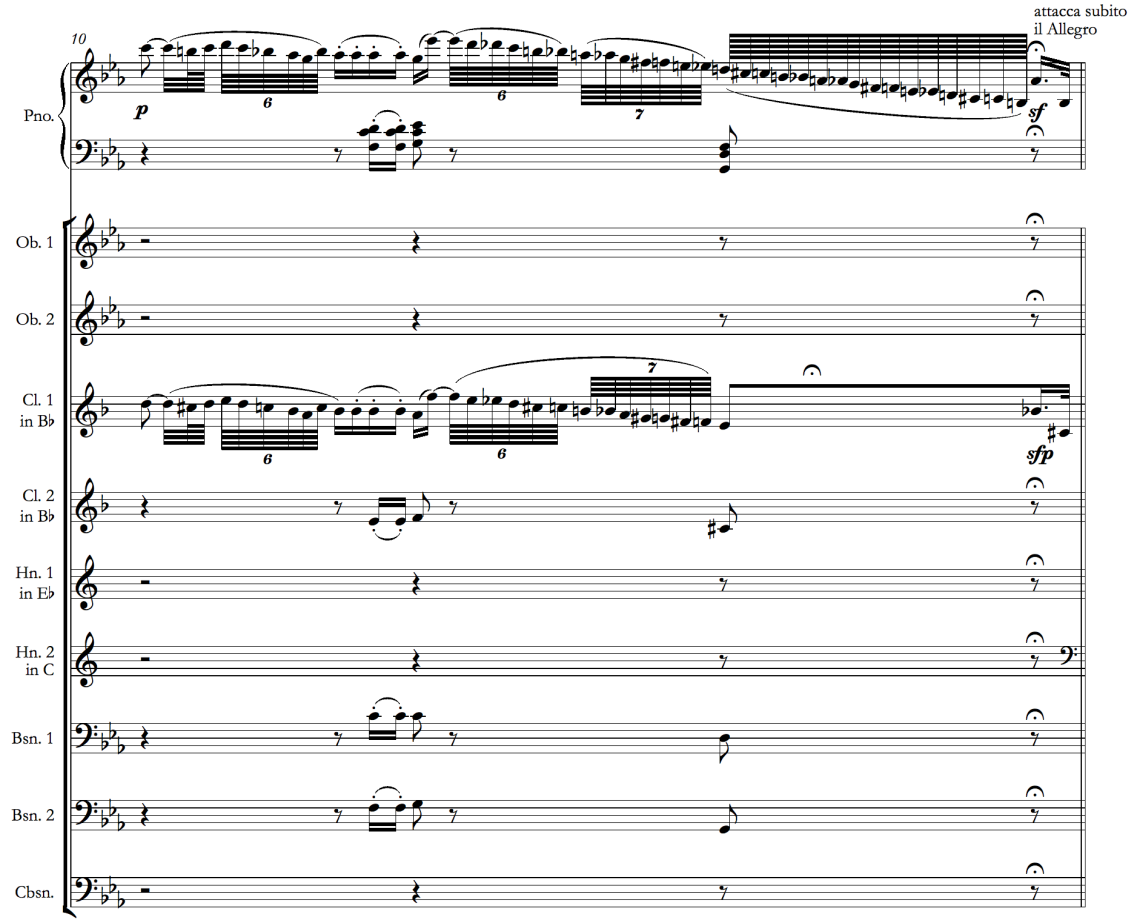


Figure 7.2 Beethoven, *Sonate Pathétique*, piano original and anonymous 9-part arrangement, mvt. I, 10–18

Figure 7.2 shows the last bar of the introduction and the opening of the following *Allegro*. In bar 10, the *piano*, the pleading character and virtuosity required for the piano's cadenza almost demand the clarinet, but to transcribe this in the original octave, which is possible, would change that character utterly. So it has to be in the lower octave, and therefore the chromatic scale cannot be as long. But the arranger creates an extra emotional punch, increasing the *pathos*, perhaps, by descending only to the written E, and introducing the leap of the diminished fifth to the B♭. The original edition is not clear whether the pause is on the E or B♭.

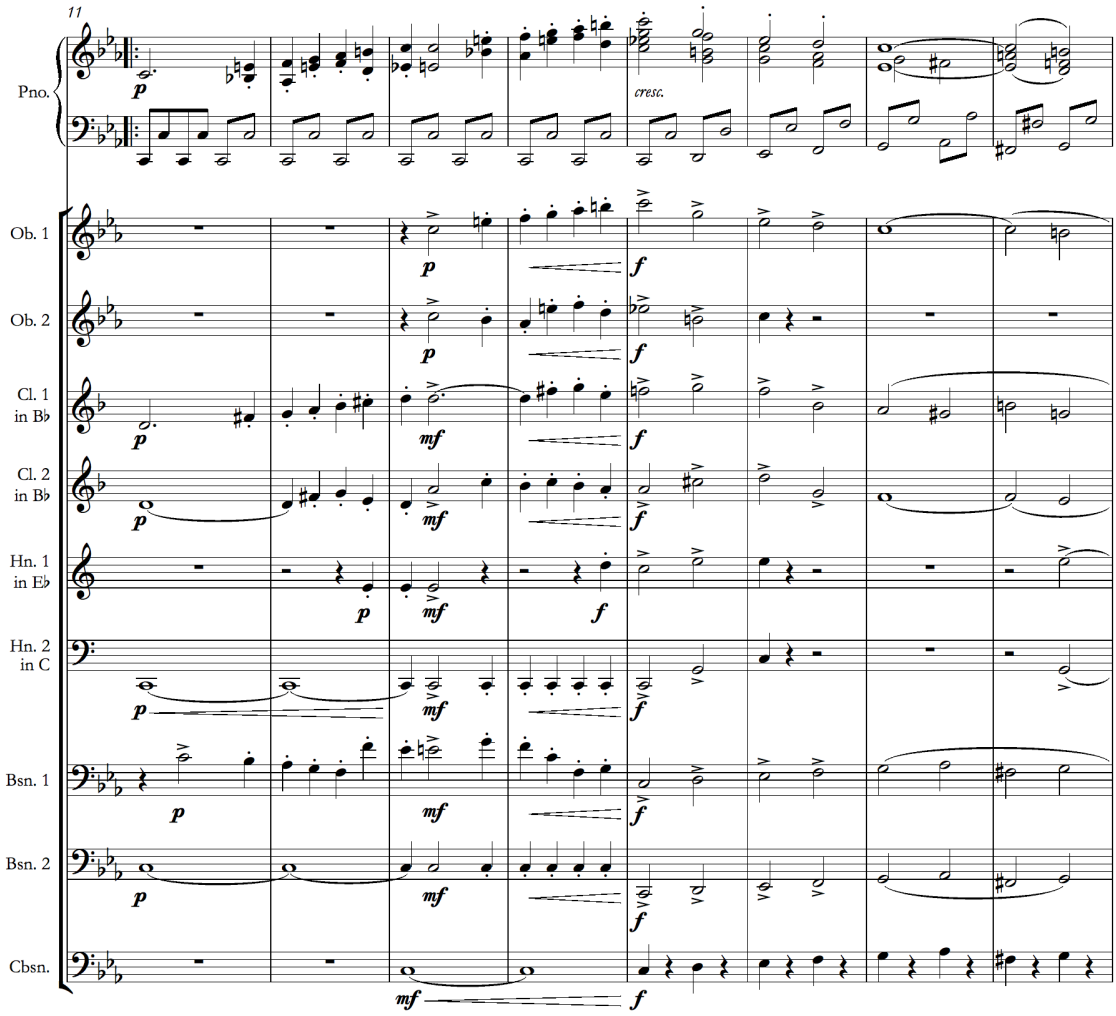


Figure 7.2 (cont.)

From bar 11, the opening of the *Allegro* is almost a masterclass in creating a Harmonie texture from the piano music. The piano left hand octave quavers are discarded completely – though they could have been given to the bassoons, at least initially. Instead they are replaced by the timbre of the C basso horn on its lowest pitch, in unison with bassoon 2, and then joined by the contrabassoon as the dynamic grows. Horn 2 doesn't simply stop playing when the pedal C ends, however, but finishes their line musically with two more pitches, now joined by horn 1 so that the horns function together. The right hand is distributed amongst the clarinets and bassoon 1, the oboes joining with the contra in the third bar. Note, however, the syncopated bassoon 1 c′ in the first bar, newly prefiguring the third bar, and adding nervous excitement, and which in the arrangement becomes a new constant. And note also how the clarinets from the third bar selectively double pitches in the oboe line, or are given new ones. The horns

are held in reserve until the second half of bar 18 to give final impetus into the repeat of the phrase. From bar 15 the piano notation of staccato minims is changed to accented ones, except for the contra adding punch at the bottom with rather shorter notes. This is an unusual instance of independent scoring for colouristic purposes – the contra and bassoon having the same pitches, but with differing note lengths – and which might be considered a modern orchestration technique, and it happens often in this arrangement.

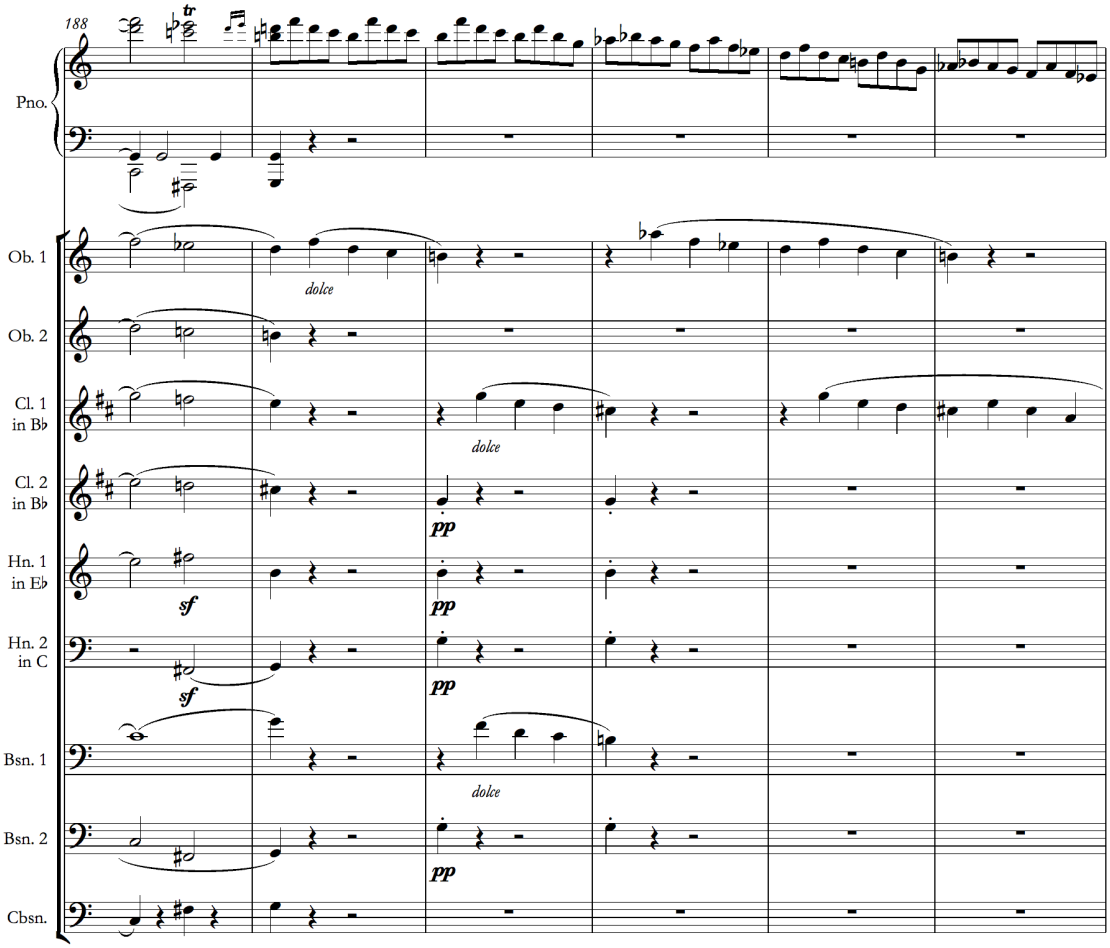


Figure 7.3 Beethoven, *Sonate Pathétique*, piano original and anonymous 9-part arrangement, mvt. I, 188–200

Figure 7.3 shows the transition at the end of the development back into the recapitulation. The brilliant quaver pattern in the piano's right hand could be arranged as they stand, something the string quintet arrangement does, and it would be a virtuosic display of articulation and fingers. Instead the wind arranger decides to exploit the timbral possibilities of the whole range of the Harmonie, doubling the note lengths to make a rather more expressive figure, first conversationally contrasting the oboe and clarinet, then joining different players in unison to create a more seamless colouristic

descent into the bassoons, whose staccatos finally transform the transition into something more active for the recapitulation, where again the syncopated figure is added to the first bar.

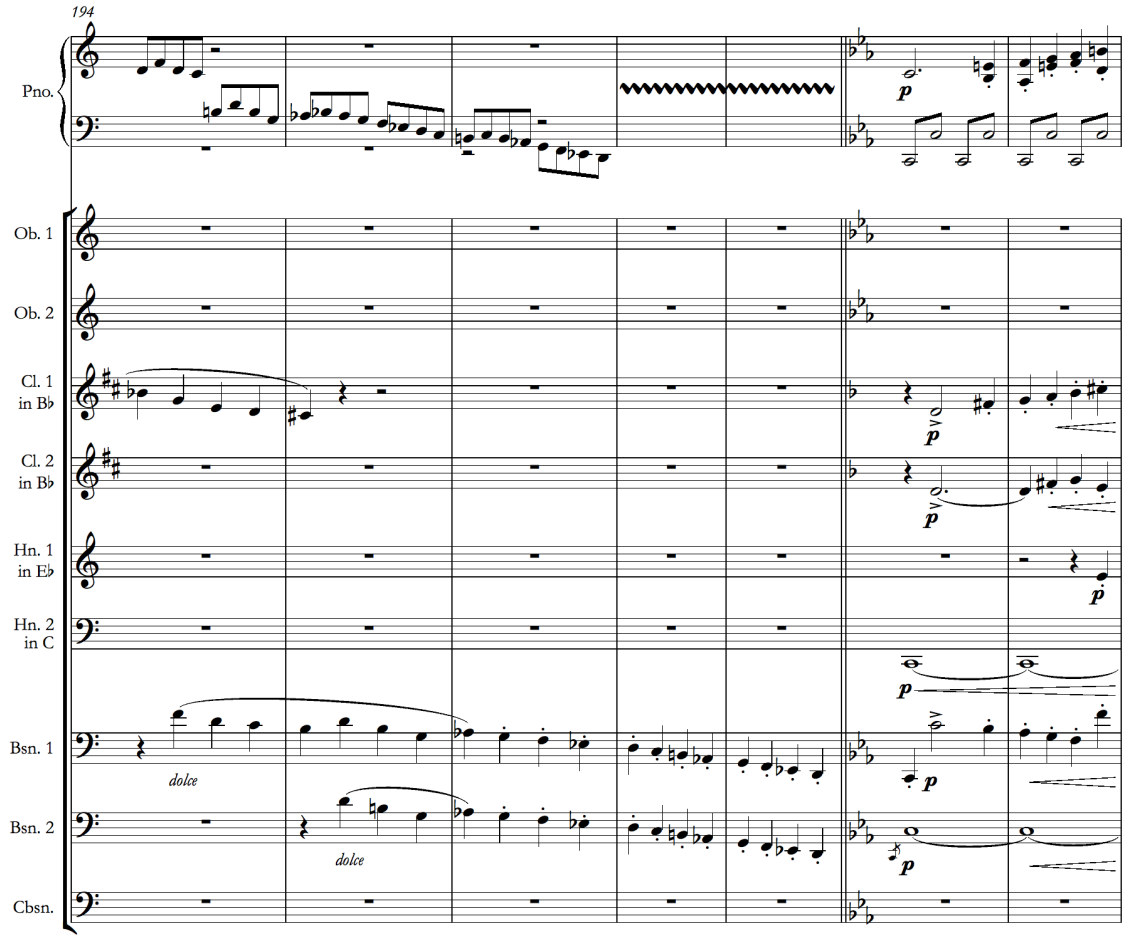


Figure 7.3 (cont.)

As this score makes clear, in order to get through the new expressive pattern of crotchets he has initiated, the arranger has to add two extra bars compared to the piano original, an extremely unusual, possibly unique occurrence in arrangements for Harmonie.

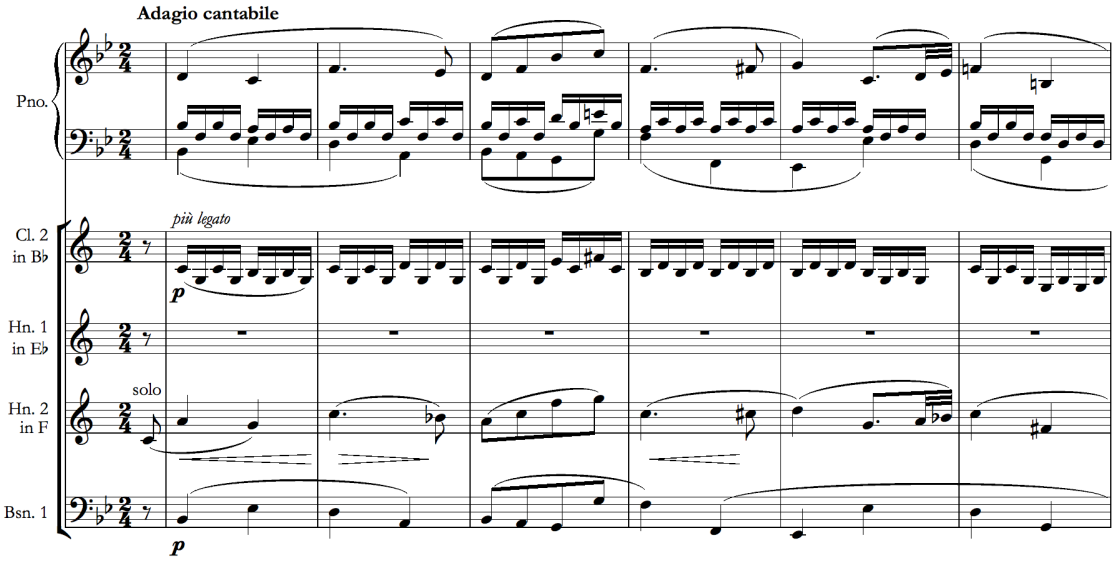


Figure 7.4 Beethoven, *Sonate Pathétique*, piano original and anonymous 9-part arrangement, mvt. II, 1–6

It is in the slow movement where perhaps the most startling transformations to the piano text occur, right from the outset. The original sonata has the slow movement in A-flat major. This is changed in the arrangement, not untypically, to B-flat, which is somewhat more comfortable for the bassoons and oboes to play in, and means that the lowest notes of the bassoon and clarinet can function as the tonic and third respectively (fully exploited in bar 8). The opening (Figure 7.4) is transcribed fairly literally, but with the theme as a very beautiful solo for horn in F. What is astonishing is the added, highly expressive upbeat to the first bar. This upbeat might be for practical reasons, in that the player has to change crook to play this movement, and 'finding' a C as the first note and as an anchor might be easier than the following A. It might also be for aural reasons: the sound of the opening is very rich, and the horn is moderately low in its tessitura, therefore a completely solo note, the upbeat, serves to point the listener to the soloist. Of course, there is also the possibility that the arranger simply thought that the movement needed an upbeat, and having it certainly brings a whole new level of expressivity.

I will mention, without further comment, that Tyson, Schwager and others have shown that Beethoven's own arrangements and recompositions all demonstrate changes, interventions, or what might even be called 'improvements' beyond those required for the change of medium. Typically, these include applying more advanced compositional techniques; adding new material to increase rhythmic interest or musical momentum,

particularly on weak beats of the bar; and filling in pauses and empty beats. Beethoven's sketches shows that these were all also part of his *compositional* process, especially the frequent addition of an upbeat to thematic ideas.[10]

Other features to note of this opening: the solo part is horn 2, but this is because the tessitura of it is very much in the range of a *second* player. The solo part is also notated in F major, which again is not typical in Harmoniemusik, but has precedent in solo works for the horn, for example the slow movement of Beethoven's Sextet op. 81b for two horns and strings (see Horn Usage Examples 41–44).

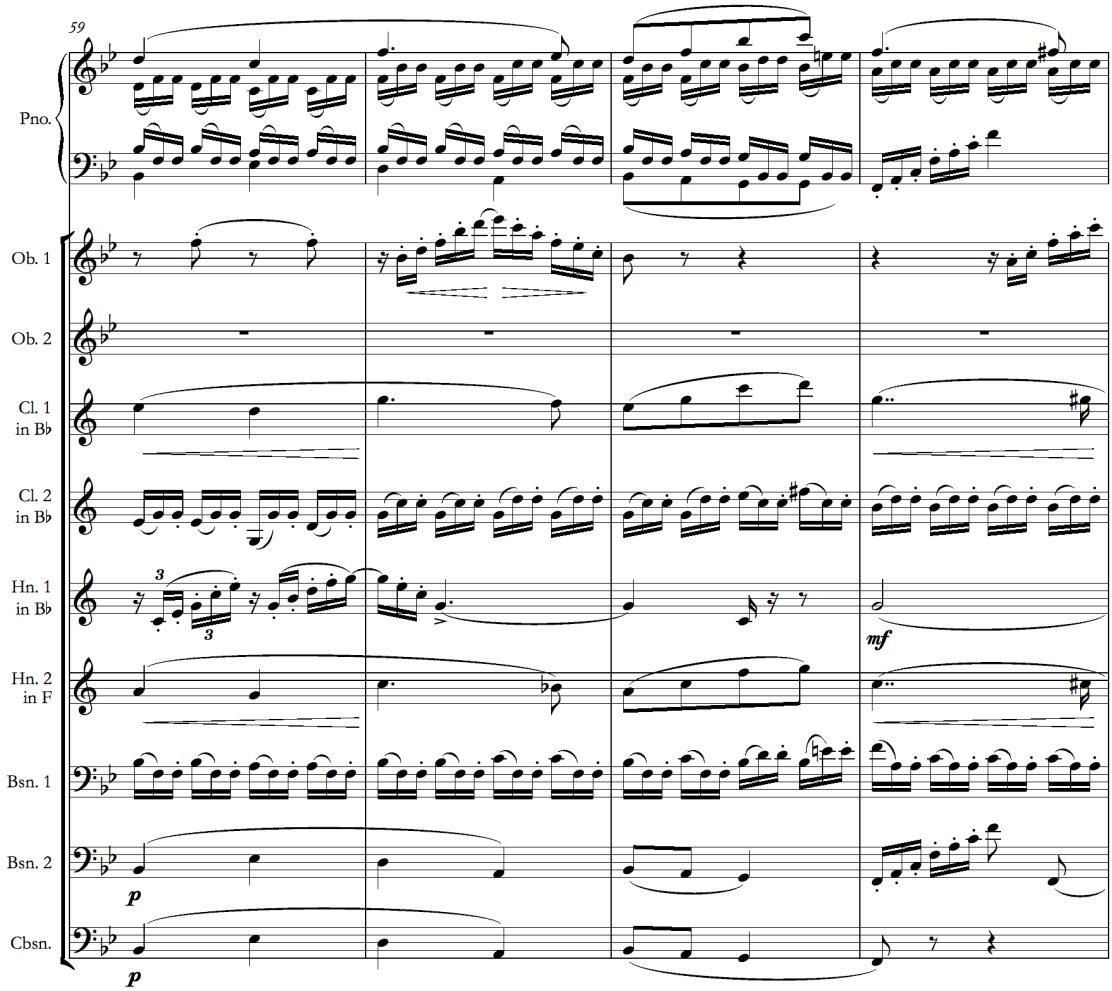


Figure 7.5 Beethoven, *Sonate Pathétique*, piano original and anonymous 9-part arrangement, mvt. II, 59–66

[10] See Alan Tyson, 'The Authors of the op. 104 String Quintet', in *Beethoven Studies*, 1 (London: OUP, 1973), 158–173; Myron Schwager, 'A Fresh Look at Beethoven's Arrangements', in *Music and Letters* vol. 54 no. 2 (Apr. 1973), 142–160; Myron Schwager, 'Some Observations on Beethoven as an Arranger', in *Musical Quarterly*, vol. 60 no. 1, (Jan. 1974), 80–93; Watson Forbes, 'Beethoven's op.14 no.1', in *Musical Times*, vol.86 no.1226 (Apr. 1945), 108–11.

From later in the movement, Figure 7.5 shows the final statement of Beethoven's lovely theme, still in horn 2, but now with clarinet 1 doubling an octave higher. In bars 59 and 60 the piano's bass line and middle voice triplets are all faithfully transcribed, but oboe 1 and horn 1 add completely new, conversational counter-figures, perhaps pre-empting the bass of bar 62.[11]

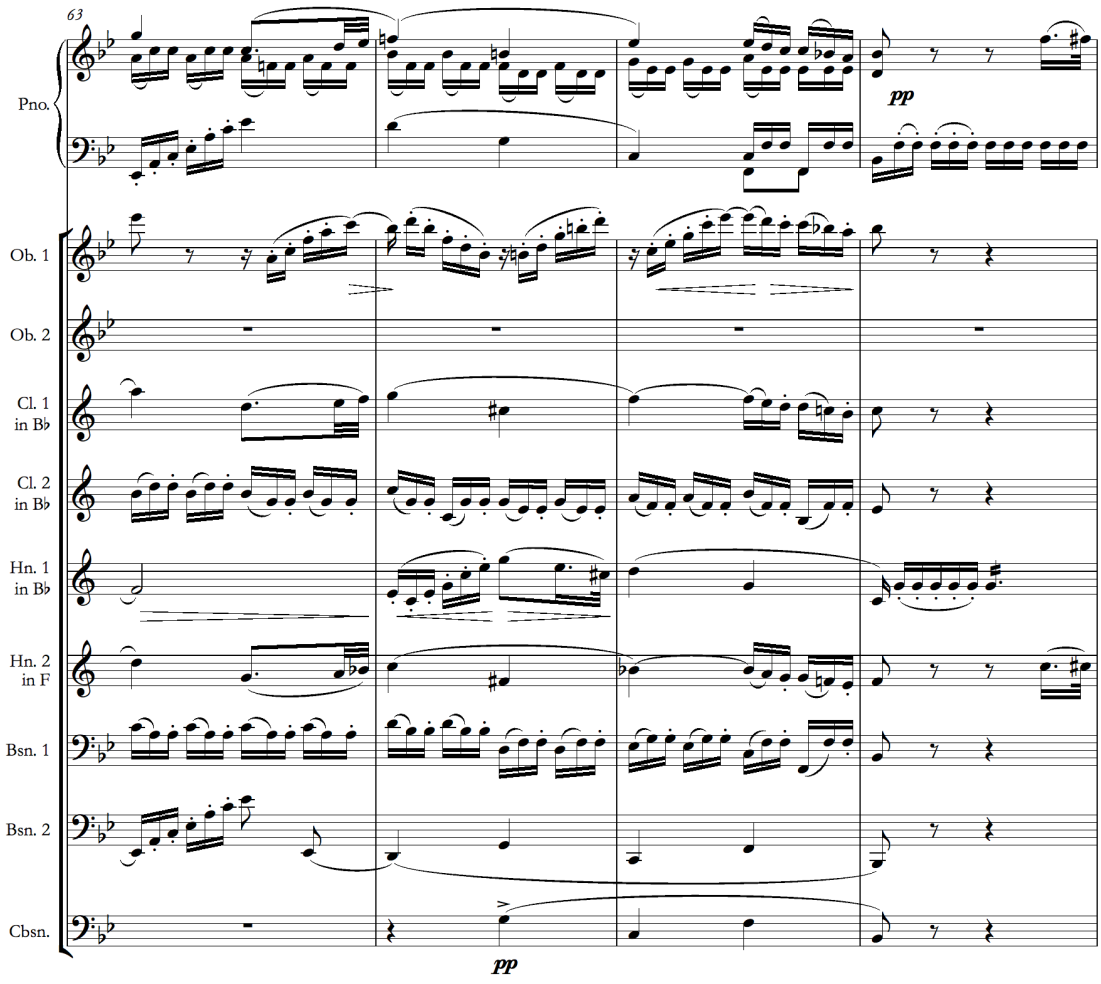


Figure 7.5 (cont.)

From bar 62 bassoon 1 expands the previous bars' inner voice triplets while clarinet 2 continues with the piano's original ones. At bars 64 and 65 bassoon 2 and the contra play the bass line in unison to deepen their sonority, and down an octave to 'keep out of the way'. From bar 63 the solo triplets in oboe and horn 1 intensify, leading the oboe to finally conclude the theme in its highest octave.

[11] Horn 1 now playing on the B-flat basso crook, therefore sounding below horn 2, and giving a precedent for my similar use of the horns in the slow movement of my arrangement of op. 18 no. 1.

The rondo finale shows more of the same techniques, with upbeats added to many figures, countersubjects filling in existing textures, and existing material extended to fill in rests. There are new parallel harmony lines in thirds and sixths with thematic material, some small changes of harmony, and some major transformations of melodic material at structural cadence points. The arranger also omits two bars as part of a passage over a dominant pedal, a passage that I verified in practice does not need to be cut for technical reasons. All of this added detail distances the version for Harmonie from that for piano, making it a thing of itself. The level of detailing and compositional input shown in the arrangement of the *Pathétique* is not possible in a six-part Harmonie, but this arrangement does demonstrate the sorts of transformation that I have attempted in my own of op. 7.

Commentary on arrangement of Beethoven's op. 7

The remainder of this chapter is a detailed commentary on my arrangement of the *Grande Sonate op. 7*, outlining my thoughts and practice during the process, and explaining some of my solutions to the problems I encountered. In the course of this commentary I will attempt to distinguish between those decisions that were solely creative, those that were historically informed, and those that were governed specifically by the particular characteristics of historical wind instruments, e.g. limitations of tone, register, fingering issues, etc. However, as I have shown in Chapter 4, and above in discussion of the *Pathétique* arrangement, the historical arranger was very often working creatively, and also within the limits of the instruments he had available to him. As in the previous chapter I will used a number of abbreviations to save space and repetition:

8va, 8vb	octave higher, lower
bn, bns	bassoon, bassoons
cl, cls	clarinet, clarinets
hn, hns	horn, horns
pno, RH, LH	piano, right hand, left hand

First movement

The opening of the sonata has something of the hunt *topos* about it – 6/8 time signature, parallel chords, E-flat major. Throughout, Beethoven writes very long slurs for the piano, or are they phrase marks? I have shortened, or removed, most of these, in part to make the writing for wind more idiomatic – long slurs are not part of woodwind writing in this period – but also to increase the feeling of rhythmic energy.

1–4 because of the hunt, the horns should lead, but how much harmonic support do they need? The recording of the initial draft, where both clarinets fill in the E-flat chords, showed that having only cl 2 playing those pitches that the horns are not is successful, and more economical. Also, unnecessary and sustained doubling in octaves of pitches (so originally here cl 2 and hn 2 both on B♭) makes intonation more difficult than it needs to be. I added slurs in bars 1 and 3 as a phrasing, to explicitly avoid a strong bump on bars 2 and 4. This slurring idea has to be carried through the whole movement.

5–13 here, as in the movement as a whole, the challenge is to convincingly divide a single piano line into shorter melodic fragments that can be distributed around the ensemble. The solution here – bn 1 followed by hn 1 and cl 1 – means the 3 principals are introduced sequentially, and in order of rising pitch. Other distributions are possible, but this seems to best suit our instruments' capabilities. Under the solos, moving the pno LH held notes (E♭ then B♭) to the bottom of the chords changes the feel of the harmony as first inversion becomes root position, but with the drop of an octave of the melodic line I don't think this is a problem.

20–21 and 24 the addition of chords making the cadence points explicit is a feature of the *Pathétique* arrangement, and serves to distance the arrangement from the original, avoiding the feel of a too-literal transcription of piano material.

27–28 original pno RH octaves are not preserved in order to give textural variety, and to better serve the *pp*.

35–38 slurs omitted completely for variety of sound, and because these figures would be much harder to play on cl and bn if slurred.

39–40 division of material again: no reason this linking motive needs to be in a treble part, so it may become a bn 2 solo.

41–49 pno RH need not be in one instrument, and indeed it is needlessly difficult for a single player to sustain 8 bars of a technical figure. So, cl 1 takes lead, with rests or longer notes that allow the player's eye and brain to jump on to the next figure. Cl 2 fills in the gaps for 41–44. I consider cl 2 is making explicit the end of the piano's slur. For 45–48 the transformation here of the pno LH beat 1 and RH beat 2 is instrument-led, but also historical, and originated in the recapitulation, where the same figure transposed would, for the clarinet, require several alternations of C and E♭, i.e. little-finger slides. The figure has to change for technical reasons in one spot, so also for the whole movement. But it also, creatively, makes the line more idiomatic for winds. Therefore, quaver-movement is continuous, but 'superfluous' passing and auxiliary notes are omitted in cl 1 and bn 1. Bn 2 spells out the harmonic bass; cl 2 fills things out, avoiding octaves with the bass and other consecutives, and further distancing the arrangement from the piano texture.

51–59 similarly, distributing pno RH and LH between instruments, creating colour and texture, and interest, but also finding activity for hn 2 so that the horns are not only playing in the passages where they are employable. This motive needs to be in horn 2 at this point because of the tessitura.

59–71 second subject, suggestive of chorale *topos*. The challenge here is to distribute lines in an effective scoring, which also generates pleasant voice-leading, and avoids some technical difficulties: i.e. now that the movement has modulated to B-flat major, the clarinets are playing in C, hence weak low B♮ which I would prefer to avoid if possible. The third phrase (63 beat 2) needs the pno RH octaves, which would be too high as written, and dropping this line down an octave with octave doubling in bn and then hn also creates a nice texture. The descending chromatic line in hn 2 will hopefully be an effective and idiomatic highlight of the harmony.

71–73 horns line: top B is unusual in any circumstance, but I have written a 'correct' approach to it, and workshopping and the performance showed that this works.

73–78 because the only sounding F available in the horn is their 4th line D, the F pedal can only go in the bassoon, so the pno middle-voice harmony part needs to be compromised, i.e. no double thirds. Horns must enter at some point to support the crescendo, but simply doubling the line of bn 1 with correct harmony seems trite. I am also restricted by sounding dissonances in other parts. So therefore the hns can

only play their sounding middle F! But their crotchets add punctuation and drive towards the *ff*.

79–80 the close, low voicing of the piano chords are particularly striking here, hopefully the Harmonie can match it. Everyone is on a 'good' note; the hns octave C shouldn't over-balance the rest.

81–85 setting the 'dreamy' response to the 'dirty' *ff* by placing the winds an octave higher than the pno heightens the contrast generally, and sets up the scoring of 93.

92 hn 1 written A (sounding C), is not present in pno, but improves voice-leading for pitching.

98 from workshop, cl 1 is more comfortable if the 7-tuplet is on the second beat rather than the first as the pno, such that the pitch in the middle of the bar is a C♮.

107–108 cl *could* play the entire pno RH, but 108 would be difficult technically (rapid alteration of two high pitches would probably lead to 'simple', out-of-tune fingerings) so this solution is more effective: slow down the chromatic, and fill in the gap in beat 2 of 108.

111–127 a most troublesome passage, particularly, because of the tonality, in the recapitulation. This is, in my opinion, a moment of pianistic virtuoso display: a stock, yet interesting, 8-bar chord sequence over a tonic (at this point) pedal, which is then repeated with the RH in a different inversion. I think the listener perceives the first note of each pno RH beat as melodic, at least at first, and other notes pass by as harmony. Any arrangement of this must preserve the harmonic flow, the *fortissimo* character, and the sense of virtuosity and movement. Here in the exposition the solution is quite straightforward: hn 1 can take the 'melody' for 8 bars as it is high enough to be playable by them, and there is interest and tension between their open and stopped notes. Hn 2 fills in harmony. The bassoons take the pedal. After 8 bars the hns and bns can easily exchange roles, although there might be a noticeable volume imbalance between the phrases given the inherent differences between bassoon and horn. (Although *cf*. Beethoven's own famous use of the two pairs of instruments in the first movement of his Fifth Symphony.) The clarinets take the virtuosity with a figure that should be achievable at speed but is still impressive. Again, one 'long' note (quaver), and four short (relatively) should allow for easier facility than eight short, and allows for snatched breaths if required. At the

recapitulation (291 *et seq.*) the problem is registral: the theme can only go in the bassoon (it is too low for the horn, with too few open pitches), and it is difficult to put the virtuosity in the clarinet such that it is on 'good' notes and in a telling register. I will expand on the other explored solutions at the relevant point in the recapitulation, however the final change, during concert rehearsals, was to remove any semiquavers from the penultimate bar of the pattern (118 and 126) to make ensemble better at the cadences. The simplest solution, which I think Triebensee would have followed, would have been to omit these bars altogether, both times!

130–131 I voiced this cadence differently to the pno to give greater contrast to the previous phrase.

Development

137–141 arranging this as notated would be possible, but very low in the ensemble, hence everything distributed up an octave.

141–150 crossing the scales of the RH and LH does not affect the harmony: this is about contrapuntal instrumental solos, and having cl 2 an 8vb of pno allows cl 1 more space for contrast. Material added at the cadence points as previously.

151–152 extra harmony lines added for increased tension and crescendo.

153–165 looking here for dramatic, contrasting colours, so rests for everyone at some point; low cl 2 in alternate phrases; bns both in octaves and not; alternating phrases have open and stopped horn pitches. 156 and 160 pno rhythm changed to match other bars. A small structural point: 161 is E-flat major, so the horns get their head, briefly! 163 cl 2 bottom E in unison with bn 1 for maximum sonority – a very Krommer moment.

165–168 making the pno RH a bn 1 solo gives a nice colour contrast, but also allows cl 1 a rest.

171 hns: these pitches are very difficult to find, to pitch without splitting, given the sudden modulation and lack of context. It is possible that there is not another E♯ in the horn's repertoire! Instrumental cues in the previous bars should help, but I considered if it would be 'safer' to find a way of omitting the horns at this point, although this would go against other iterations of this motif. In the end there wasn't a problem playing this as written.

173–176 cls are playing in B minor, so I needed to take care to avoid all of low B♮ and C♯ (both weak) and the little-finger slides for low E to F♯ and middle B to C♯. This is the reason for the creative octave displacements in cl 2.

185–188 using cl 2 as bass should be effective, and a rather more interesting colour at this point than the bassoon: bottom E tends to be flat, but the pitch is more controllable in soft dynamics.

Recapitulation

189–192 loud start here, compared to movement's opening, which further justifies the decision to score bar 1–4 more lightly.

205–215 a transitional passage, without parallel in the exposition. Beethoven writes low LH chords that are impossible to replicate, so I opt for mid-register chords with more typical voicing. Having cl 1 play the RH unchanged would risk it being inaudible in the middle of the texture in 207, 208 and particularly 211–214, and would also be a difficult phrase as it passes from high to low registers. This solution hopefully opens the texture as the solo and register passes to cl 2.

215–239 scoring and arrangement largely in parallel to the exposition.

221–224 hn 1 jump of a 7th up from G happens quite widely in the repertoire.

225–228.1 hn 2 added material could be in hn 1, but being middle register is more suited to 2, and it leads nicely to the use of bottom C in 229.

229–230 hn 1 figure could as equally be in bn 1, but this way we get hn 1, bn 1, bn 2: a nice division of material.

236 This is the bar that originally suggested the transformation of this melodic idea (see 41–49): removing the lower auxiliary third to avoid repetitive E♭ to C slides in the clarinet.

246 hn 1 *could* play all the notes, but the pno C becomes a top A, which is always risky, especially at the end of a phrase. The solution here, an instrument sustaining a note while other voices play on, is common historically.

251.2–253.1 This figure in cl 2 and bn 1 could be in the horns, to match the rise to top B in the exposition (73), but for the horns this would give a risky climb to a top C as part of a long stretch of playing, and I think it is better to rest them, briefly, before they enter with a changed role at 253.

277–278 cl 1: pno RH scale changed to make better use of clarinet.

287–288 cl 1 matches the pattern of the exposition (107–108) rather than the pno.

290 cl 1 needs a breath here before the next long phrase: RH material redistributed to the hns.

291–307 as highlighted above (111) the most problematic passage. This is my fourth version of these bars.

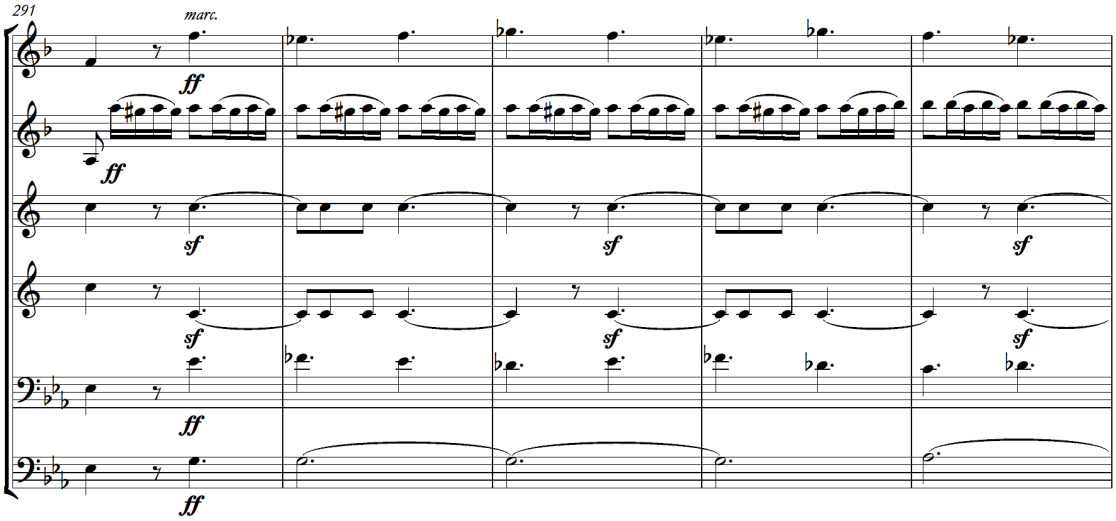


Figure 7.6 Beethoven, *Grande Sonate* op. 7, arrangement in 6 parts, mvt. I, 291–295, version 1

Version 1 (Figure 7.6 cl 1 and bn 1 play the 'theme' and its harmonisation; cl 2 has fast figure; hns in octaves on the sounding E♭ pedal) is too boring, not thrilling enough.

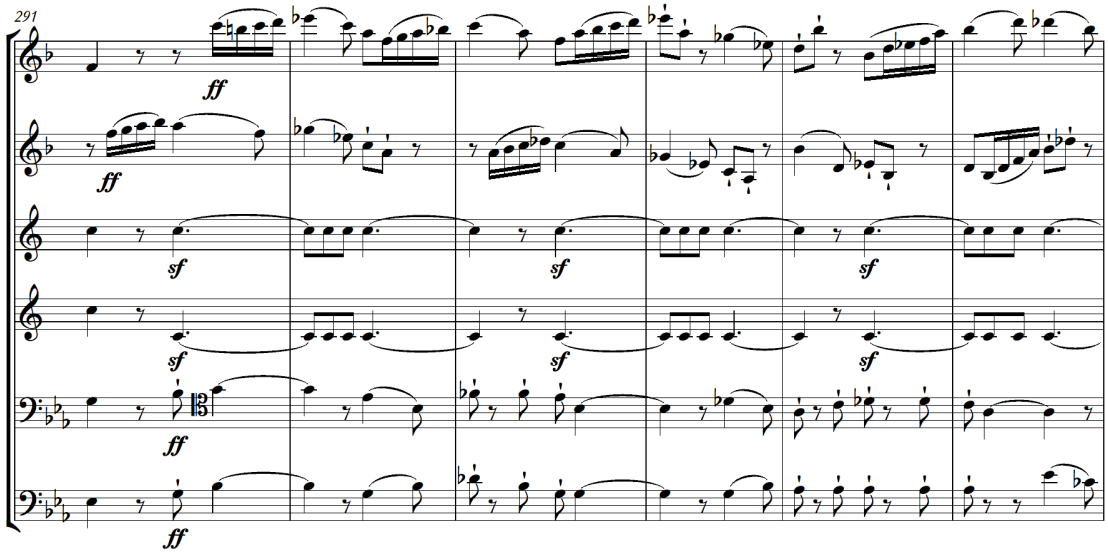


Figure 7.7 Beethoven, *Grande Sonate* op. 7, arrangement in 6 parts, mvt. I, 291–295, version 2

Version 2 (Figure 7.7) is much more creatively *compositional*, a long way from the original, attempting to fill the harmonic sequence with motives from the rest of the movement imitatively in the clarinets and bassoons, and focusing on virtuosity.

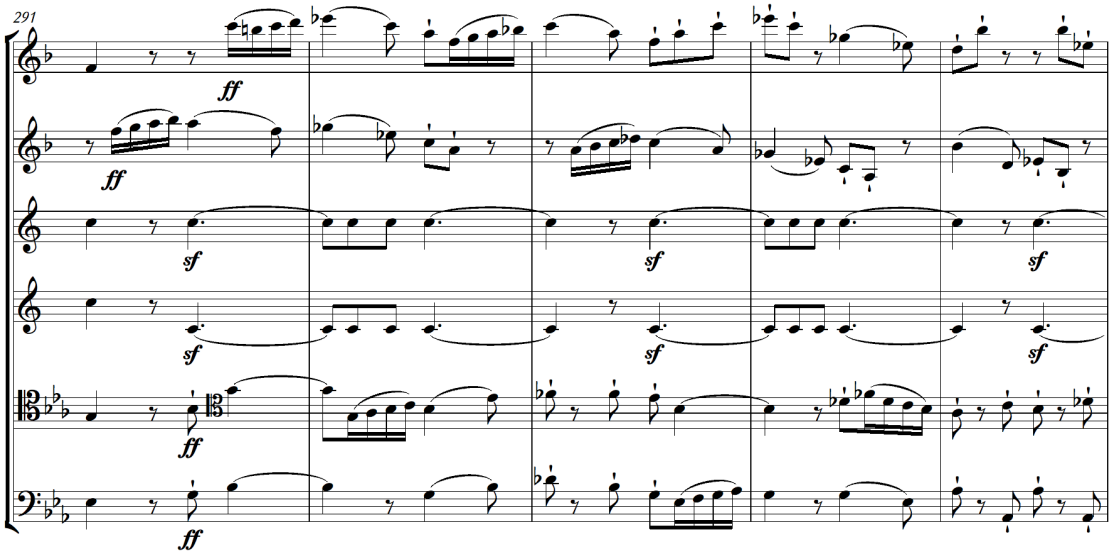


Figure 7.8 Beethoven, *Grande Sonate* op. 7, arrangement in 6 parts, mvt. I, 291–295, version 3

Version 3 was a subtler form of Version 2, but still too unrelated to the rest of the movement. I concluded that this approach would be too difficult for the players. As it stands, the 'theme' is too low for the horn to take, and having it in octaves in cl 1 and bn 1 (Version 1) uses too many players to allow coverage of everything else. Version 4, the final one, creates a texture with a high enough tessitura in all parts to be thrilling, and an acceptably difficult level of virtuosity. The theme is only in bn 1, for both phrases, which might create balance problems, but the passage is anyway more textural than melodic. Rather than the horns slavishly moving in octaves with the sounding E♭, I rely on the colour of low hn 2 paired with bn 2, with hn 1 playing sustained harmony notes. The clarinets alternate the fastest notes in relatively simple patterns. As at 118 and 126, I ultimately removed the semiquavers from 298 and 306 to allow the ensemble to feel confident in being together at the cadence.

318 initially I had hn 1 play F♯ as the upbeat to 319, but this was awkward, because of the sequence of G, F, D, F♯, and for a final, brief heroic arrival on the octave G in 319 a D in unison with hn 2 is better. This required rescoring the rest to accommodate the pno A♮, and also to make the bassoon writing here and in 319 less convoluted where I attempted to manufacture breathing spots.

320–323 bn 2 repeated B♭ were originally in hn 2, but they are more effective in *piano* here, and this also allows the horns' open G (319) to fully tell without worrying about what comes after.

343–345 hn 1: this is an unusual motive for the horn, starting on the high A♭, but there are similar figures in the Horn Usage Examples from Crusell (Ex. 174) and Reicha (Ex. 241), and Weber uses high A♭ quite freely in his Concertino (Ex. 151, 152).

348–349 I changed the sequence of pitches for hn 1 in this bar following the workshop. The original E, F♯, F♮ was difficult to pitch clearly and this should be a moment of beauty, not of strain. Part of the scoring problem I was trying to avoid is the relative weakness of written (throat) B♭ in cl 2, but this preferable to a dangerous horn entry at a delicate moment.

352–355 the opening motive has to be scored with cl 1 here rather than cl 2 as they are required to do something new in the following bars.

355–end cl 1 could be 8va, as the pno RH, to finish on top F, but this would necessitate a very open scoring in the chords, with, because cl 2 is busy elsewhere, a large interval between cl 1 and the next voice down. I wrote cl 2 out of phase with the pno LH (sounding E♭ on beat 2, rather than dissonant D) because the effect of the D *on* the beat is too confusing in the context of a wind ensemble. 259.2–360.1 could be scored for the clarinets rather than the horns, but I think a rest for (or from) the clarinets is more important here.

Second movement

0 my new upbeat is obviously a nod to the *Pathéthique*, and to Beethoven's own practice of revision, but in the context of only this movement it ties in with the upbeat to bar 9 etc., and also many other moments where a phrase starts before the barline. I also find the opening much more expressive with an upbeat, and as discussed above, the solo part sounding before the rest of the players come in is helpful aurally.

0–8 after fixing this as a horn solo, the other parts become a question of creating a warm, dark sound. Hn 2 has to stay relatively anonymous to avoid detracting from hn 1, at least until the syncopations I added in 5 to help increase the flow at that point in the phrase. Cl 2 is as low as possible, except for its first entry, which cannot be an F

as the parallel octaves with hn 1 would be too audible. Using bn 2 as a bass instrument in this register makes the part difficult, but there are precedents for this with classical bassoon in other slow movements, and the relatively thick scoring here means they do not have to play too quietly.

9–13 I felt from the outset that the voicing of the pno chords implies two independent lines in the RH, cl 2 and cl 1 as I have them here, and the use of <> in the pno might further suggest this.[12] Adding new upbeats to cl 2 further individualises the parts. I wrote the ornaments out in full for cl 1 (and similarly in other places later) in part because this is something Beethoven himself tended to do in later works, and in part because I wanted there to be no doubt where I thought they should be placed: I wanted to avoid the possibility that in 10 and 12 that the turns would be played slowly.

15–16 cl 1: I added, in effect, ornamentation to the repeat of the theme because I think that would be reasonable historical practice at this point in a solo sonata. And Beethoven adds it himself later in the movement in bars 65 and 66. (The rests and the silences in this movement are a large part of its beauty, but there are many of them, and I hope in future performances Boxwood might start filling them in a little further without my intervention.)

24 having the transitional figure in octaves in cl and bn is too obvious, especially as they will play the theme together in the next bar: the hn can make a real solo of it.

25–28 the pno LH semiquavers are essential texture and harmony in the piano, but to add them to the Harmonie in a literal way makes a different, and very dull effect. Creating a completely new counter-line adds the same texture, but also allows a subordinate solo for an inner voice, and adds harmonic texture without the need for the full, relentless scoring of vertical chords.

29–30 the semiquavers become more conversational.

32 again, the ‘fill’ could be for bassoons in octaves, but this is more characterful, and there are no intonation difficulties if only one instrument plays!

33 my intention here is that the semiquavers have again a different character, and not only because they are in a different instrument, so they are wider ranging, more soloistic.

---

[12] And Poli comes to the same conclusion: Poli *Secret Life*, 55.

38–40 the F♯s and A♭s in both horn parts are challenging, particularly if the low A♭ in hn 2 in 39 is played stopped, which was not my intention, but their use like this is historically informed, and when played with the bassoons and low clarinet the intonation of them is less critical than it might be solo.

45–46 it was important to fill out the harmonies here in the lower octave with hns and bsns, otherwise the texture felt very empty at such a dramatic moment.

48–49 again, there are only so many octaves in a Harmonie, so Beethoven's changes of character that he creates through the registers of the piano have to come instead from using the individual players of the ensemble in the same octave.

51–72 is largely recapitulation, so I did not change the scoring.

74 the LH theme has to be the horns, gloriously rich in the mid-register. The pno RH repeated Gs would be too bright and perky if I put them in the same register for the clarinet, so I created a different texture, which I had to make more melodic for cl 1 than the pno in 76 and 77 as the RH figure as it stands would detract too much from the theme.

84–86 I am attempting to create a texture of the warmest stillness, but still with individual voices, on top of which cl 1 can float, as softly as they like. I could have given hn 2 the long low C instead of bn 2, but the chance of the very low horn notes not speaking is risky. There is also a danger bn 2 won't speak, but their slightly reedy, accented timbre here is desirable, and bn 2 is better here at the bottom than bringing too much character into a middle voice. Hn 1 can emerge from the middle, swapping position with bn 1, who can 'ping' a top G and then disappear, with cl 2 adding all their chalumeau warmth.

86–end hn 1 solo, of course. The penultimate bar, even simplified, *could* include the pno A, but this is the risky top A for the hn, and a jump up to it is very difficult and I didn't want any chance of 'spoiling' the end. I experimented with the notation of this bar in the horn with a slow, even turn, and with grace notes, but this is the form I think best suits the character. I did decide here to have the unusual pairing of cl 1 and bn 2 in octaves as the descending bass line is so beautifully expressive and I wanted maximum resonance: the intonation is a little difficult, but achievable, and the benefits outweigh the negatives: the effect of such low sonorities in a Harmonie is wonderful.

Third movement

1–24 the main objective with the opening phrase was to create a texture that allowed cl 1 to be the solo part, but not at the expense of the other parts, so the lower parts are picked out from the pno original, making interesting lines, but also not overloading the character of the movement, which I perceive as a miniature, a *pastorale*. The slurs and articulations I have added should help generate rhythmic interest beyond that which Beethoven creates with the sudden silences. The melodic line had to change slightly in 20 and 24 to avoid the leaps of a 6th that are too uncomfortable for the mood of this section; cl 2 adds the missing harmony.

25–30 could not stand simply as two lines – the piano adds so much implied harmony here – so I had to make some of the implied explicit with simple parallel thirds in pairs.

51–54 all works quite conventionally until here, the first disturbance of the idyll, a slight hint of E-flat minor. Bn 2 must now take the previous hn 2 line, but there are no other reasons to change the already established scoring.

55–68 I exploit the muffled quality of the horns' A♭ here to create some *chiaroscuro*, before the slightly clearer sound of the bassoon in the C-flat major passage from 58.

70–79 the choice of hn G pedal was obvious, but the cl line alone doesn't hold the interest well enough, so I added the bassoons in the rests. Having all 6 players playing at the same time for almost the first time in the movement helps with the crescendo.

80–95 again the shape of the pianist's hands define these melodic lines and they are not as comfortable for the wind player, hence they must change.

Minore

On paper this looks difficult to arrange, and there are certainly challenges: E-flat minor is almost unheard of in Harmoniemusik,[13] and the entire *Minore* is a single stormy, rolling pianistic texture. However, once I had decided what the texture should look like for Harmonie almost the only problem was selecting the correct pitches for the clarinets.

[13] The exception is the young Franz Schubert's *Eine kleine Trauermusik* D. 79 of 1813, for 6-part Harmonie with 2 additional trombones and a contrabassoon.

97–112 the theme that the pno triplets delineate should be for the horn, made into as vocal a line as possible: it is the correct tessitura for it, and the effect of the stopped and open notes will be truly soloistic. The pno texture also outlines a bass line, which has to be the bassoons. The almost constant octaves here might become wearing to the ear, but it is not a colour I have used much up to now, and it can define the timbre of the section, and one bn alone would not have enough weight against the other voices. The stormy character can come from triplet arpeggios in the clarinets, but this should only happen in the third and fourth bar of each phrase where the theme becomes a long note and interest momentarily flags. In this way I can perhaps create the effect of a lightning flash.[14] I use an arpeggio (C7, E-flat, C with added B♮) because there is more opportunity with those to avoid all of the pitfalls inherent in writing for the clarinet in extreme tonalities. Cl 2 fills in the harmony, using 'good' notes as 'anchors', and makes 'noise' in the middle of the texture, substituting for the effect of the rolling triplets. In 110 cl 2, anchoring on low F, cannot therefore alternate with A♭ or B♮ and so must play low G (sounding F), a pitch not otherwise in the harmony. 112 seemed to demand some sort of further tempestuous transition back for the repeat: pity the poor bassoons!

114–125 a thinner texture for contrast, the theme now in cl 1; cl 2 takes the arpeggios (G^7 and C^7); bn 1 provides the middle texture.

126–140 recapitulation, but from 134 cl 1 must take over the theme as it goes beyond the range of hn 1: my intention here is the clarinet sound should emerge out of the horn's, as the hn moves away to another role. Cl 2 in 134–137 plays only 2-beat arpeggios to considerably lessen the difficulty of 3-beat ones, however this whole phrase up to 139 is difficult, although 'gestural' rather than essential to get right, and very dramatic.

140–151 a feeling of coda, and winding down, the storm blown out? The triplets are no longer necessary: the slight grunt of hn 2 on its lowest note, and the clarinets alternating their figures are now sufficient texture. The clarinets alternate because cl 2 cannot play the entire 10-bar stretch in one breath.

I find the effect of the return to the opening in this movement most extraordinary, the 'minuet' is somehow transformed by the *Minore* in a way that is like no other 'minuet

[14] Was Schubert aware of this movement as the model for a *Lied*?!

and trio'. So I decided that the solo horn at the end of the *Minore* should not resound its note at the start, but rather hold it over the bar line, allowing the other parts to enter around it. Perhaps the lonely shepherdess has survived the storm and her minor-key horn calls have turned to major as her friends re-join her.

Fourth movement

1–8 I discussed above how I found it difficult to find an 'in' into what I perceive as a gentle little bagatelle, especially after the three strongly characterised previous movements. A pianist can choose how to characterise the obsessive tenor B♭, and even whether to make it audible at all, but in a Harmonie as soon as I write it as repeated notes it becomes significant and brought into the foreground. I could instead have chosen to write a long, held B♭ with the semiquaver motion coming perhaps from Alberti-style *woodles* in cl 2, but this would be going too far, transforming mood and character, making the movement unrecognisable. So, because of the register and character, and almost as a cliché, the insistent B♭ must go in hn 2, and it should, if possible, have the capacity to become a joke if the performer desires. It cannot, however, simply be a repeated note, which would very rapidly grow stale, so I transformed it into something with a phrase structure that matches the theme above it. There does not, anyway, need to be continuous semiquavers as the theme has many of them. The theme itself is highly suited to the clarinet as far as bar 8, although I did choose to make the articulation much more active and varied than in the piano original.

9–12 The fastest notes in this movement are demisemiquavers,[15] and I determined early that these would typically be too fast and virtuosic for expressive wind playing, especially in arpeggios. This becomes significant in the central minor key episode. I decided that changing demis into triplet semis would be a good, idiomatic solution, and could also create a little inter-movement relationship, referencing back to both the compound time signature of the first movement and the triplets of the third. So for cl 1 in 8 the pno RH changes from a demisemiquaver arpeggio to a triplet arpeggio, but still with the distinctive falling second/passing note at the end of the bar.

[15] Or 32nd notes if you prefer.

15 I notated the cl 1 turn as hemidemisemiquavers so as to be specific as to its form and placement, but it means I can use that word in this thesis.

16–26 is a dialogue between bn 1 and cl 1, real theatrical characters, one in *forte* and the other *piano*, so I felt it was more appropriate to use bn 1 as the soloist even though these figures are at the bottom of the instrument where perhaps bn 2 might be expected. Demisemiquavers all changed to triplets, as above. Hn 2 maintains its somewhat obsessive rhythm, even as the pitch changes. The rest of the harmonic padding has to be present, but it can't be repeated notes – too active and distracting – and it can't just be long notes, which would be very dull: there has to be some rhythmic drive somewhere. This solution puts rhythmic interest into the beats where hn 2 is not playing semiquavers, and in a way that will not conflict with the bassoon's solo triplets. I intended, as usual, that the notes at the ends of slurs should be soft, even when on strong beats, so that the syncopations keep things moving.

26–36 bn 2's entry should make more impact having rested before, and in the following bars I gave all the imitative entries of the same theme and hn 1 in b. 30 the same three upbeats: 'it's what Beethoven would have done', perhaps, but it also brings much more character and interest to each entering line. Bn 2 alone at first, then bn 1 joins as a new character with the upbeats to double in octaves for variety. Adding the three notes again to cl 2 in 31 and 32 makes the separation of a single line between the two players more convincing.

36–42 changing Beethoven's trills in the pno into notated turns was initially about bringing a more wind-centred character to this figure: the two trills in the bn 1 version of the motif would sound horrible. An F/G trill is all clicks and splutters as it fakes trilling from an open, no-fingers note to one with six fingers closed; E♭/F is rather out of tune. In the horn they would sound very fussy. Notating them like this also means the motif is unified amongst the three players. The notation of 42 for cl 1 comes from 138, which I preferred as offering a more playable solution.

47 I wanted to end this RH phrase in octaves in the cls for dramatic reasons, plus having cl 2 take over the scale for a beat allows cl 1 a much-needed breath for the phrase that follows.

62–63 even though the Harmonie *can* make the effect that Beethoven writes, and that the piano cannot – the crescendo on a held note, *if* that is what the hairpin signifies

here – the effect is too unsubtle for me, and the horns cannot play the B♮, so I decided against it. I prefer the hushed and tense expectation of the *subito piano*, and the pitch change.

64–92 the section that caused me long pause. In my opinion the piano writing here is all about effect and noise, illustrating or utilising, perhaps, the topoi of *Sturm und Drang*, or *tempesta*. It is certainly dramatic, but not very much happens. I realised that whilst the piano writing is not virtuosic *per se*, I could transform this section into one of virtuosity for soloists from the Harmonie, somewhat akin to the bassoon solo in the last movement of Mozart's Serenade in C minor K388, and this has proven to be a very effective solution. The bn 1 figure takes motifs from the pno LH, the arpeggio and the turn, and spreads them out over two bars. Cl 1 answers, again with a line derived from elements of the RH, but also incorporating some of the bassoon material. Again, writing arpeggios carefully helps avoid technical problems in the clarinet part, especially in 78–82. Bn 2, rather than simply and obviously playing the bass notes on the beat, has more of a drum rhythm, individualising their part, and which I intended to contribute a somewhat confused *turba* element, especially in conjunction with the prevailing triplets in bn 1 and cl 1. The pno RH chords are distributed as openly as possible in the remaining parts. Cl 2 gets a little moment of glory in 71 and 73, which also allows a breath for cl 1. The cl 2 solo in 90 is answered by bn 2, which means in the 2nd-time bar I can fully use bn 2 for a moment of bassoon grotesquery, which was the bonus of resting and contrasting with cl 1 before their next cadenza.

96–122 is largely recapitulation of earlier material and scoring, although differing harmony from 116 means that bn 2 has to a take a more active role than previously.

122–132 again, lots of new upbeats. A small point in 123: having bn 2 play the LH complete with the bottom B♭ would be untypically difficult – too much work for the left thumb – so the low B♭ is suggested by hn 2's lowest note, a motif which is then repeated in 125.

144–153 the cl theme at 145 cannot be in the highest octave as in the pno RH, so contrast here comes from doubling with bn 1. To get to the correct register for the theme, in 144 cl 1 breaks and restarts the chromatic 8vb, with time to exploit the colours of the chromatic.

157 is solo cl, to reflect 62–63.

158–164 the theme here is in B major, a key in which only the bassoon can play, so it's a final little solo for bn 1, which is fitting as the coda of the movement focuses mostly on cl 1 and hn 1. As previously with hn 2, bn 2 stops playing semiquavers (161) at the point at which bn 1 has them. The scoring of the cls and bn 2 here gives a hole in which bn 1 sits so that the balance will work.

164–168 solo for cl 1 and hn 1 in octaves, their timbres should allow them to come out as individuals rather than blended, which is what tends to happen with cl and bn, and the little change to the hn line in 167–168 to avoid them going up to top A and top B (no, not top B here) further keeps them apart. Cl 2 asserts themselves, crashing in a bar early with the triplets, but this also sets up the coda so that the transition is marginally subtler.

169–end the piano version, of course, constructs the coda from the texture and transformed theme of the minor key episode. I didn't consider it possible to exactly do the same thing: bn 1 revisiting its earlier solo would interfere with the character of the transcendent theme too much, and anyway they have had their moment. So I transformed the bn part into the quasi-solo line of cl 2, but with bn 2's drum still present. Beethoven's use of grace notes in the theme here, and also the rhetorical, very wide jumps down from the high E♭, sometimes of 2 octaves, are both very difficult to emulate instrumentally without it sounding crass or humorous, so I decided instead to rely simply on the beauty and expressivity of solo lines in horn and clarinet.

169–176 bn 1 plays a wistful little counter-subject to fill in the harmony.

170–171 hn jumping from top C down to middle D is not in my index of adjacencies, but there are examples of top C down to lower C, E, F♯, and G, i.e. all the other unstopped pitches, so I reasoned that this should be possible, which indeed it was in performance. I decided against top C, however, in 174, 175, and 176 (and also 184) as this would be asking too much, and because the intonation between the highest pitches of cl and the hn would be difficult to control. The lower C is at least as effective and expressive, and rather less stressful for the player. The high Fs for cl 1 are relatively rather easier to obtain and to control.

173 hn 2 low C comes in just to warmly reinforce the tonic and the idea of home.

177–178 bn 1 becomes more active for the *forte*, and then recedes back into the background, but more importantly this allows cl 2 a couple of bars respite and a big breathing point before their final triplet passage, which has now become much calmer. 178 is simplified in hn 1 to avoid an awkward jump down to B.

183–186 ending like this with hn 2 in control was always going to be the only option: it is such a beautifully simple little staple of horn writing, and so effective. Bn 2 has the pno LH descending bass, and bn 1 and cl 2 take other harmony notes. I considered for a while what to do with cl 1 in the final two chords, concluding that 'nothing' gave the most beautiful ending.

Following the rehearsal and performance, and listening back to the tape, I was delighted with this arrangement: there is nothing in it I wish to change. It fulfilled everything I set out to do, both within the arrangement – a substantial piece, 30 minutes long, into which I had put significant creative input – and also as part of this project, creating a challenging and idiomatic piece of Harmoniemusik, well-written for the instruments, and that was enjoyable to both play and listen to. The arrangement also has the capacity to be interpreted by other ensembles: nothing I have made in it fixes how the piece must be performed, by either modern instruments or historical.

Ludwig van Beethoven

Grande Sonate op. 7
for six-part Harmonie

arranged by Robert Percival

Grande Sonate op. 7
for six-part Harmonie

Ludwig van Beethoven
arr. Robert Percival

Allegro molto e con brio [♩. = 120]

Piano

Allegro molto e con brio [♩. = 120]

Clarinet 1 in B♭

Clarinet 2 in B♭

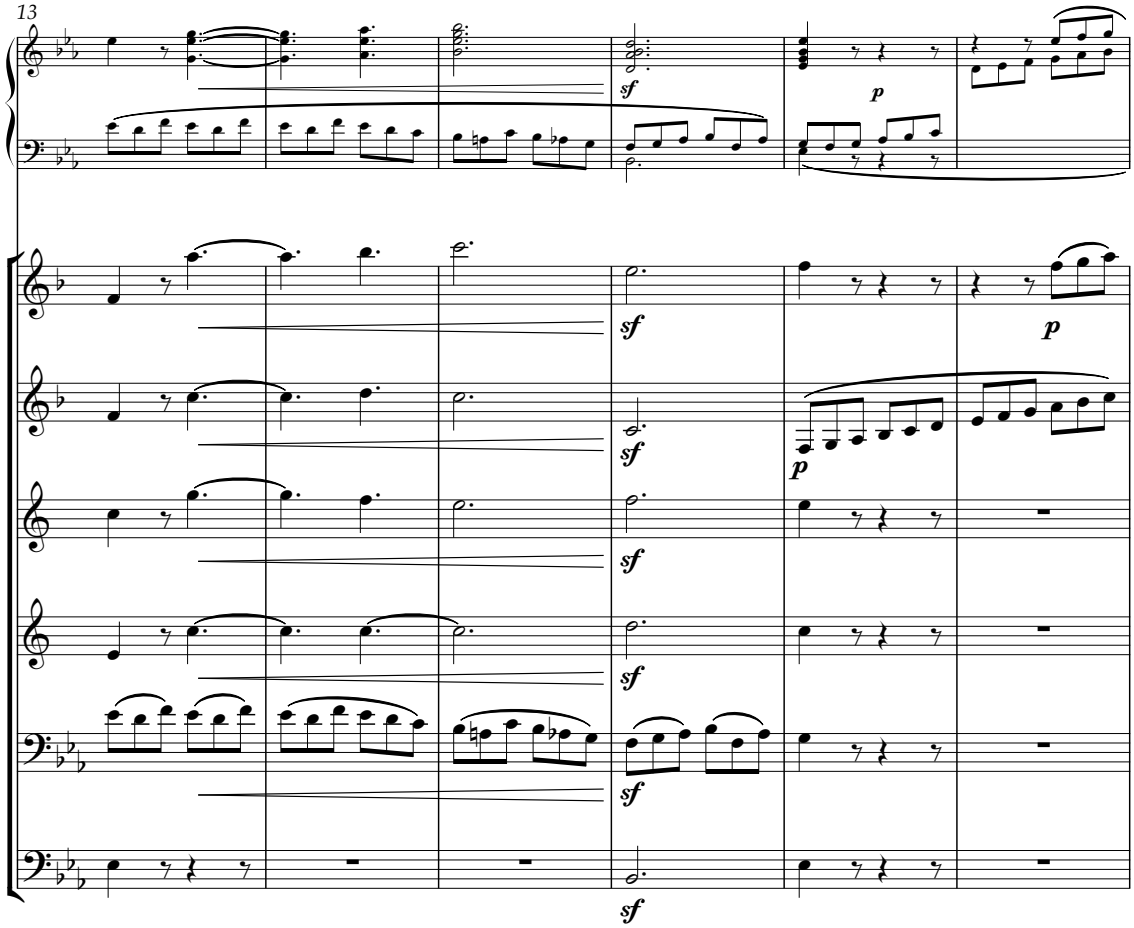
Horn 1 in E♭

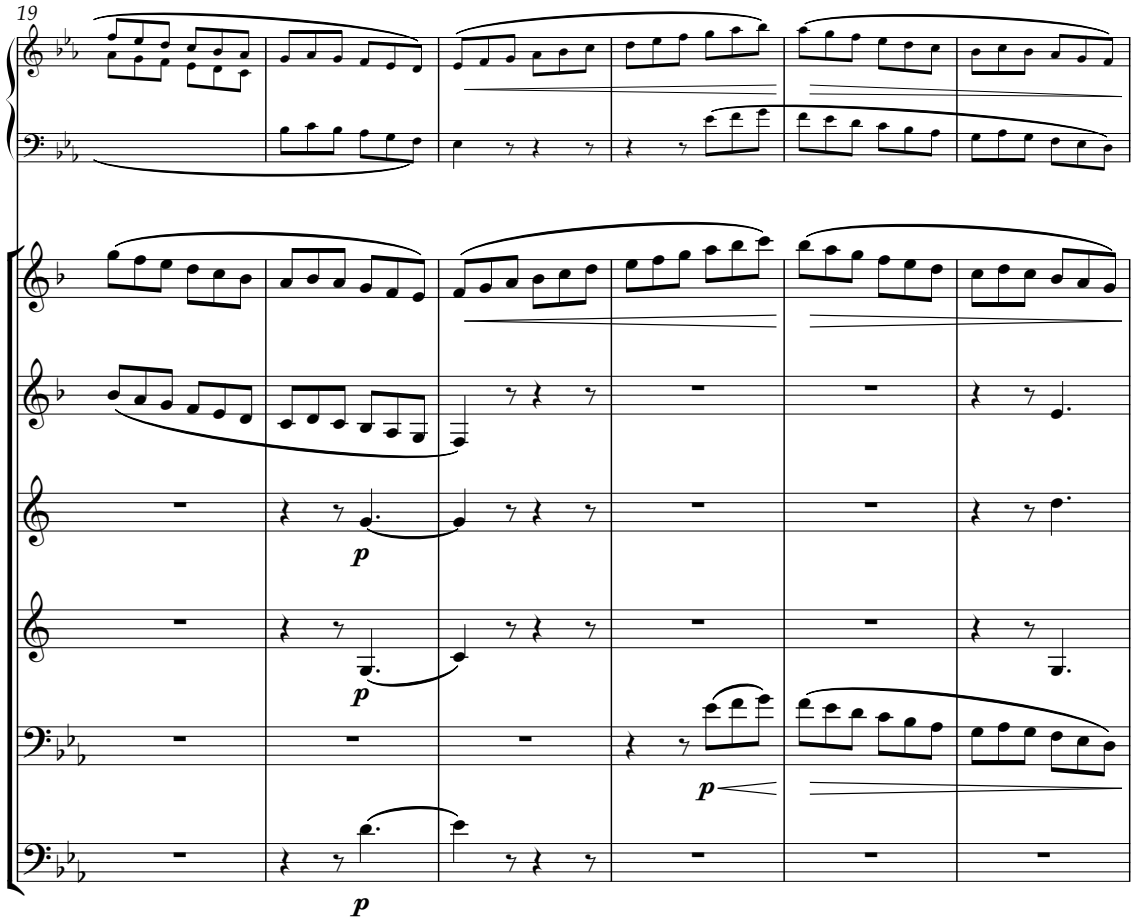
Horn 2 in E♭

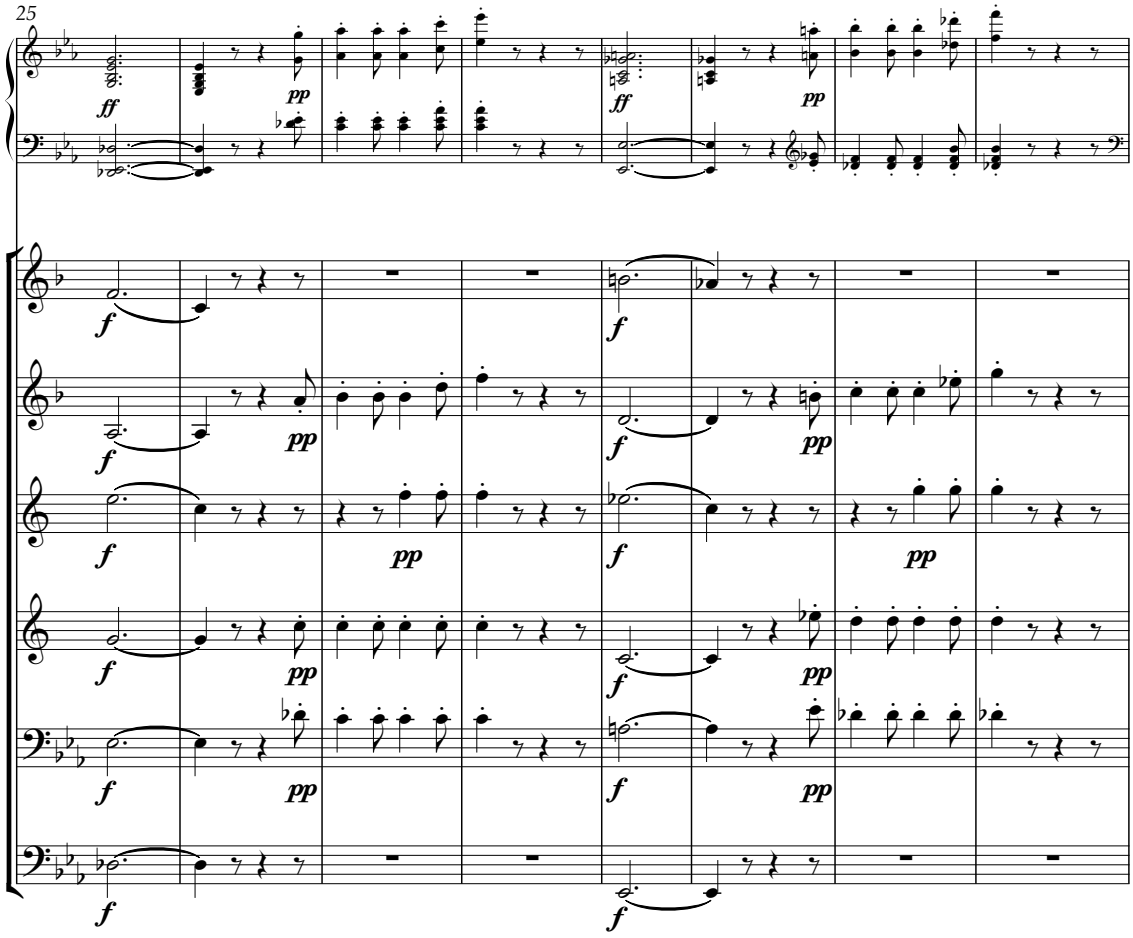
Bassoon 1

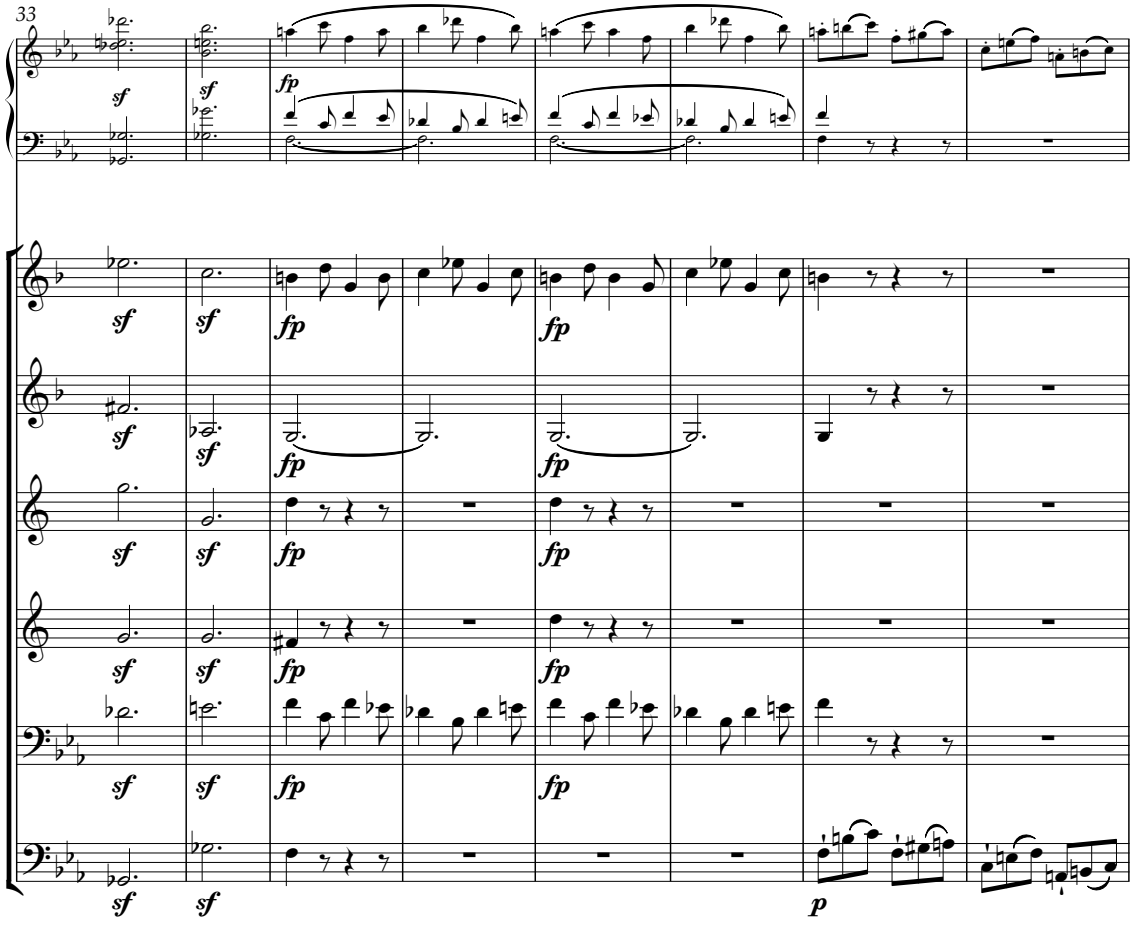
Bassoon 2

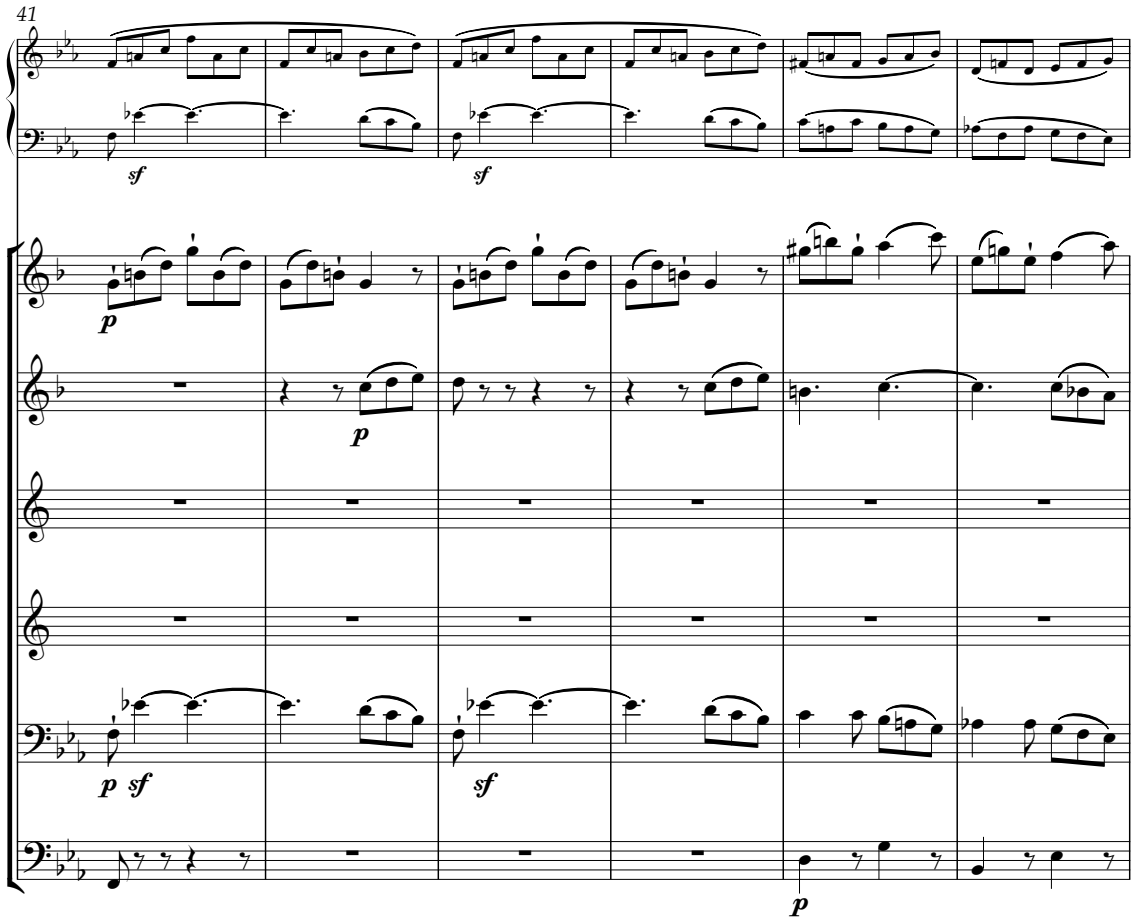
7

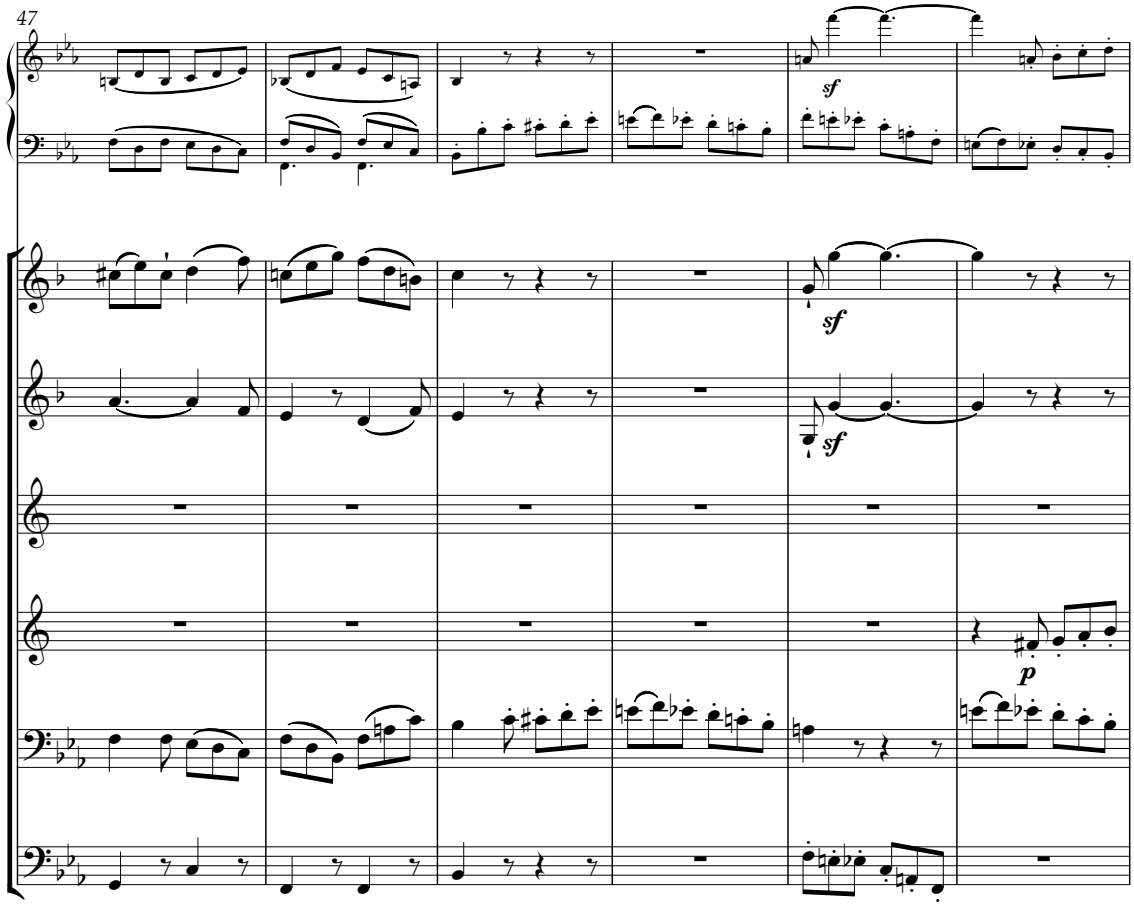

13
sf
p
sf
p
sf
sf
sf
sf
sf

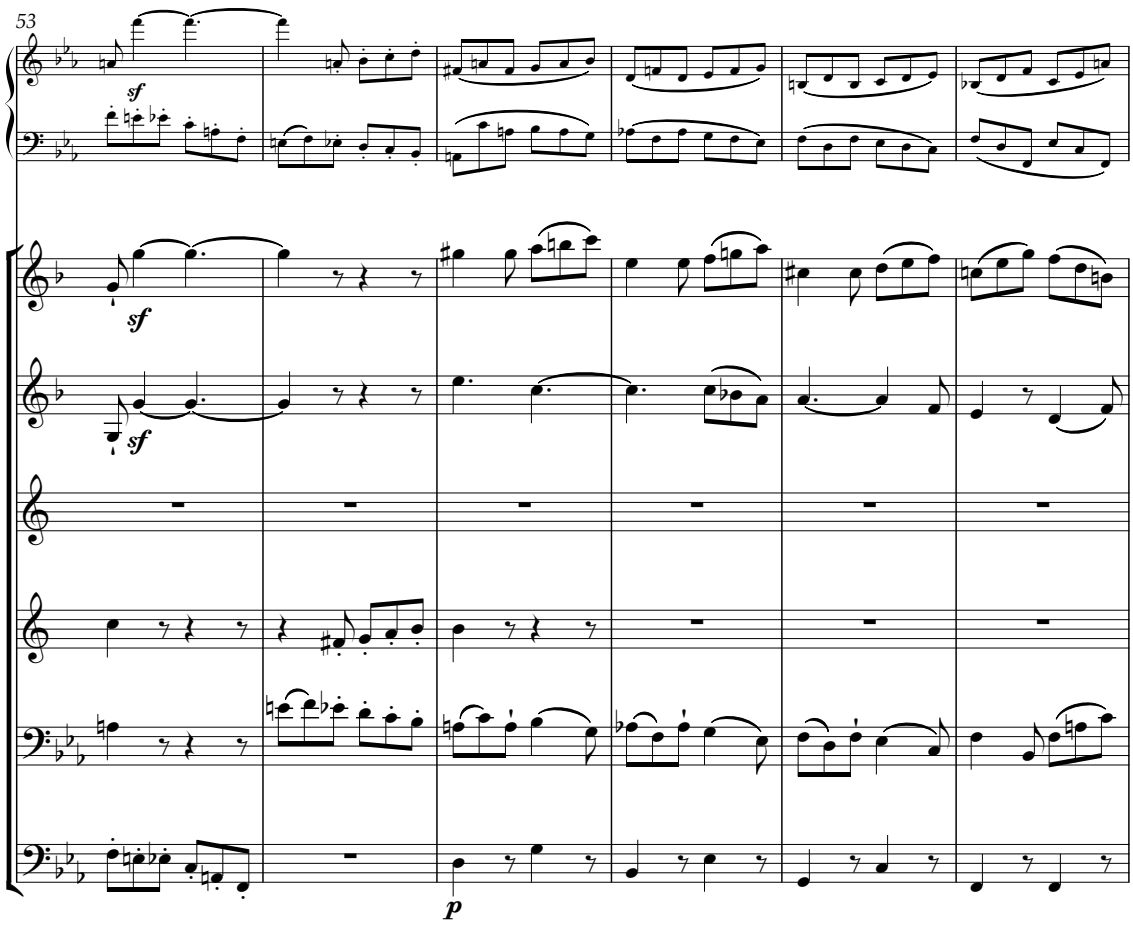

19
p
p
p
p

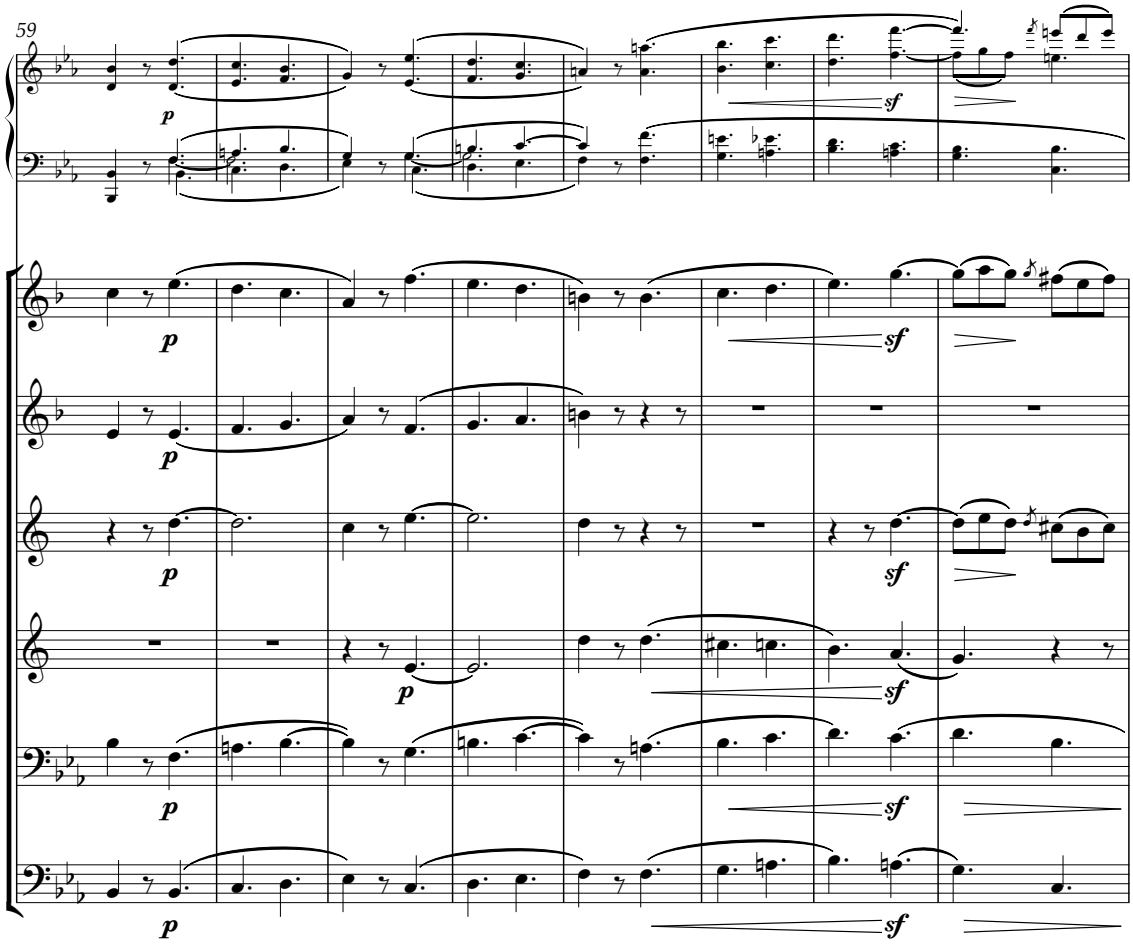

25
ff
pp
f
pp

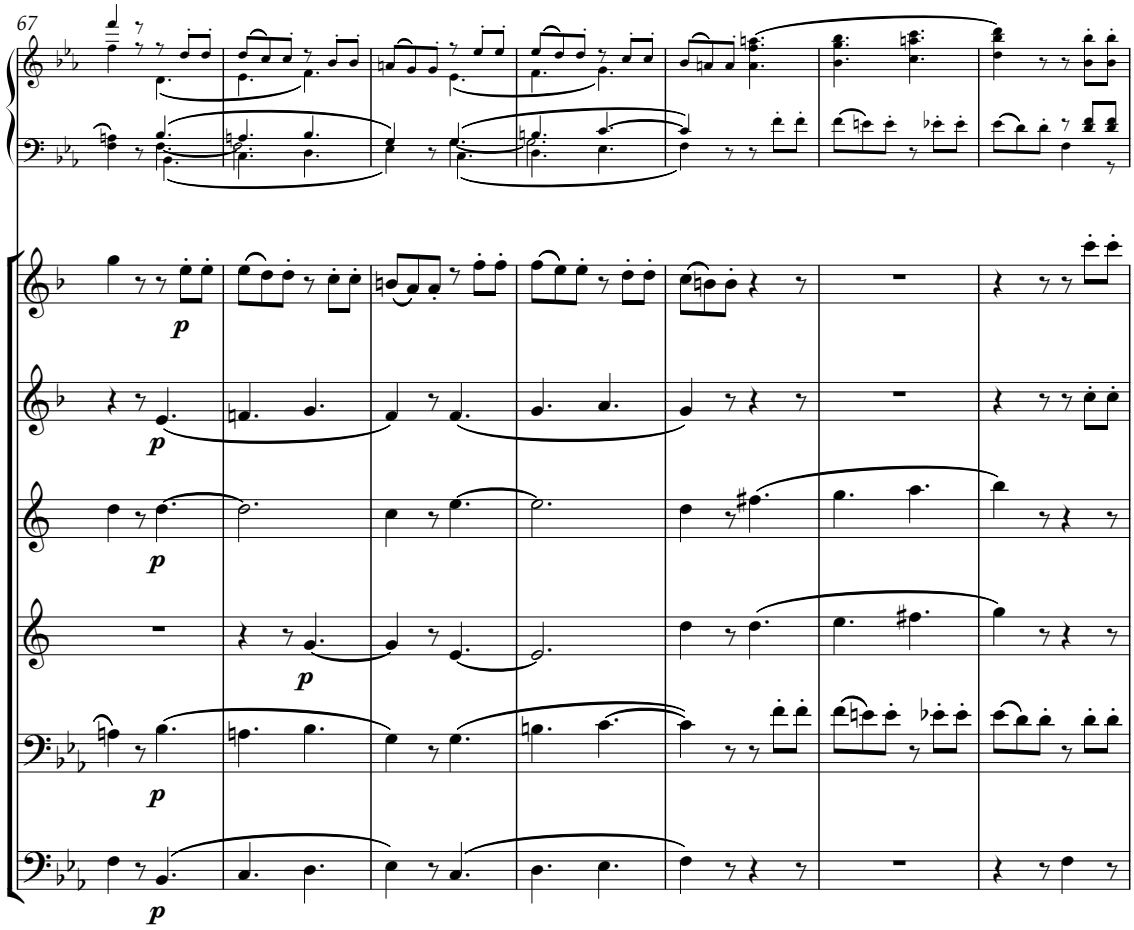

33
sf
fp
p

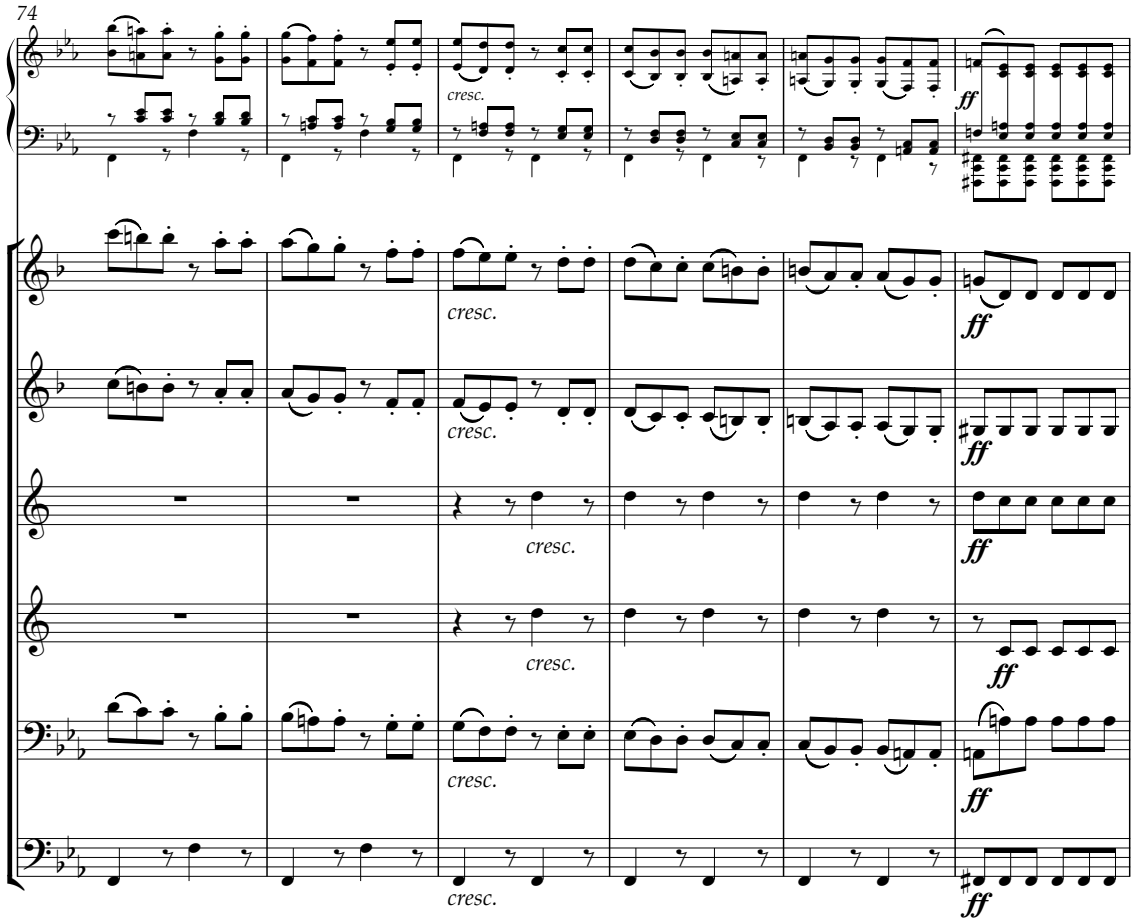

41
sf
sf
p
p
p sf
sf
p

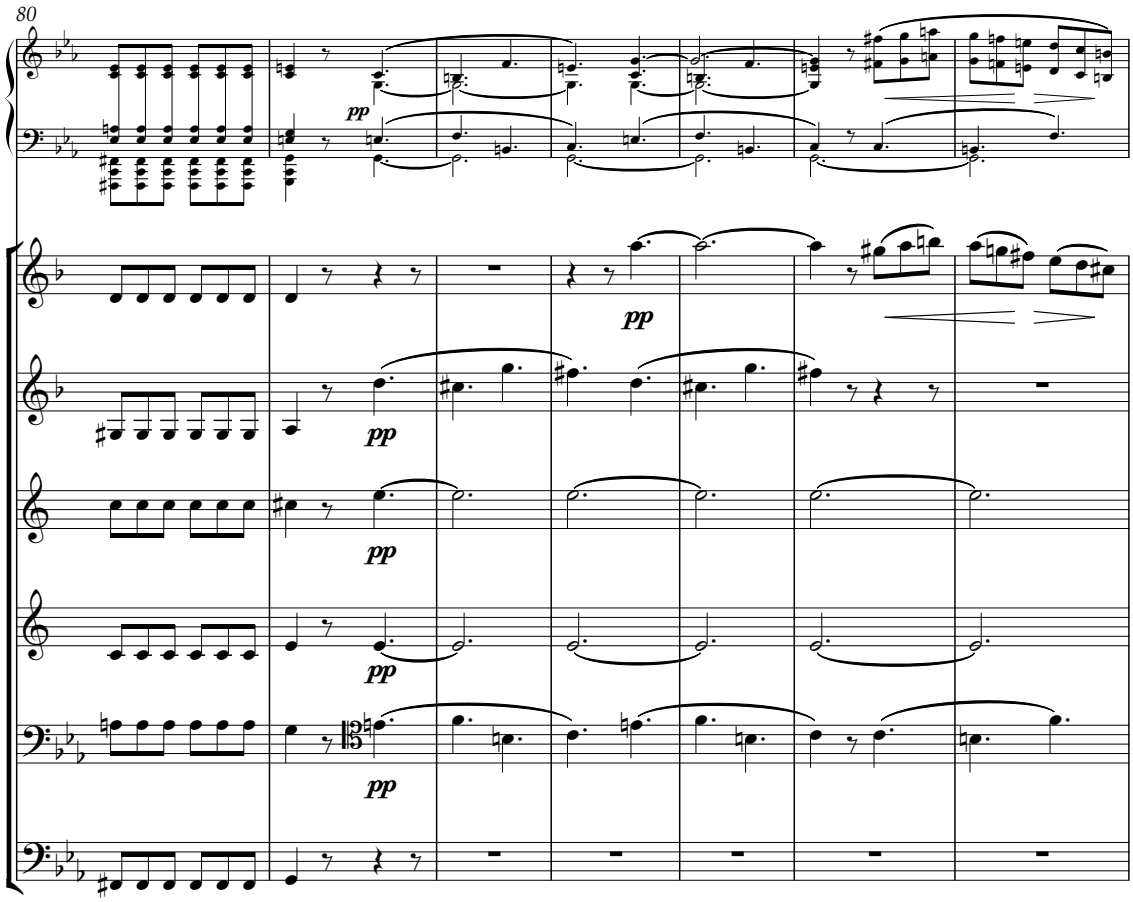

47
sf
sf
sf
p

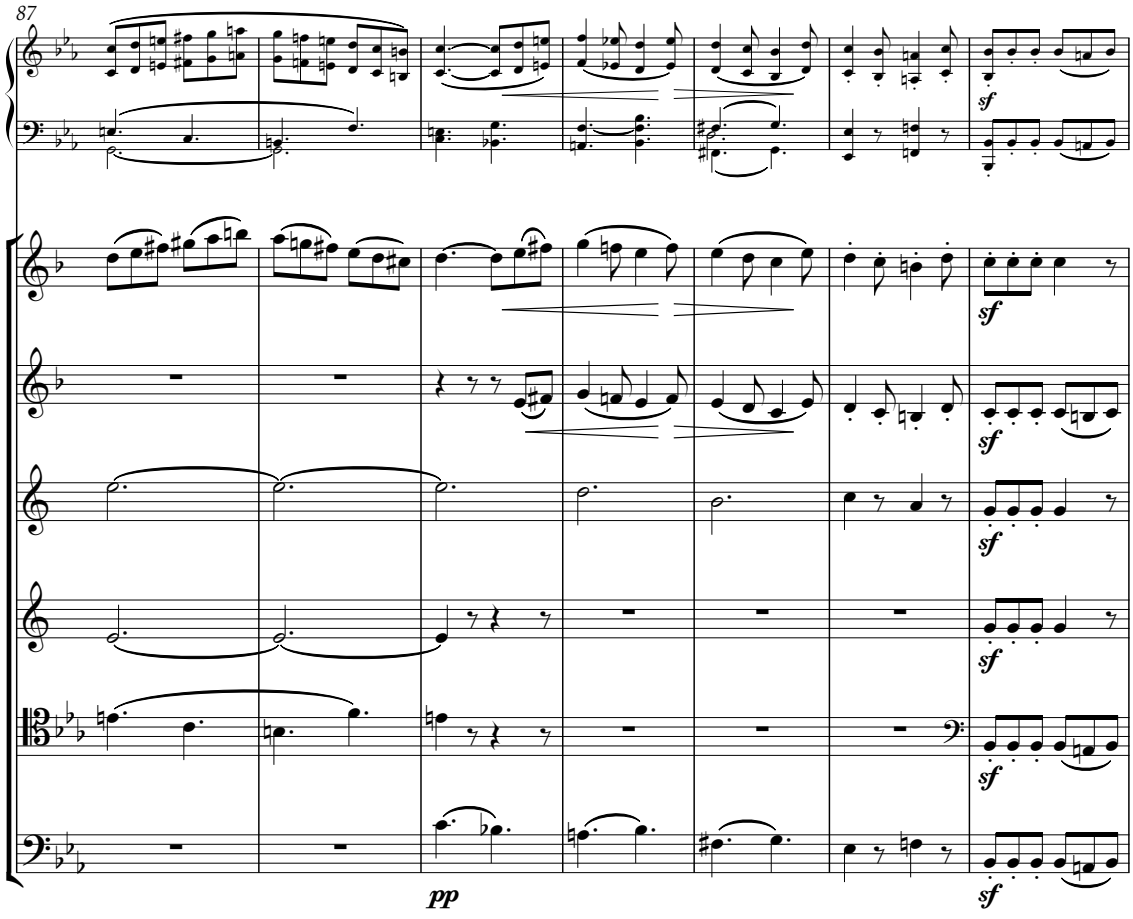

53
sf
sf
sf
p

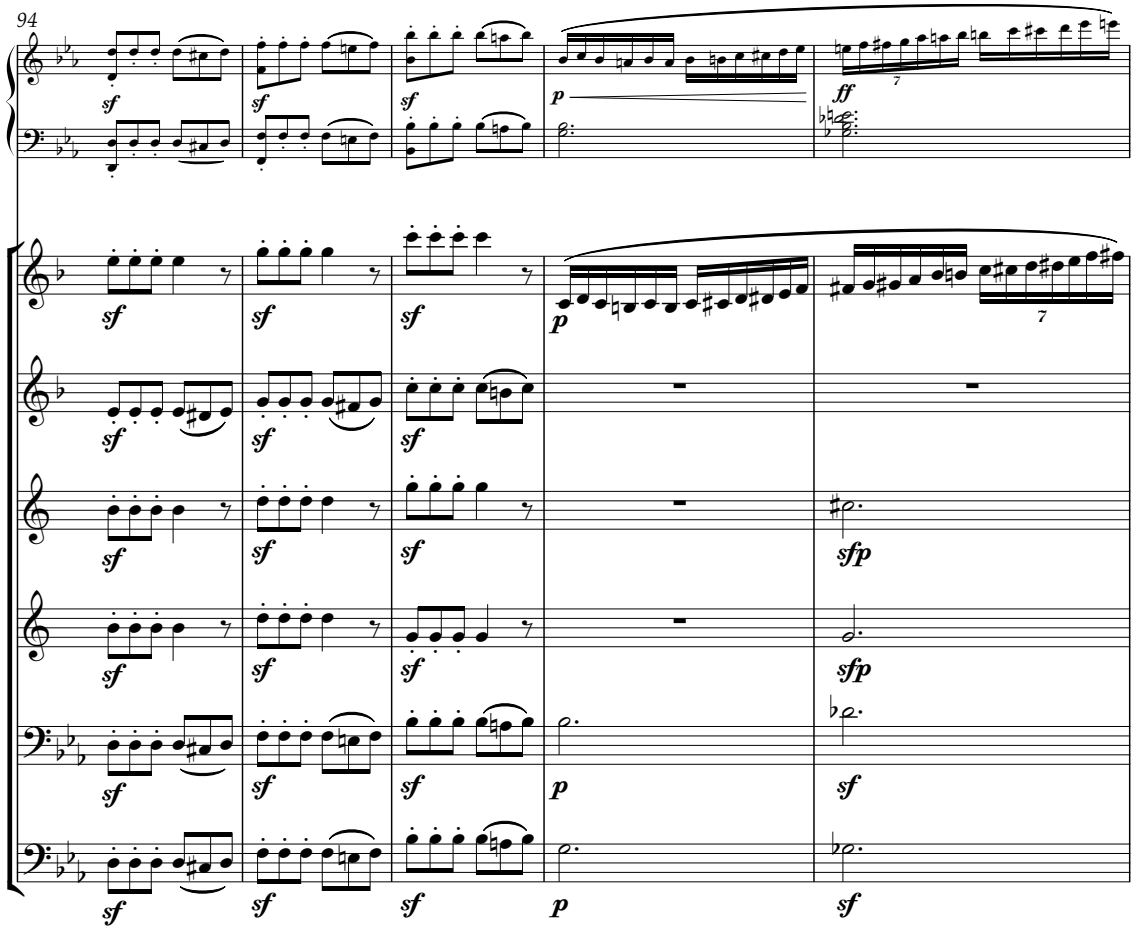

59
p
sf
p
p
sf
p
p
sf
p
sf
p
sf

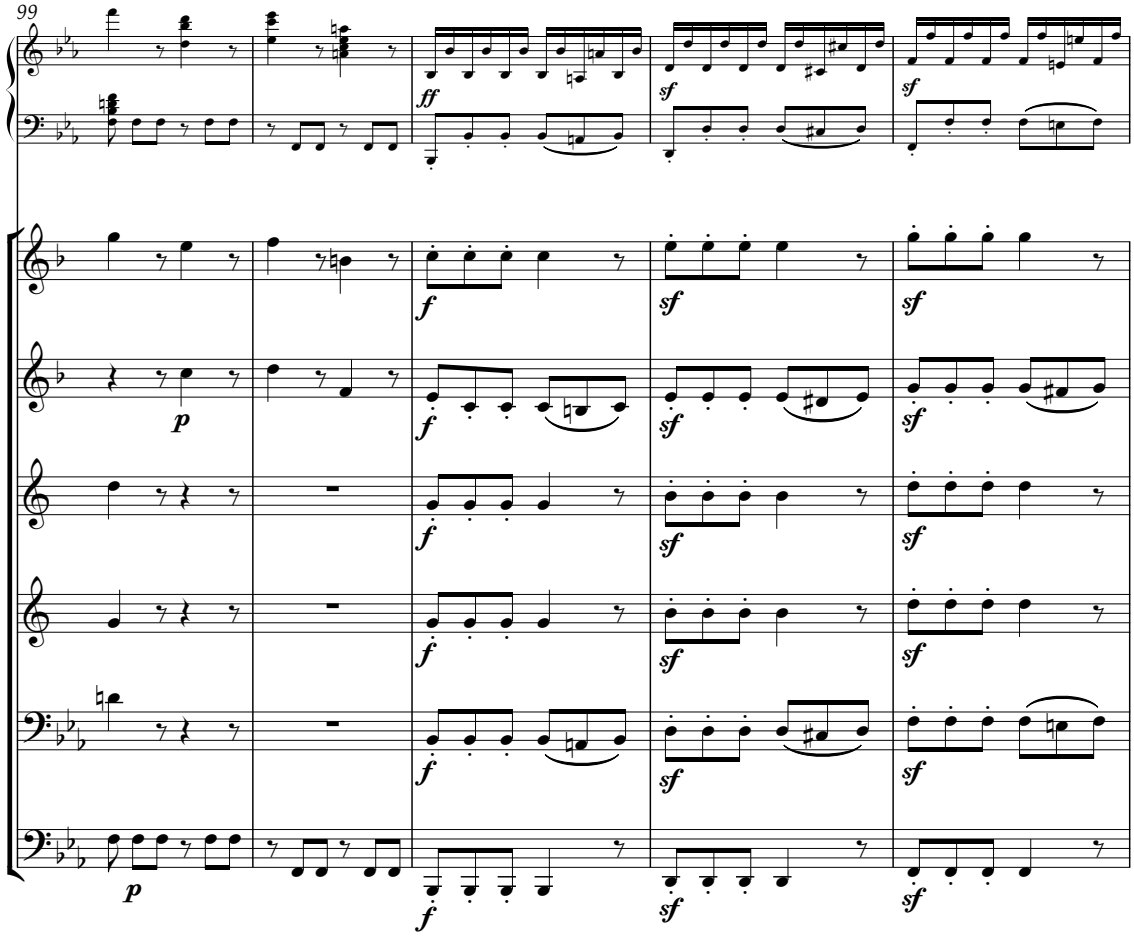

67
p
p
p
p
p
p

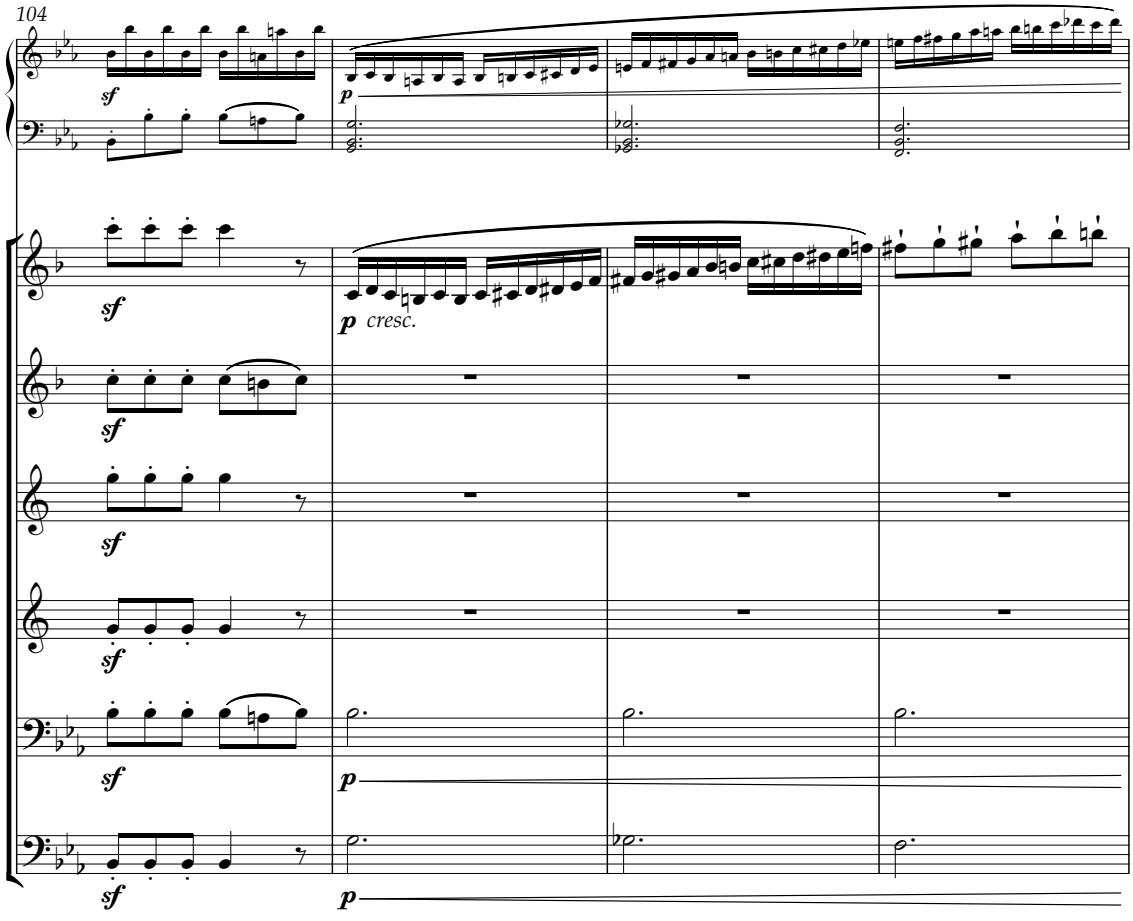

74
cresc.
ff
cresc.
ff
cresc.
ff
cresc.
ff
cresc.
ff

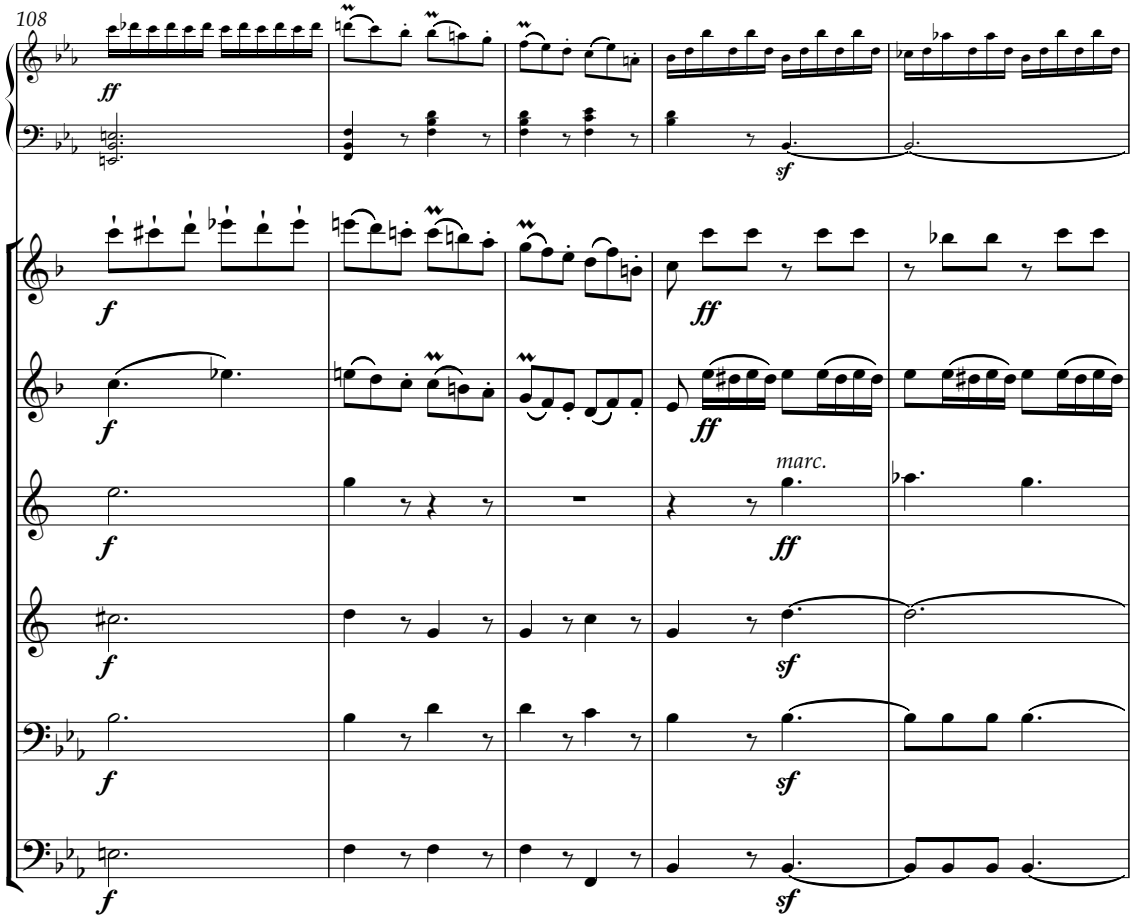

80
pp
pp
pp
pp
pp
pp

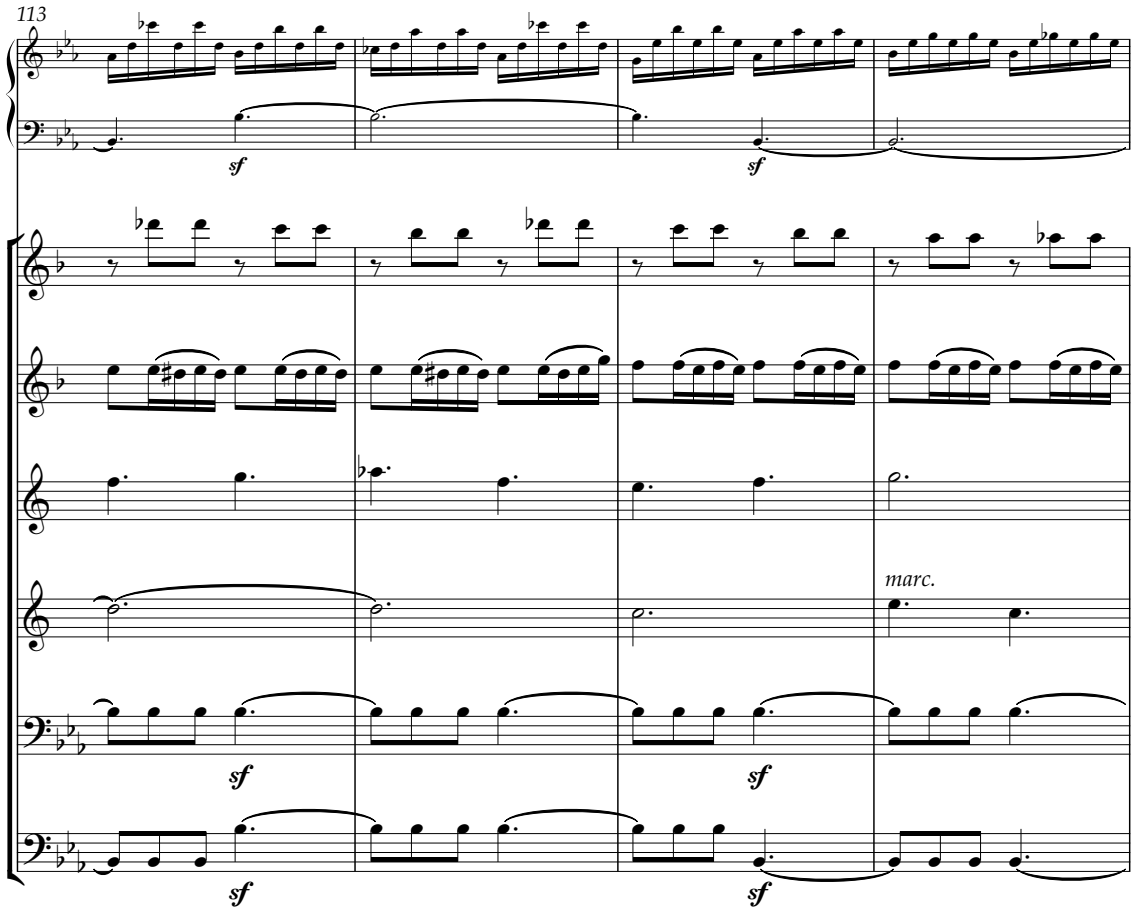

87
sf
sf
sf
sf
sf
pp
sf

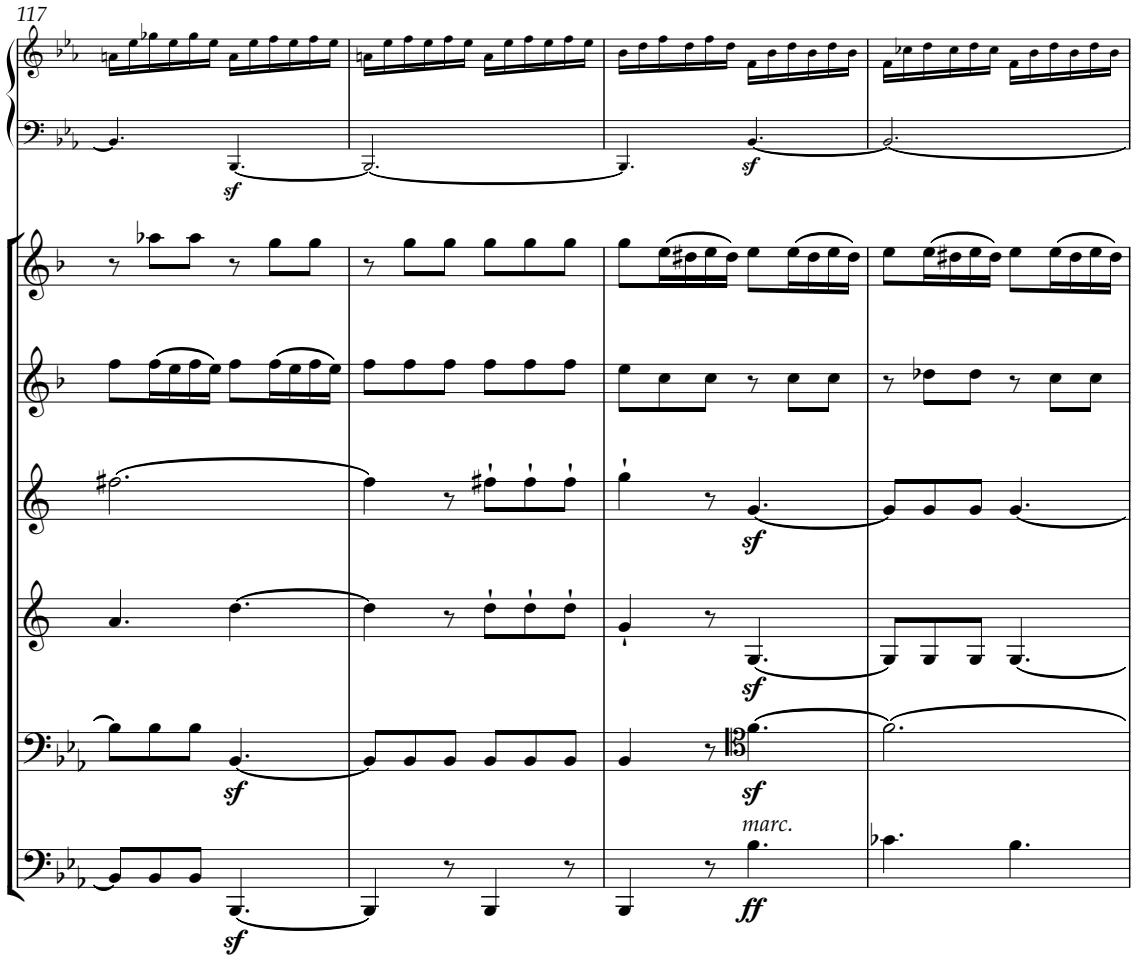

94
sf
p
ff
7
sfp

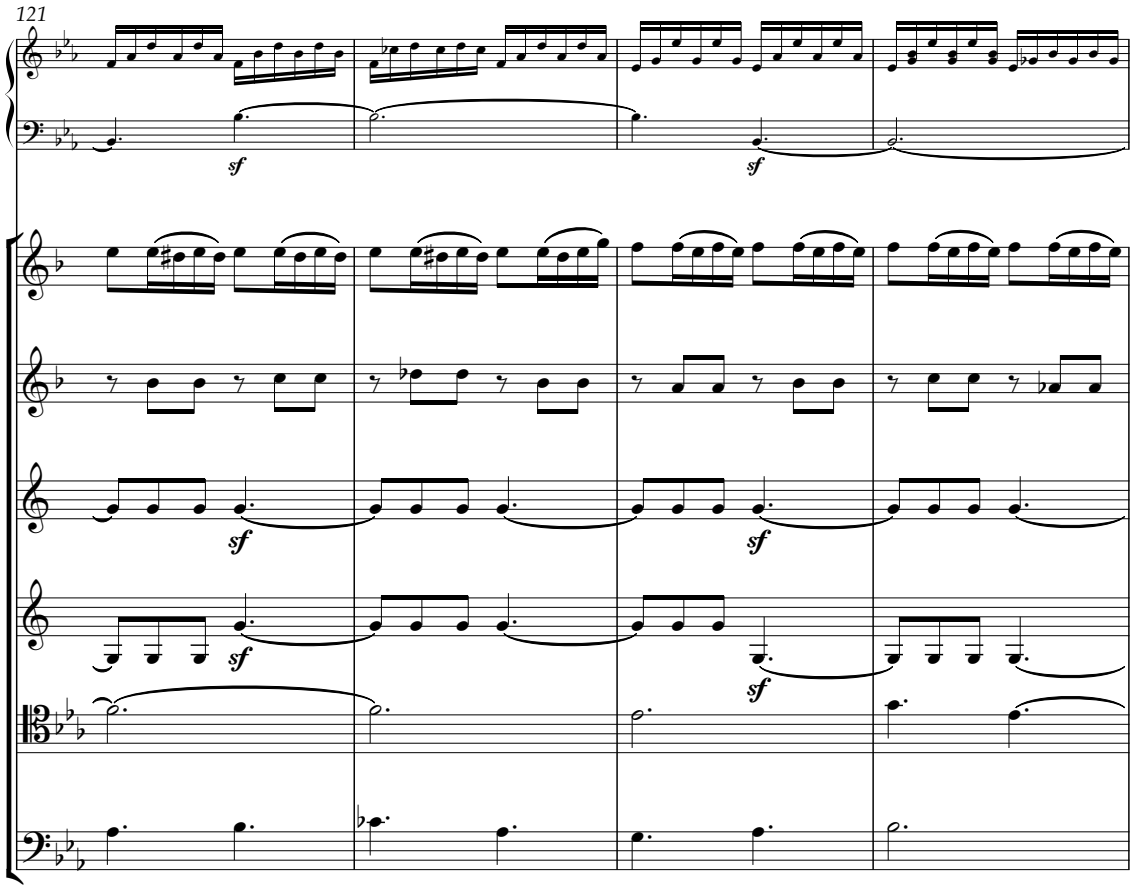

99
ff
f
sf
p

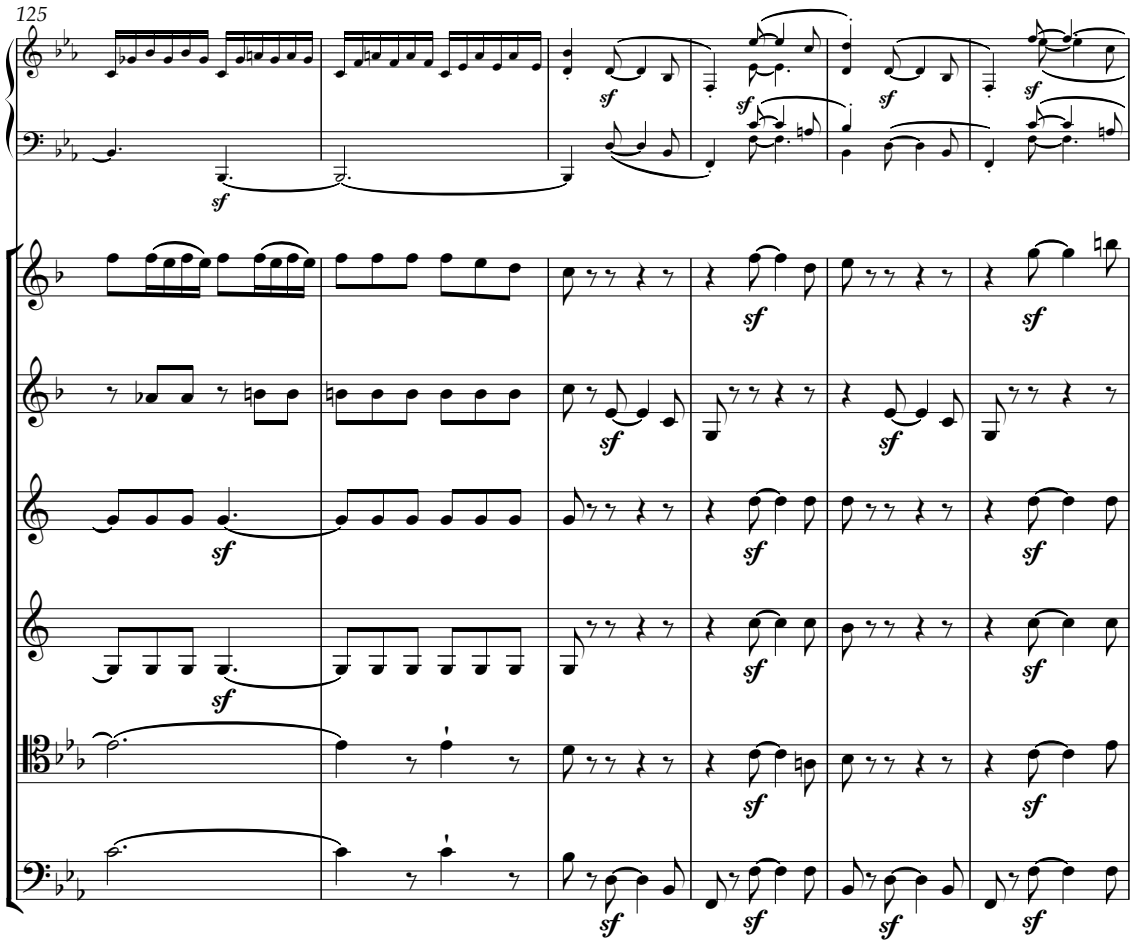

104
sf
p
cresc.

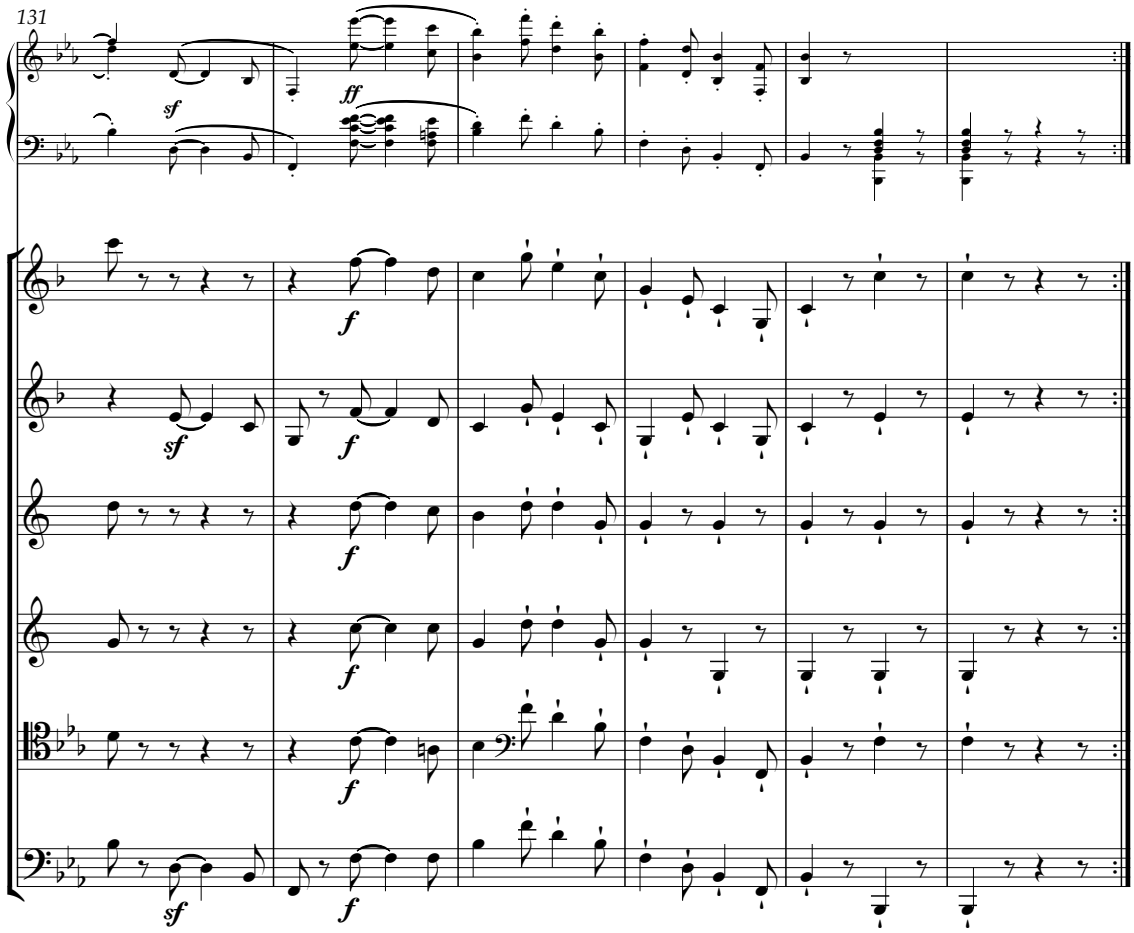

108
ff
sf
f
marc.

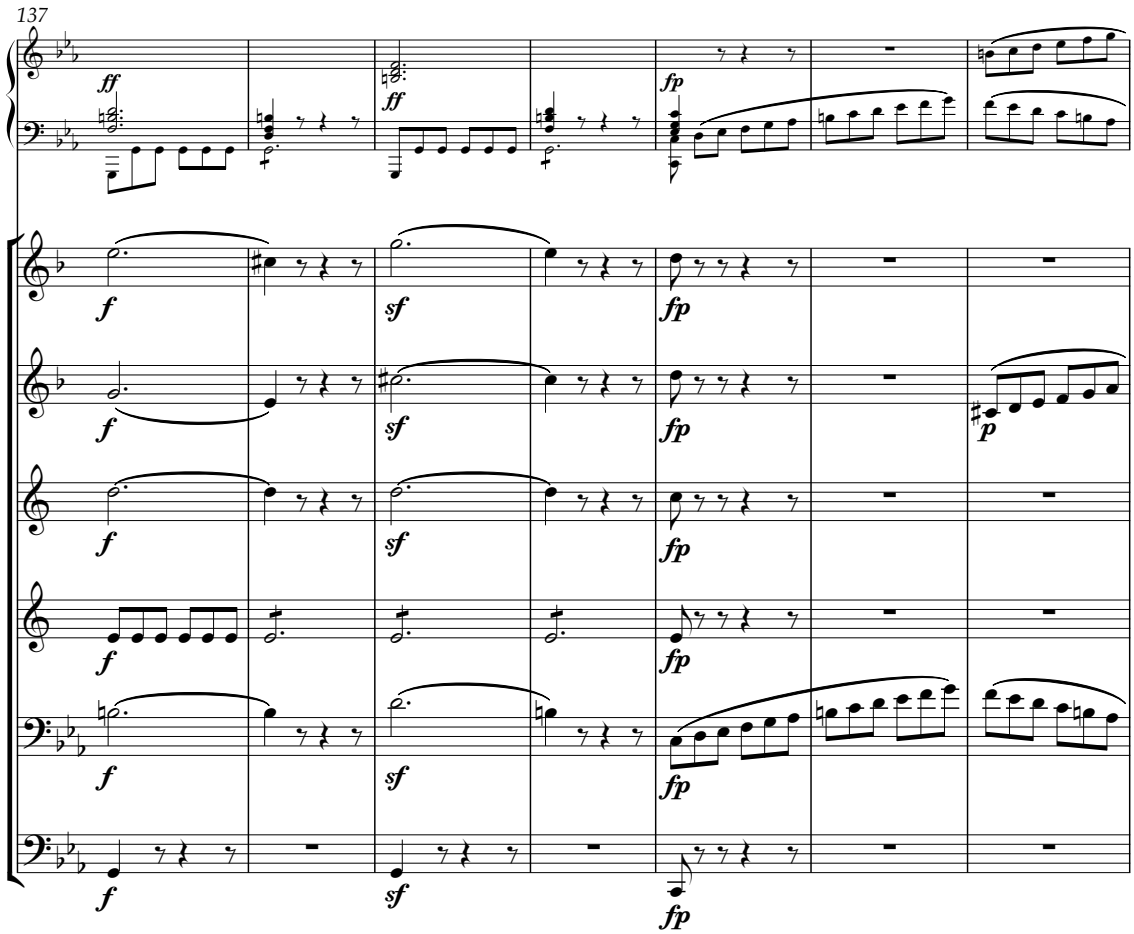

113
sf
sf
marc.
sf
sf
sf

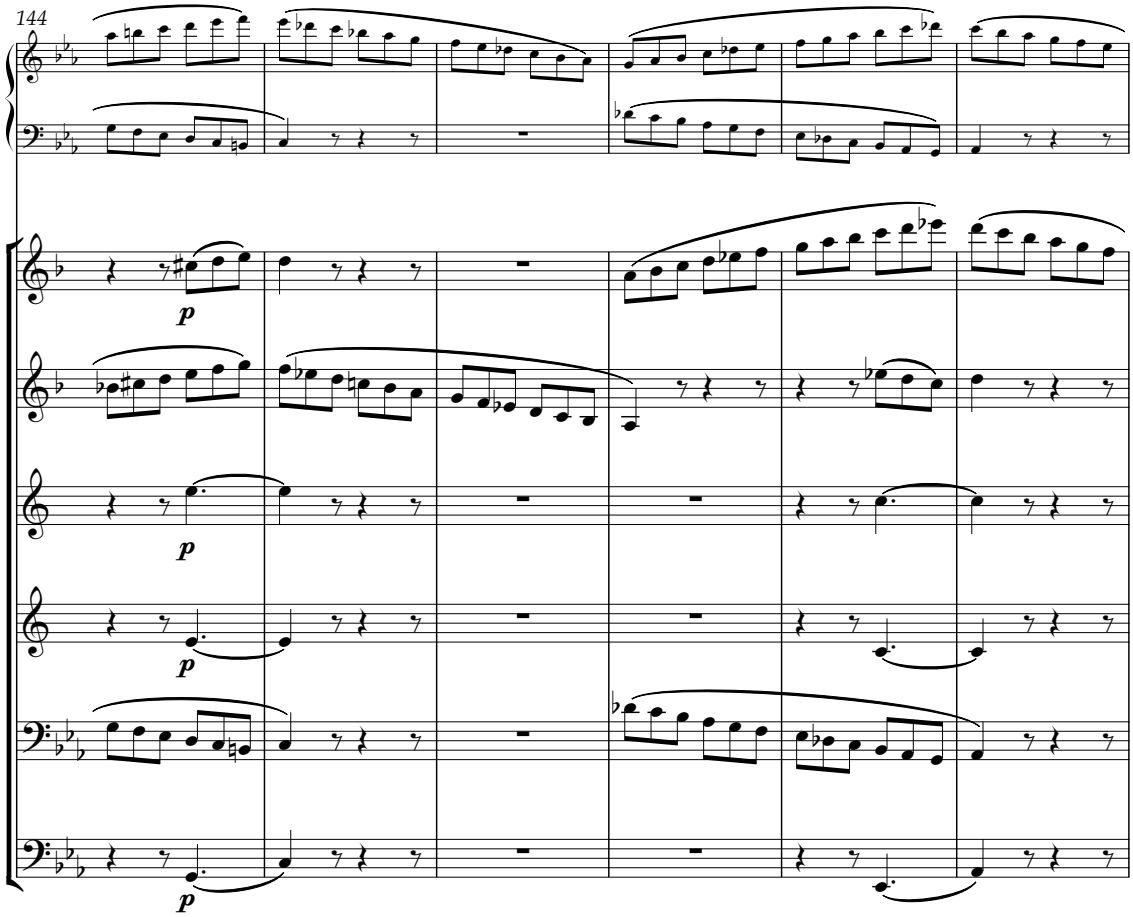

117
sf
sf
sf
sf
sf
marc.
ff

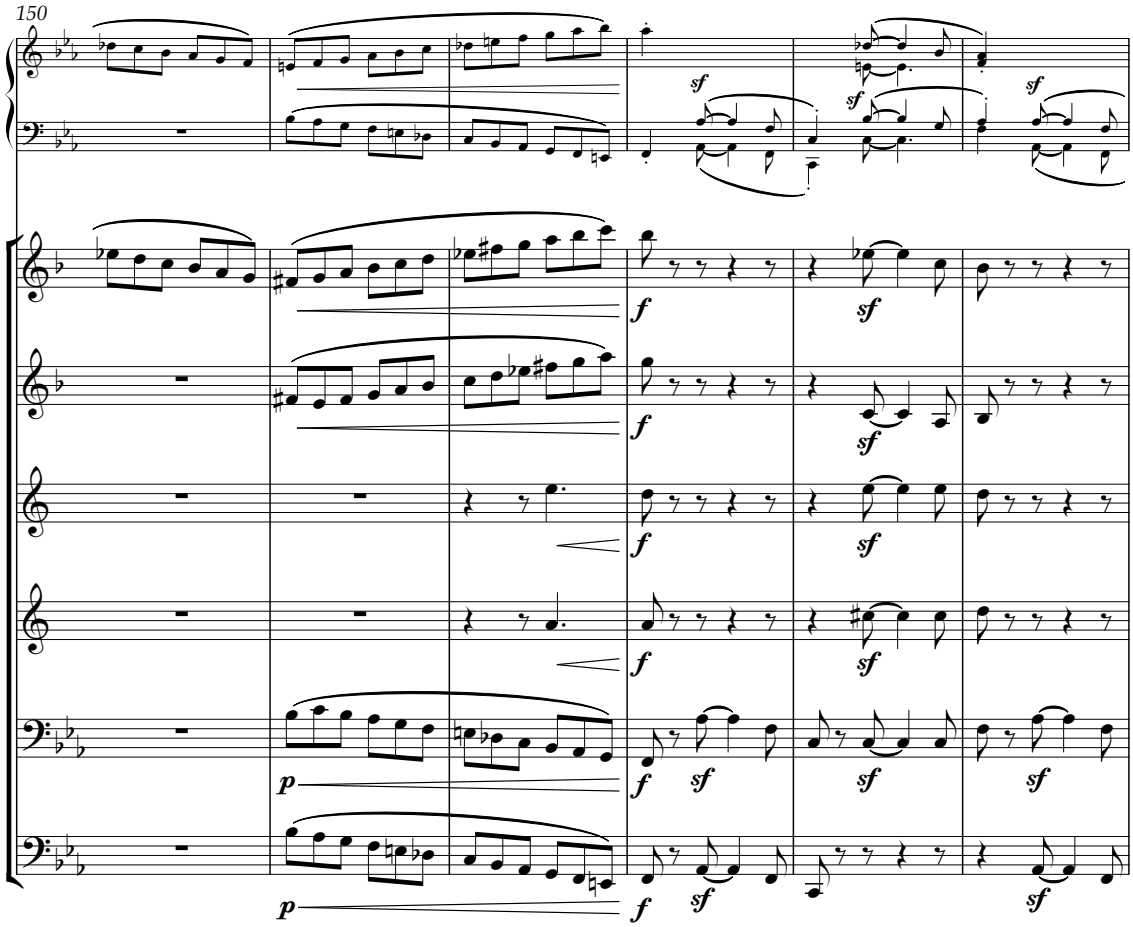

121

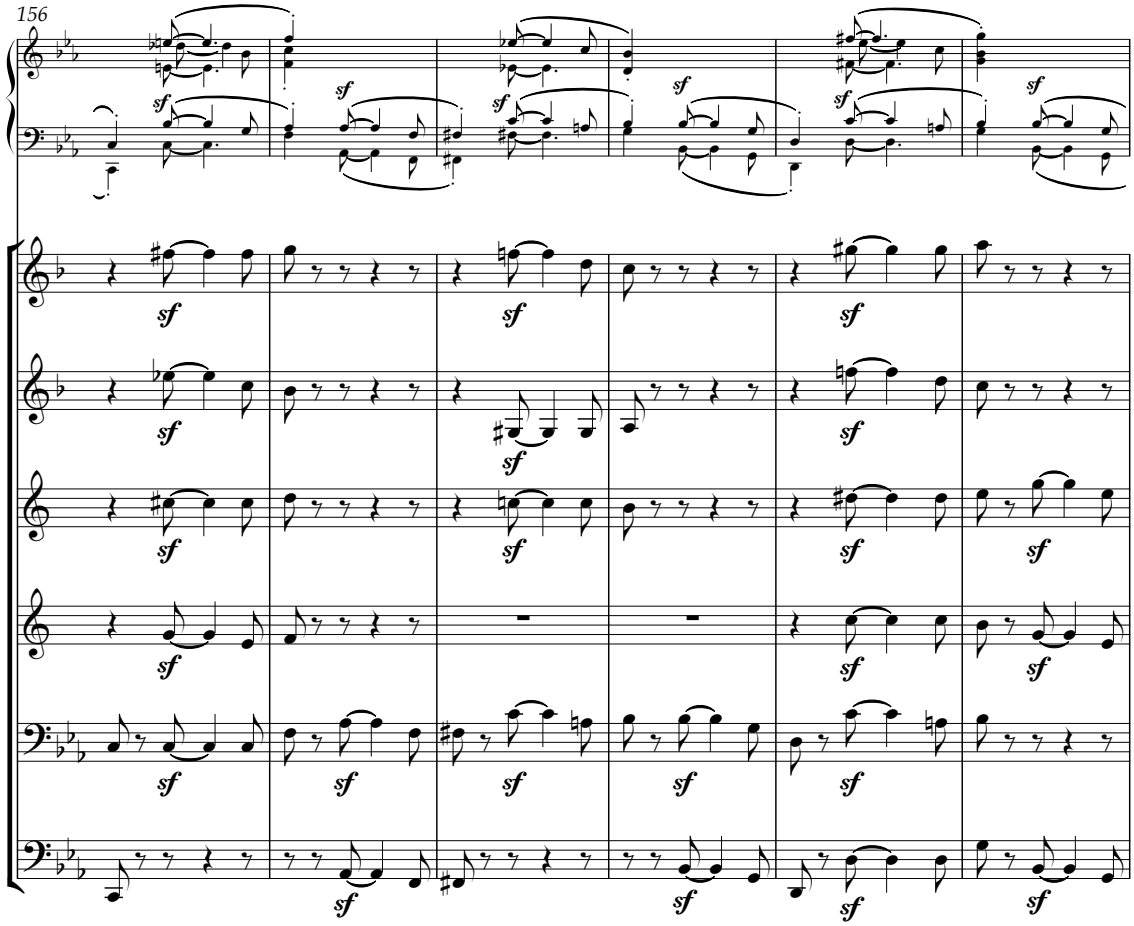

125

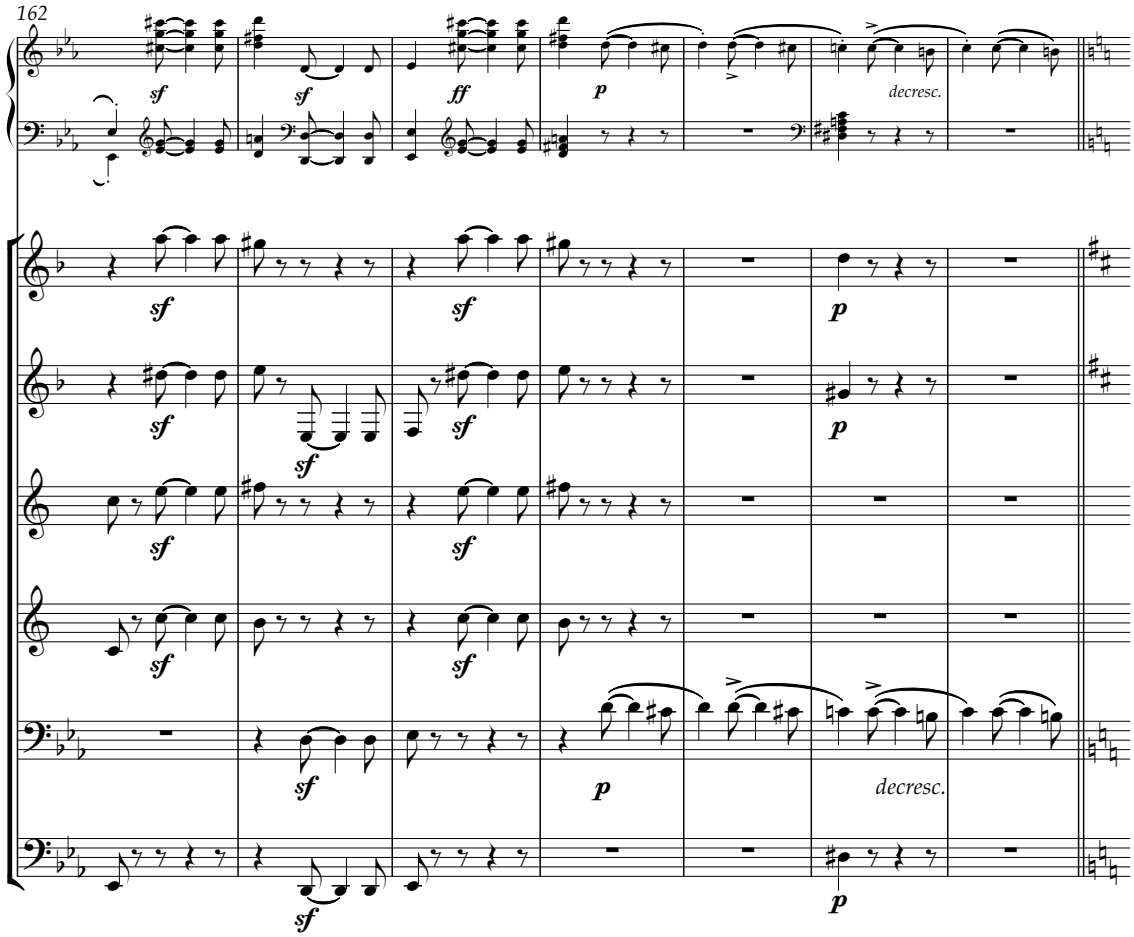

131
sf
ff
f
sf
f
f
f
f
sf
f

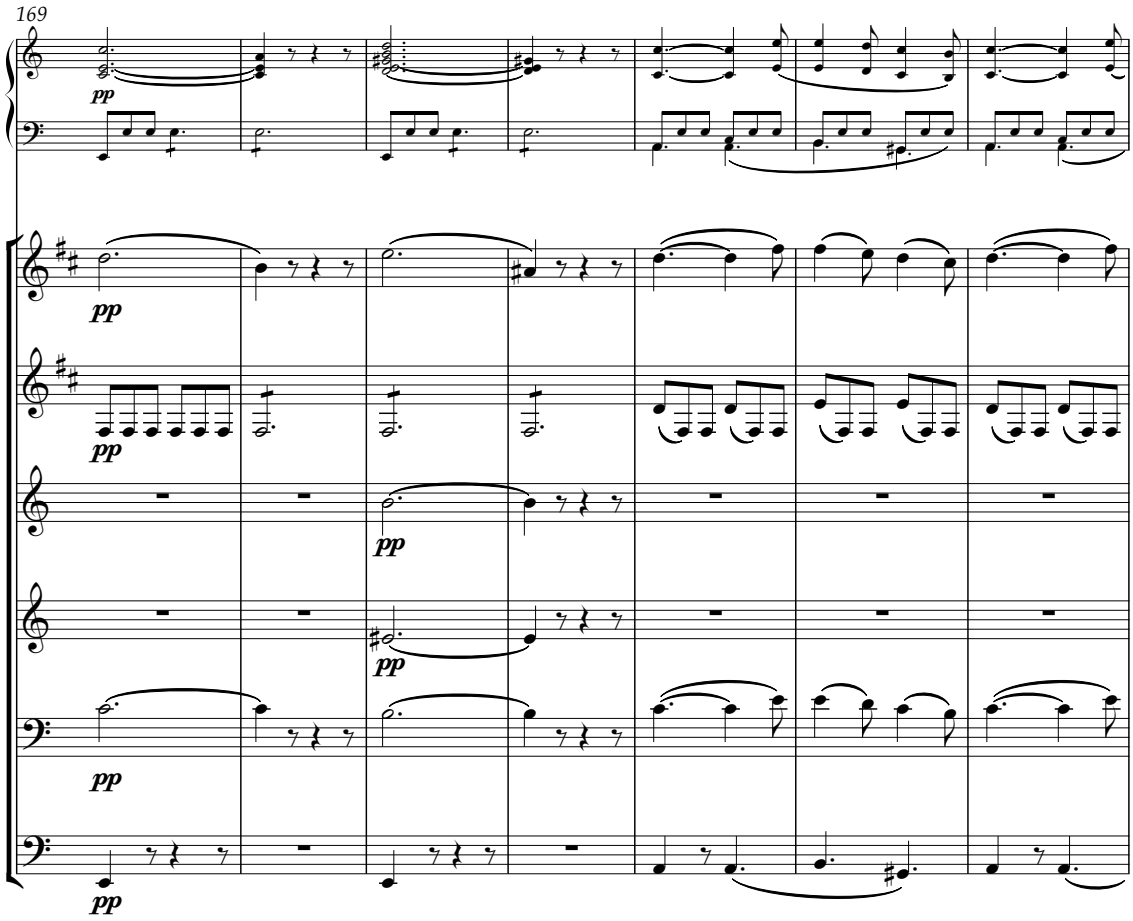

137
ff
ff
fp
f
sf
fp
f
sf
fp
p
f
sf
fp
f
fp
f
sf
fp
f
sf
fp

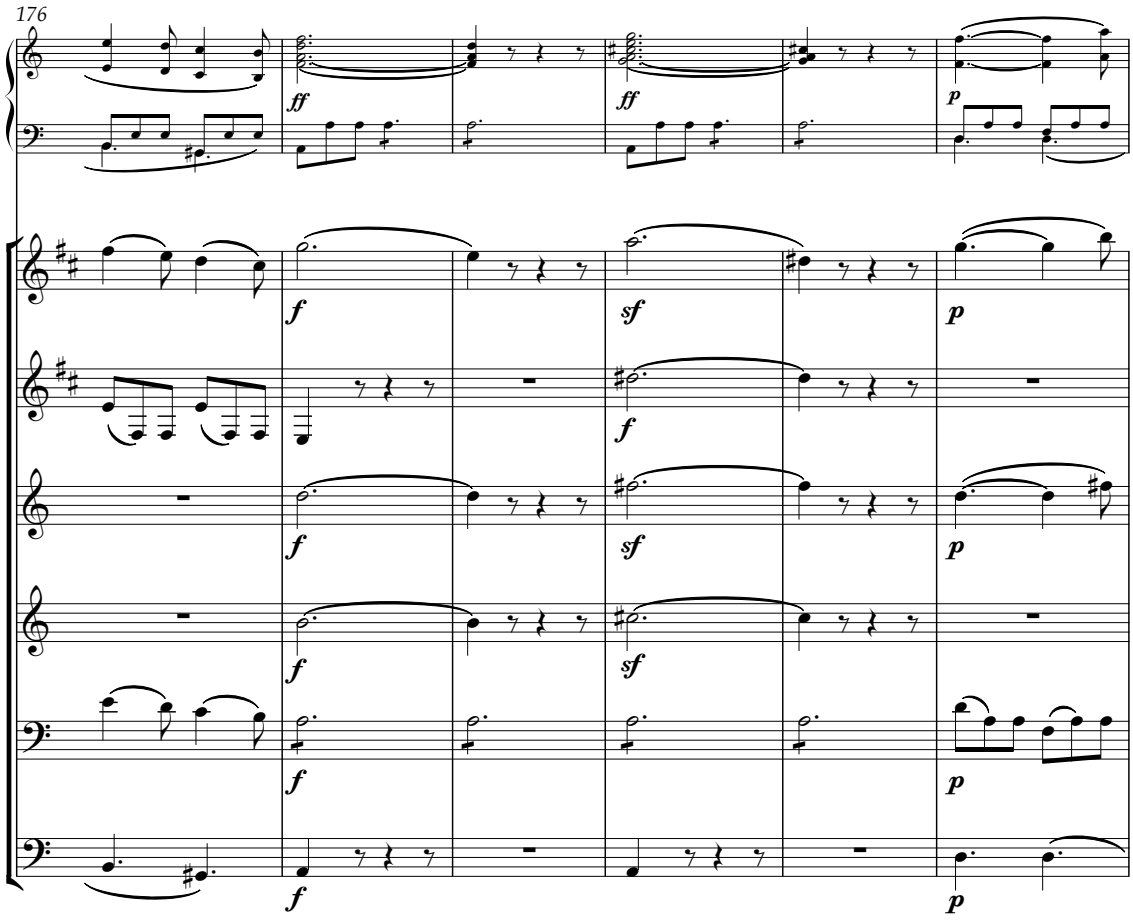

144
p
p
p
p

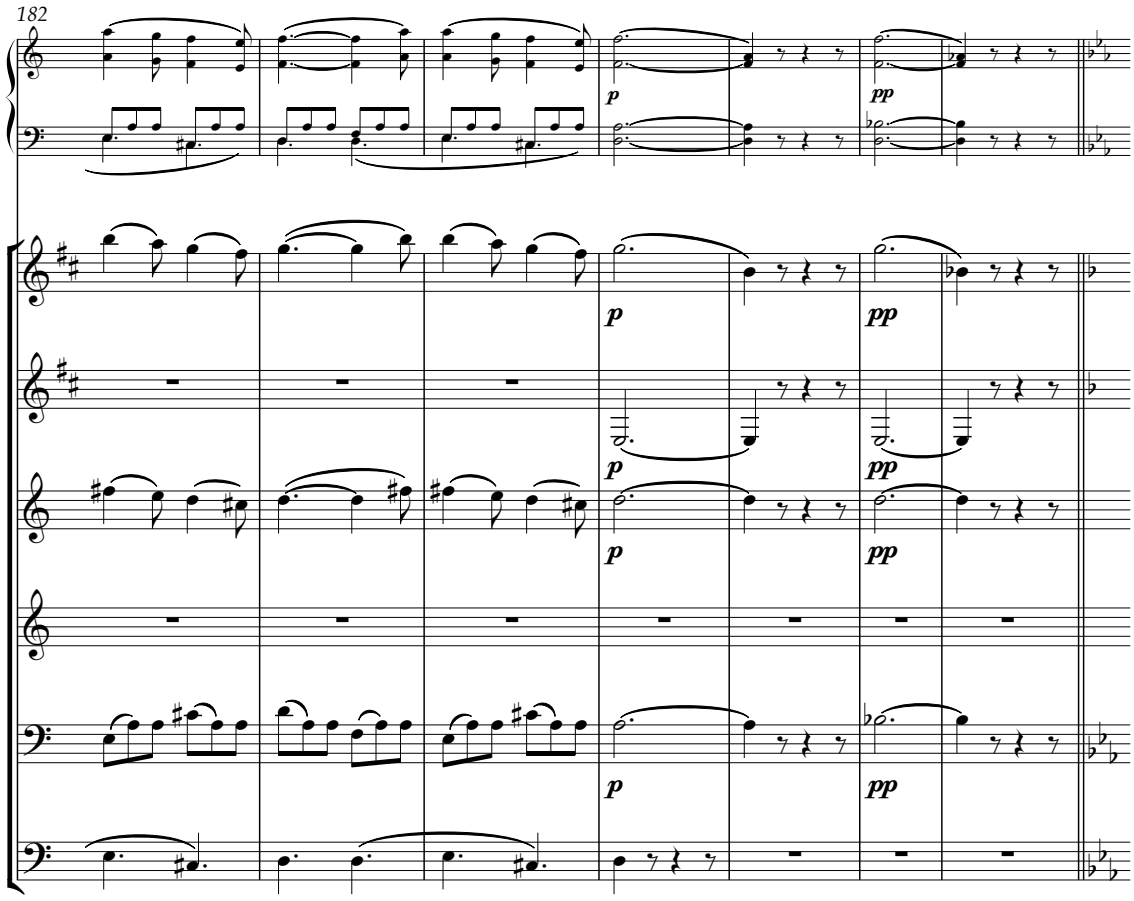

150
sf
sf
sf
f
sf
f
sf
f
sf
f
sf
f
sf
p
f
sf
sf
sf
p
f
sf
sf

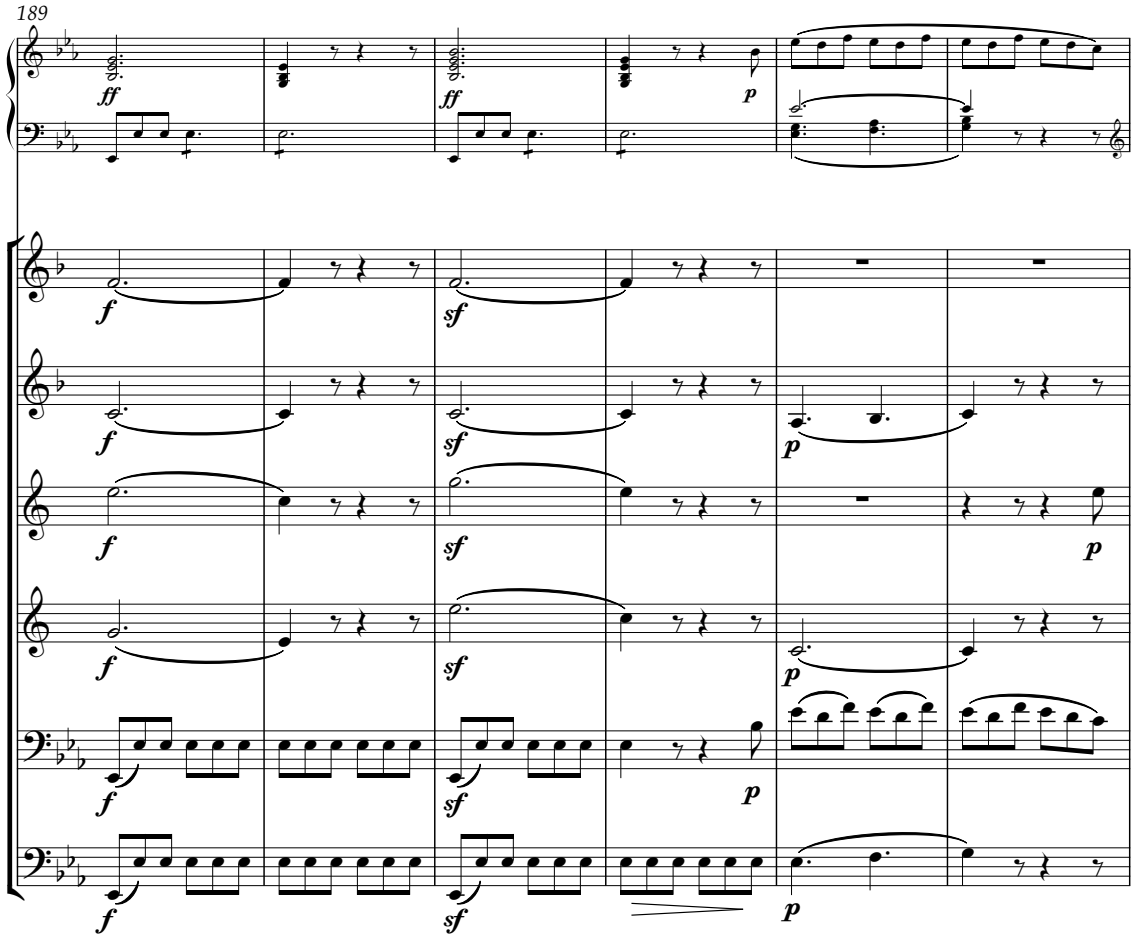

156
sf

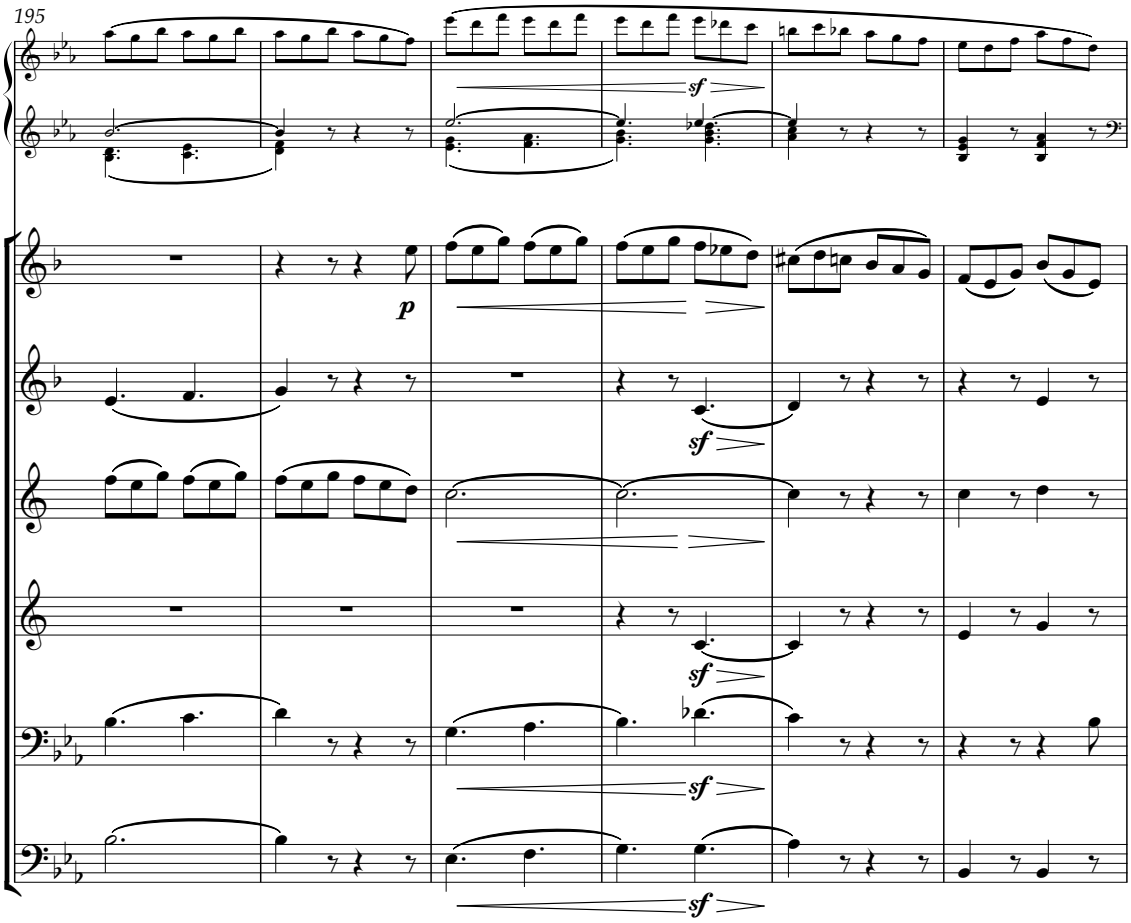

162
sf
ff
p
decresc.

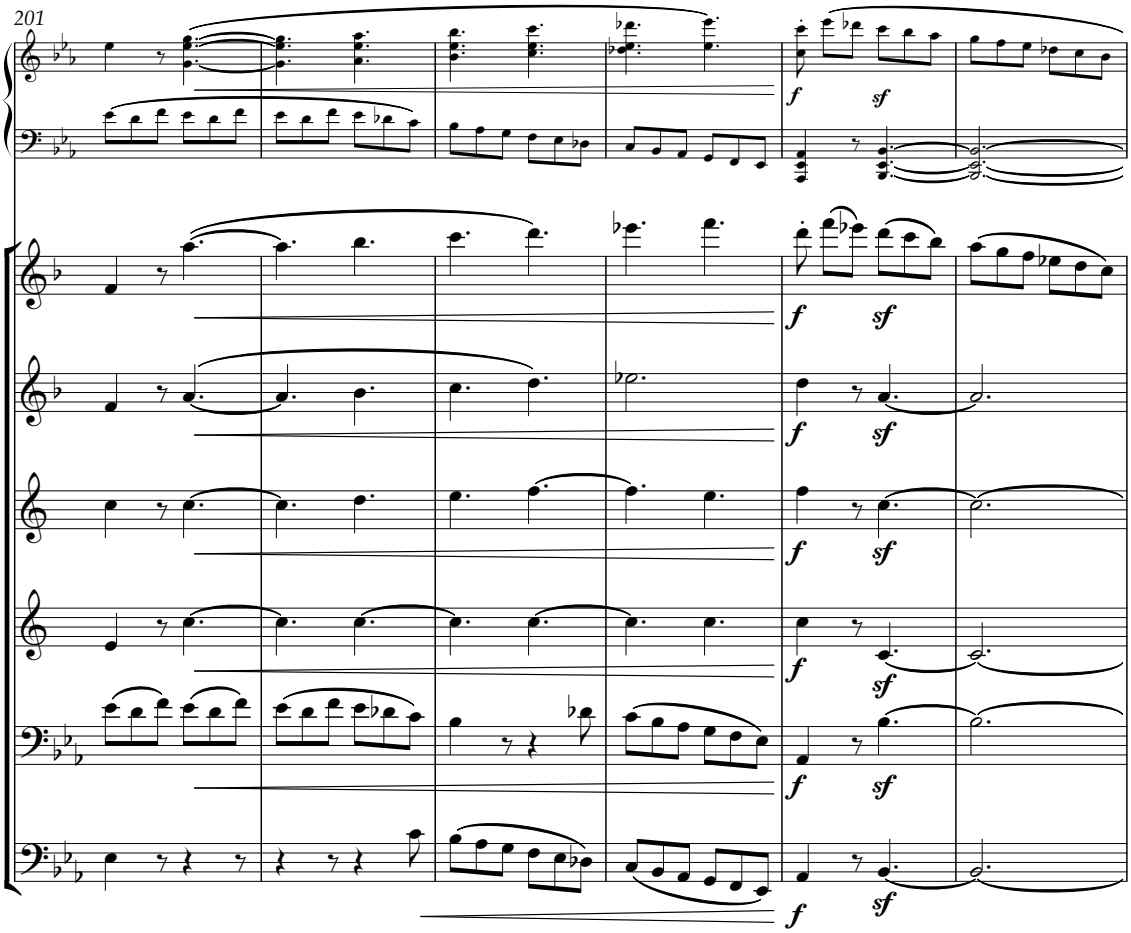

169
pp
pp
pp
pp
pp
pp

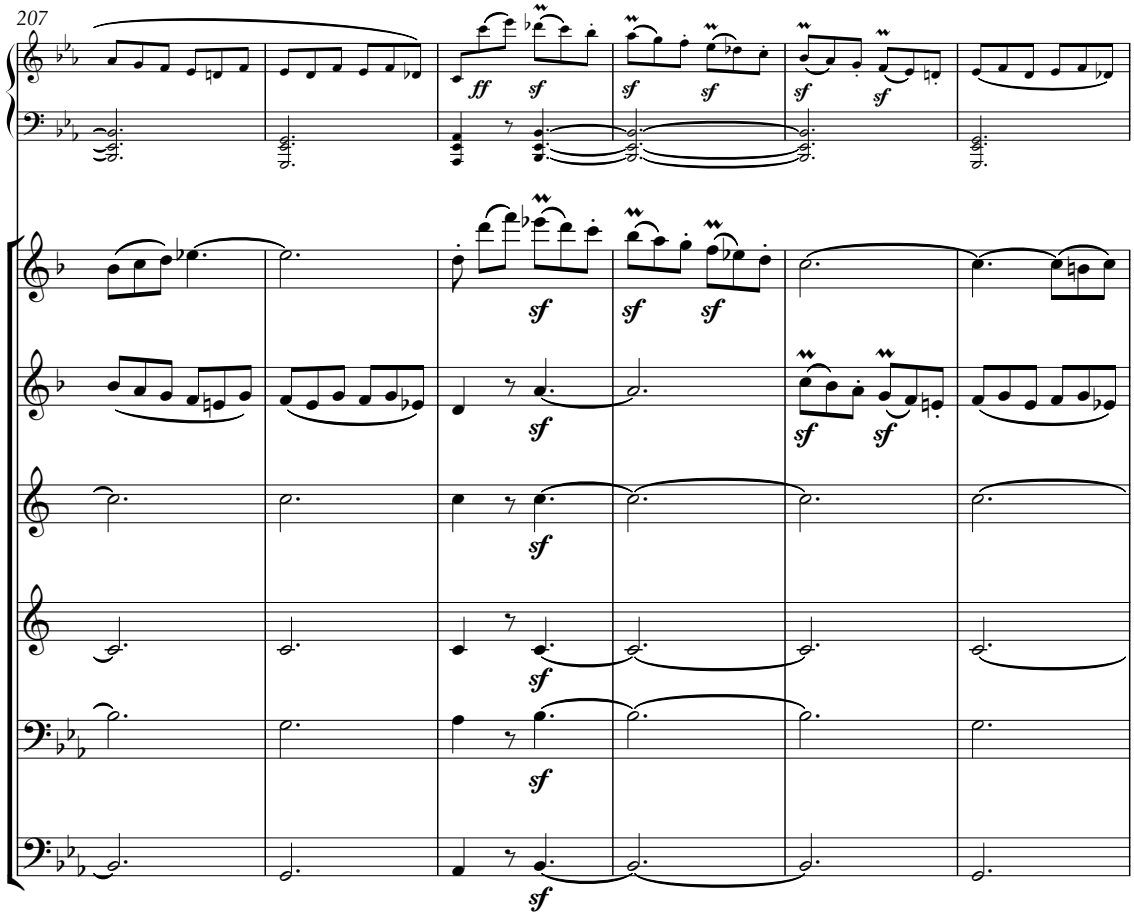

176
ff
ff
p
f
sf
p
f
f
sf
p
f
sf
p
f
p

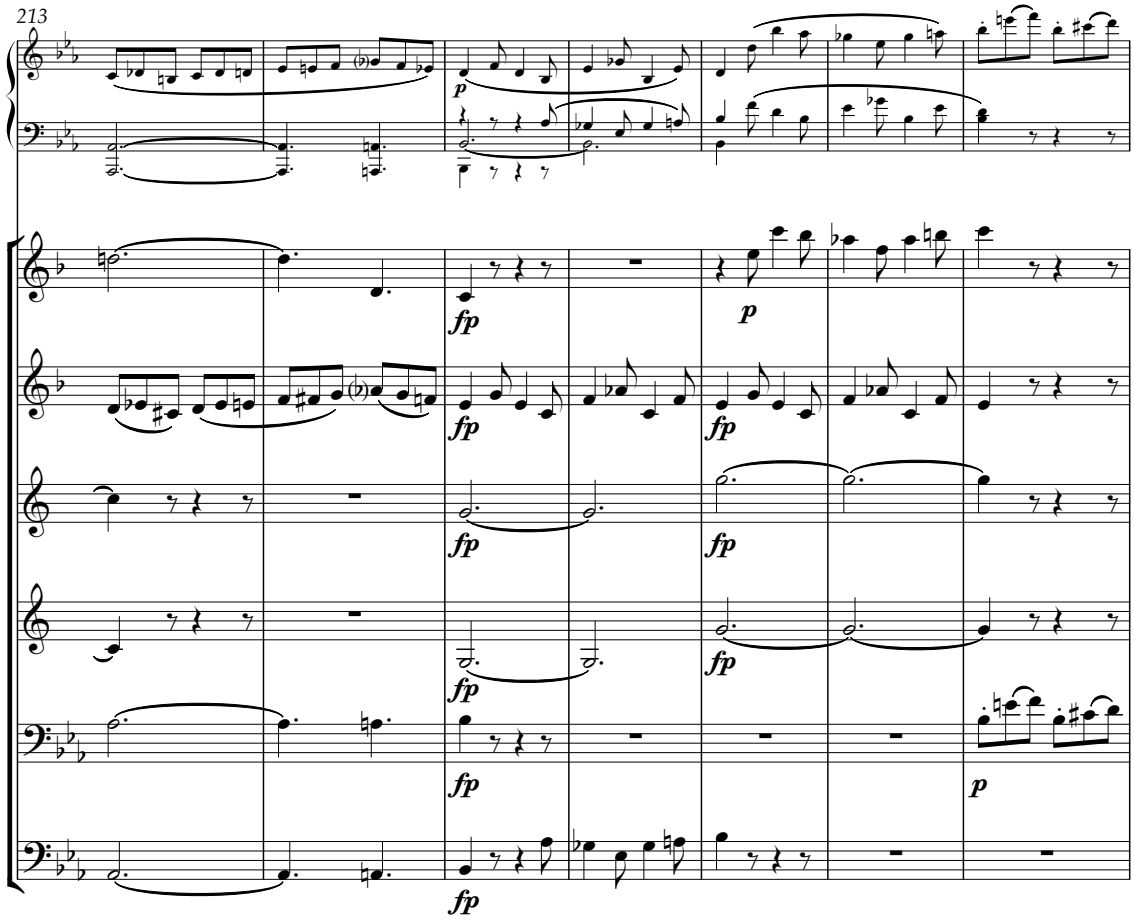

182
p
pp

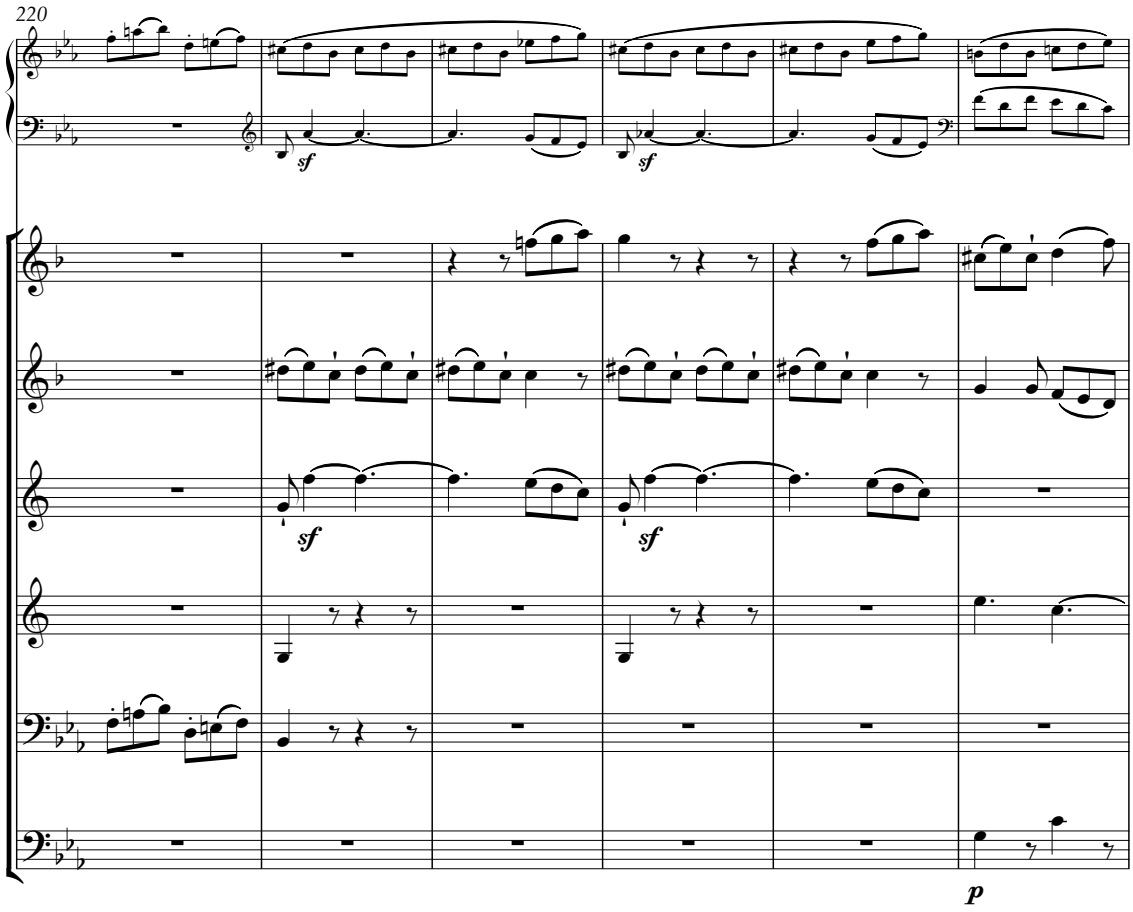

189
ff
p
f
sf

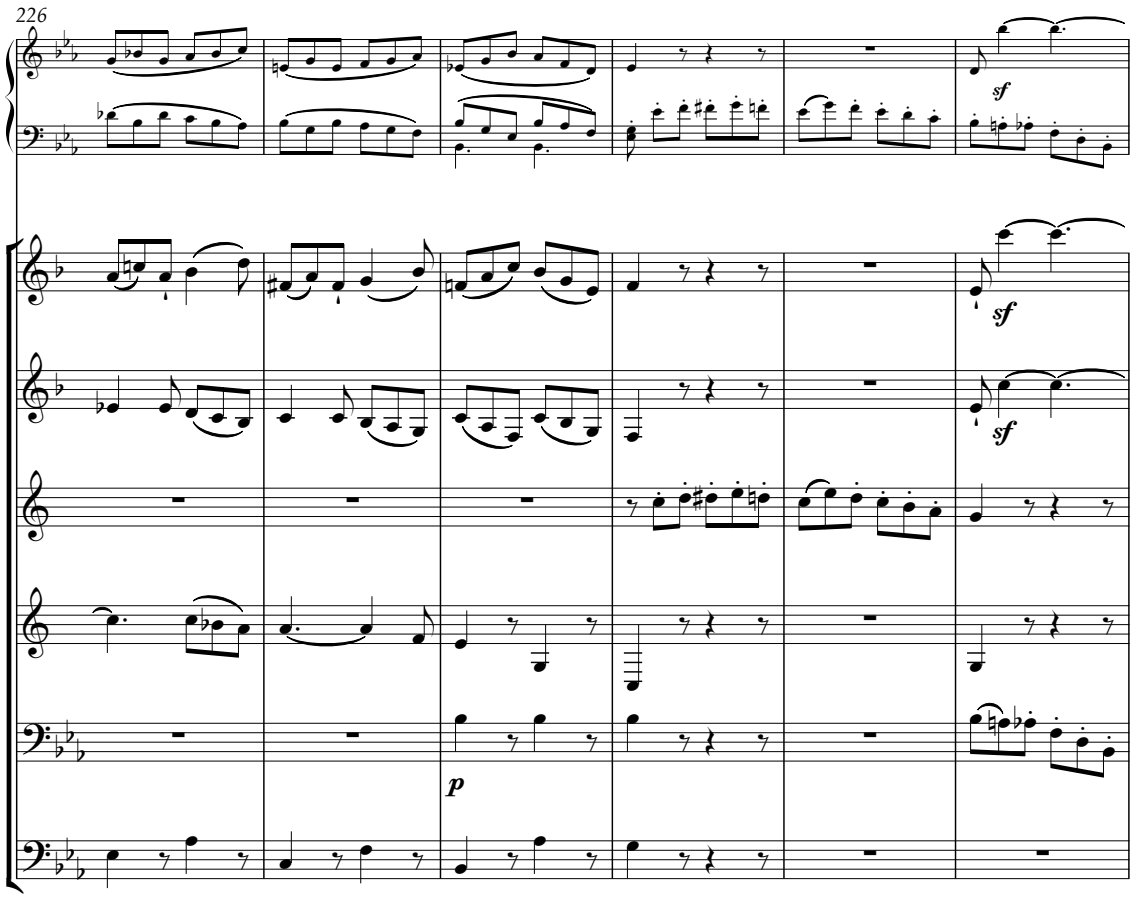

195
sf
p
sf
sf
sf
sf

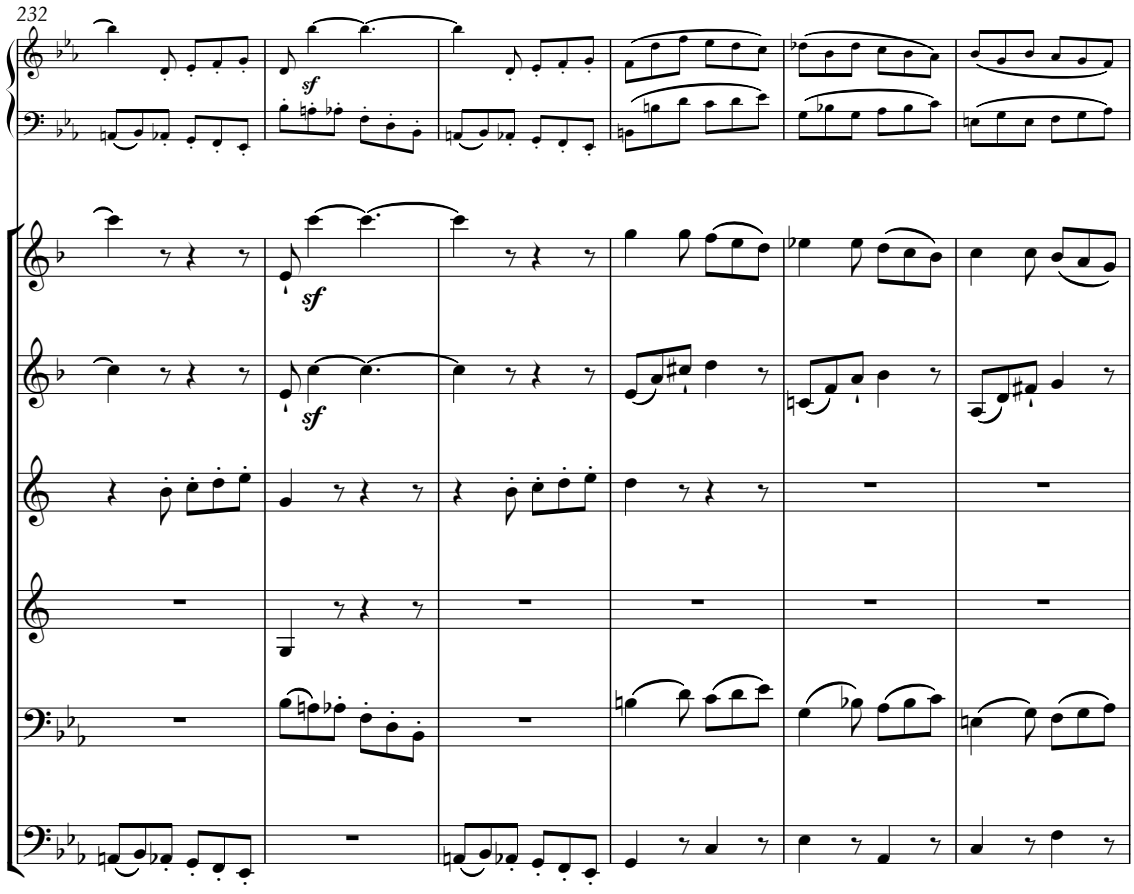

201
f
sf
f
sf
f
sf
f
sf
f
sf
f

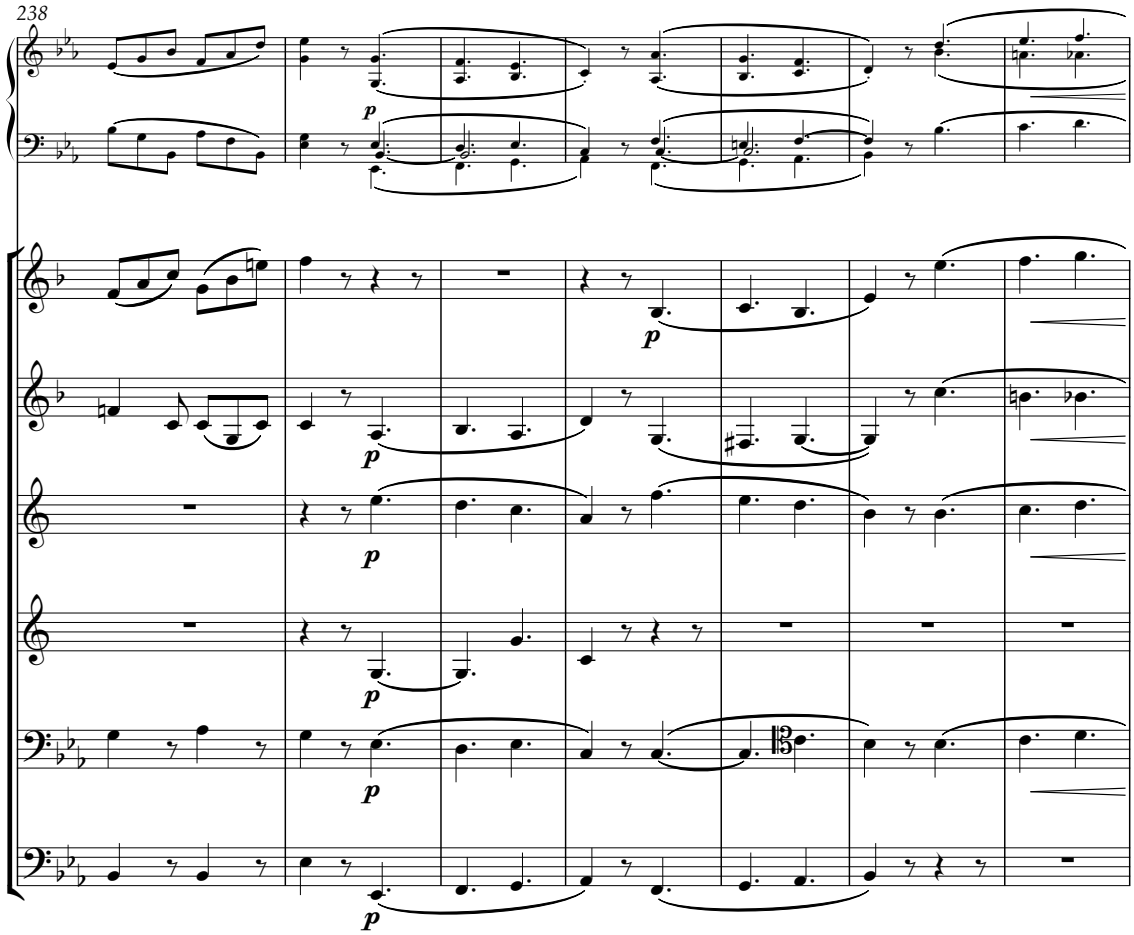

207
ff
sf

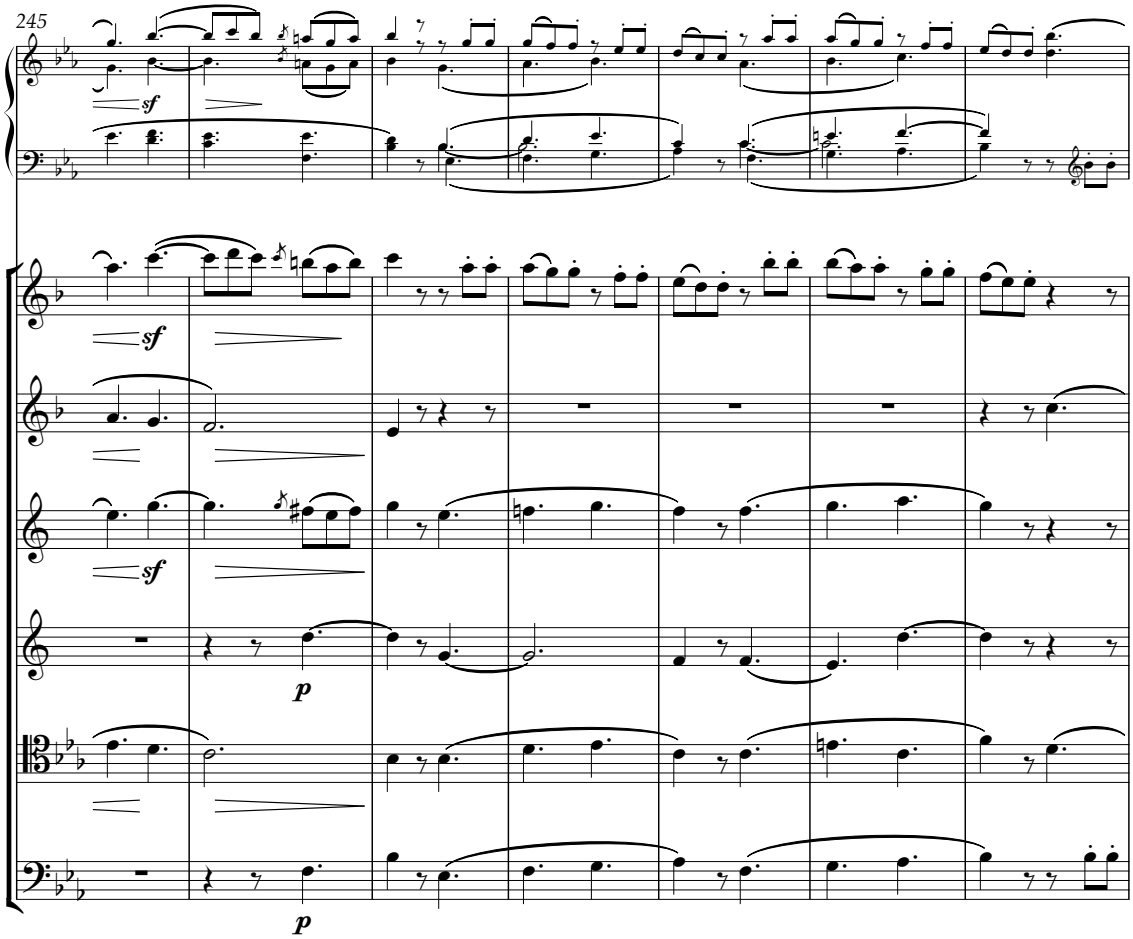

213
p
fp

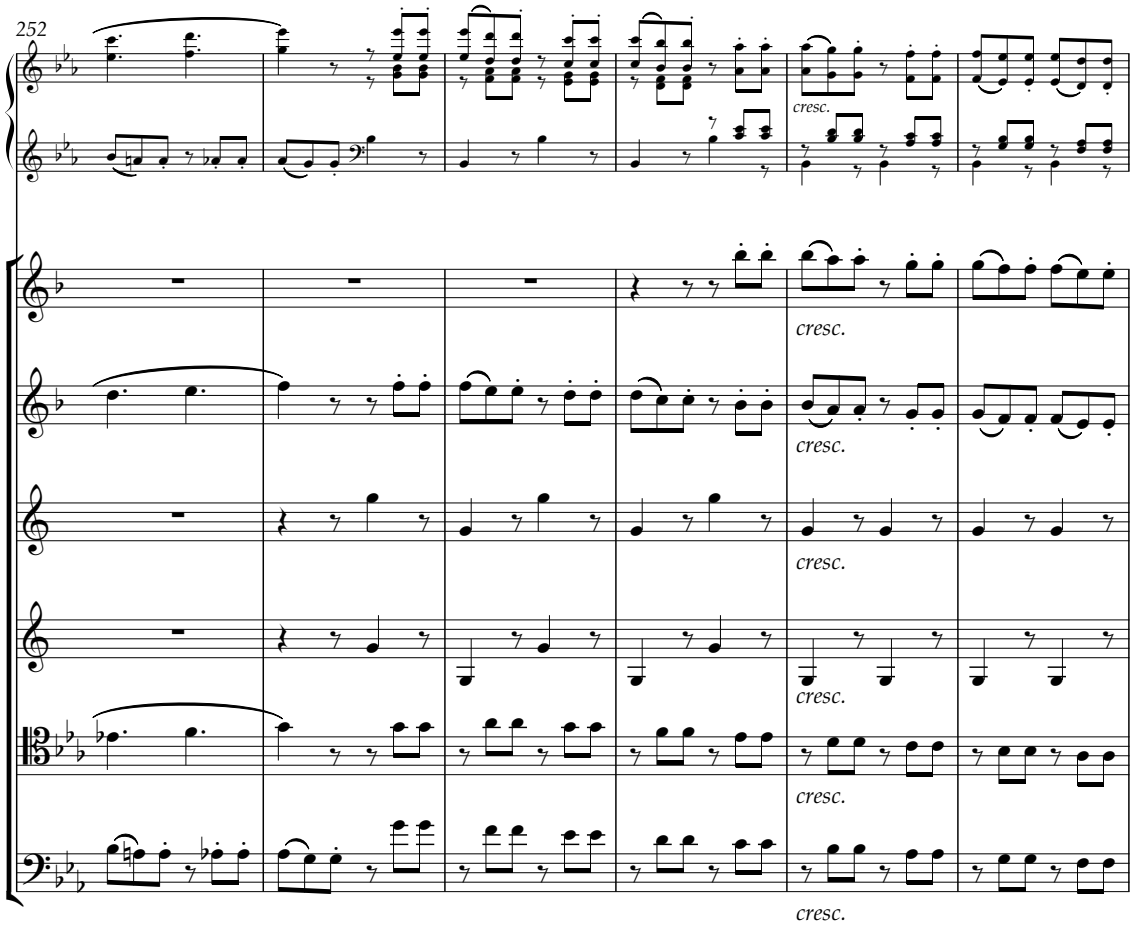

220
sf
sf
sf
sf
p

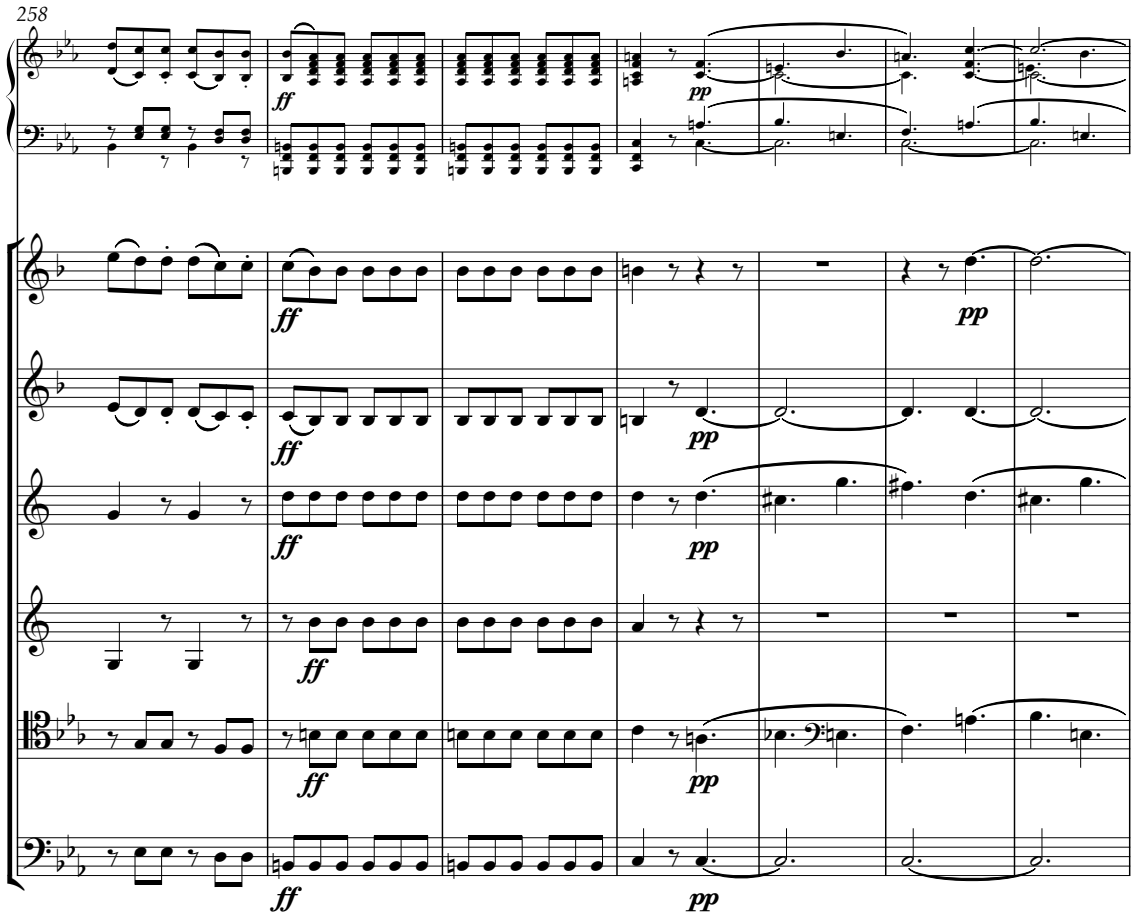

226
sf
sf
sf
p

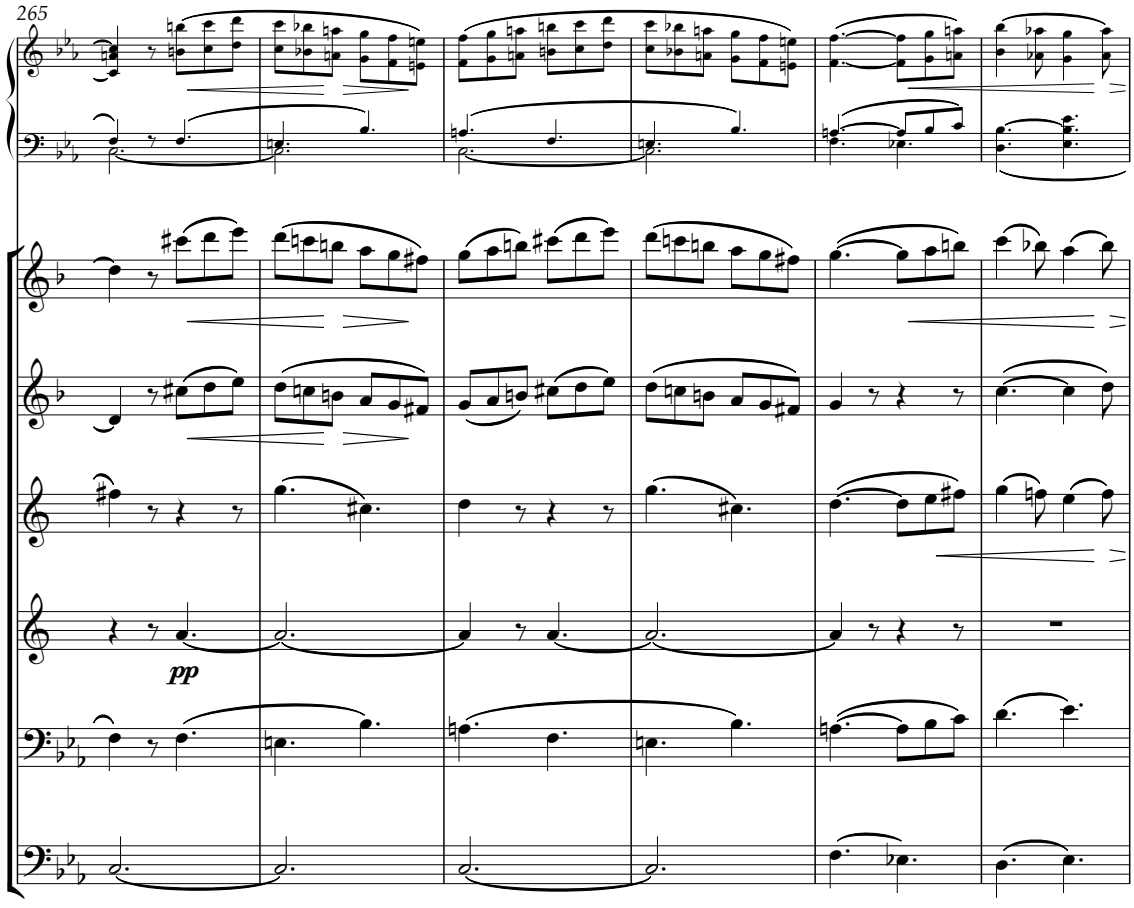

232
sf
sf
sf

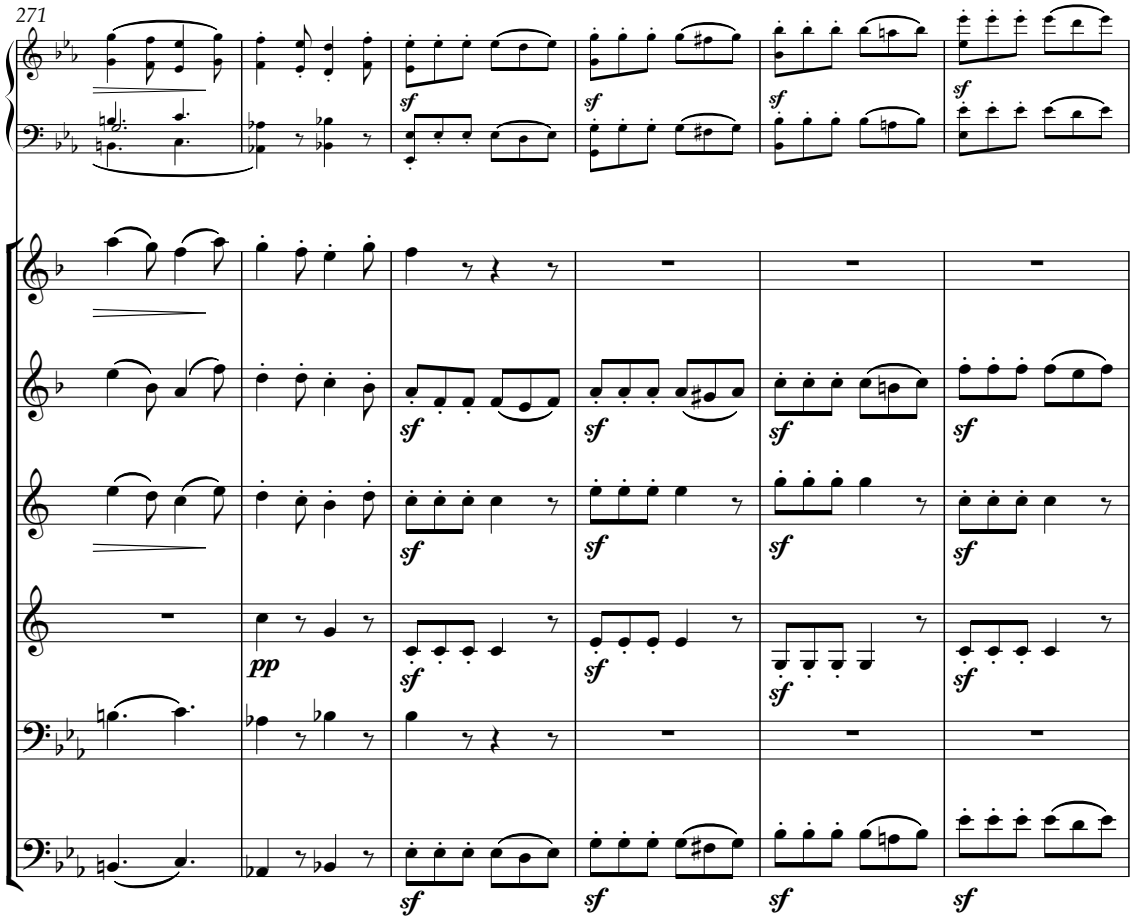

238
p
p
p
p
p
p

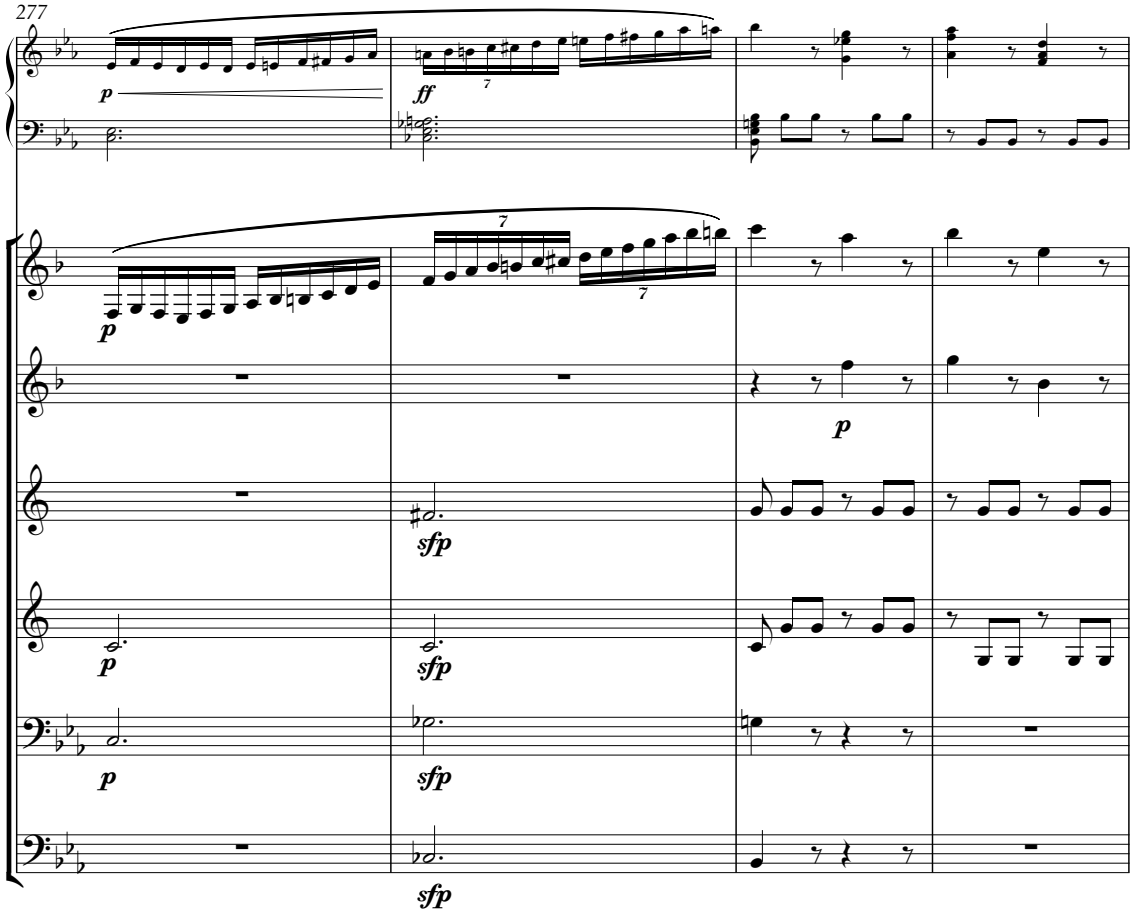

245
sf
sf
sf
p
p

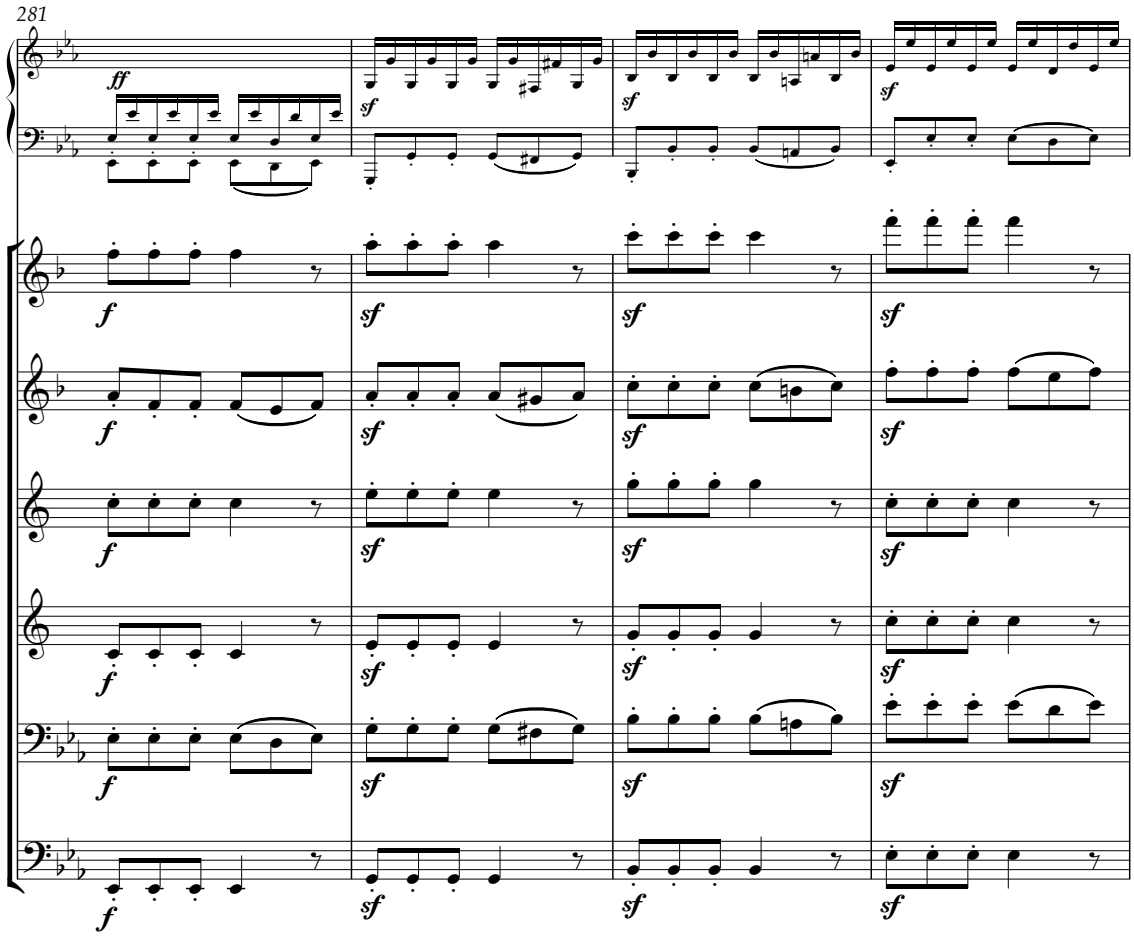

252
cresc.
cresc.
cresc.
cresc.
cresc.
cresc.

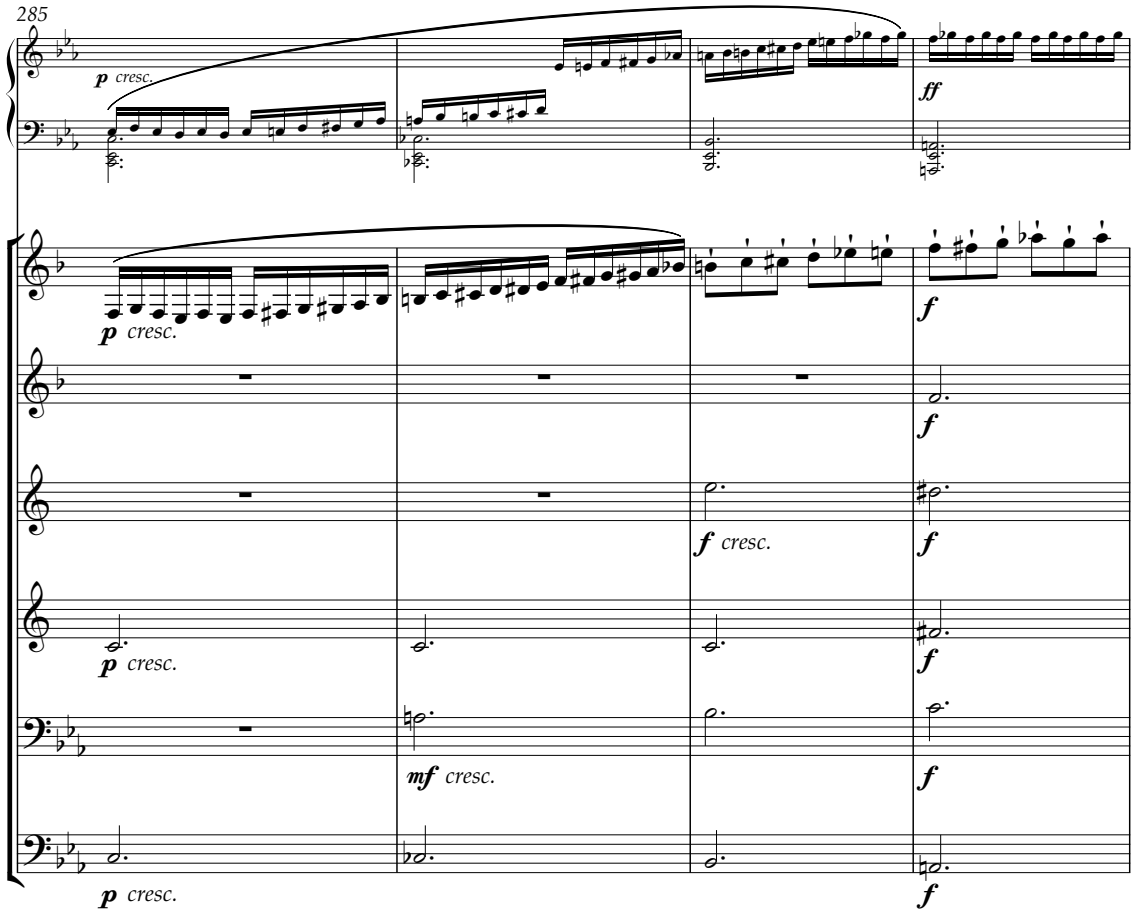

258
ff
pp

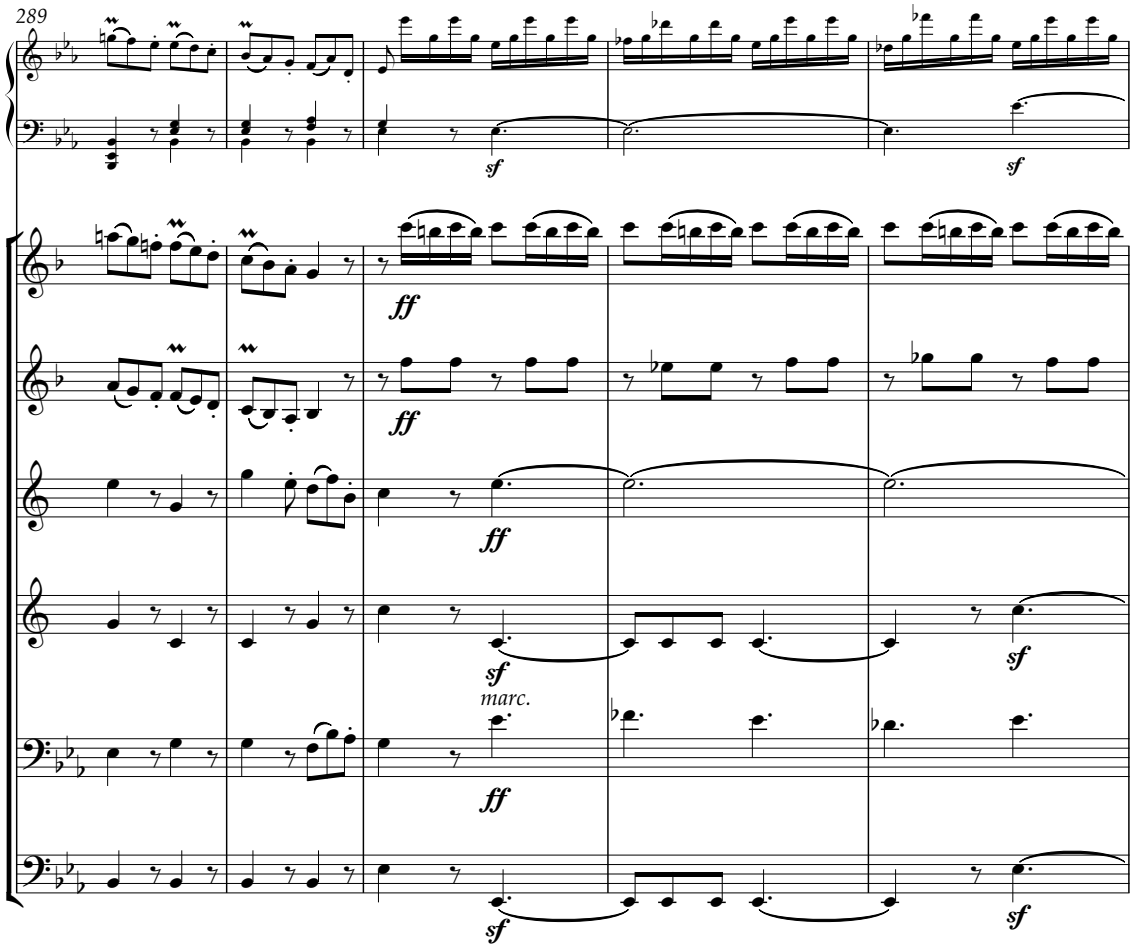

265
pp

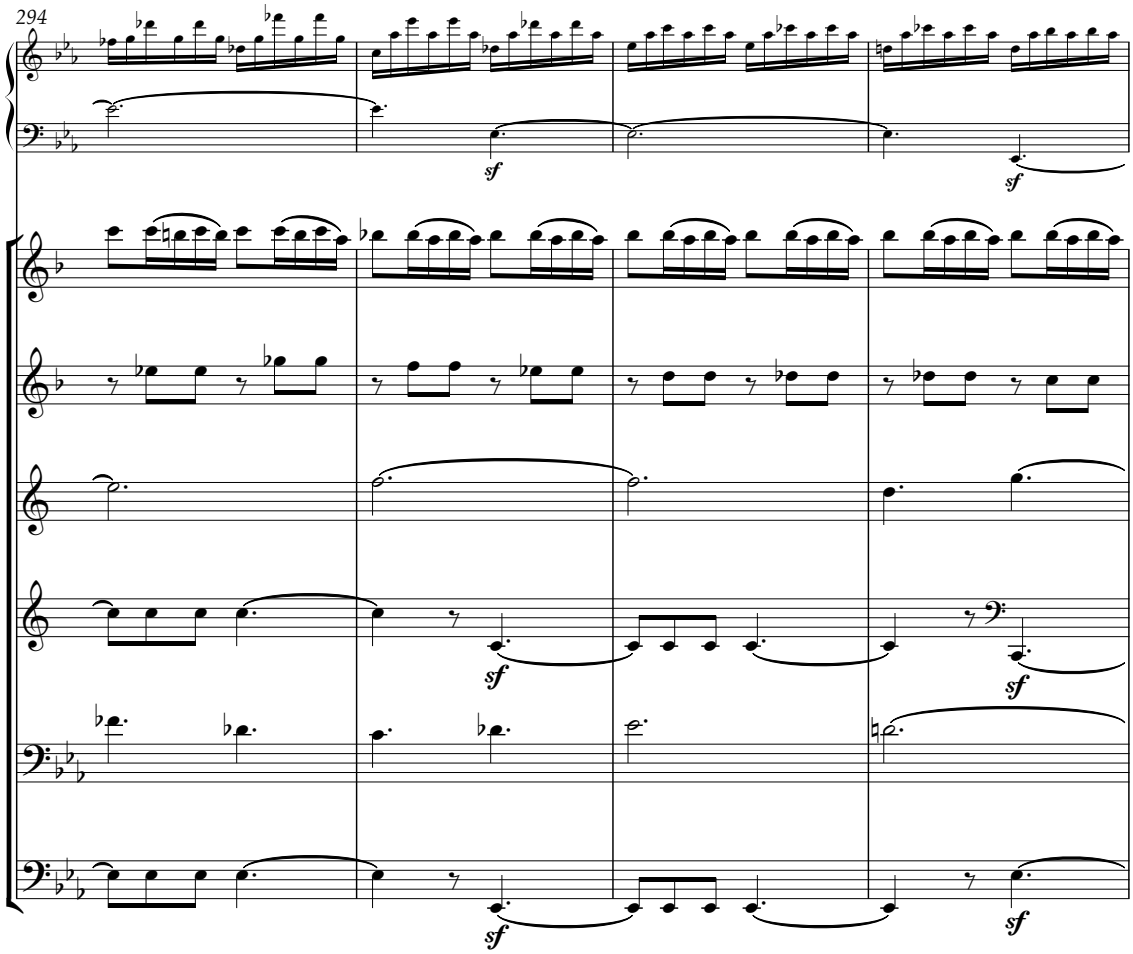

271
sf
pp

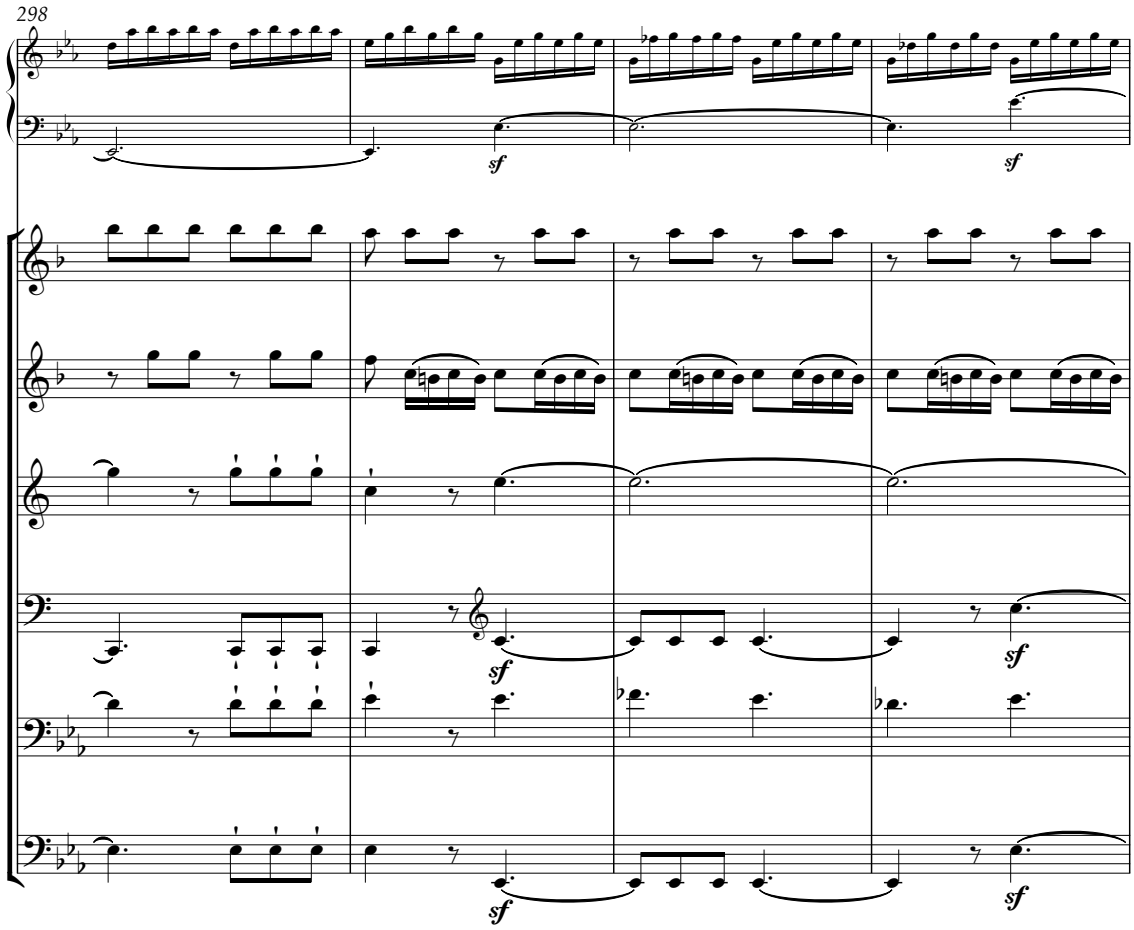

277
p
ff
sfp

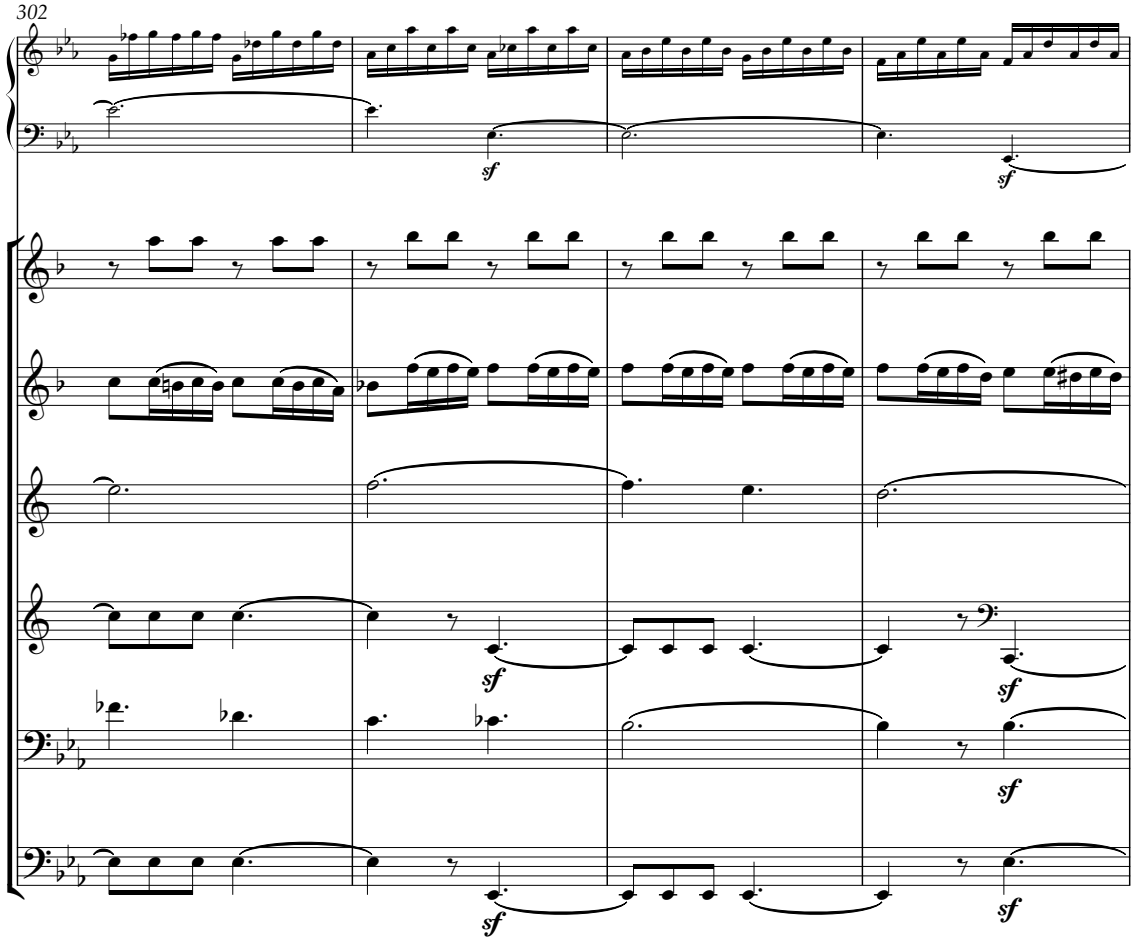

281
ff
sf
f
sf

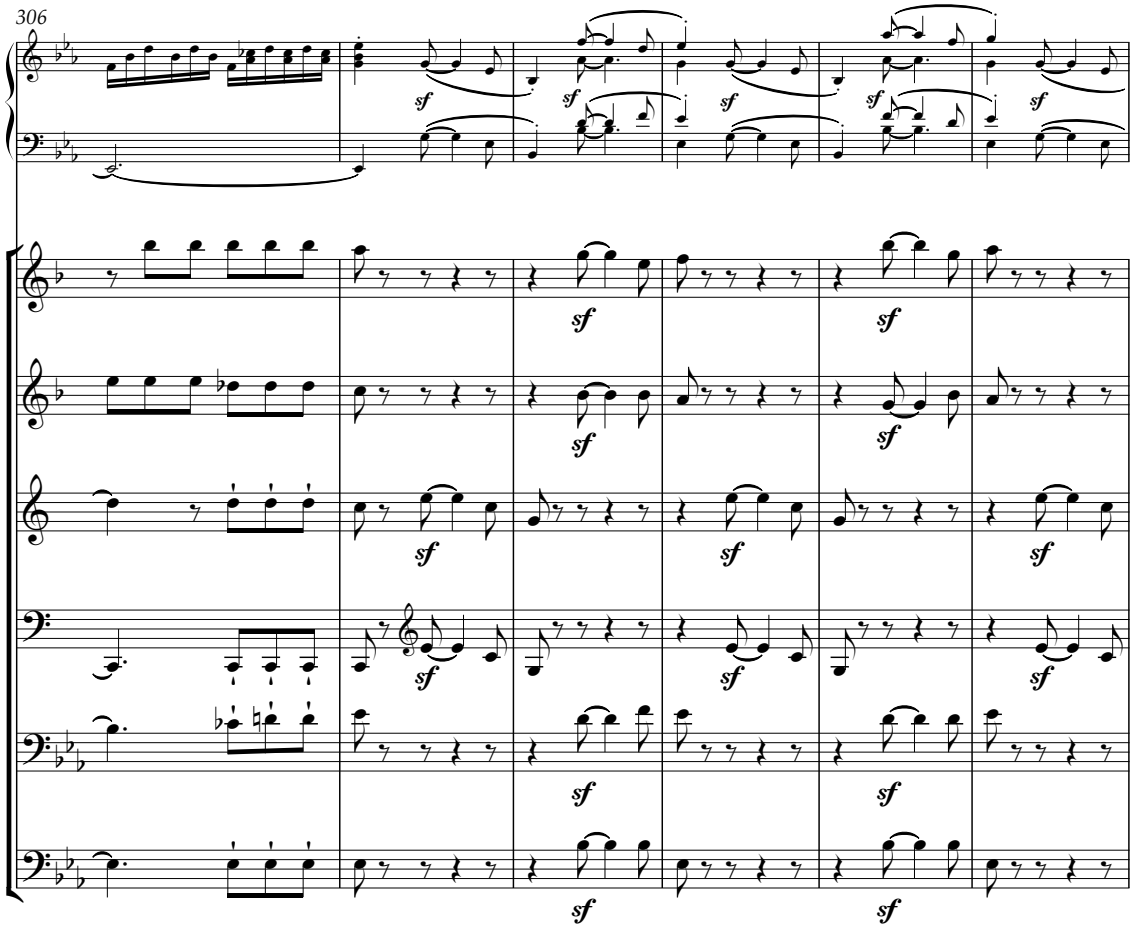

285
p cresc.
ff
f
f cresc.
mf cresc.

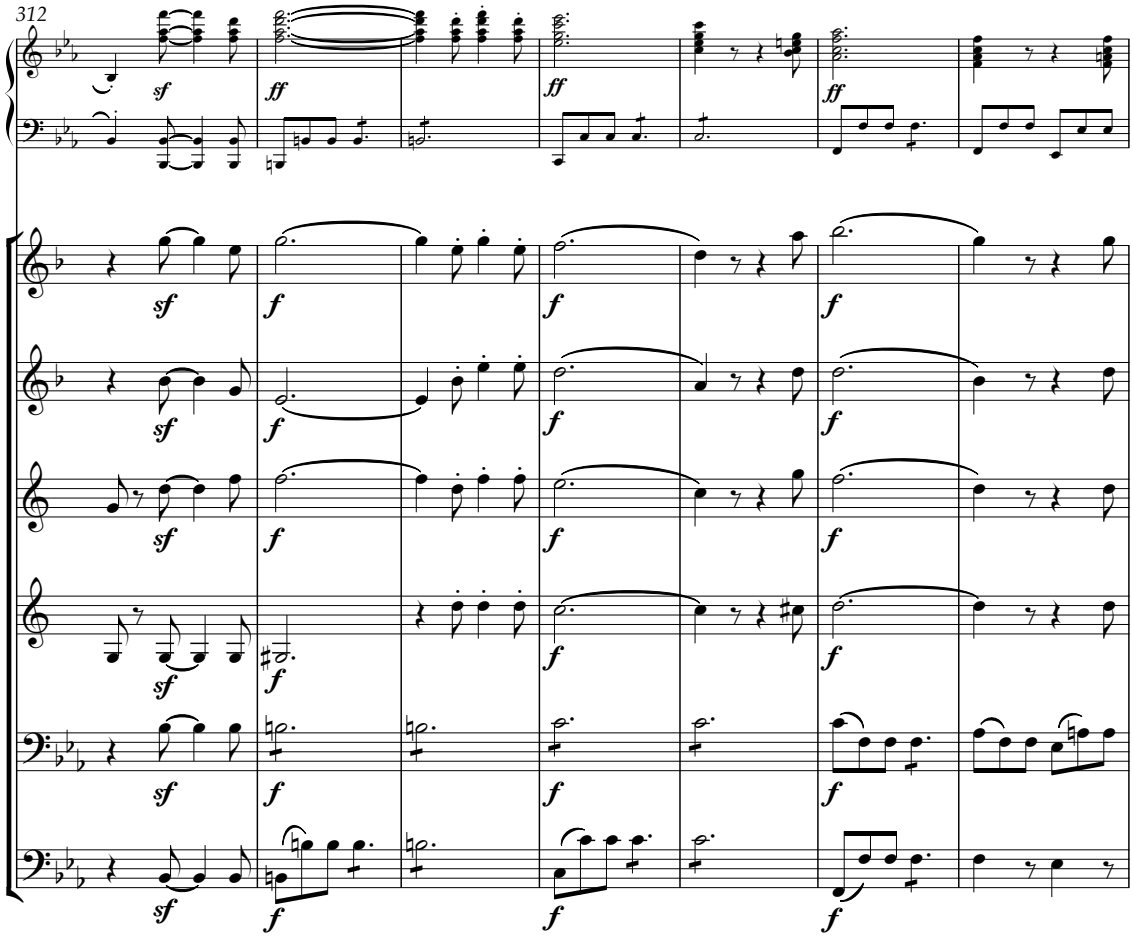

289
sf
sf
ff
ff
ff
sf
sf
marc.
ff
sf
sf

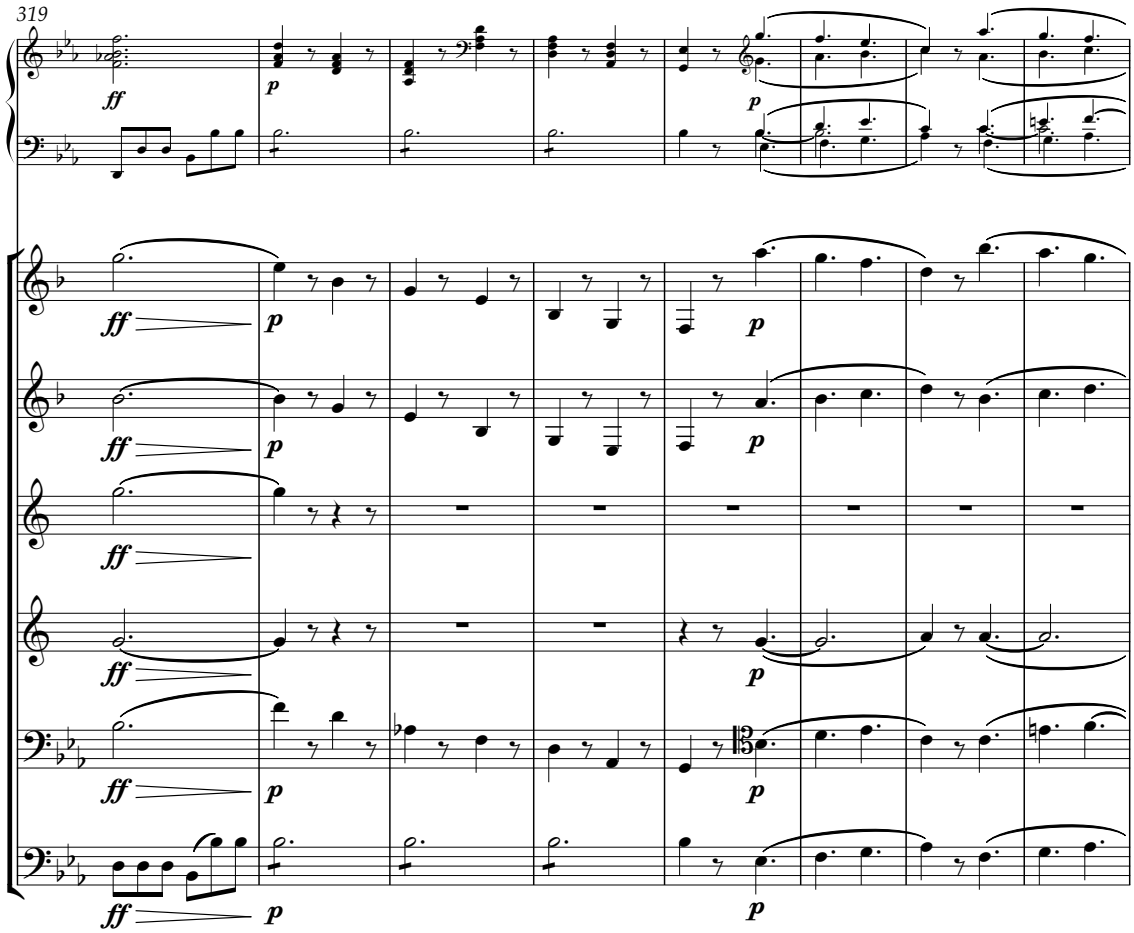

294
sf
sf
sf
sf
sf
sf

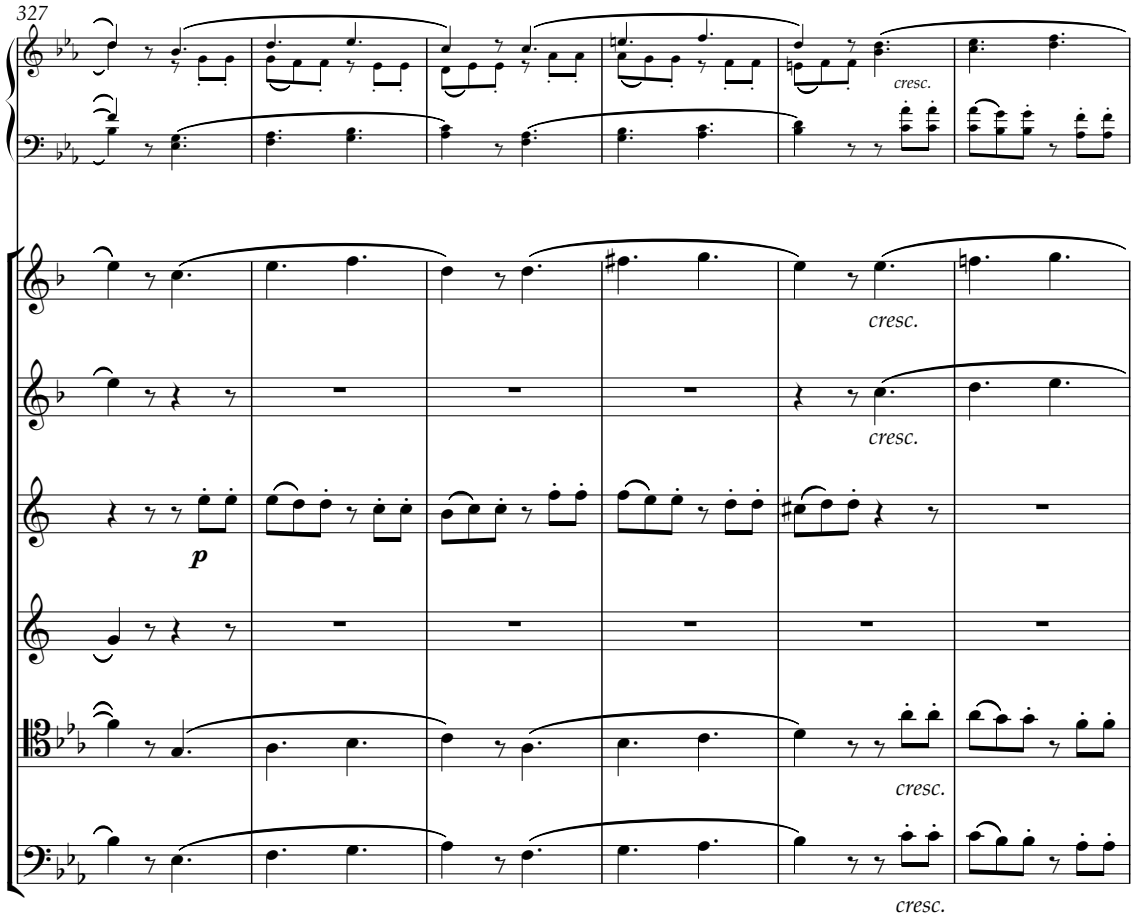

298
sf
sf
sf
sf
sf
sf

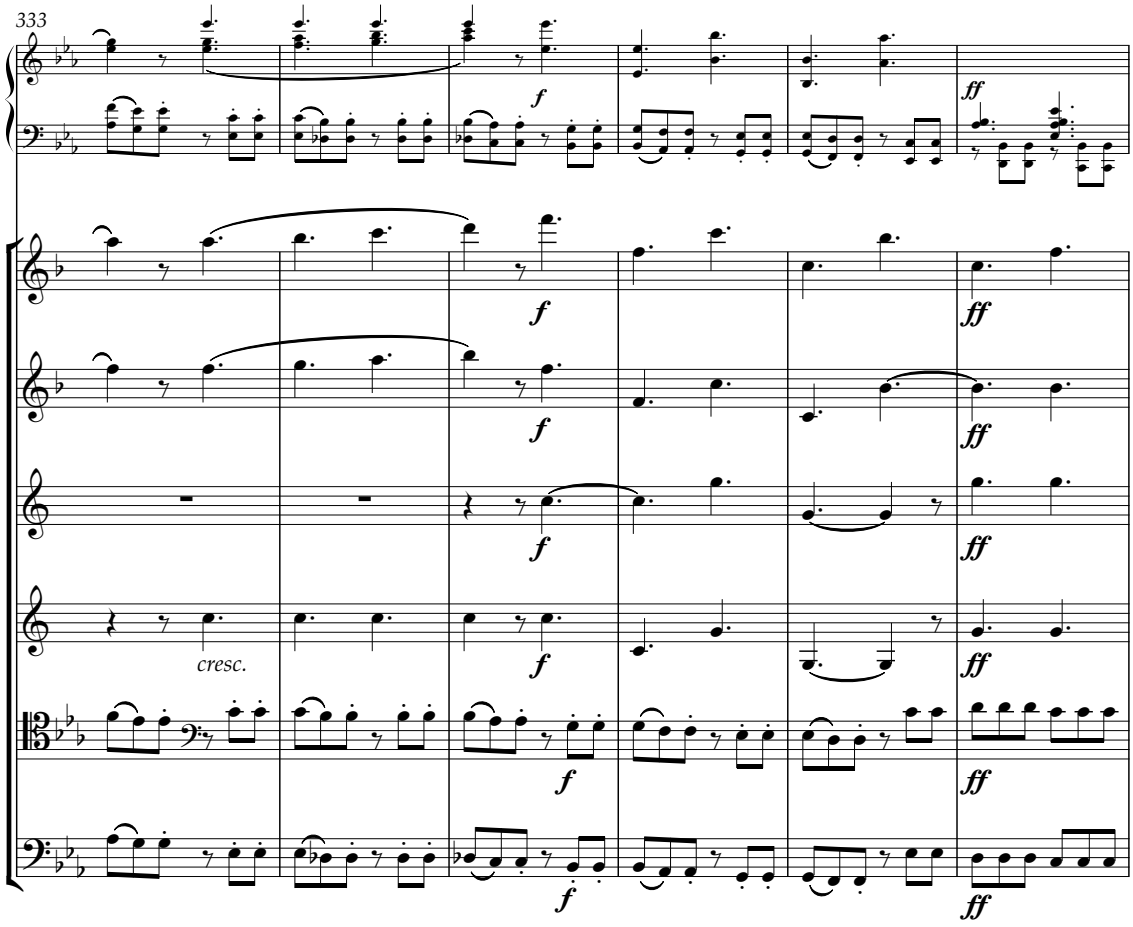

302
sf
sf
sf
sf
sf
sf

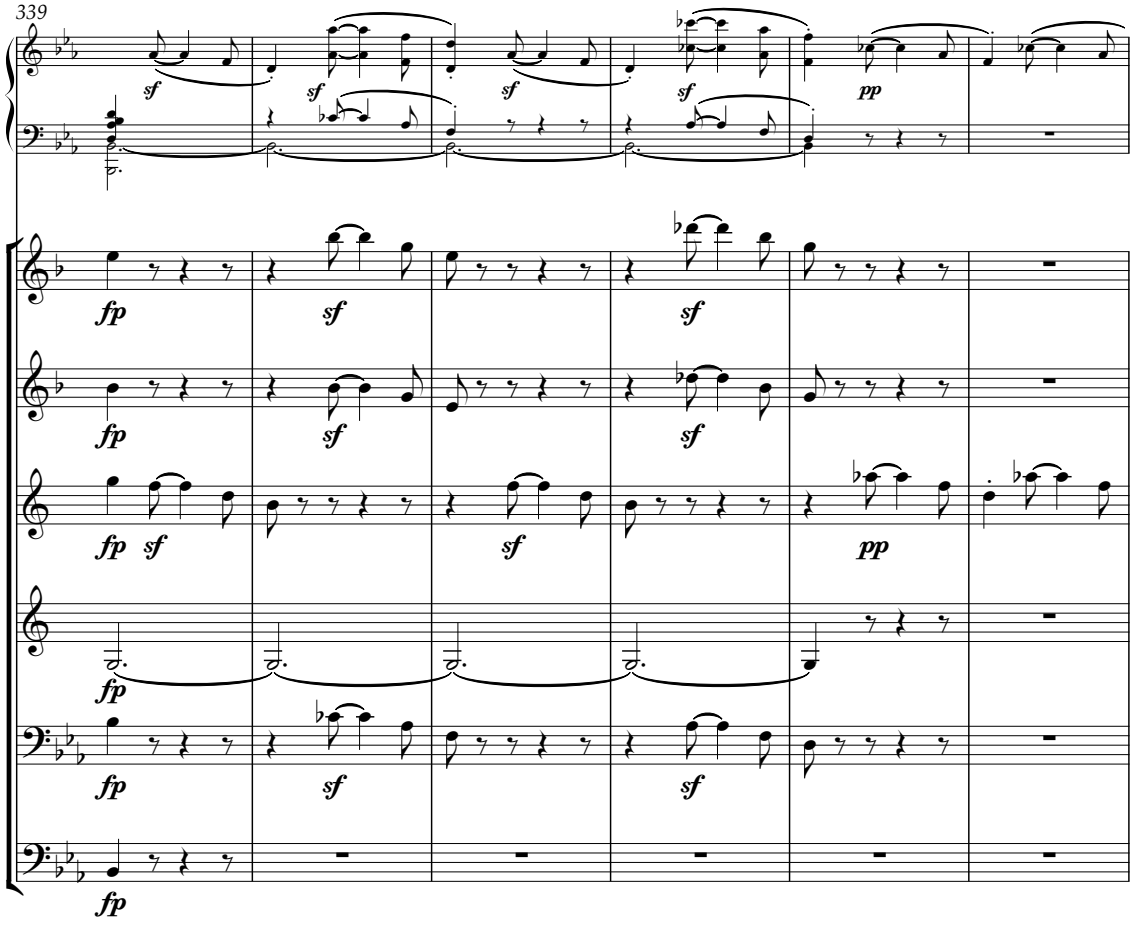

306
sf

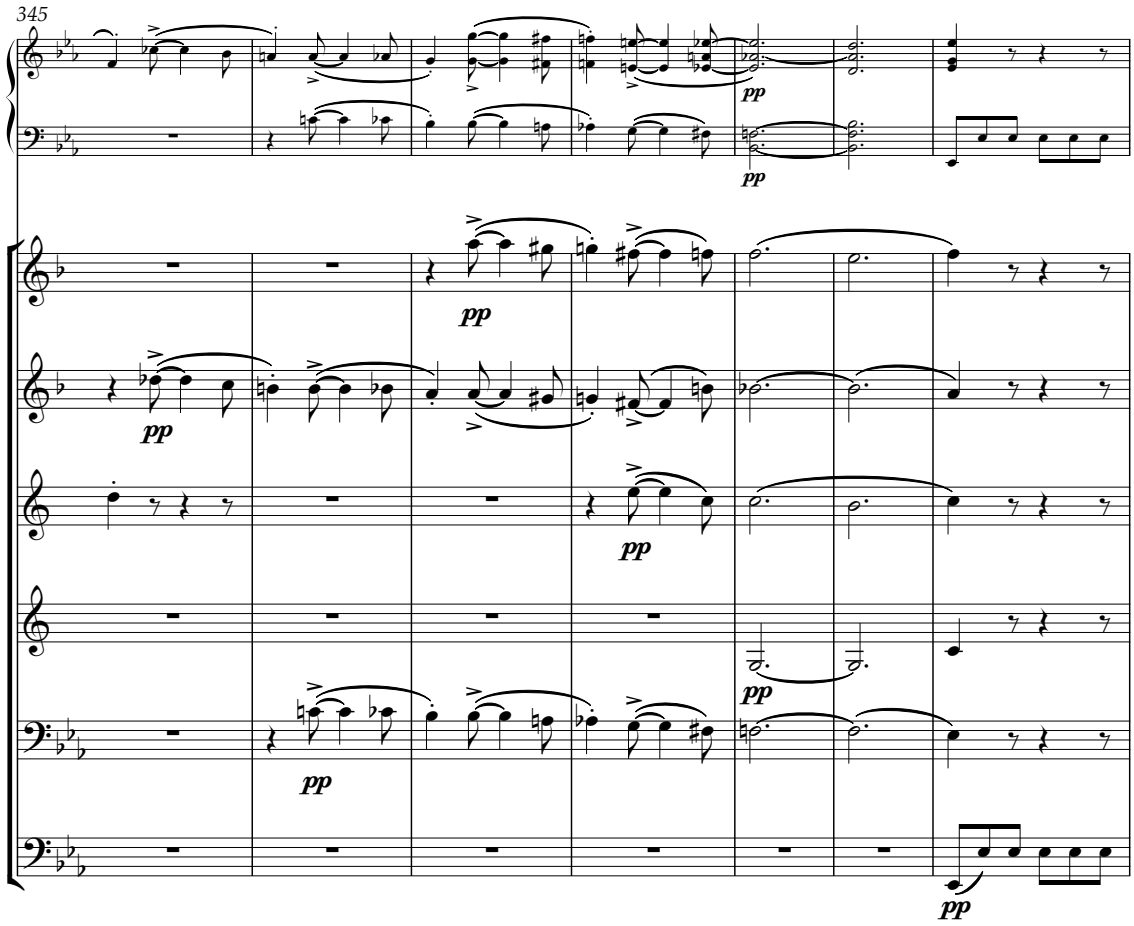

312
sf
ff
f

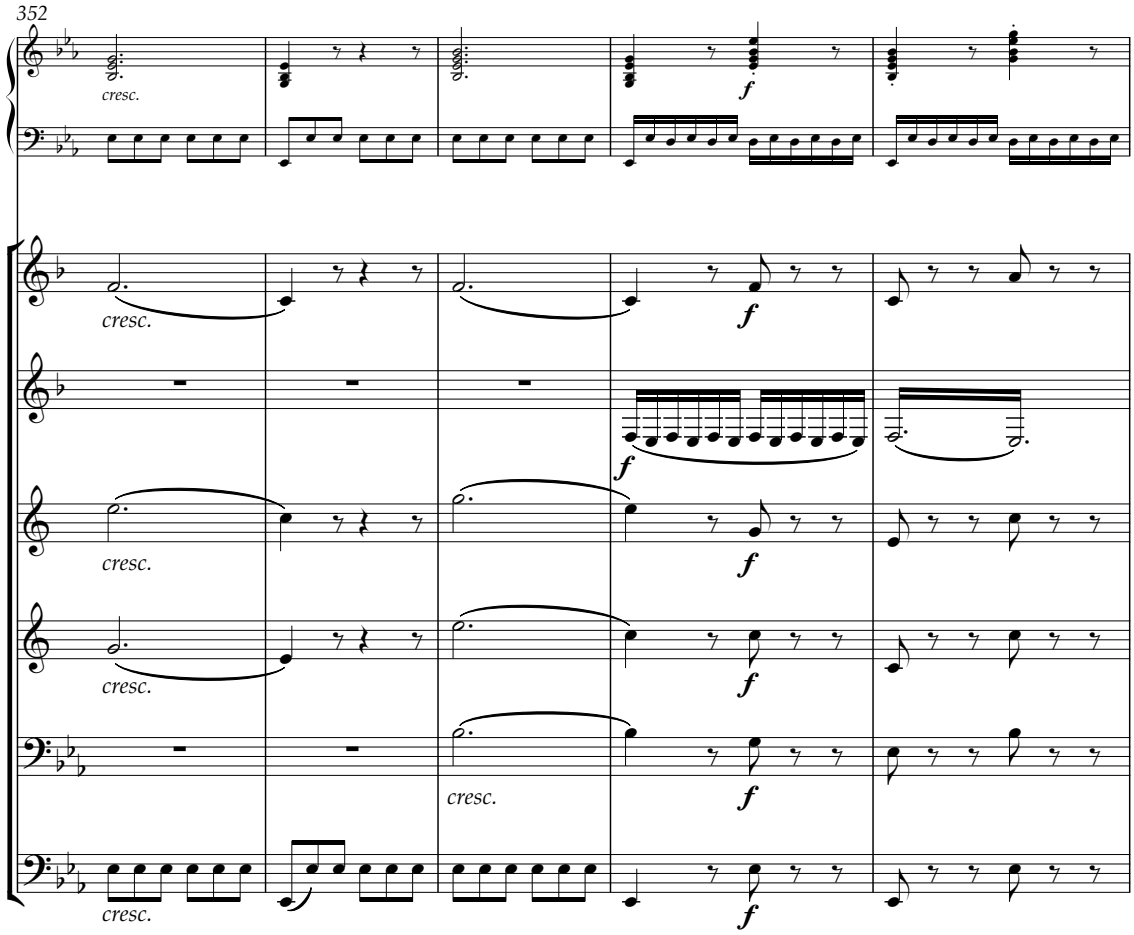

319
ff
p
ff
p
ff
p
ff
p
ff
p
ff
p
ff
p

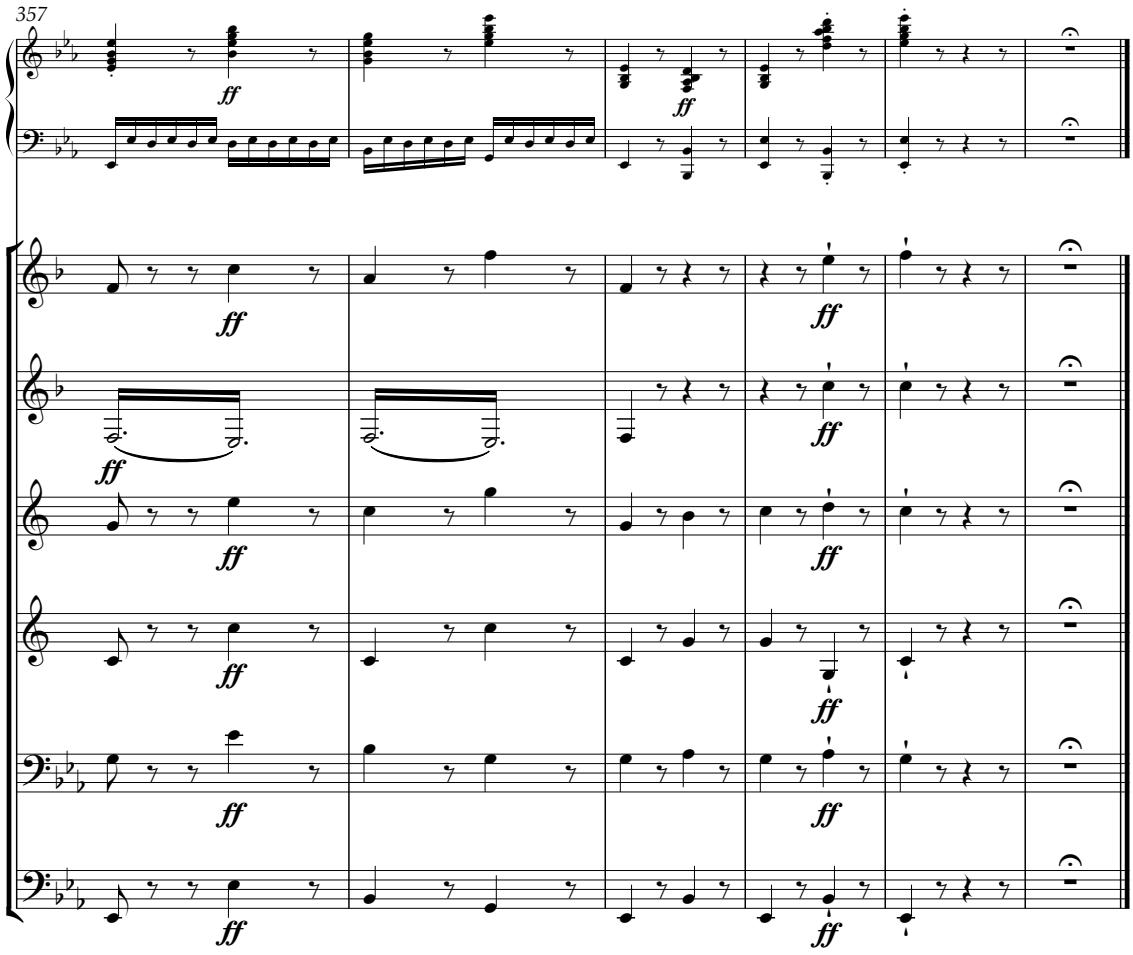

327
cresc.
cresc.
cresc.
p
cresc.
cresc.

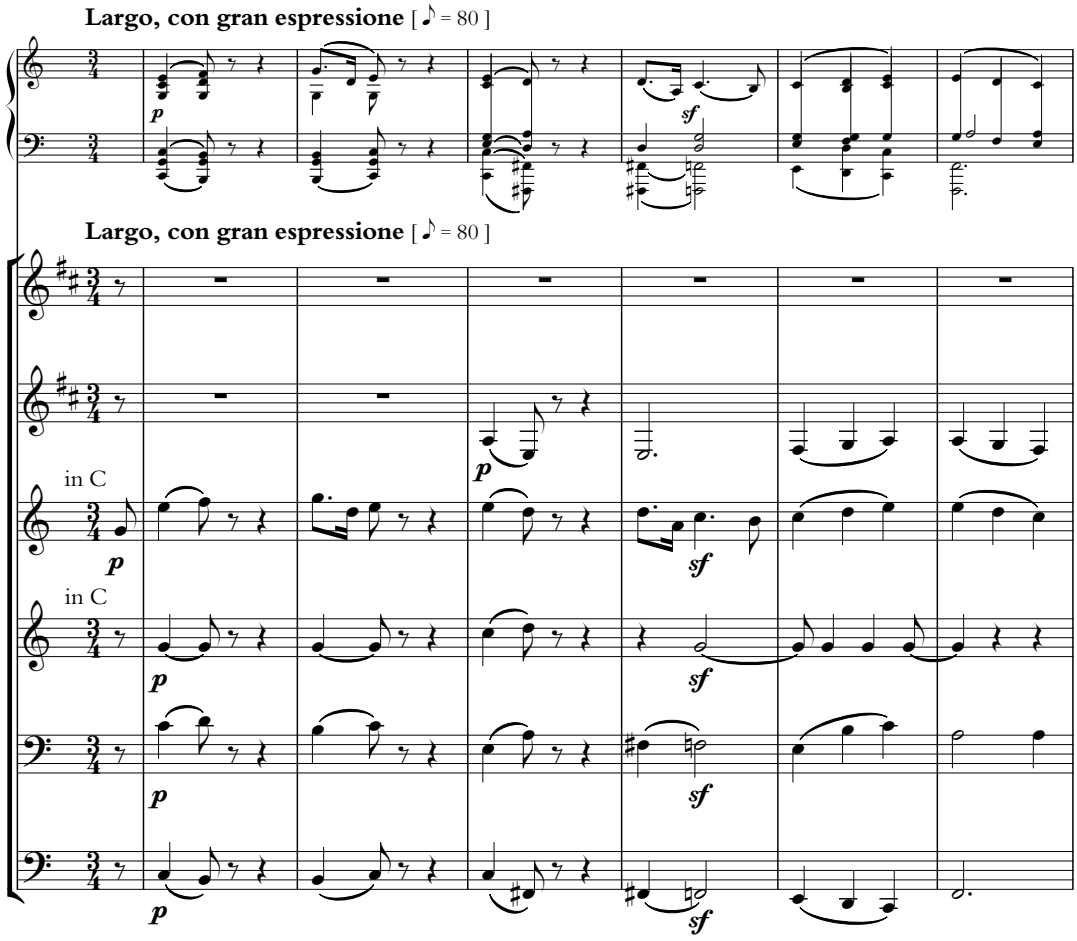

333
cresc.

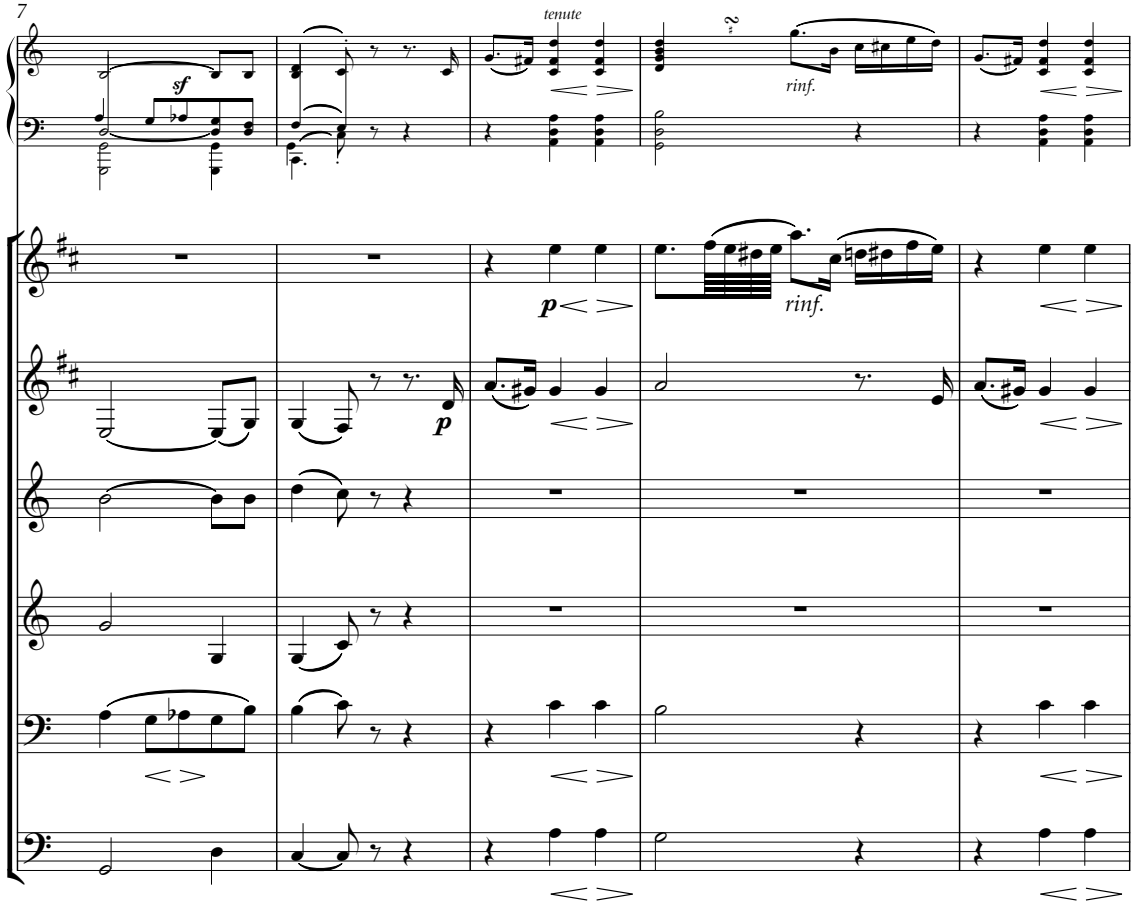

339

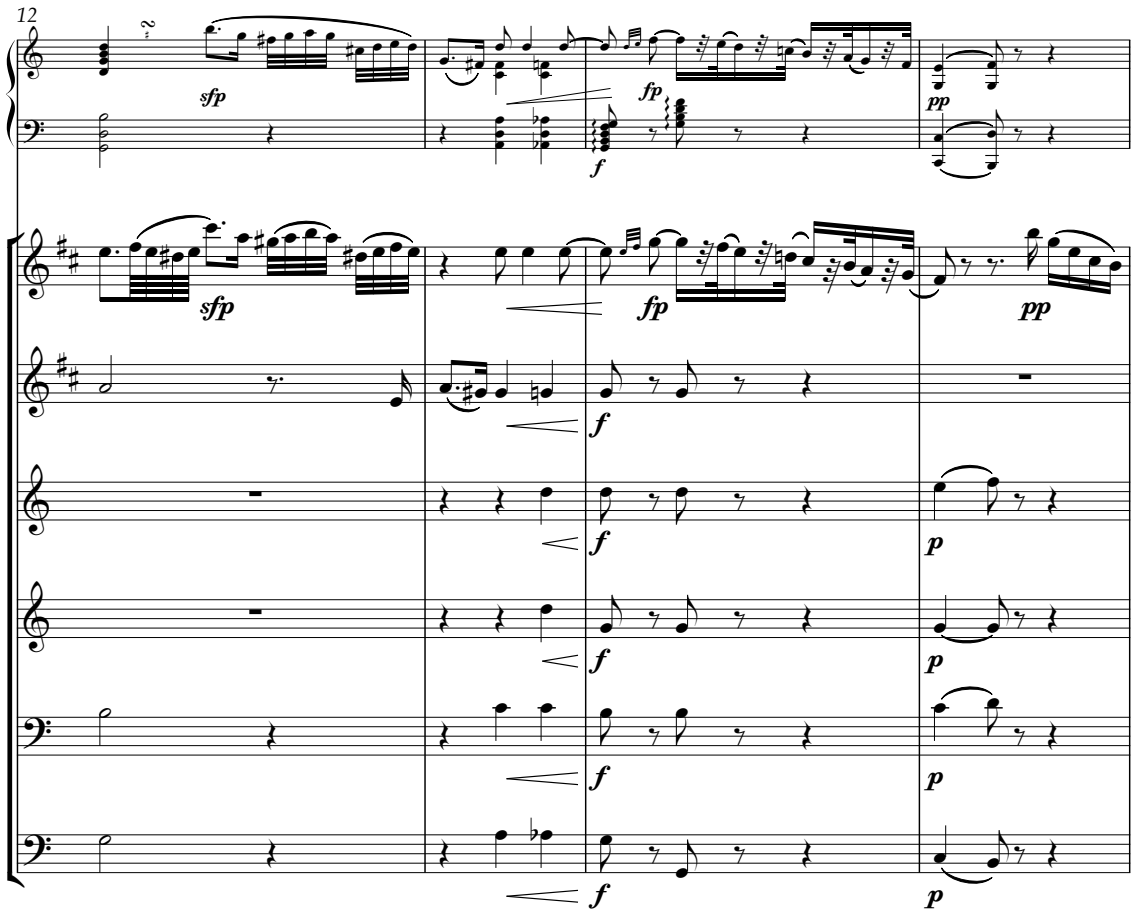

345
pp
pp
pp
pp
pp
pp
pp

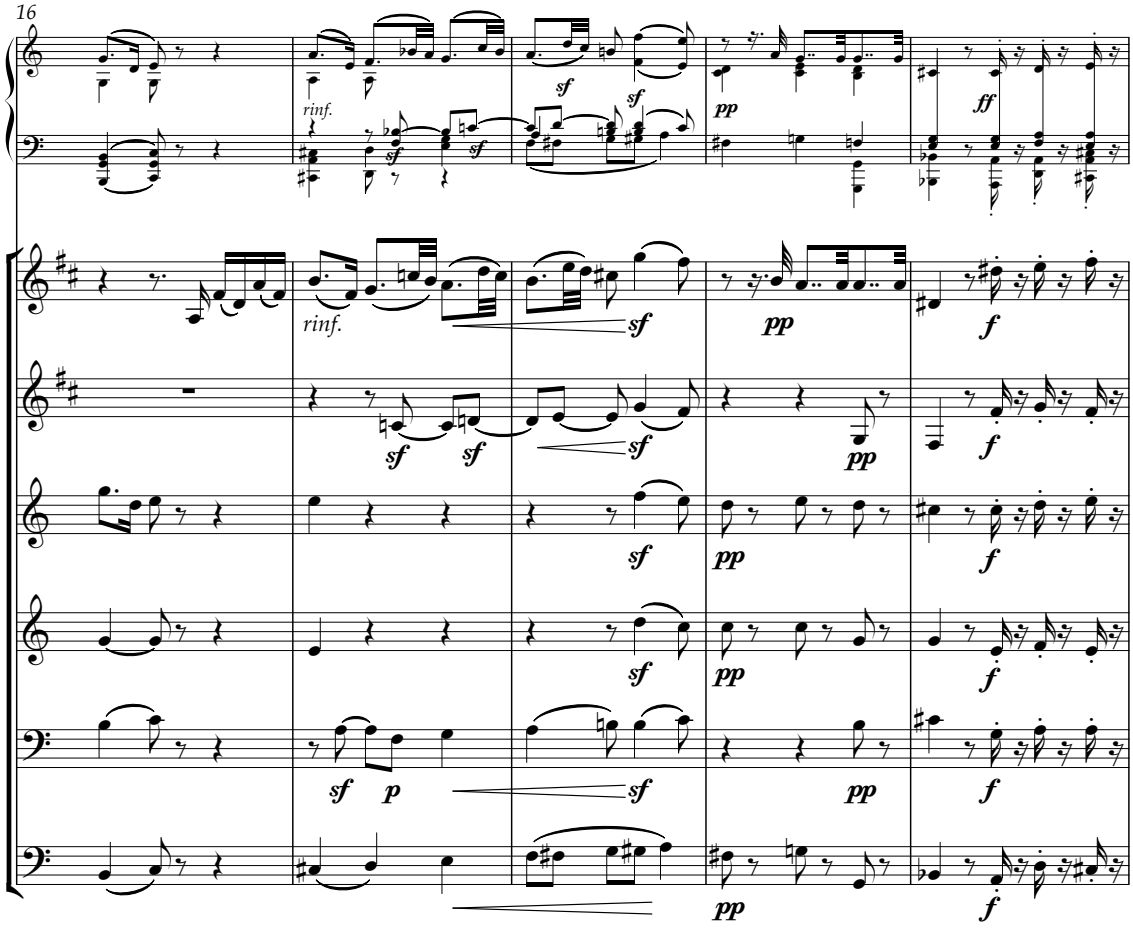

352
cresc.
f
cresc.
f
f
cresc.
f
cresc.
f
cresc.
f
cresc.
f

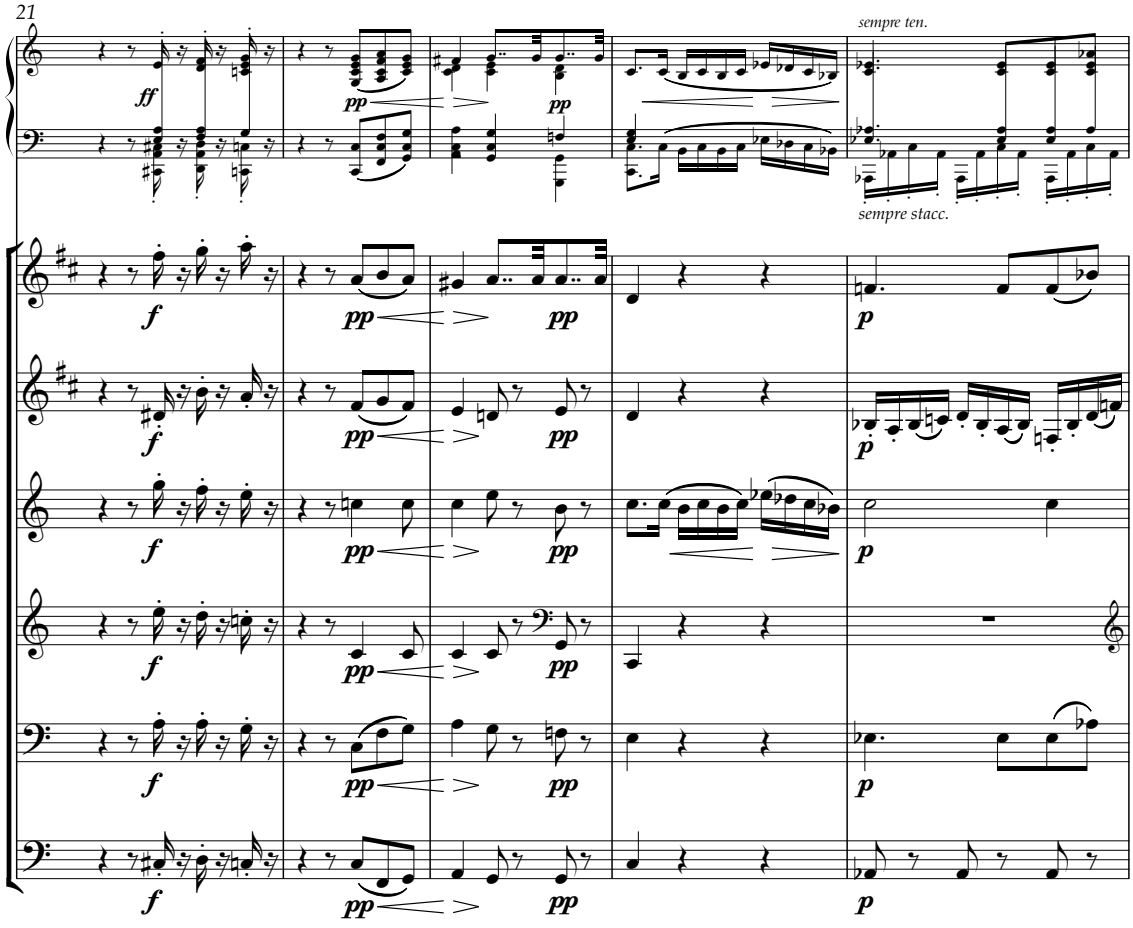

357
ff

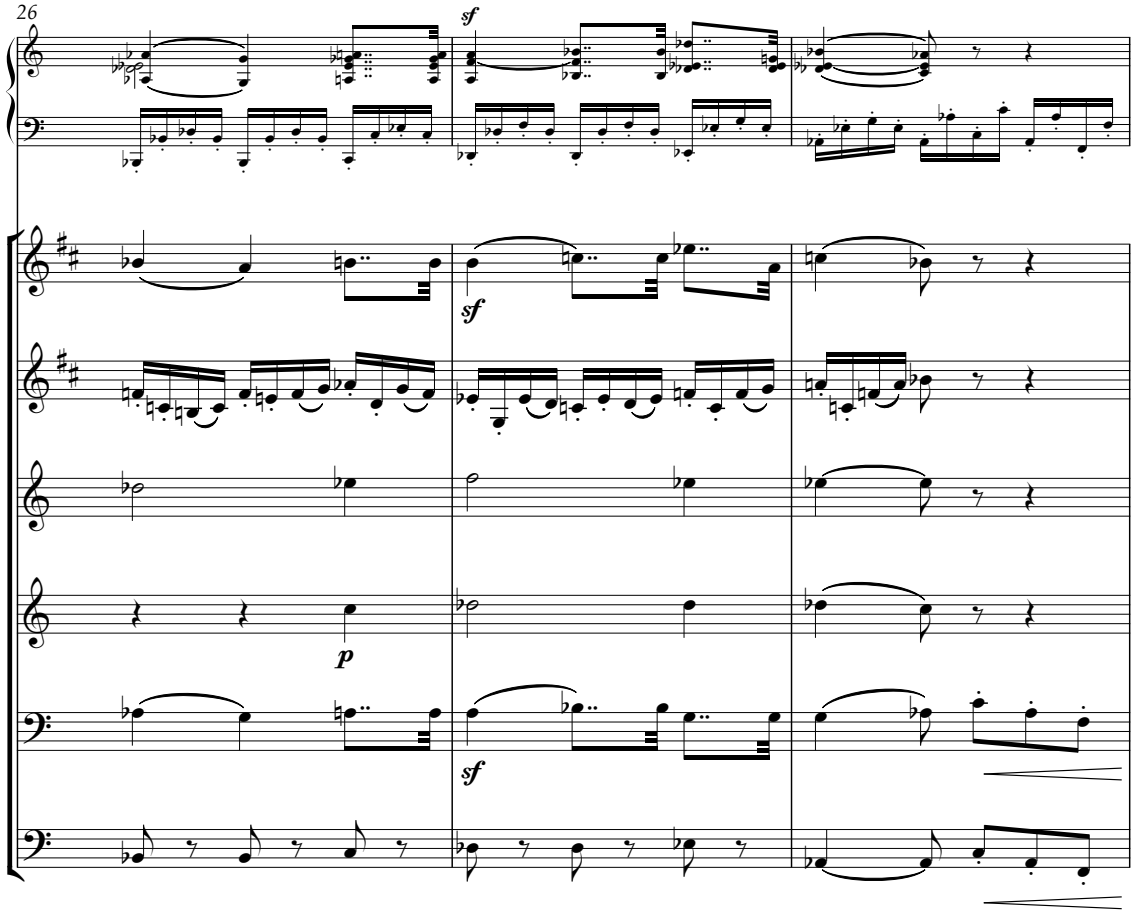

Largo, con gran espressione [♪ = 80]
p
sf
Largo, con gran espressione [♪ = 80]
in C
in C

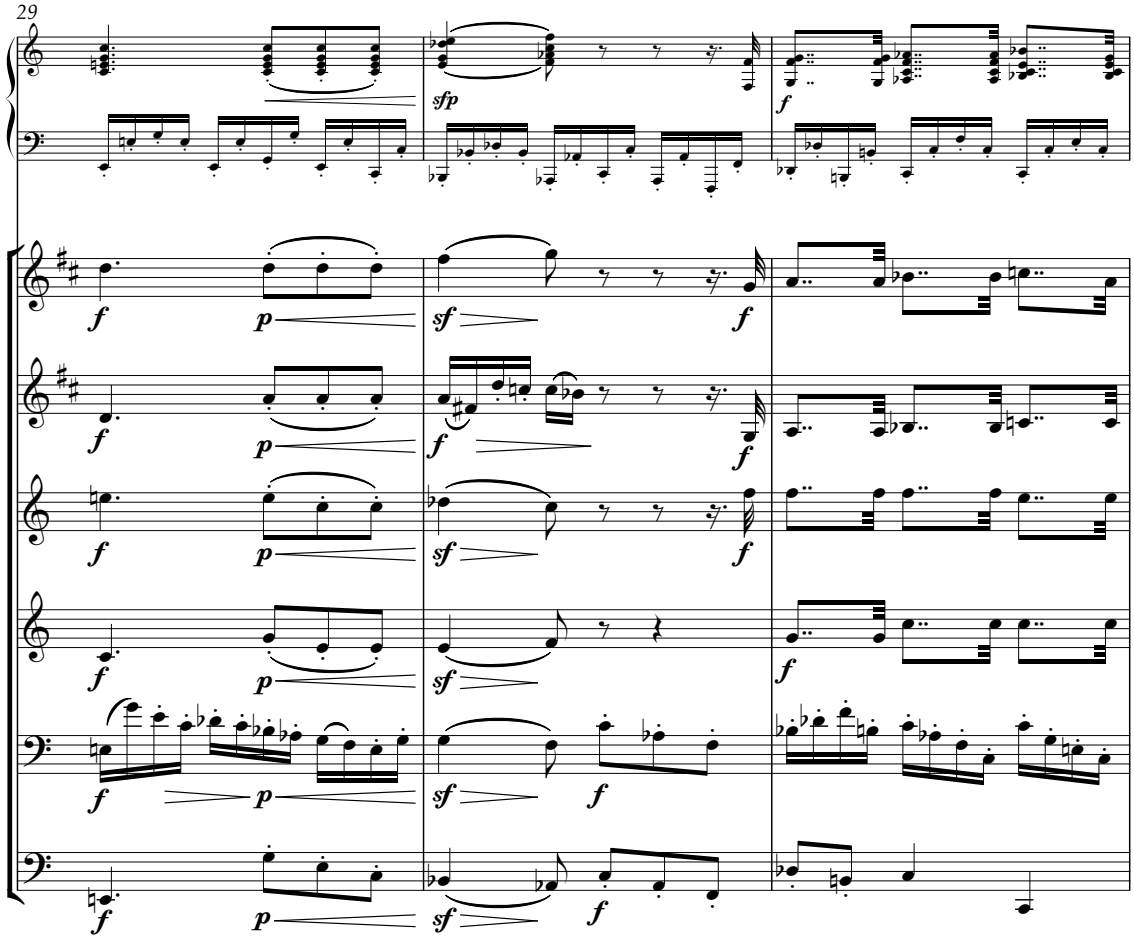

7
tenute
sf
rinf.
p
rinf.
p

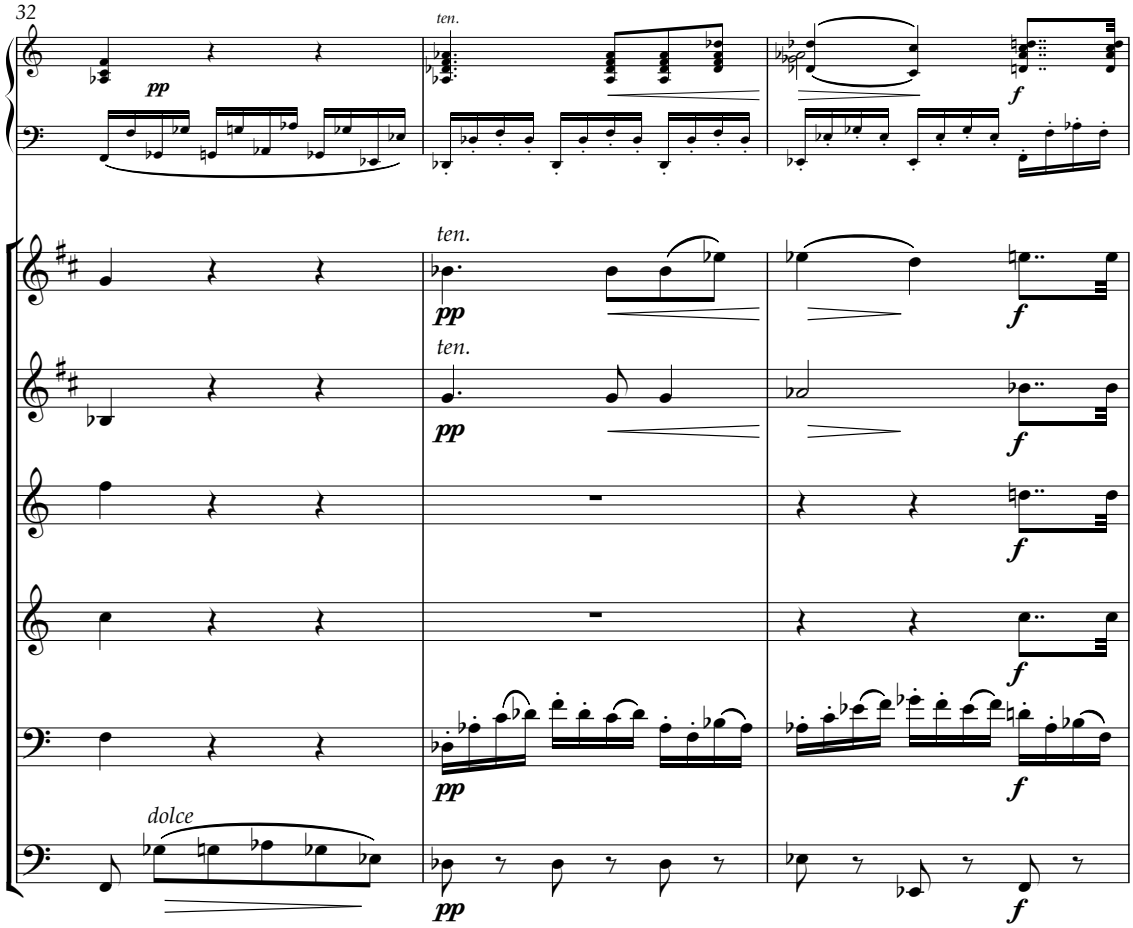

12
sfp
fp
f
pp
sfp
fp
pp
f
f
p
f
p
f
p
f
p

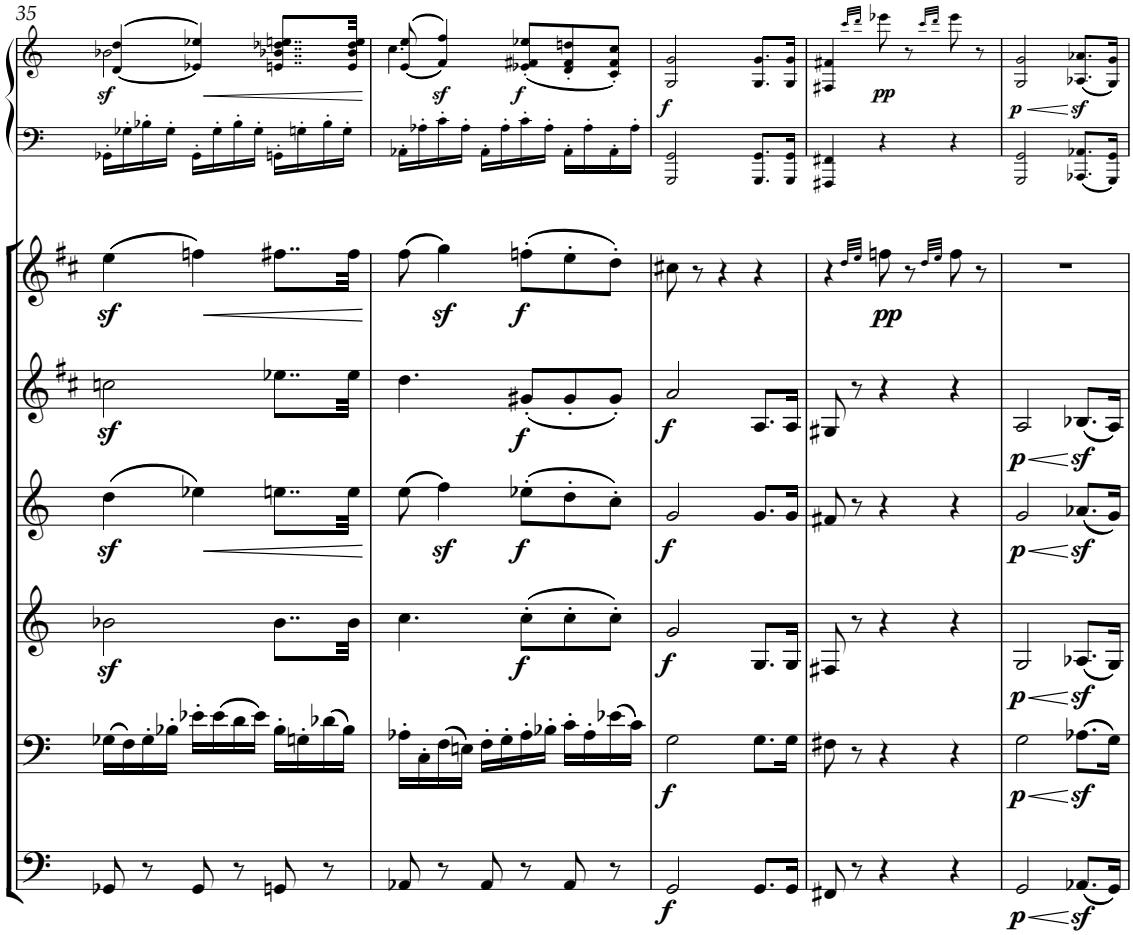

16
rinf.
rinf.

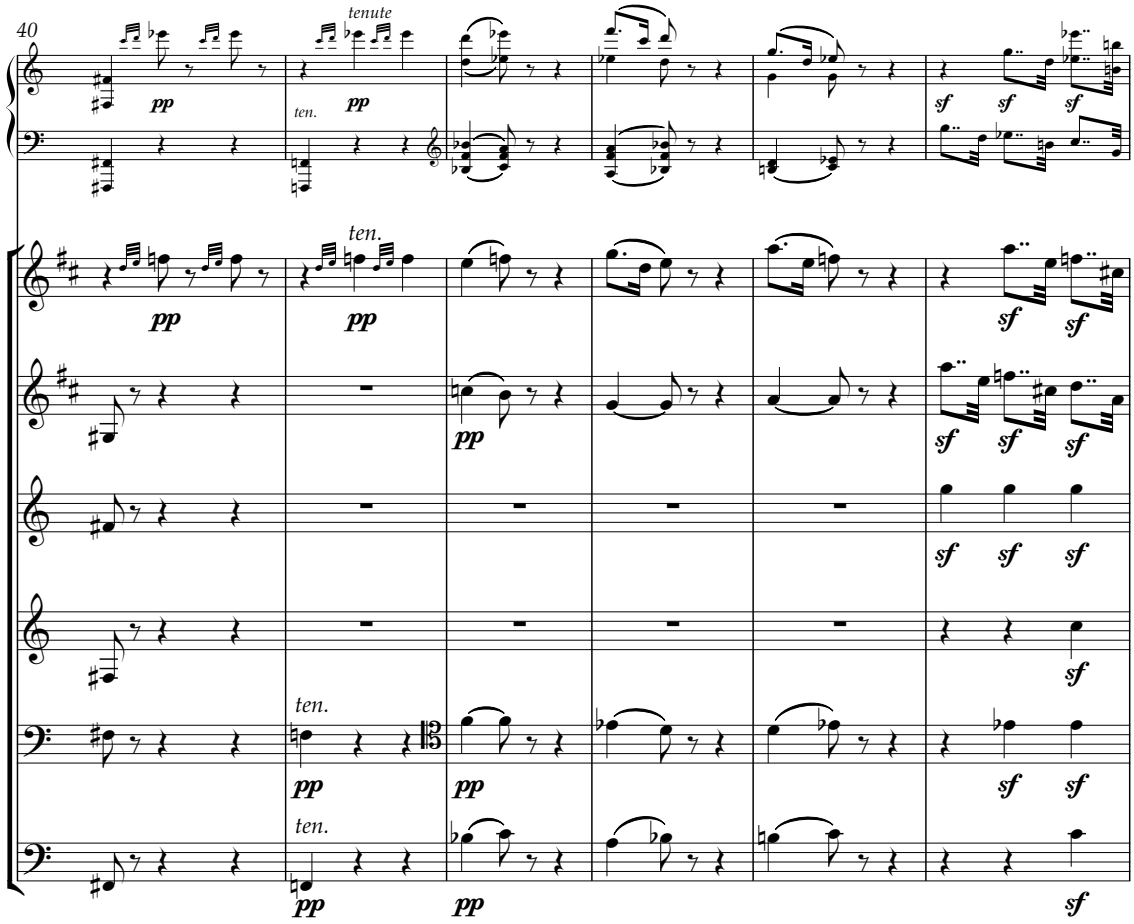

21
sempre ten.
sempre stacc.

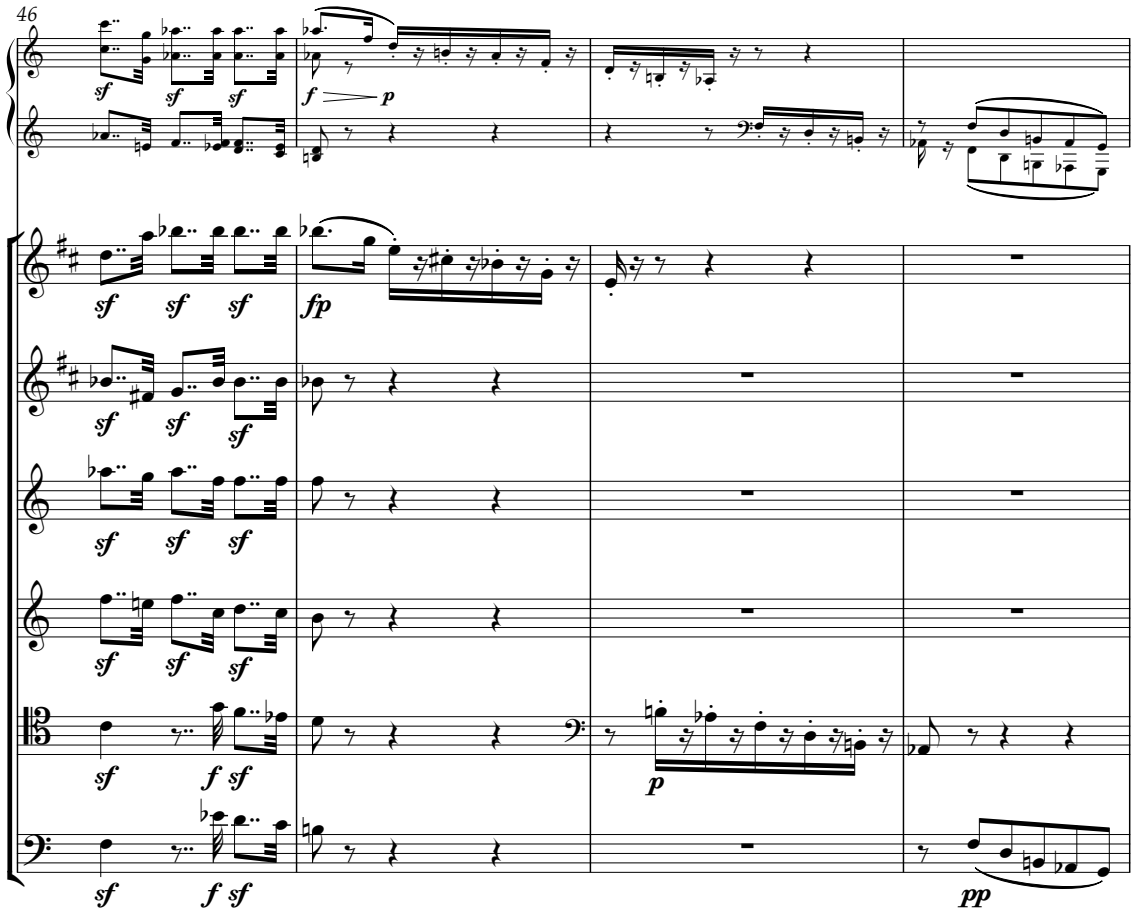

26
sf
sf
p
sf

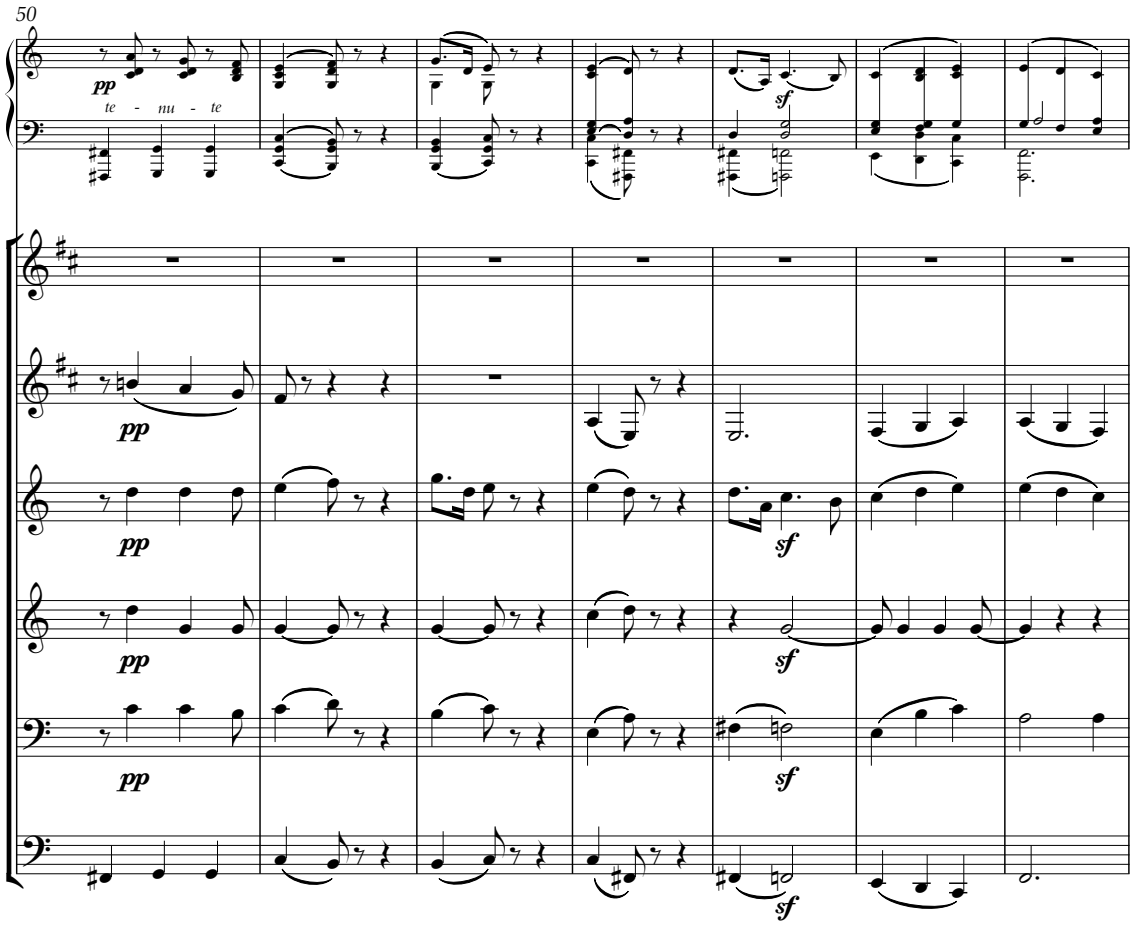

29
sfp
f
f
p
sf
f
f
p
sf
f
f
p
sf
f
f
p
sf
f
f
p
sf
f

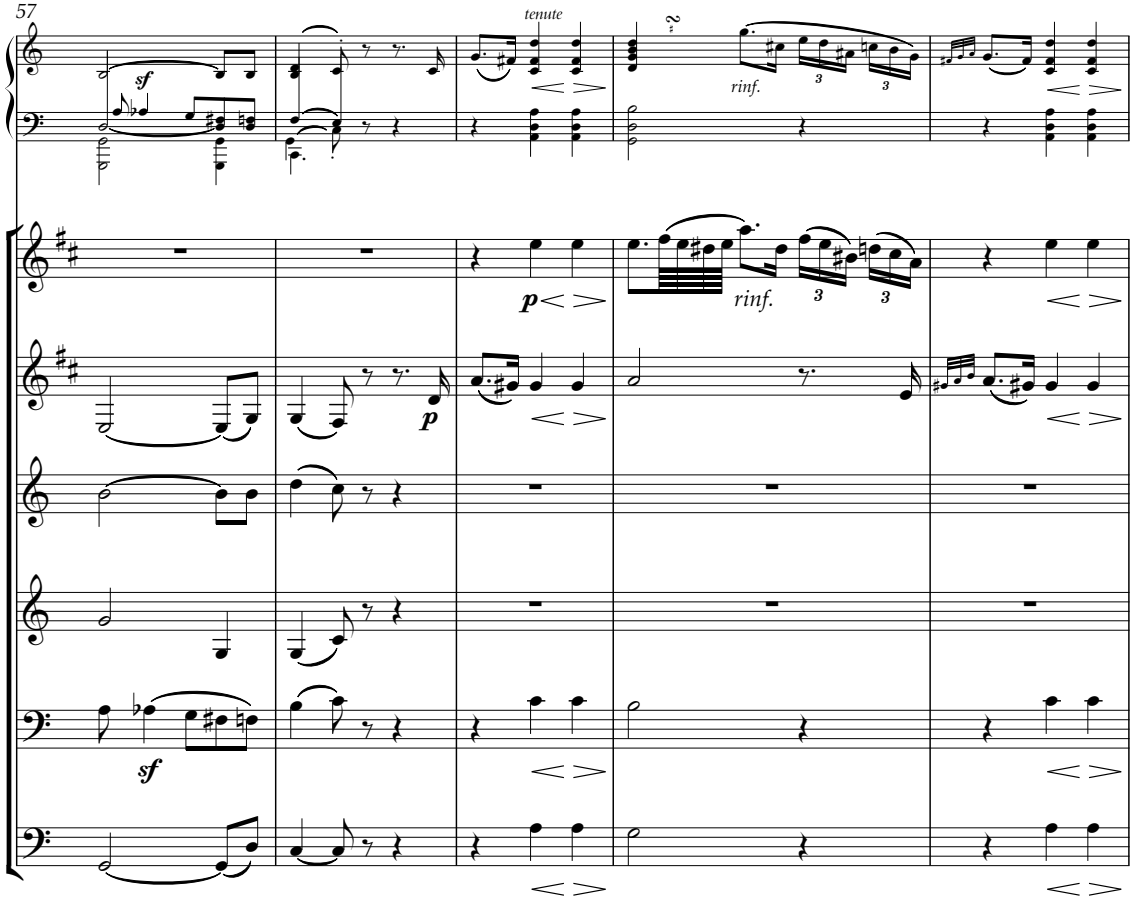

32
ten.
pp
f
dolce

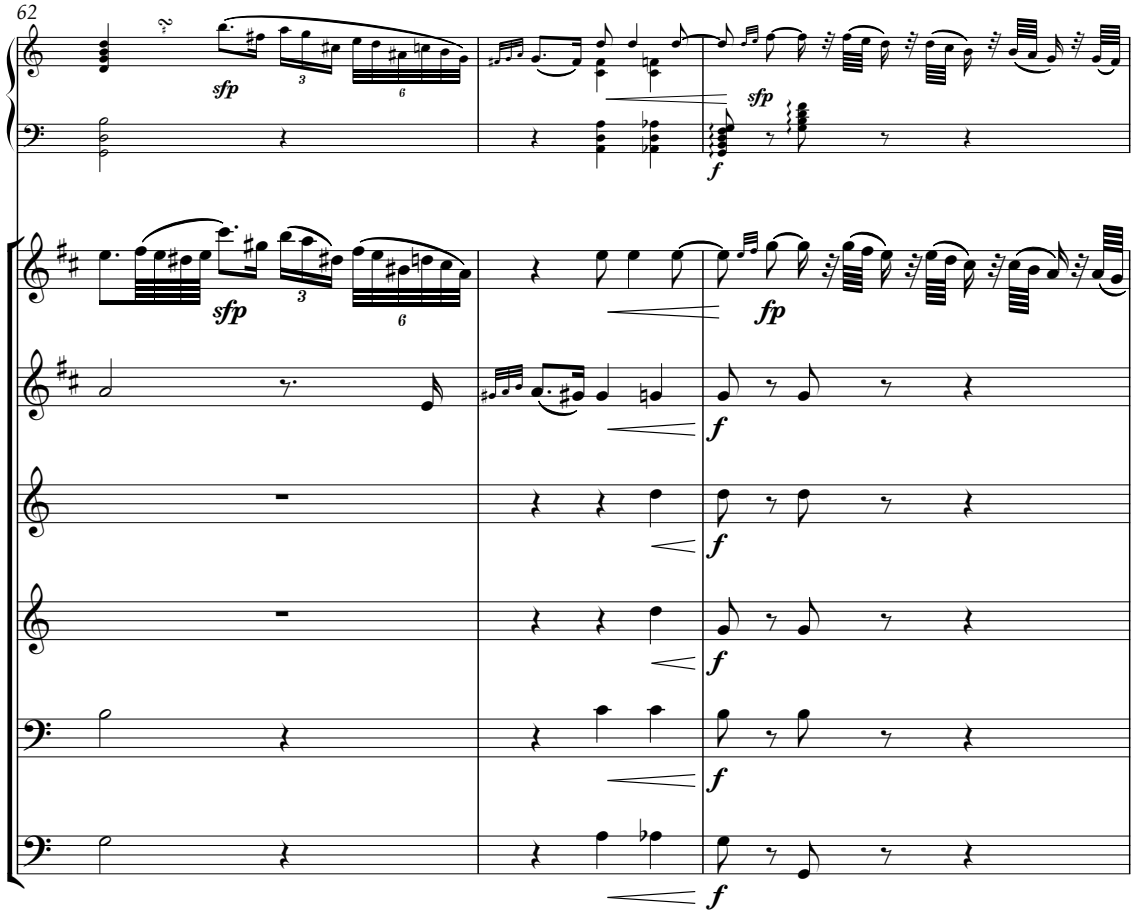

35
sf
f
pp
p

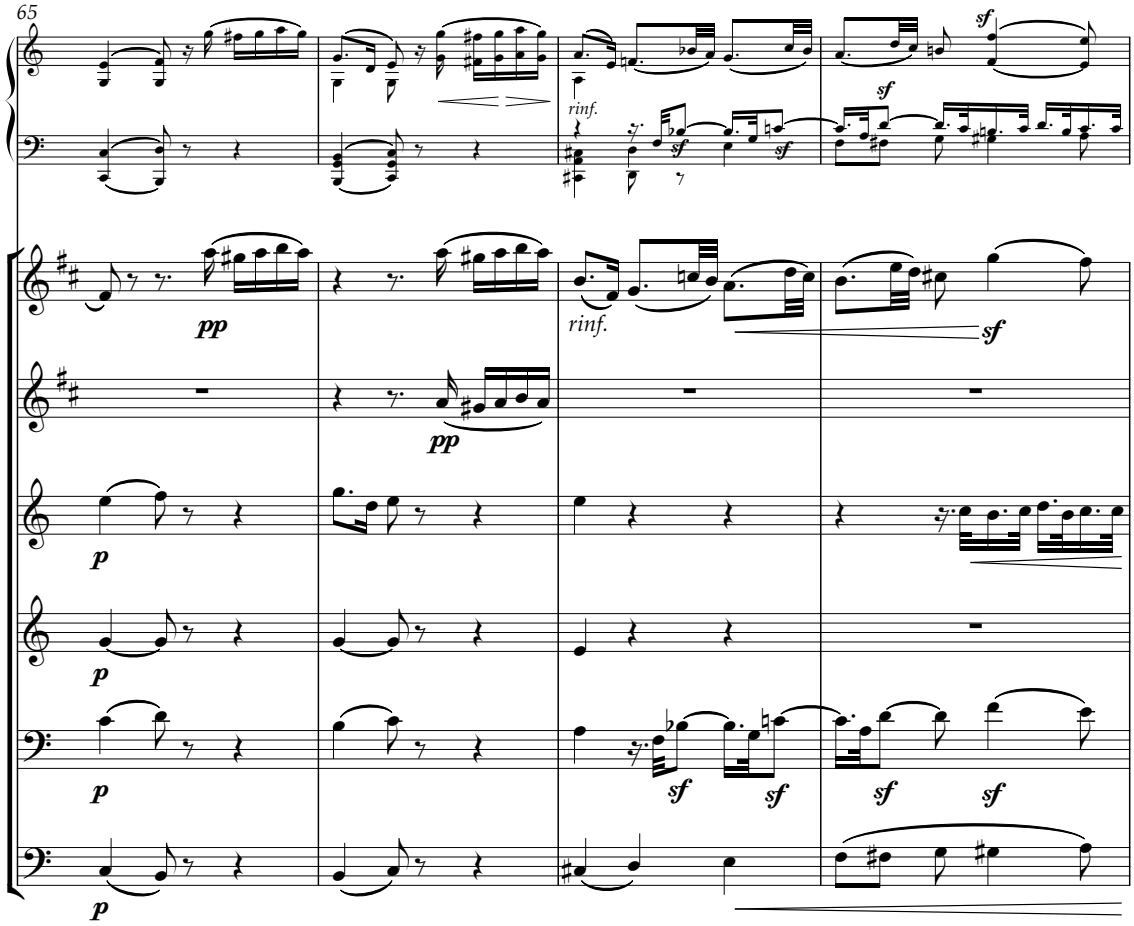

40
tenute
ten.
pp
sf

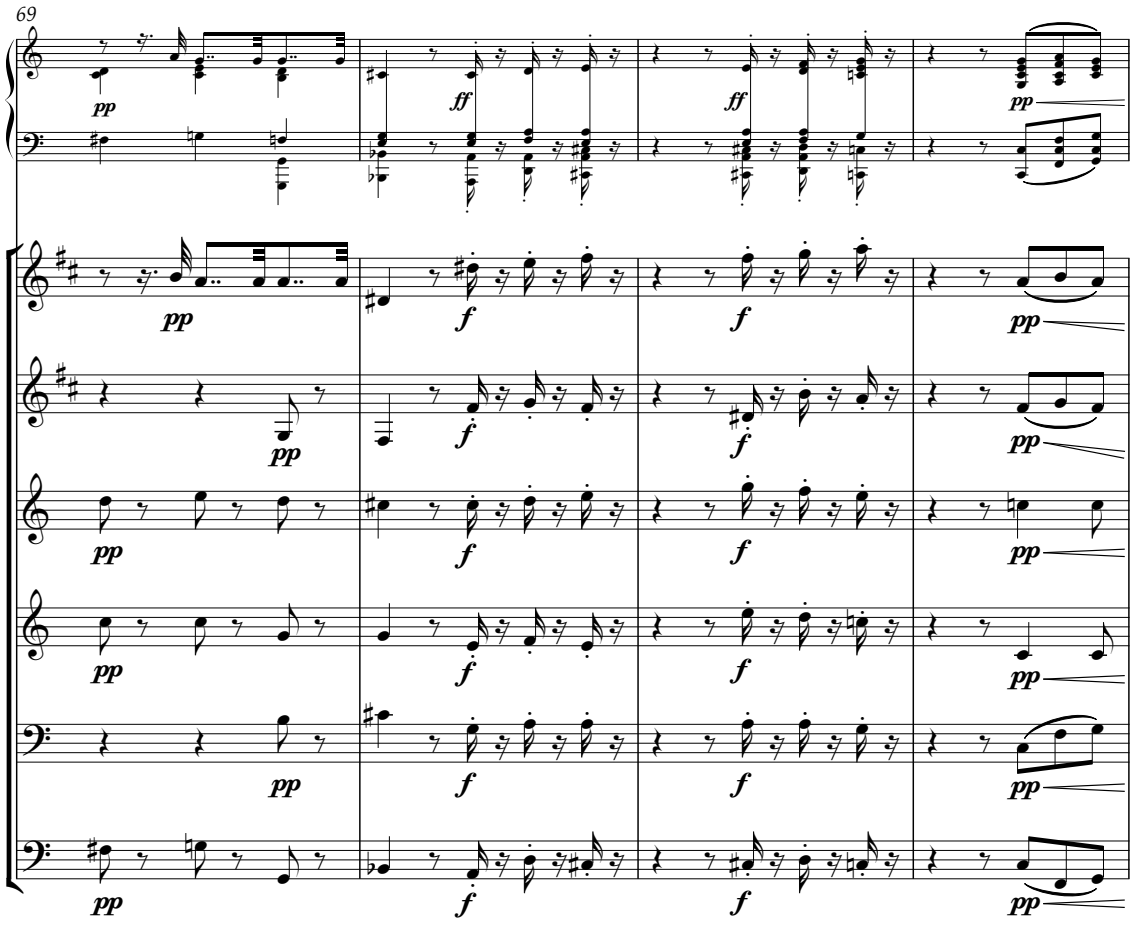

46
sf
f
p
fp
pp

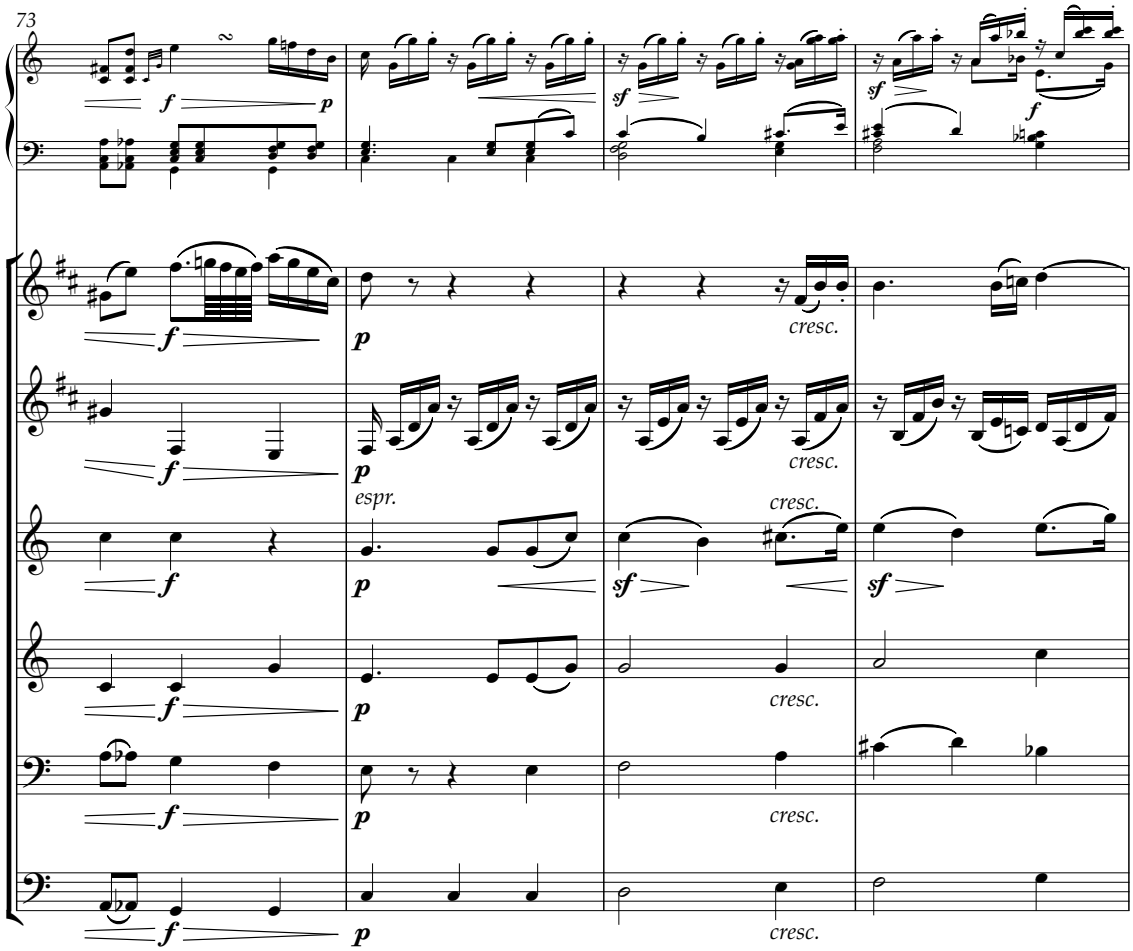

50
pp
te - nu - te
sf

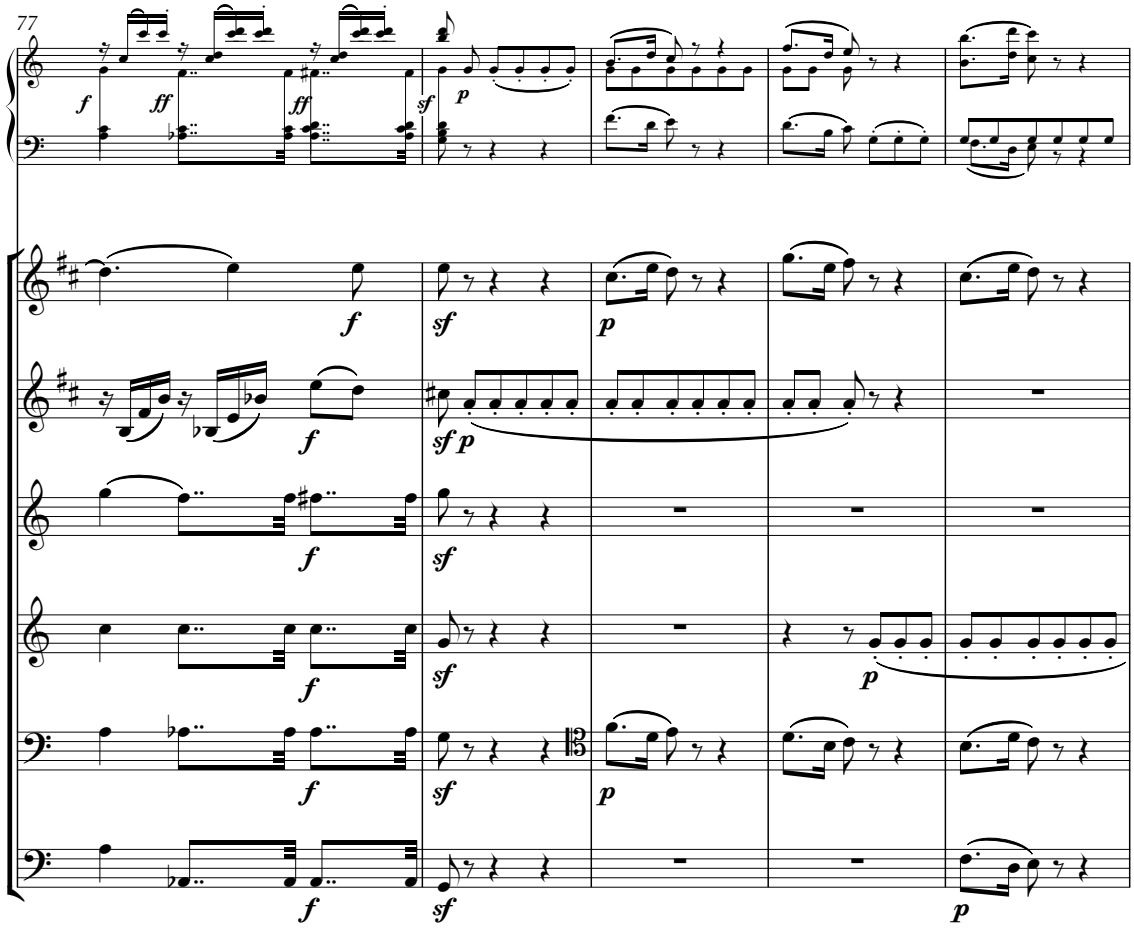

57
sf
tenute
rinf.
p
sf

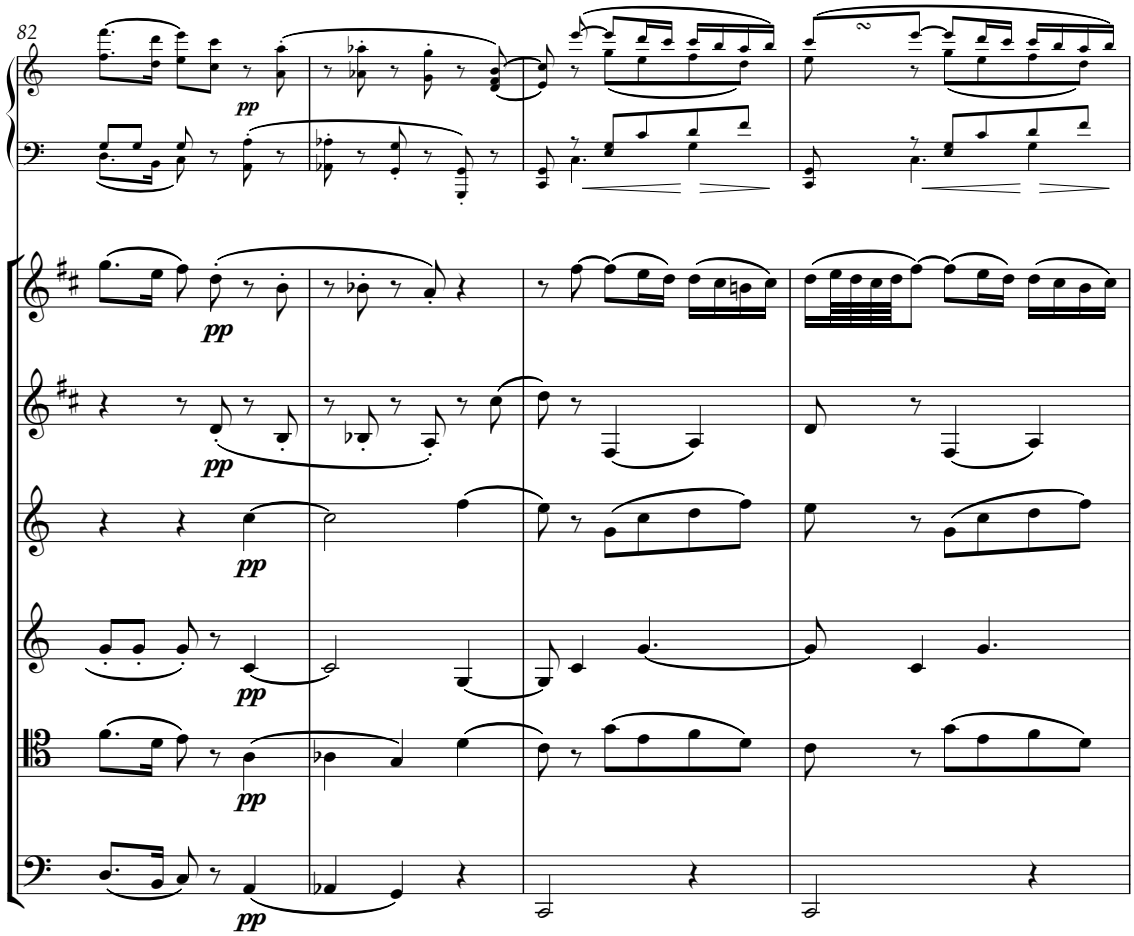

62
sfp
3
6
sfp
f
sfp
fp
f
f
f
f
f

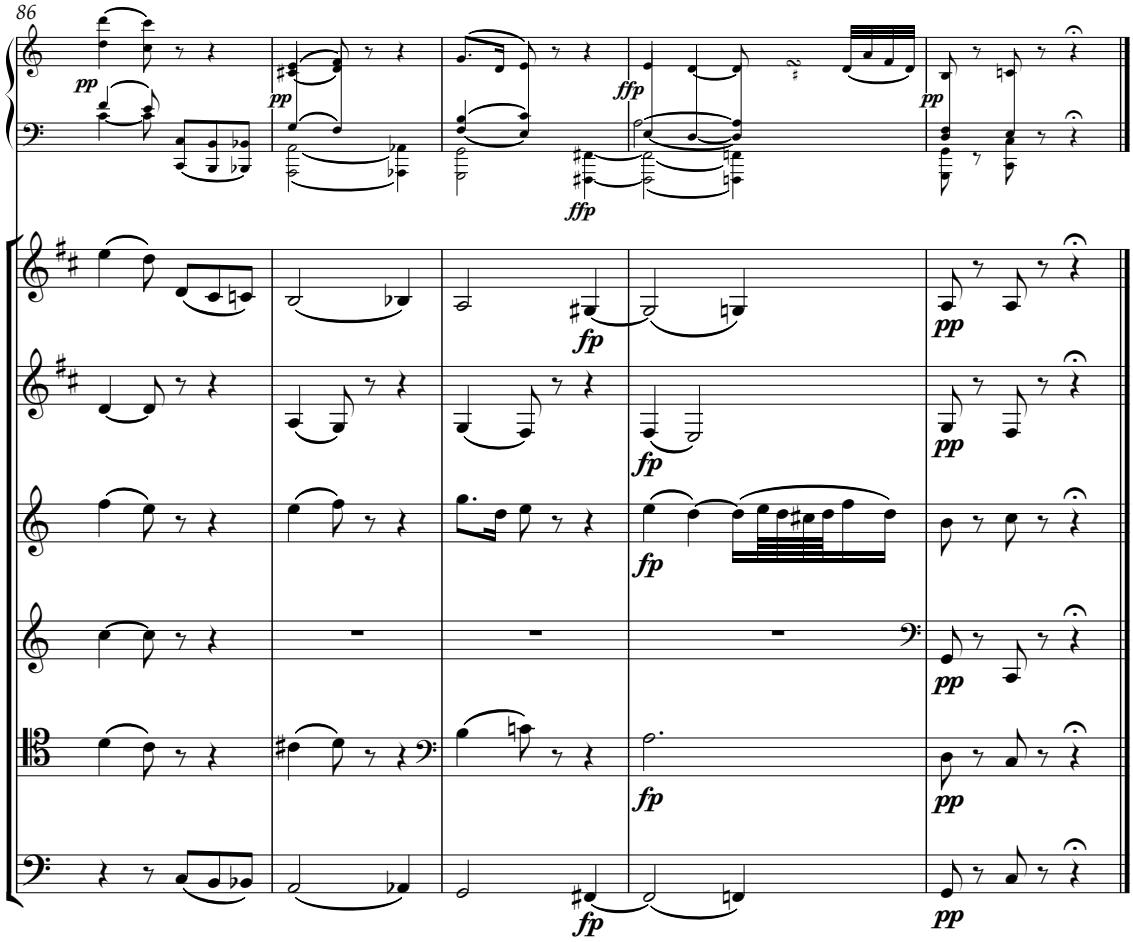

65
rinf.
sf
sf
sf
pp
rinf.
sf
pp
p
p
p
sf
sf
sf
sf
p

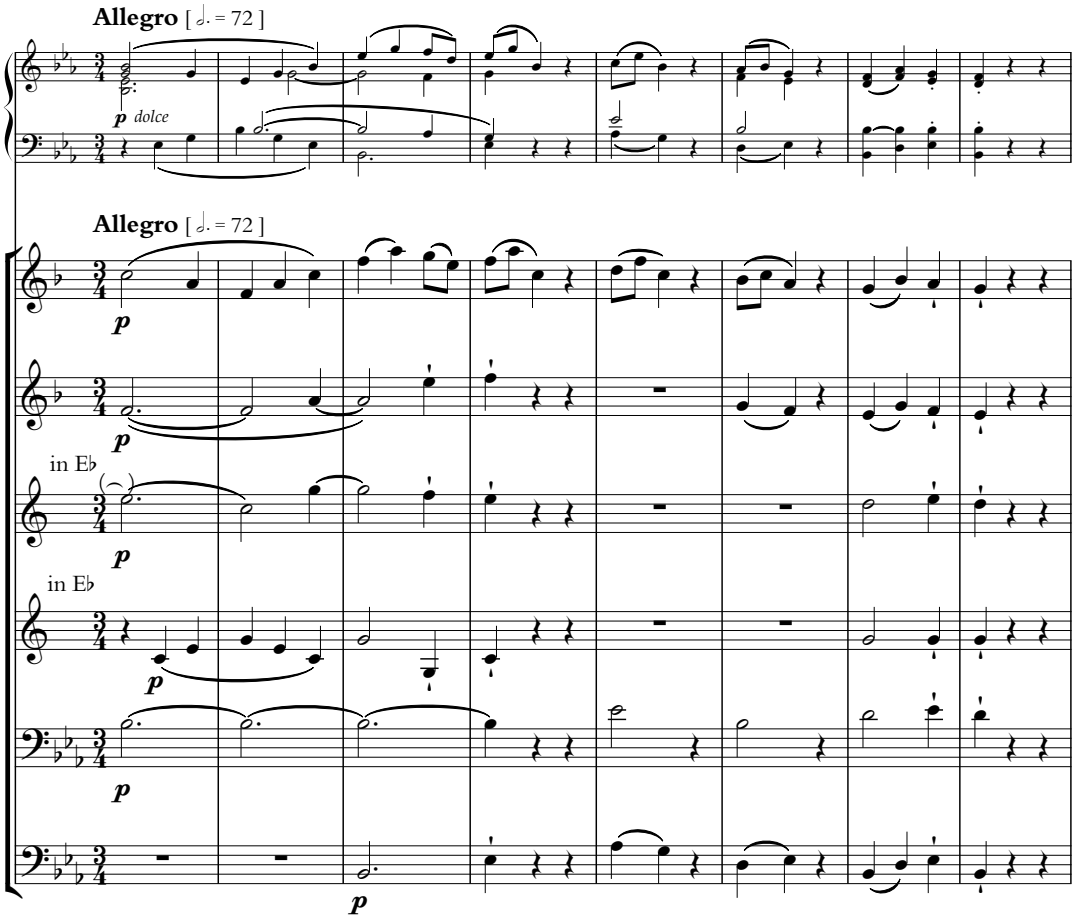

69
pp
ff
ff
pp
pp
f
f
pp
pp
f
f
pp
pp
f
f
pp
pp
f
f
pp
pp
f
f
pp

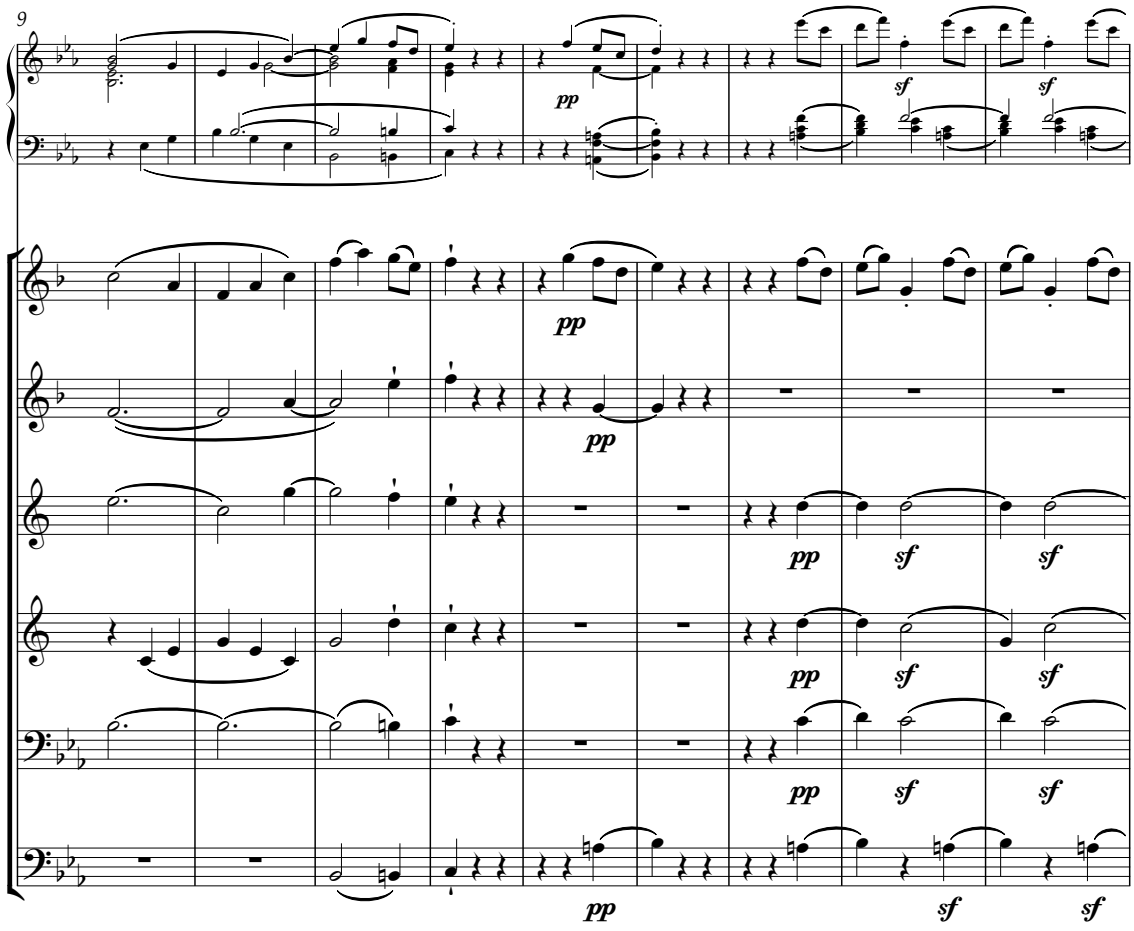

73
f
p
sf
sf
f
f
p
cresc.
f
p
cresc.
f
p
espr.
cresc.
f
p
sf
sf
f
p
cresc.
f
p
cresc.
f
p
cresc.

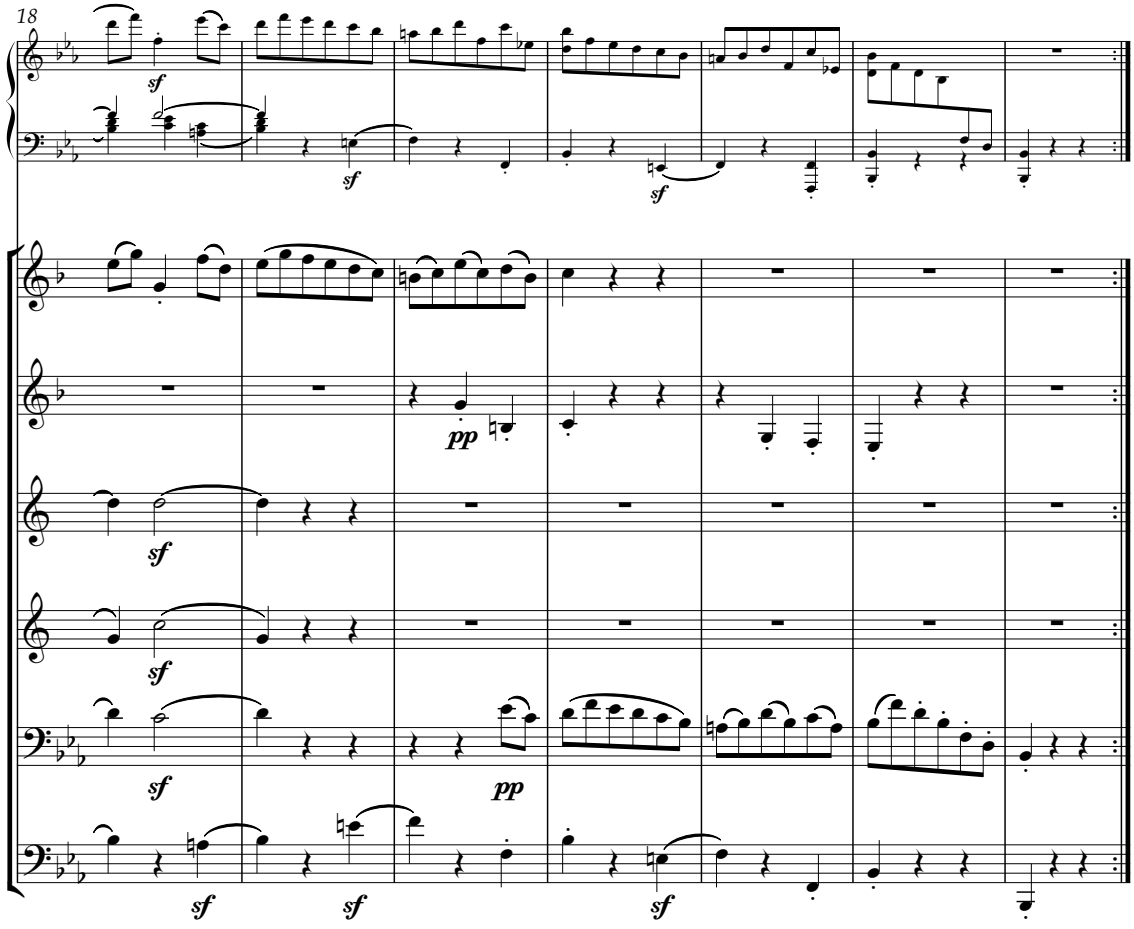

77
f
ff
ff
sf
p
f
sf
p
f
sf p
f
sf
f
sf
p
f
sf
p
f
sf
p

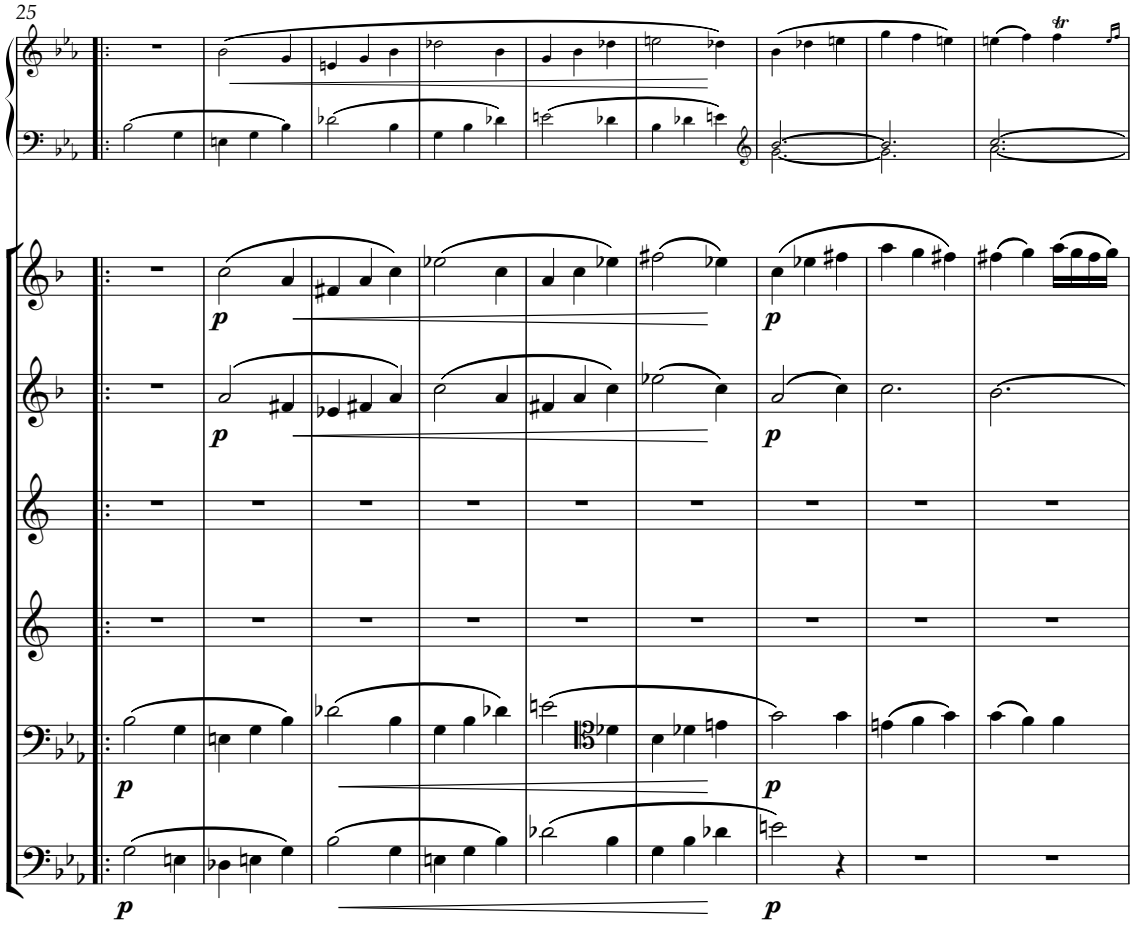

82
pp
pp
pp
pp
pp
pp

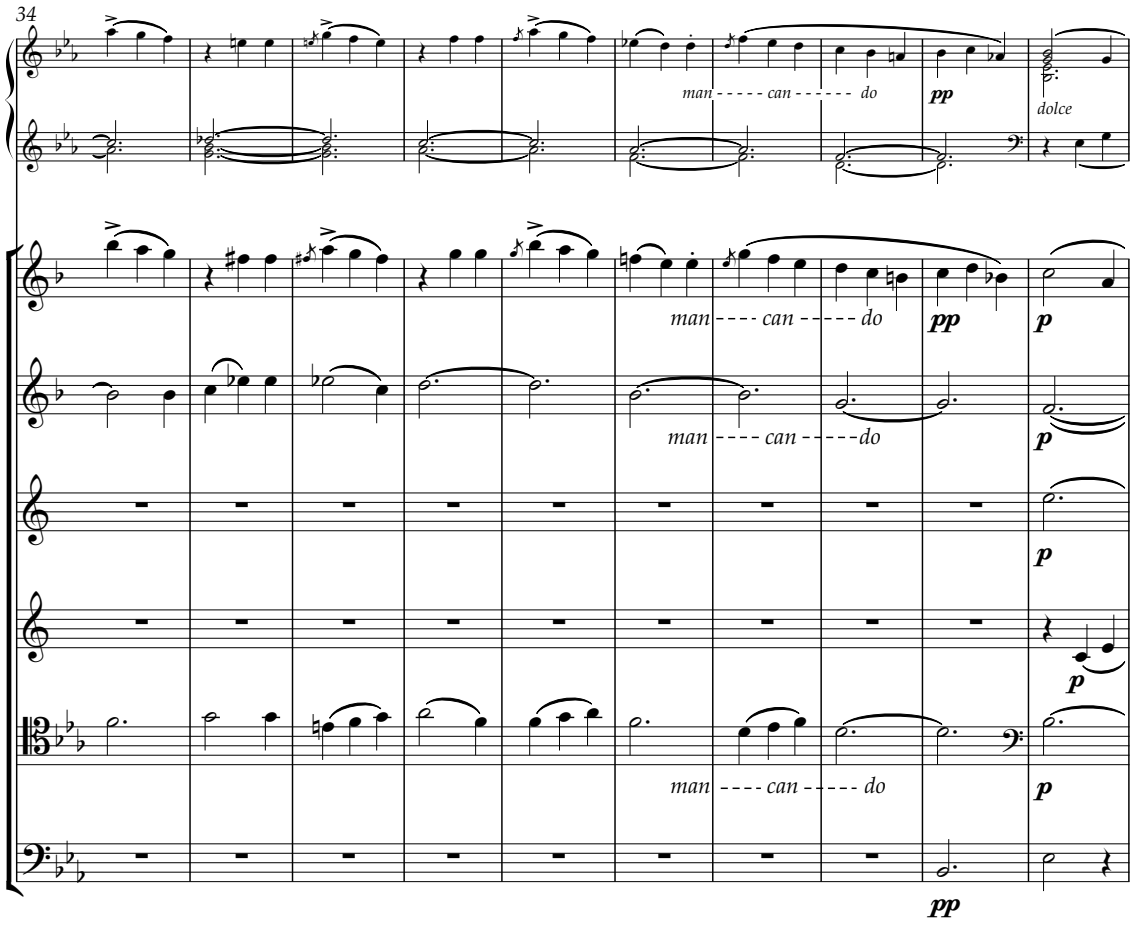

86
pp
ffp
fp

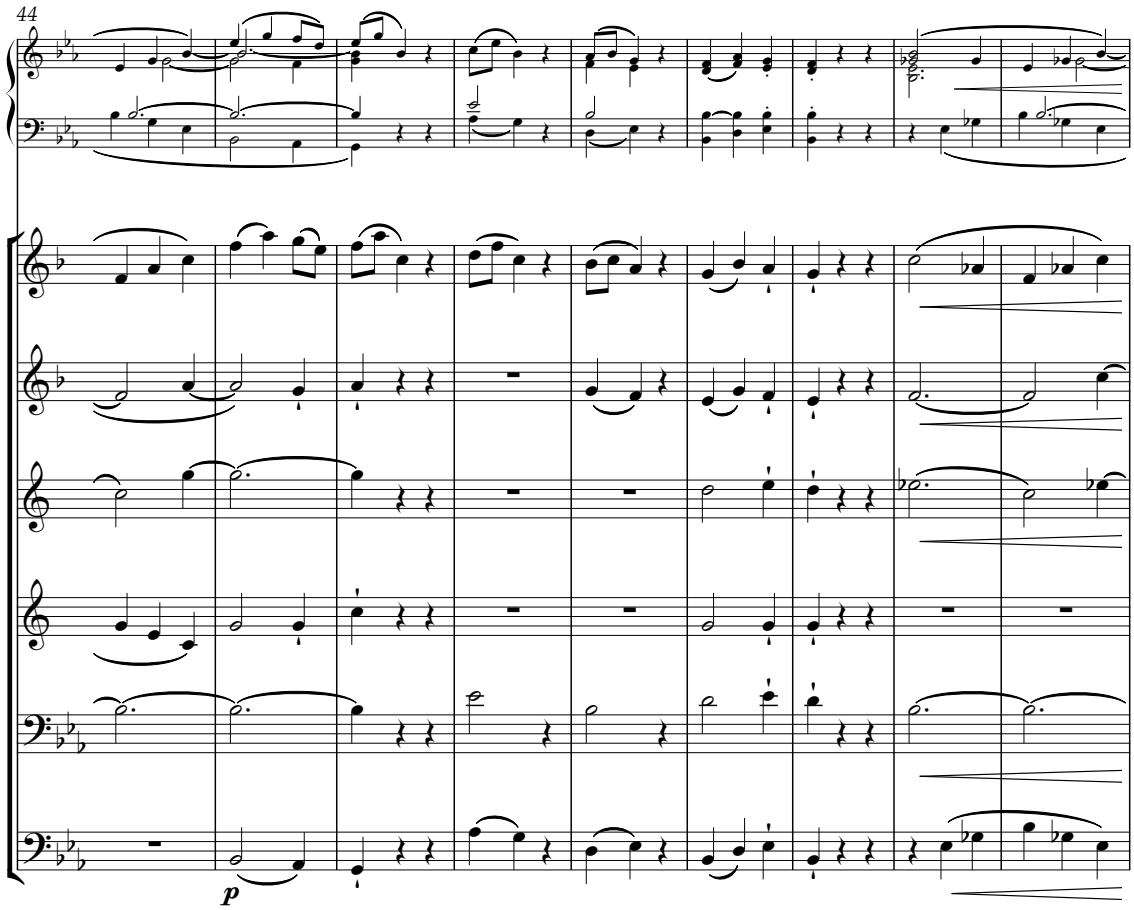

Allegro [𝅗𝅥. = 72]
p dolce
Allegro [𝅗𝅥. = 72]
p
in E♭

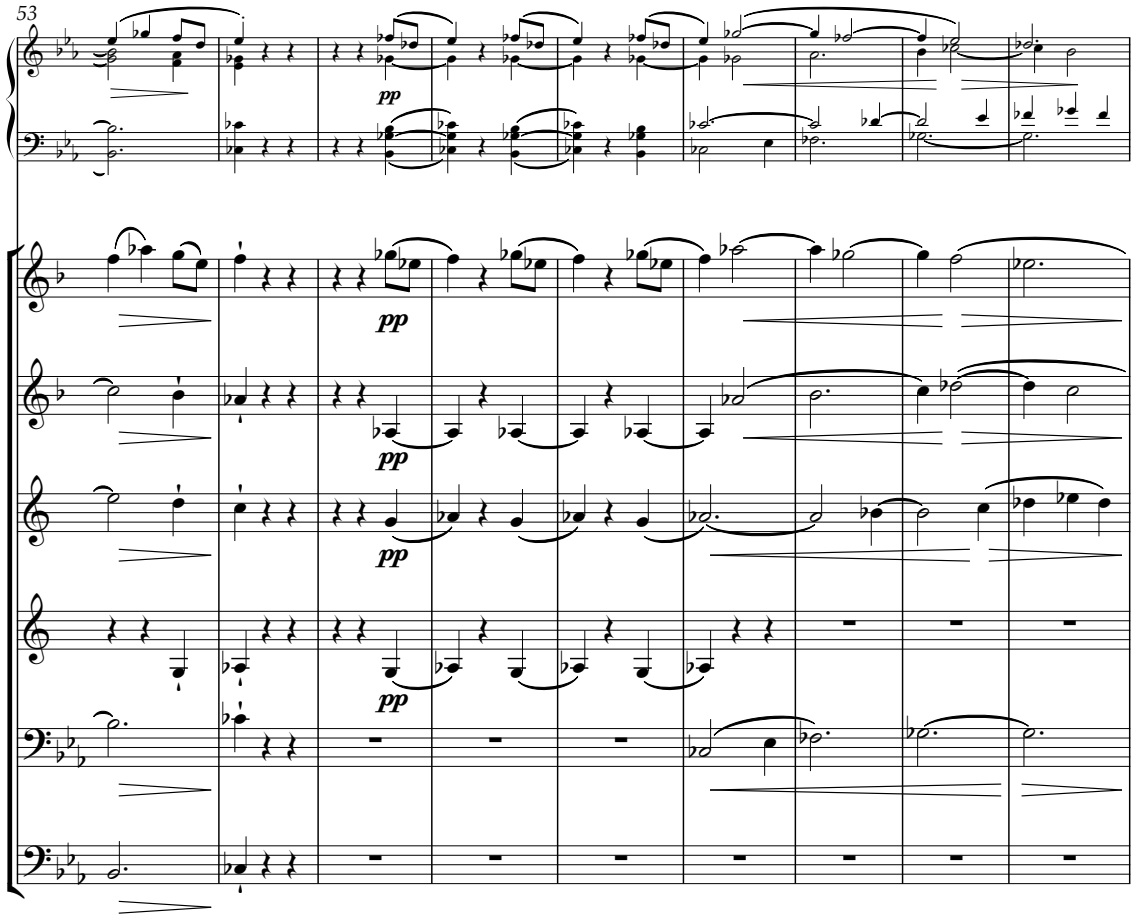

9
pp
sf
sf
pp
pp
pp
sf
sf
pp
sf
sf
pp
sf
sf
pp
sf
sf

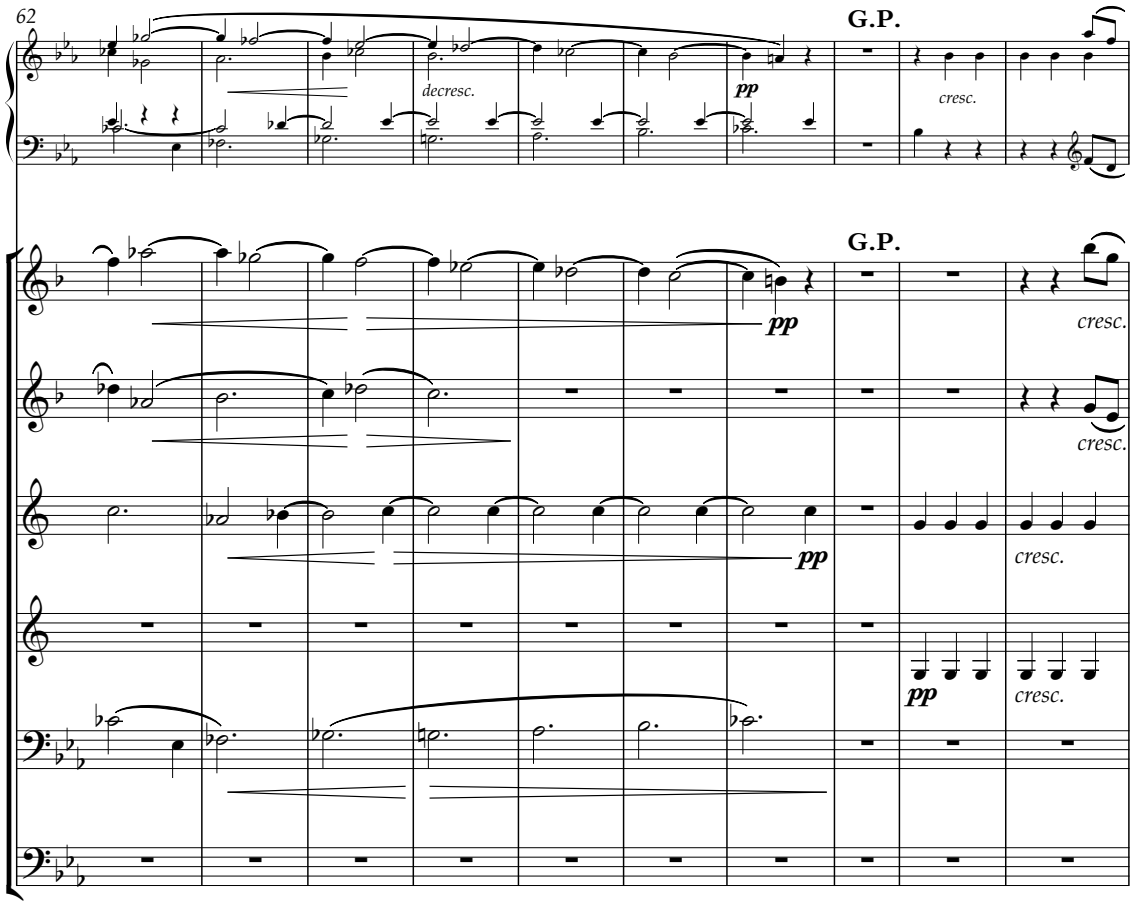

18
sf
sf
sf
pp
sf
sf
pp
sf
sf
sf

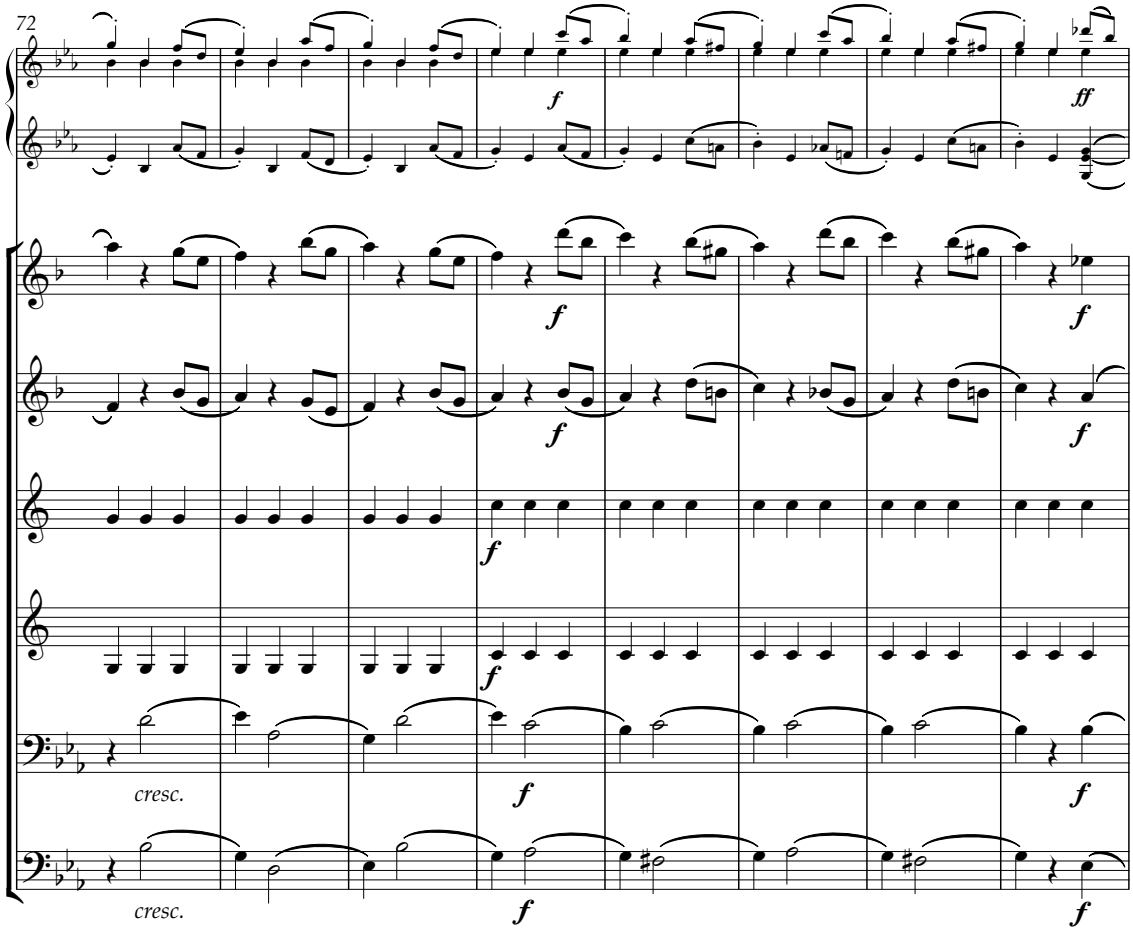

25
tr
p
p
p
p
p
p
p
p

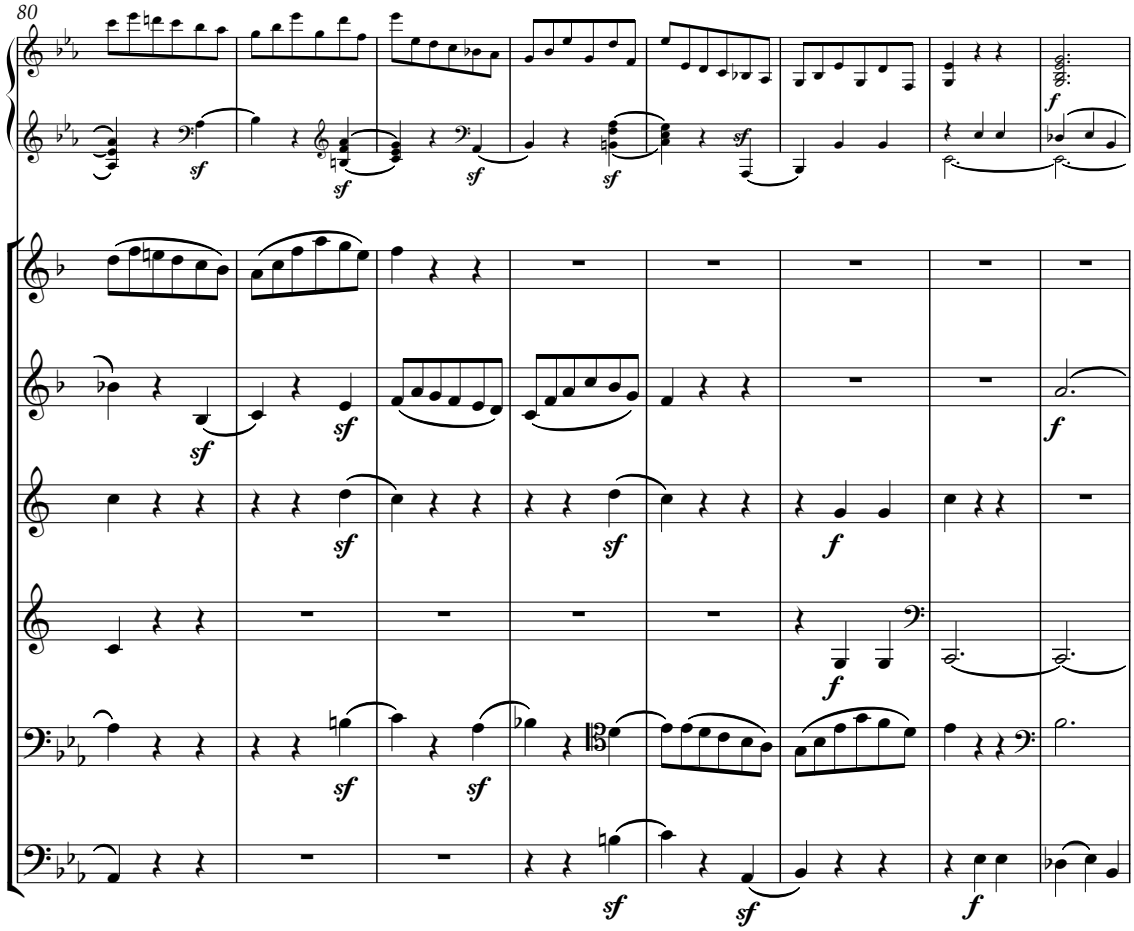

34
man - - - - - can - - - - - - do
pp
dolce
man - - - - can - - - - - do
pp
p
man - - - - can - - - - - do
p
p
p
man - - - - can - - - - - do
p
pp

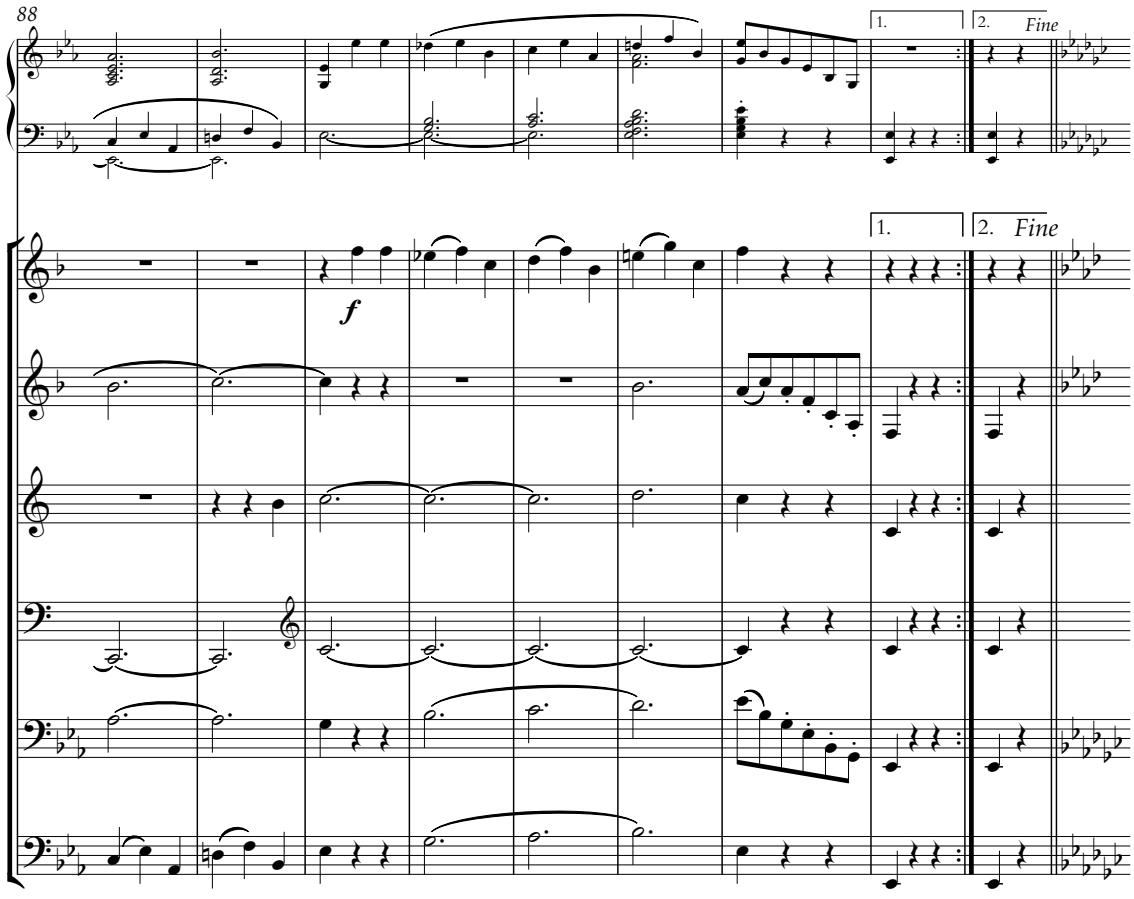

44
p

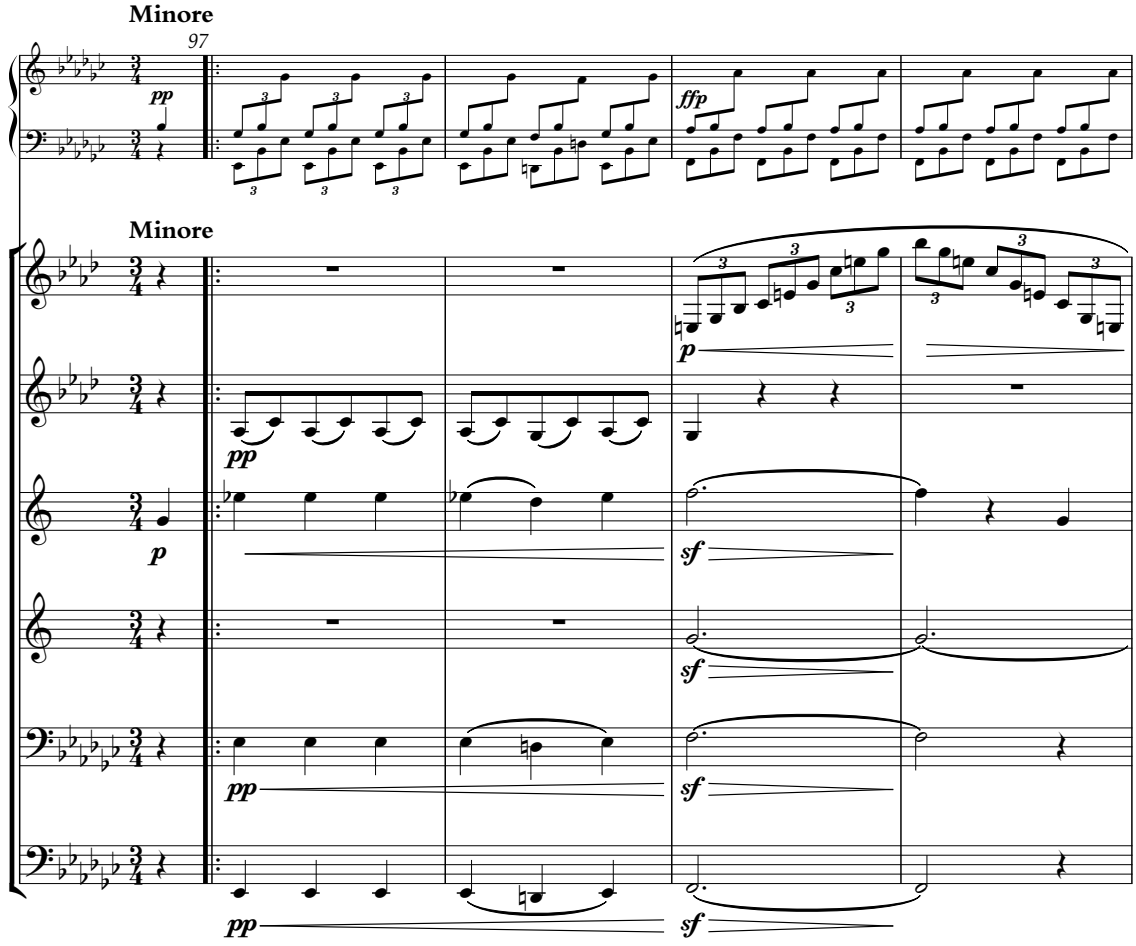

53
pp
pp
pp
pp
pp

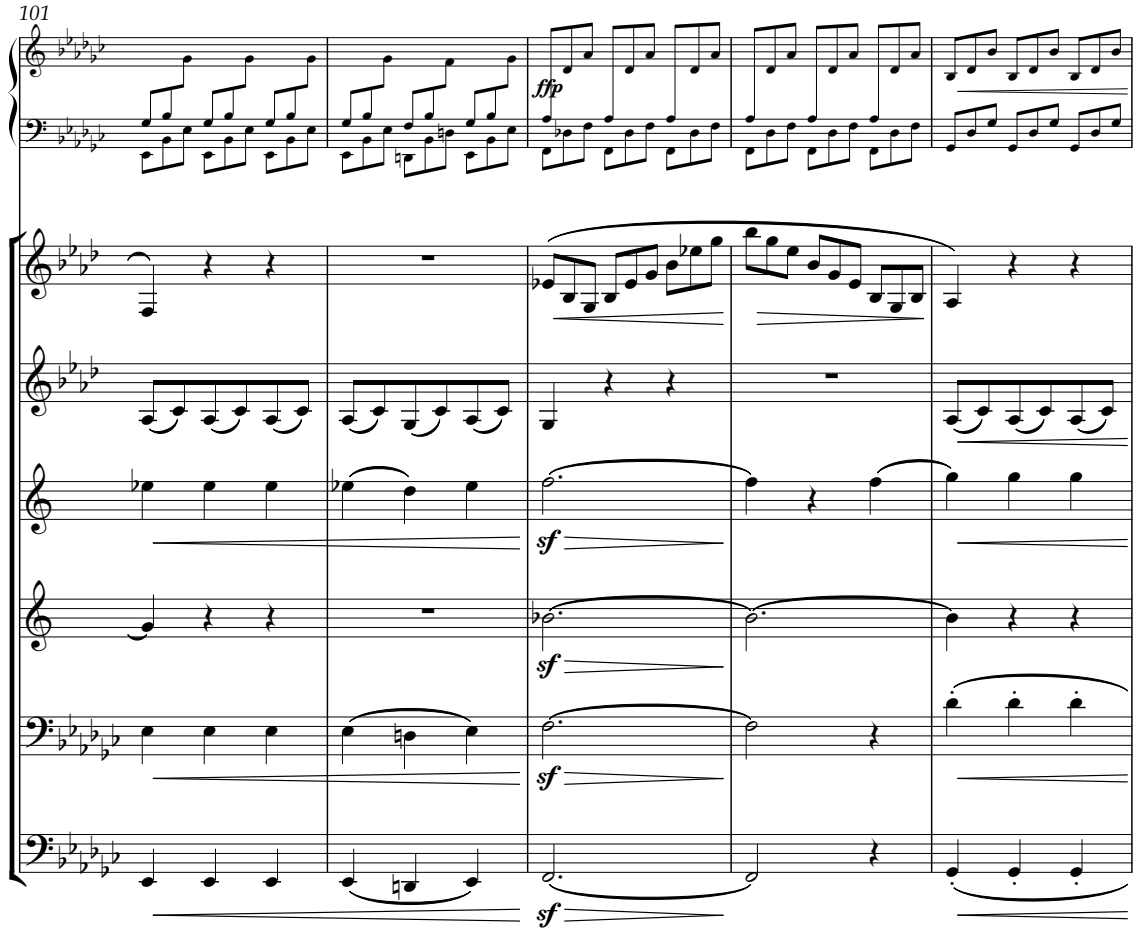

62
G.P.
decresc.
pp
cresc.
G.P.
pp
cresc.
pp
cresc.
pp
cresc.
pp
cresc.

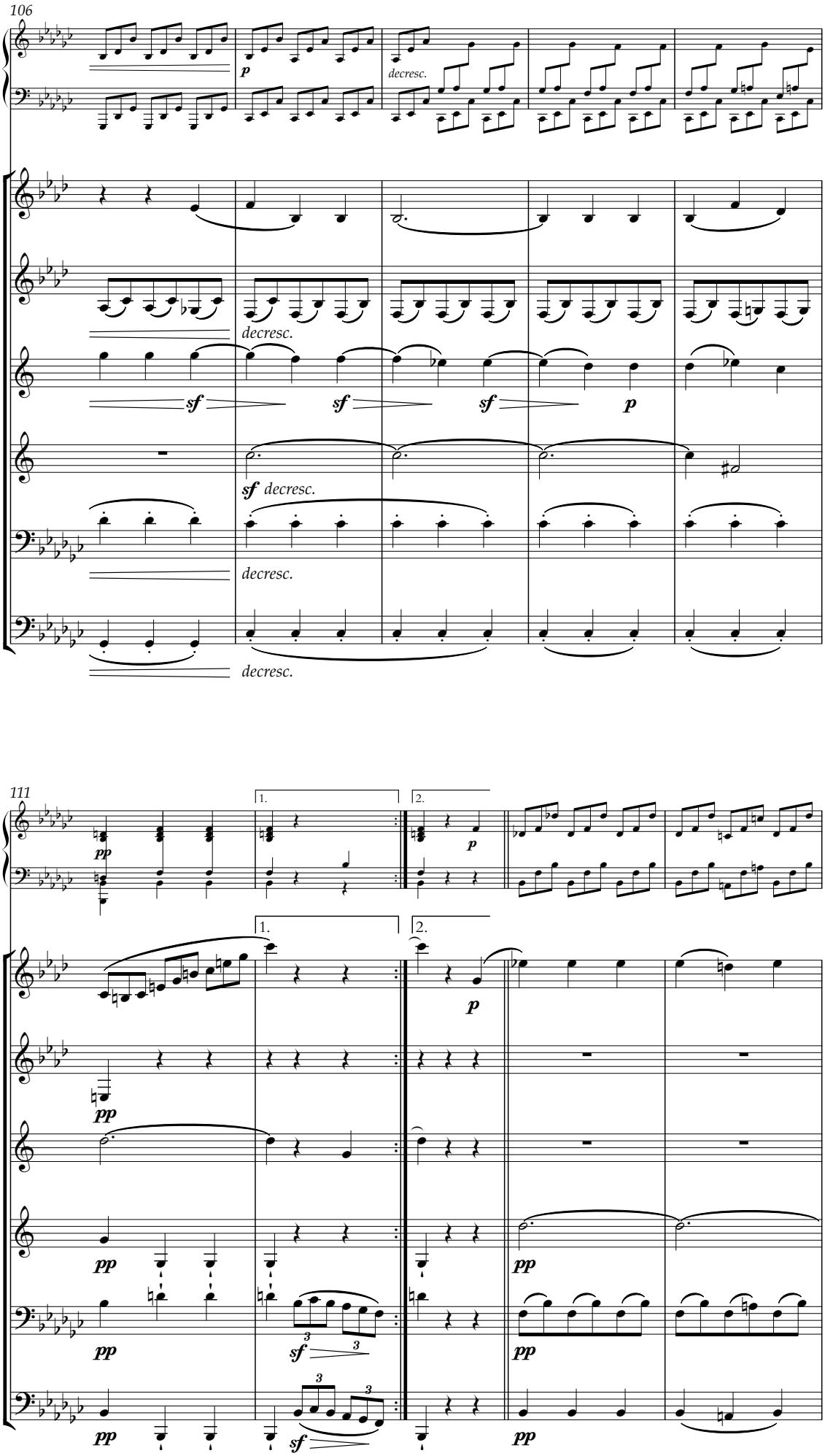

72
f
ff
f
f
f
f
f
f
f
f
cresc.
f
f
cresc.
f
f

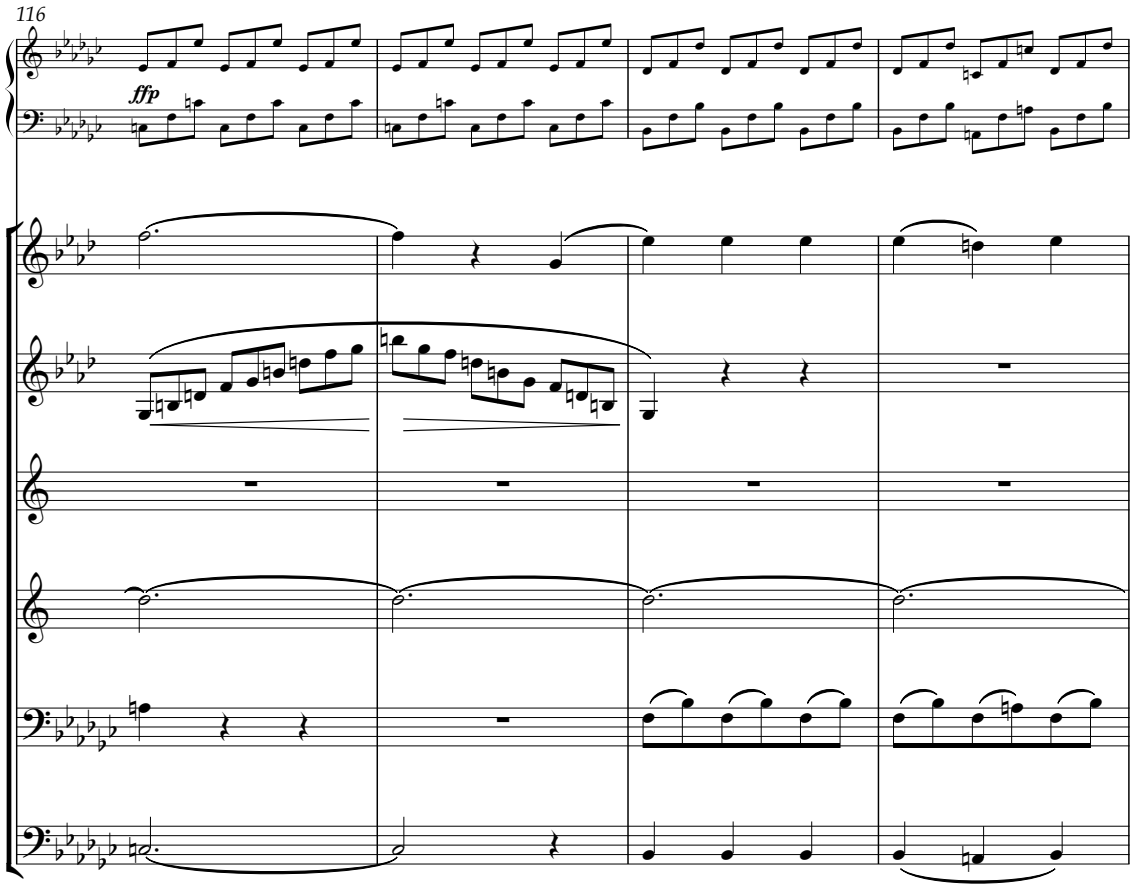

80
sf
f

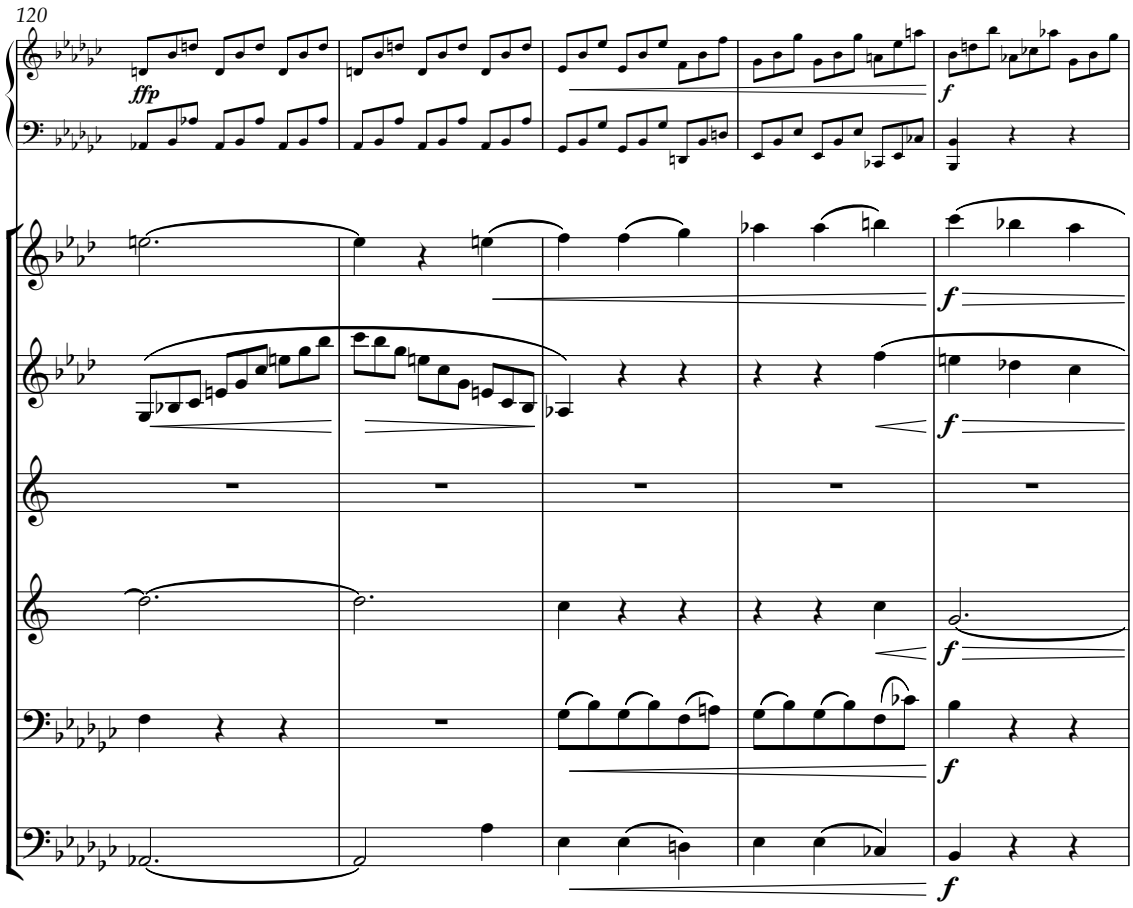

88
1.
2.
Fine
f

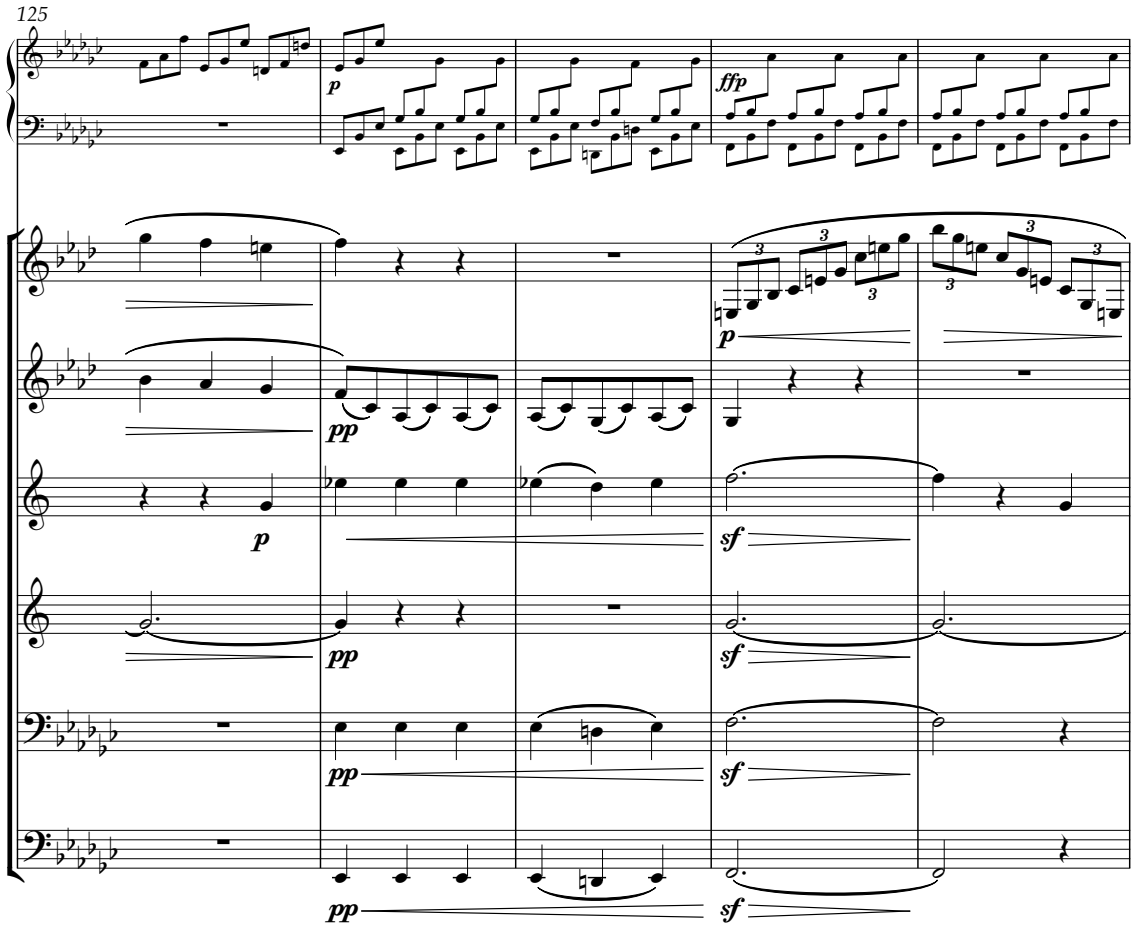

Minore
97
pp
ffp
Minore
p
pp
sf
pp
sf
pp
sf

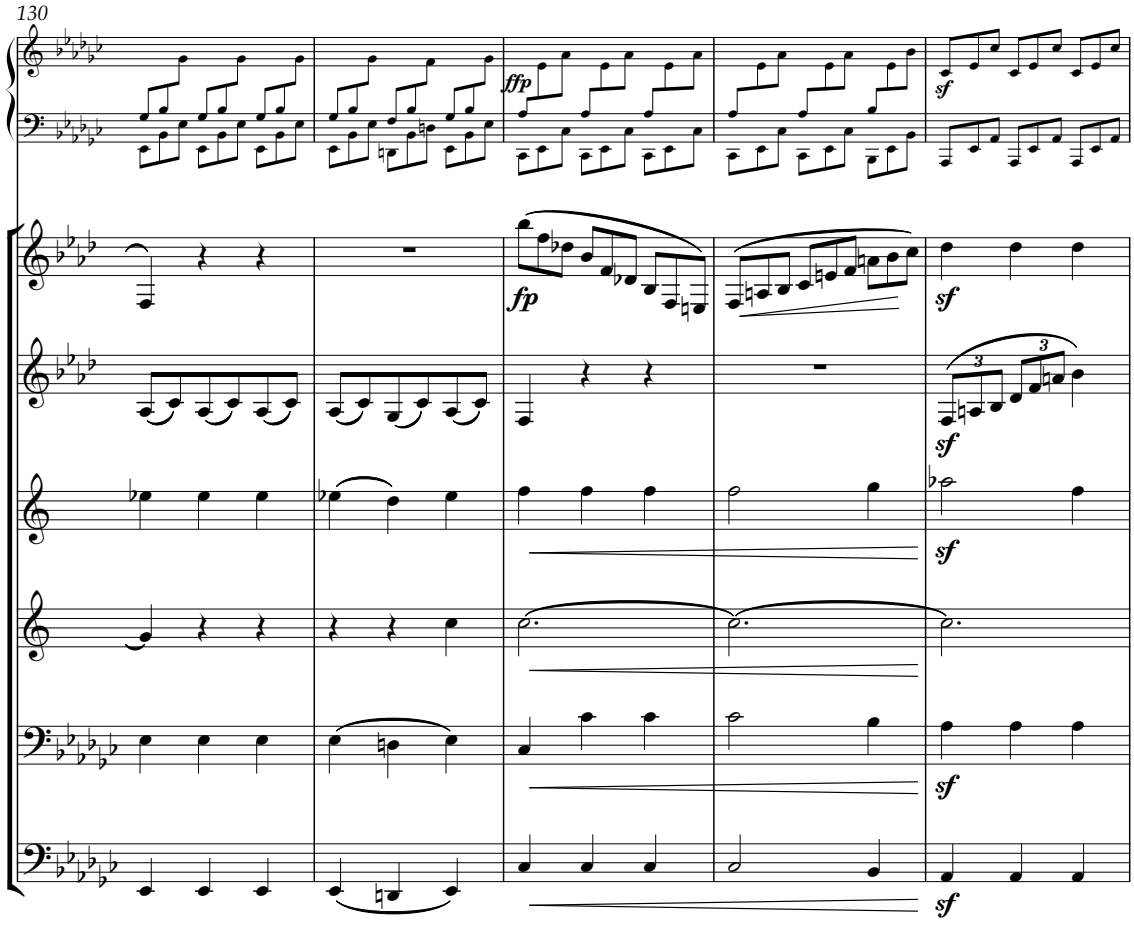

101
ffp
sf
sf
sf
sf

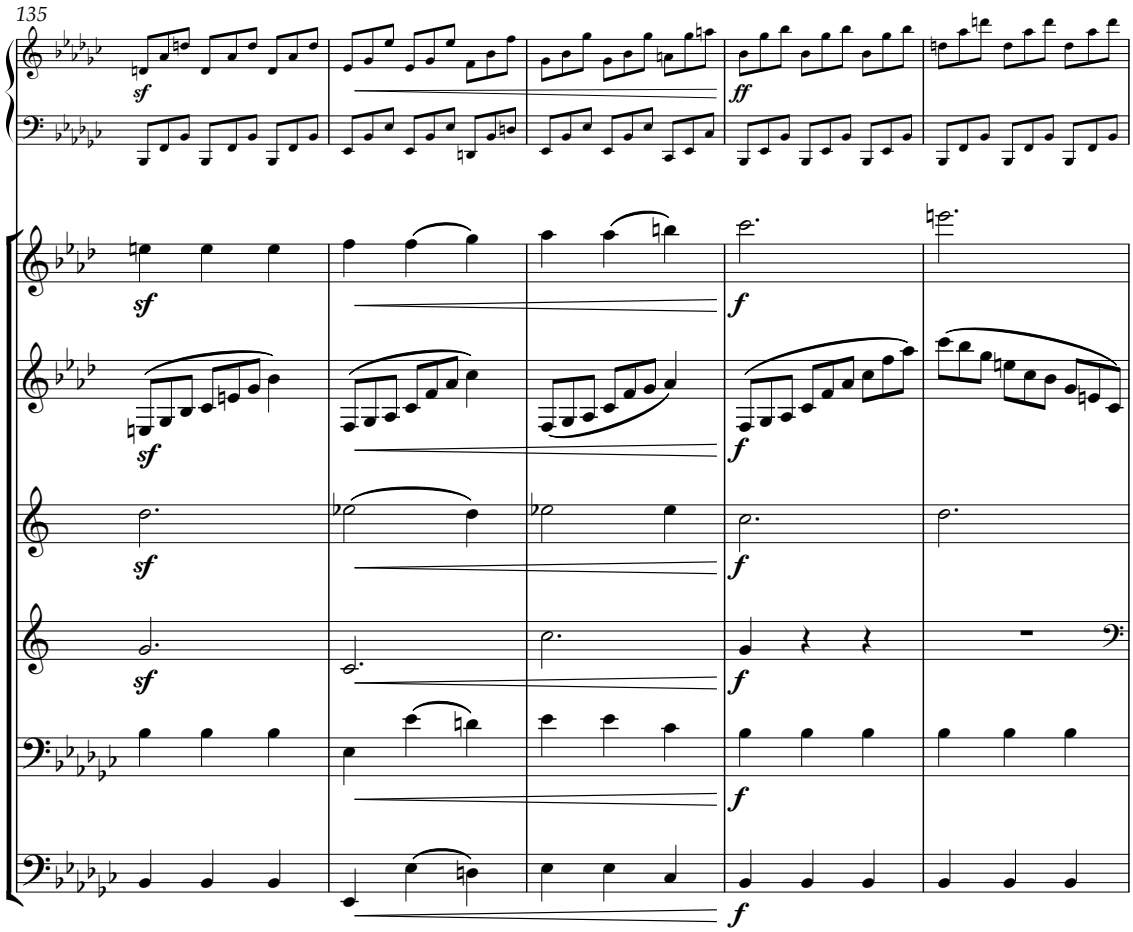

106
p
decresc.
decresc.
sf
sf
sf
p
sf decresc.
decresc.
decresc.
111
1.
2.
pp
p
1.
2.
p
pp
pp
pp
pp
sf
pp
pp
sf
pp

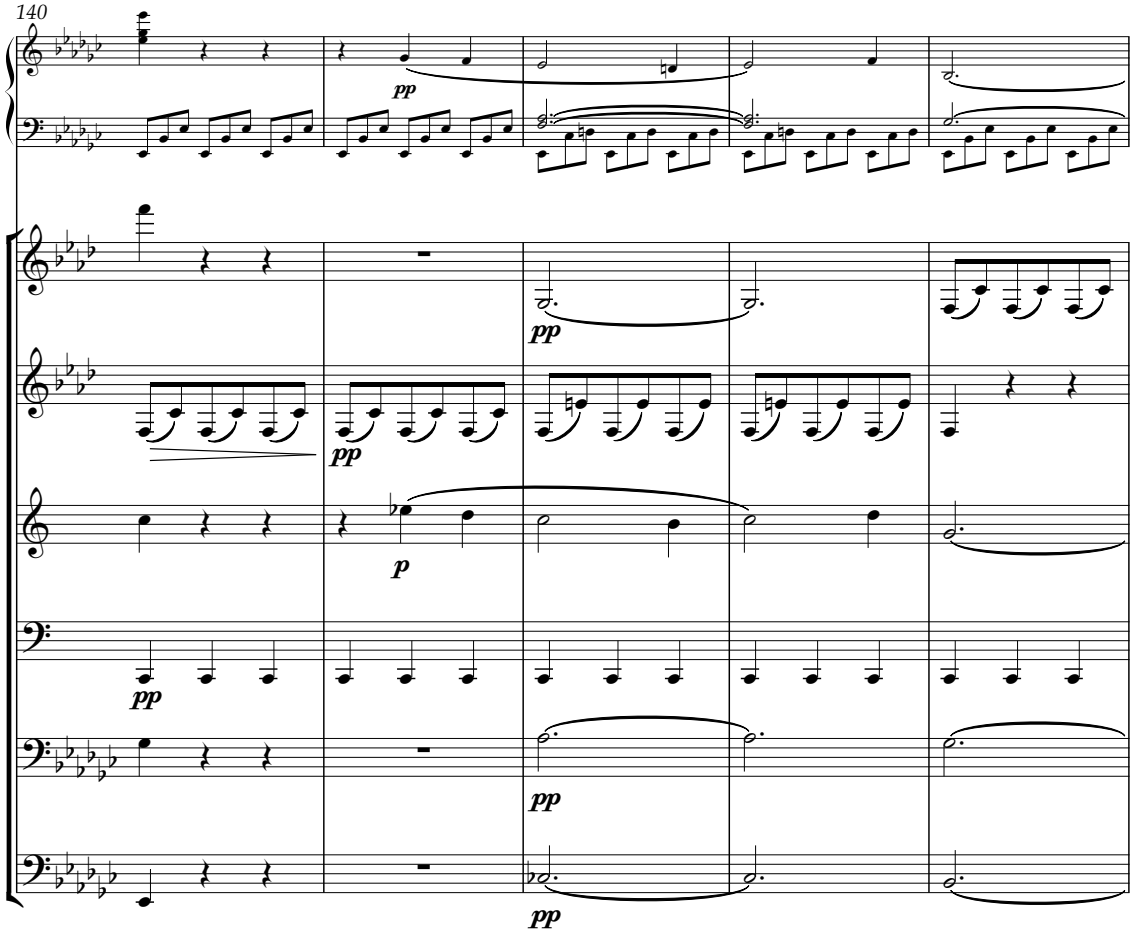

116
ffp

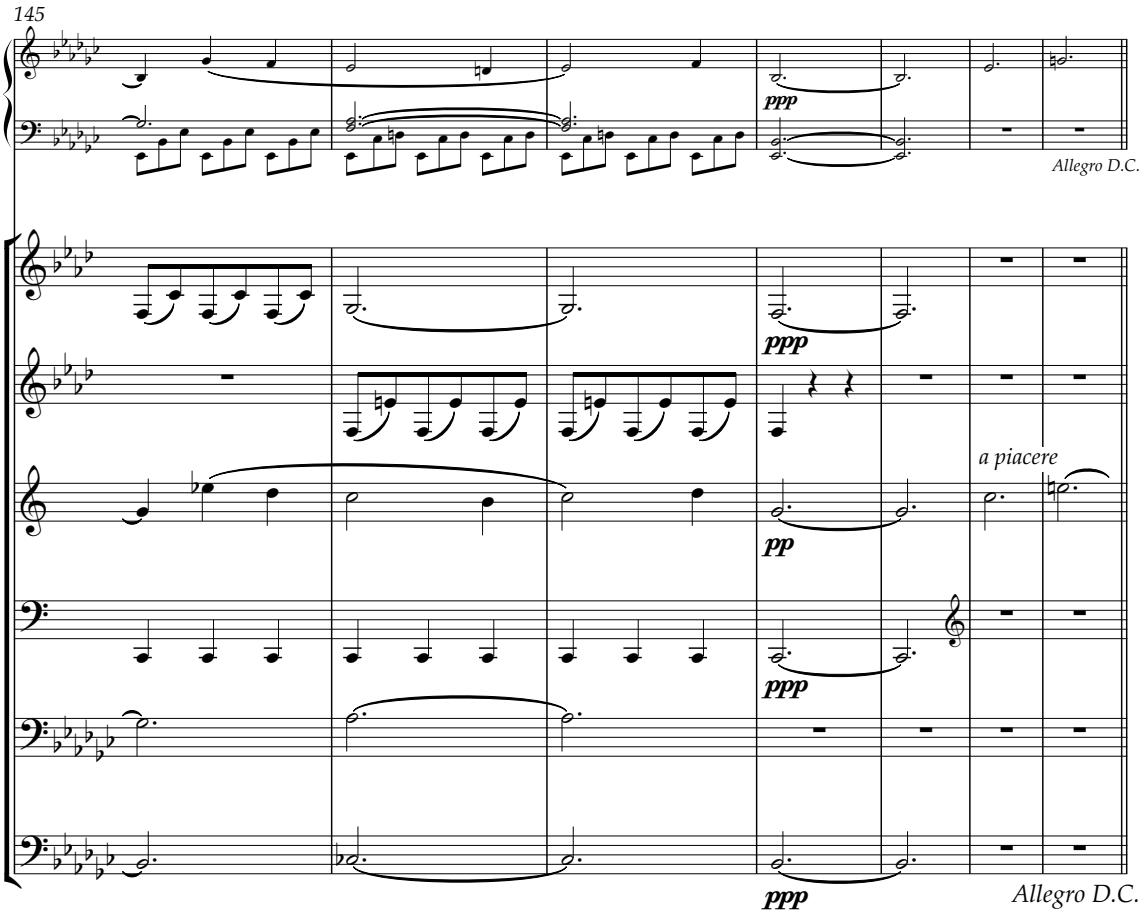

120
ffp
f
f
f
f
f
f

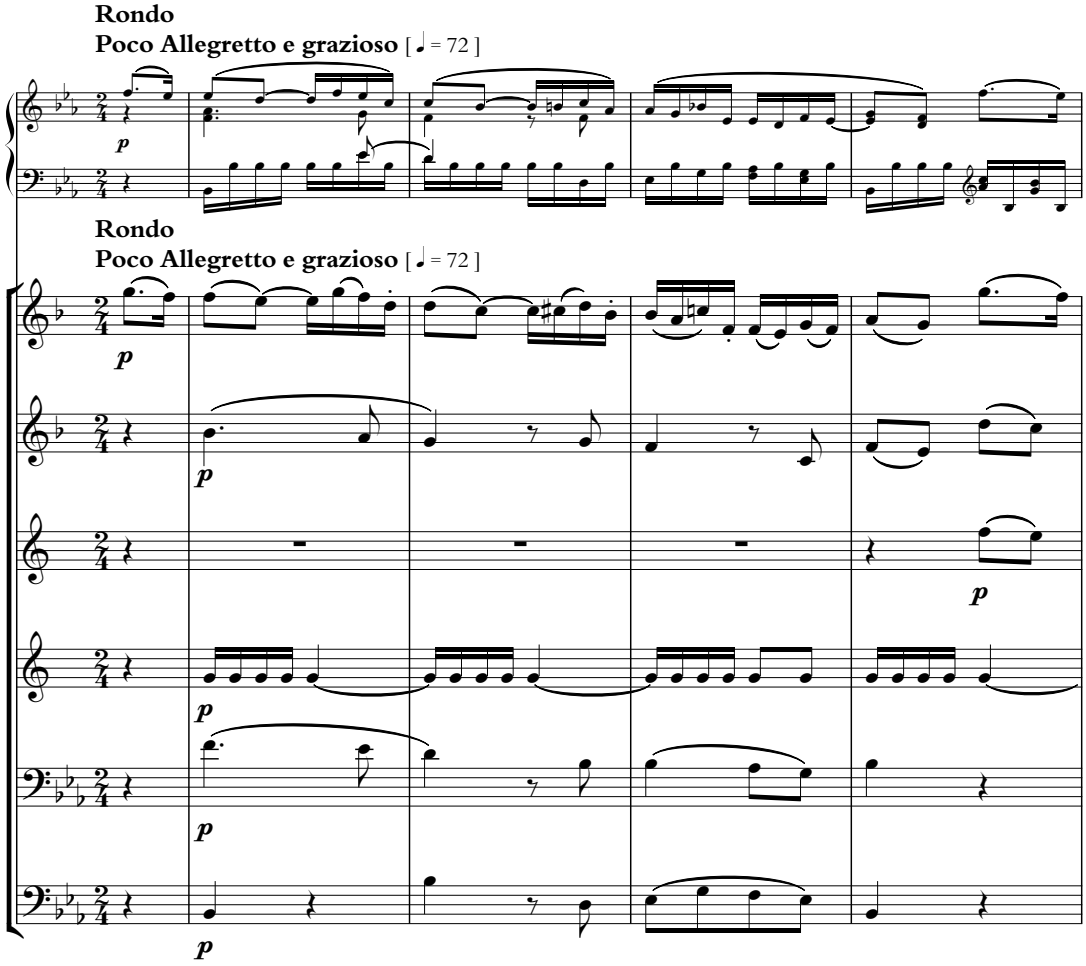

125
p
ffp
pp
p
pp
pp
pp
p
sf
sf
sf
sf

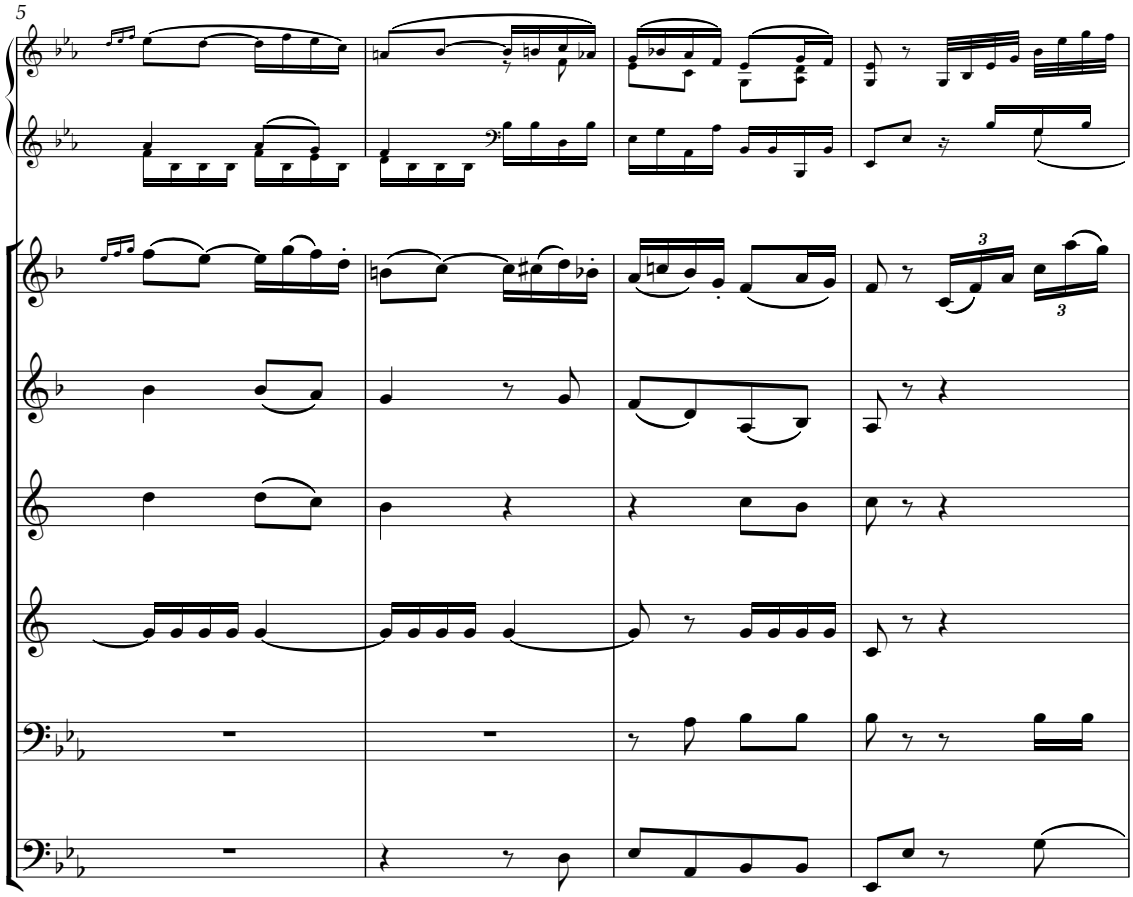

130
ffp
sf
fp
sf
sf
sf
sf
sf

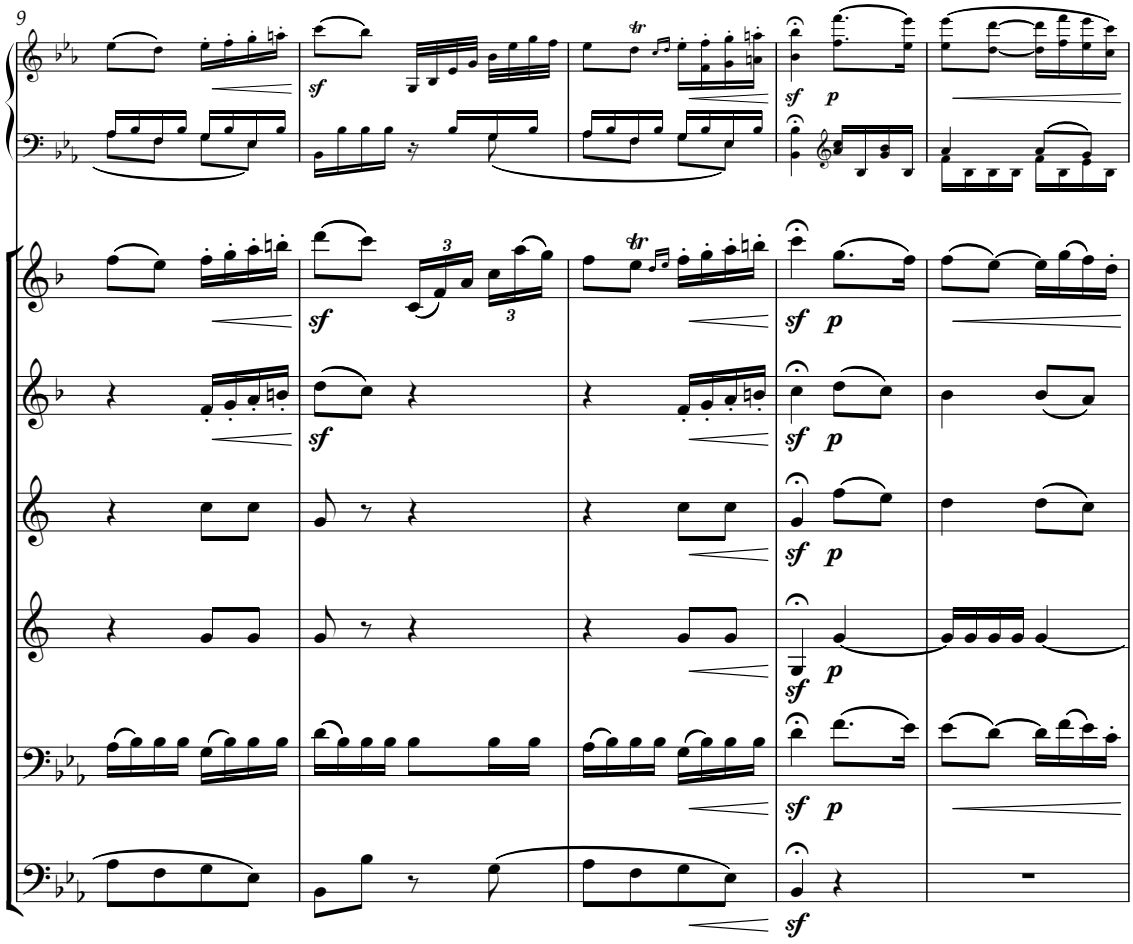

135
sf
ff
f

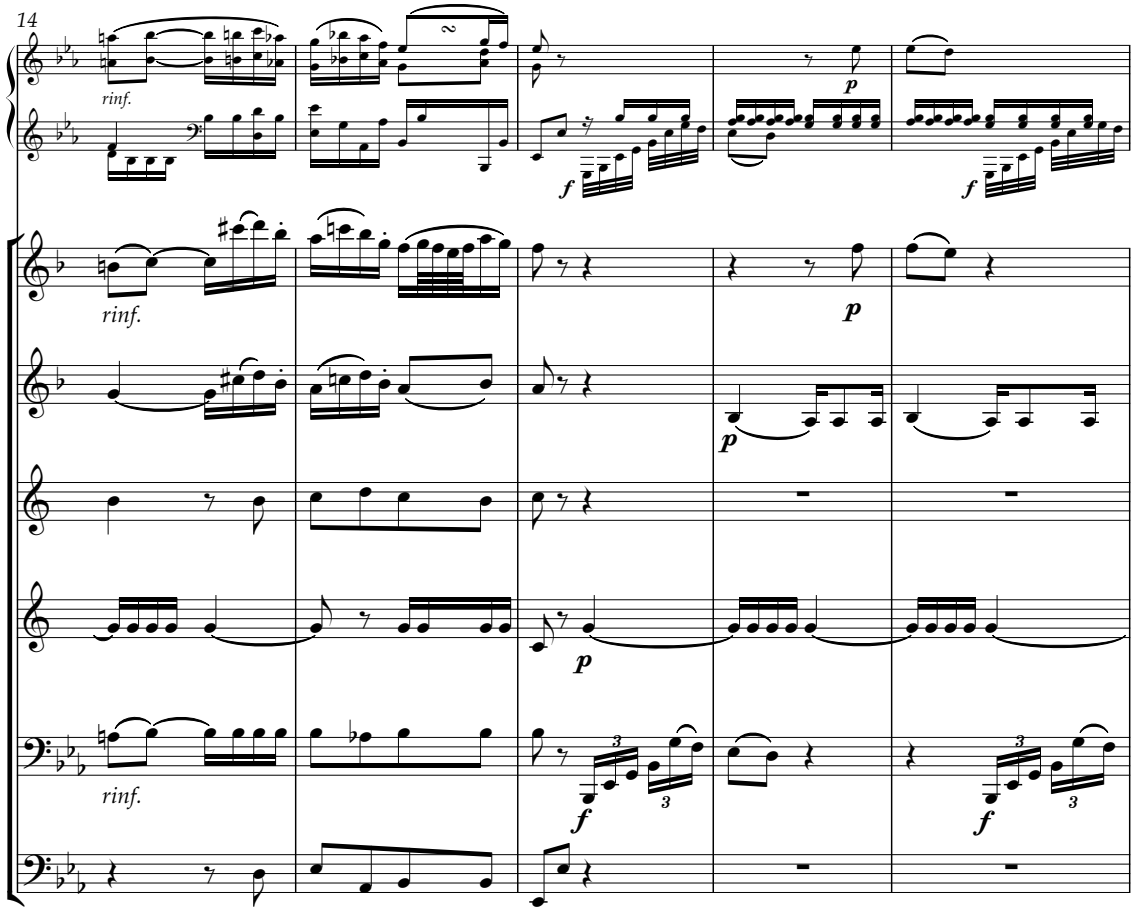

140
pp
p

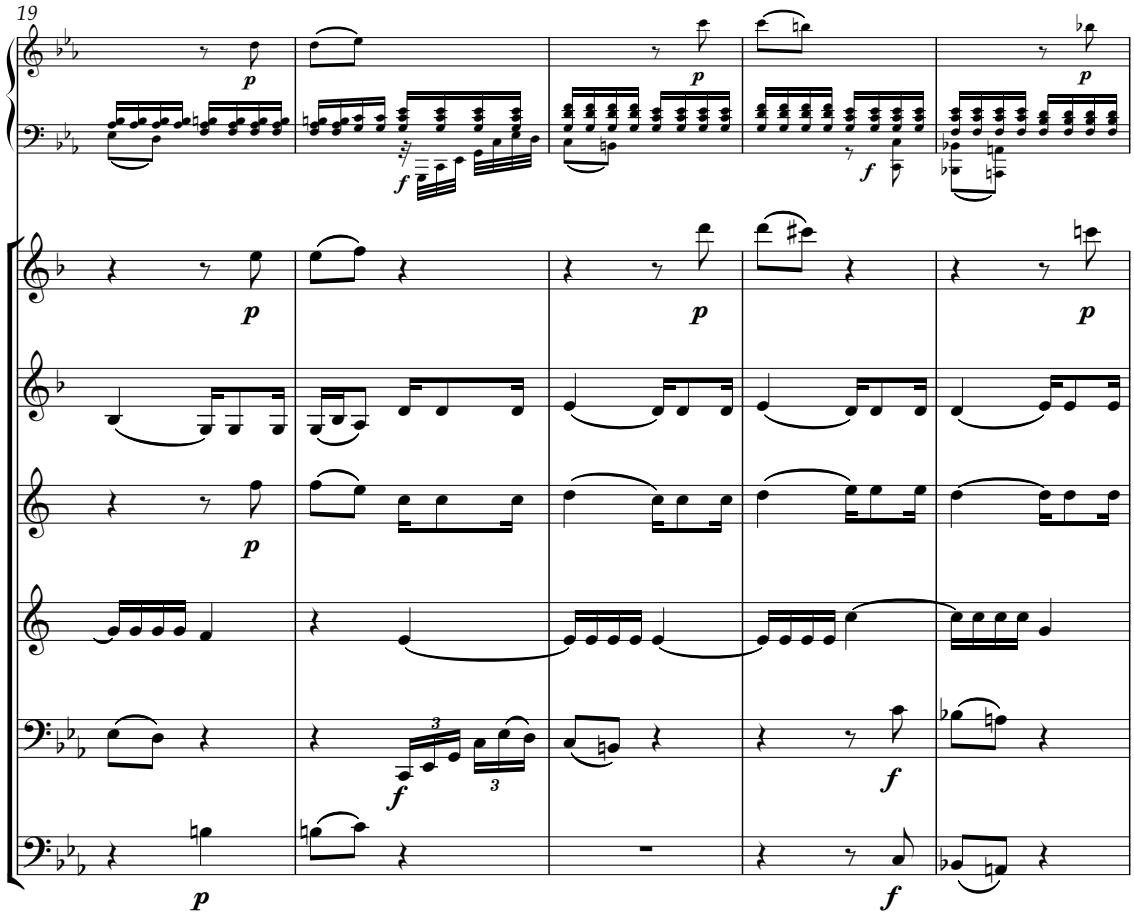

145
ppp
Allegro D.C.
ppp
a piacere
pp
ppp
ppp
Allegro D.C.

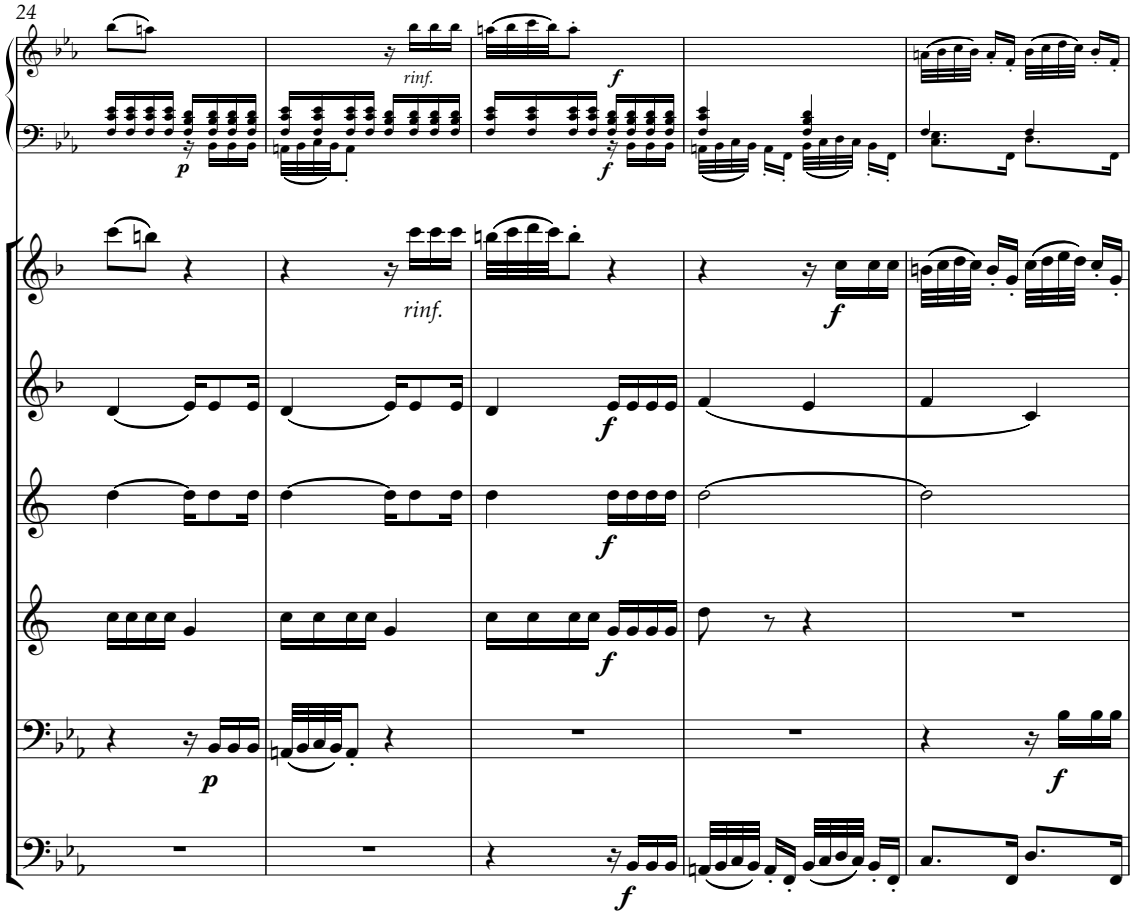

Rondo
Poco Allegretto e grazioso [♩ = 72]
p
Rondo
Poco Allegretto e grazioso [♩ = 72]
p
p
p
p
p
p

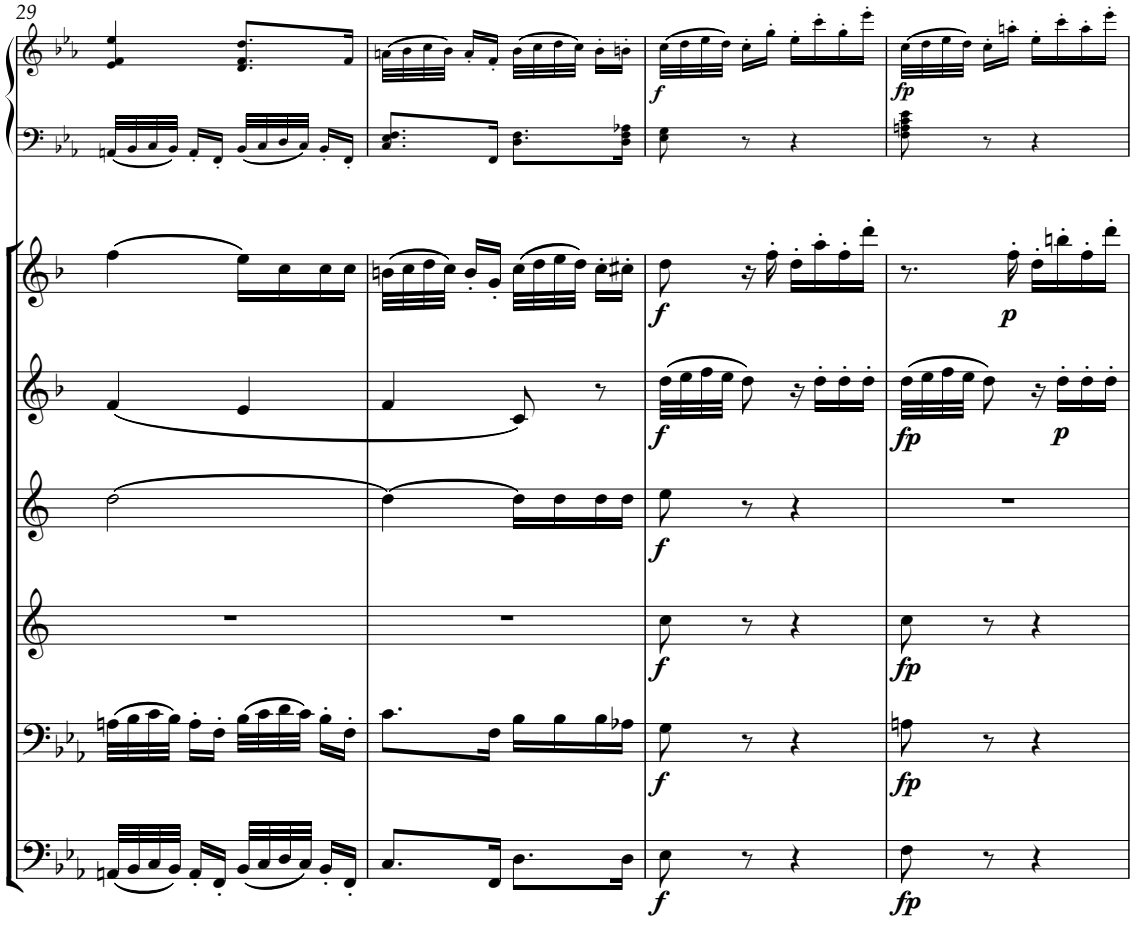

5

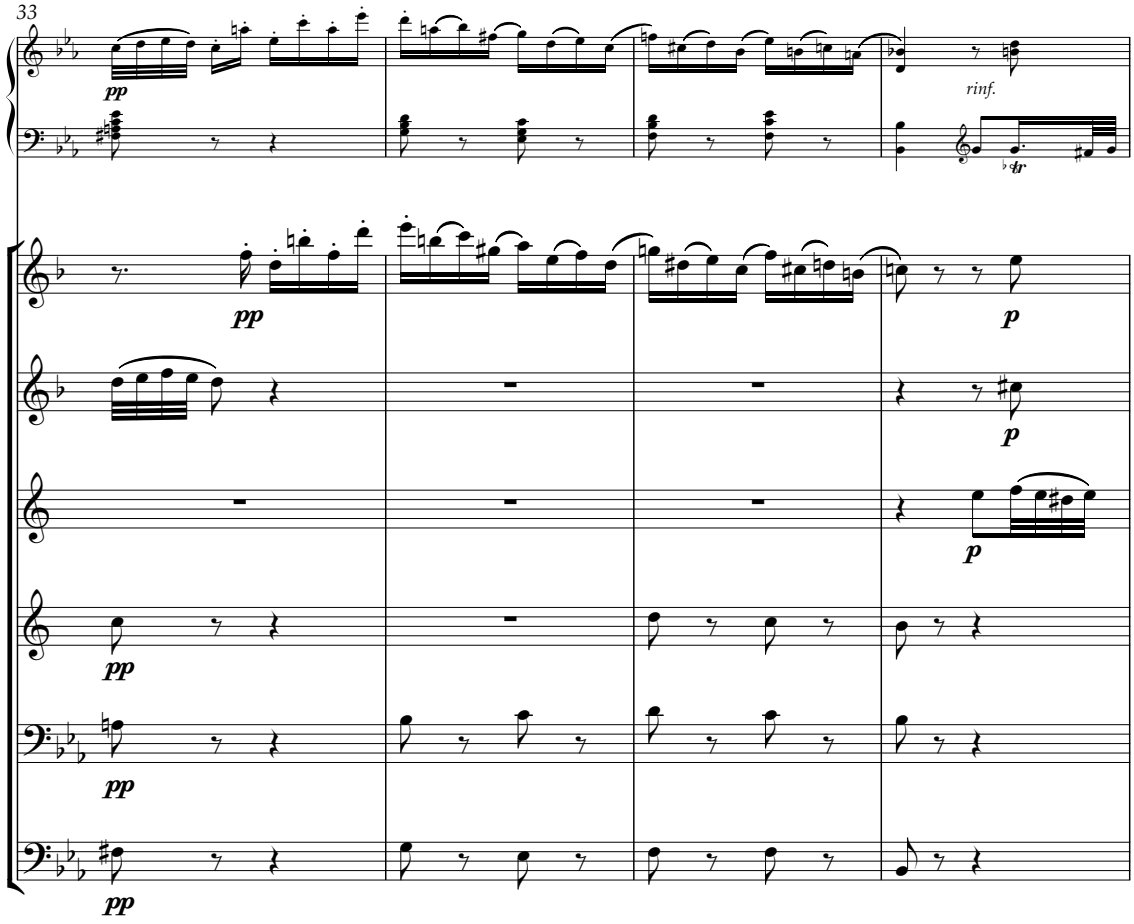

9
sf
tr
sf p

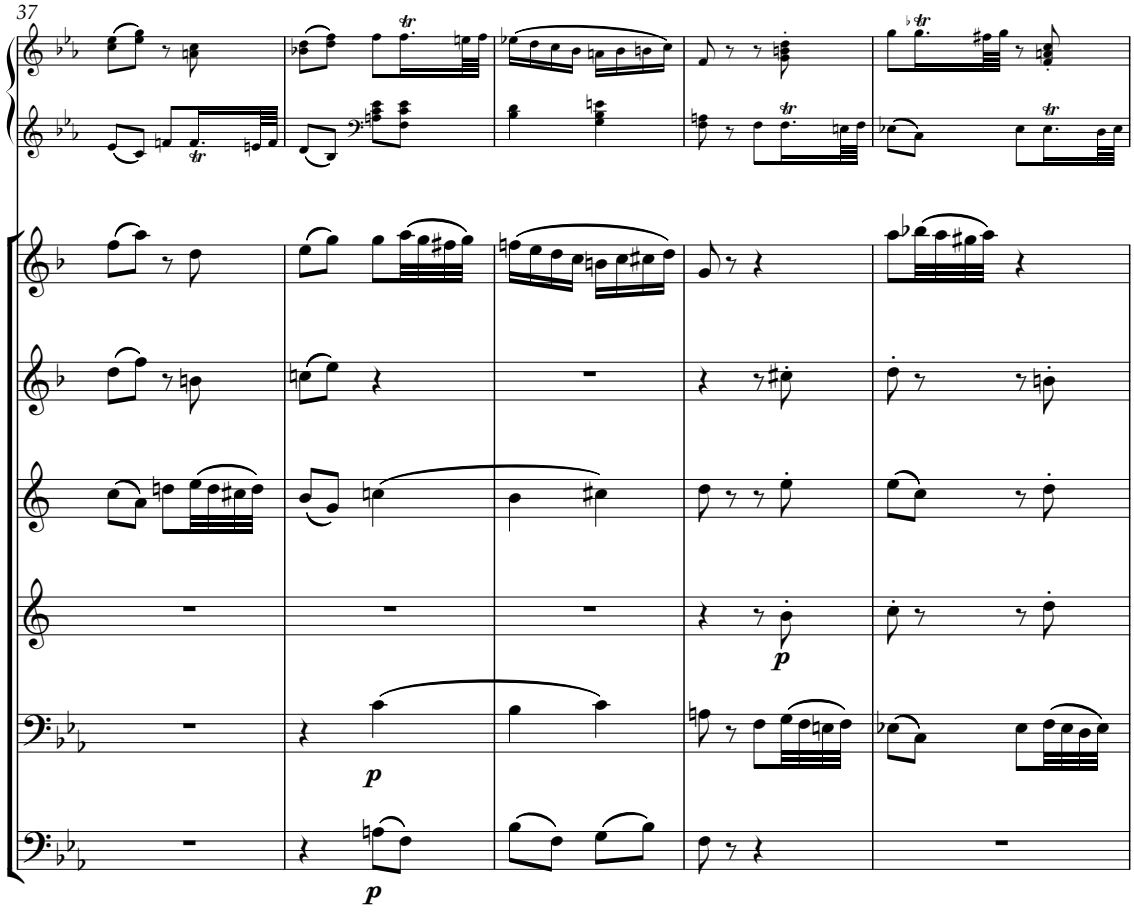

14
rinf.
rinf.
rinf.
p
f

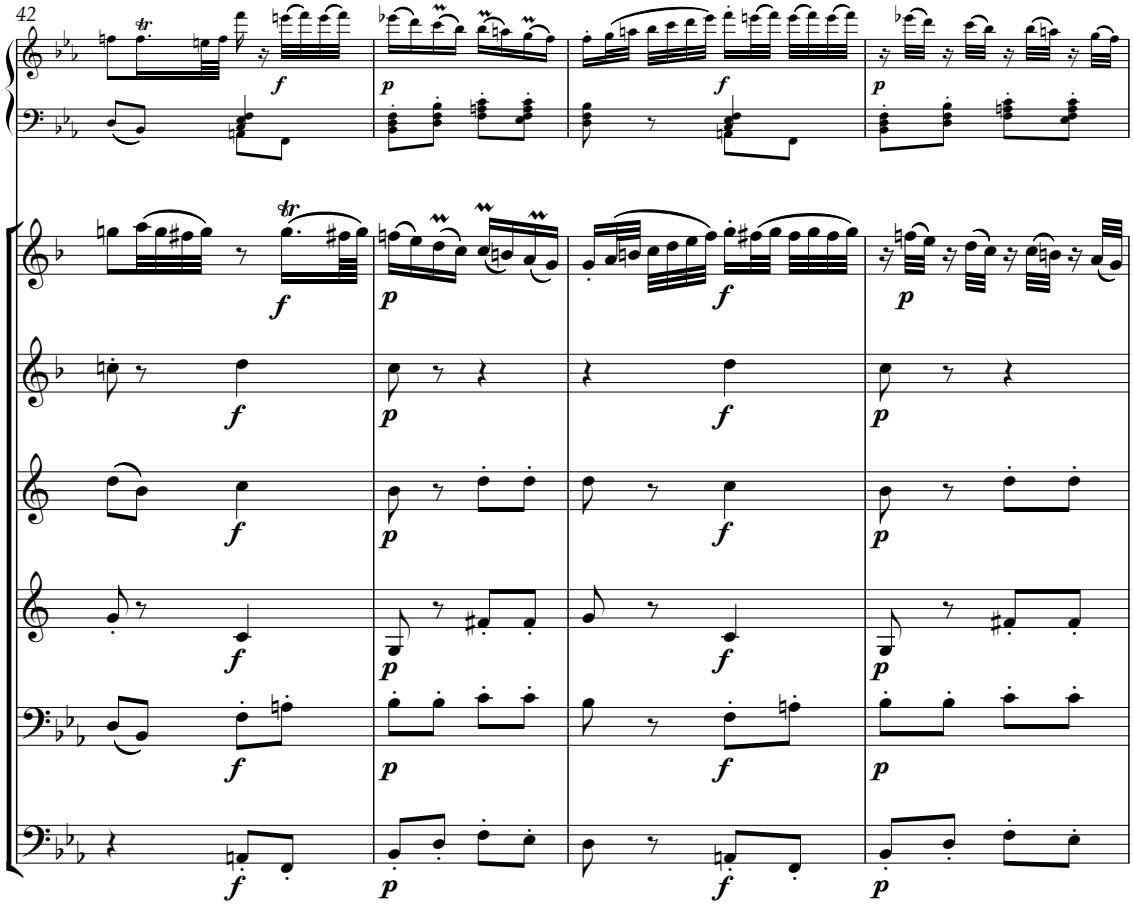

19
p
f

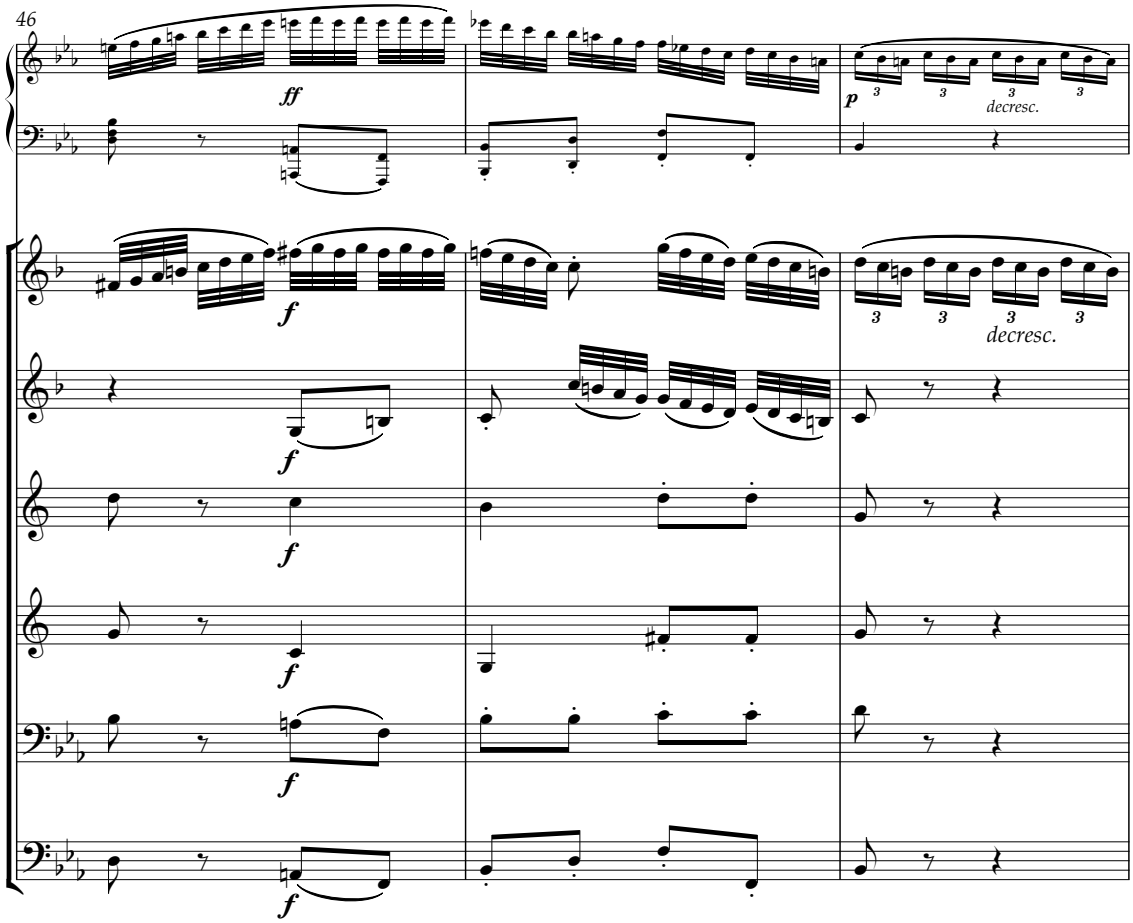

24
rinf.
rinf.

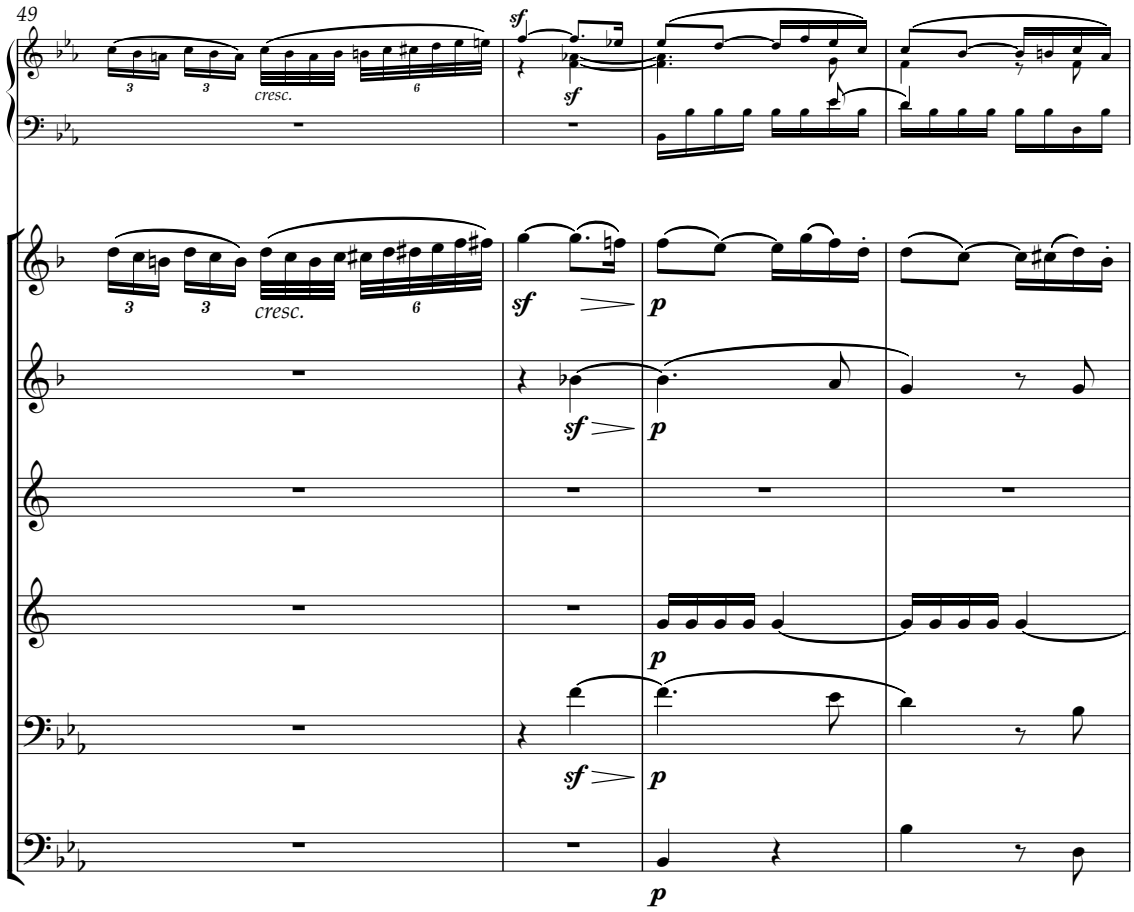

29

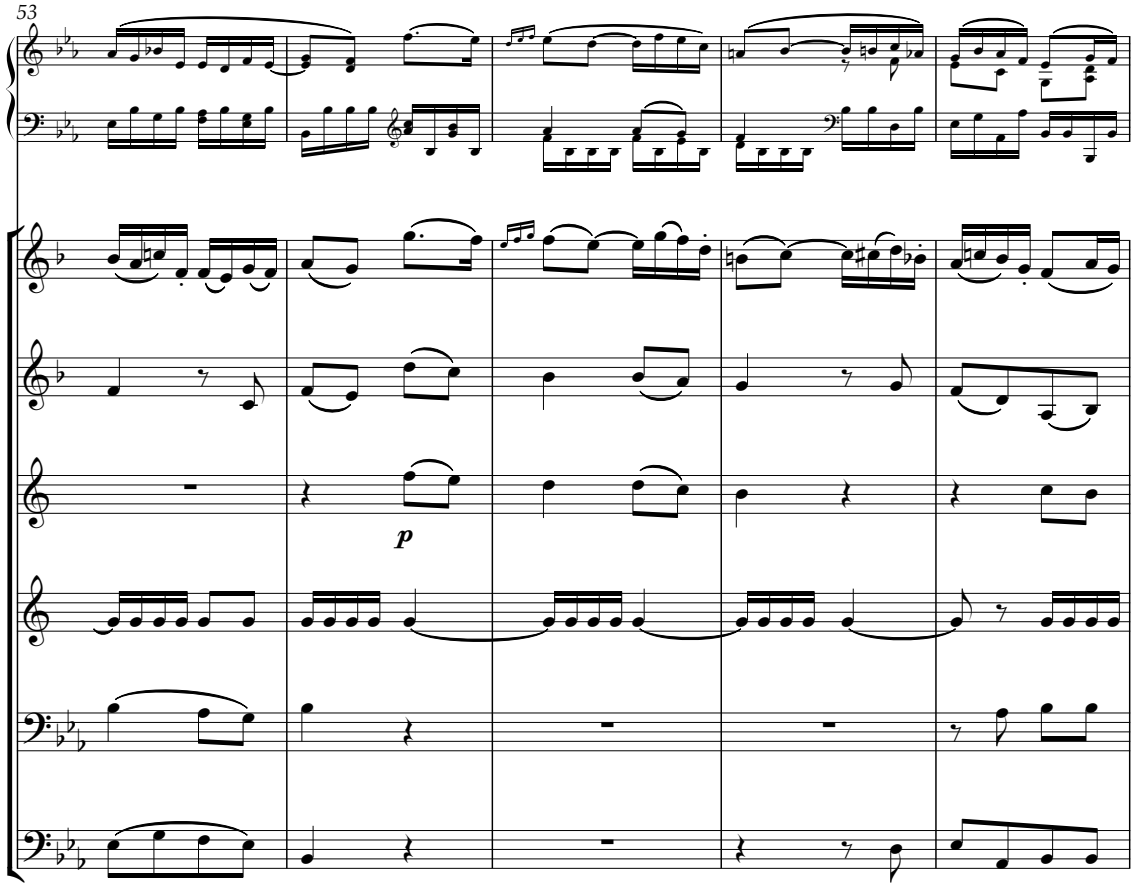

33
pp
rinf.
pp
p
p
p
pp
pp
pp

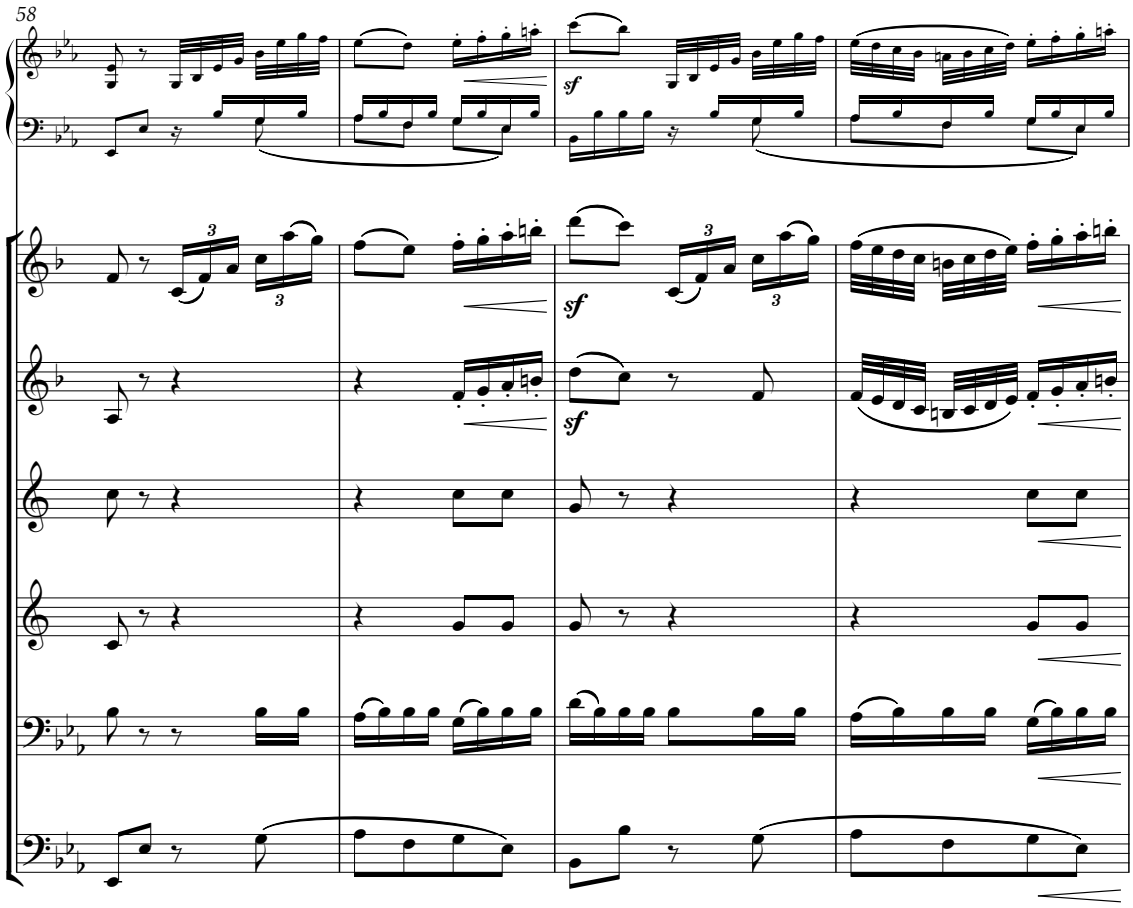

37
p
p

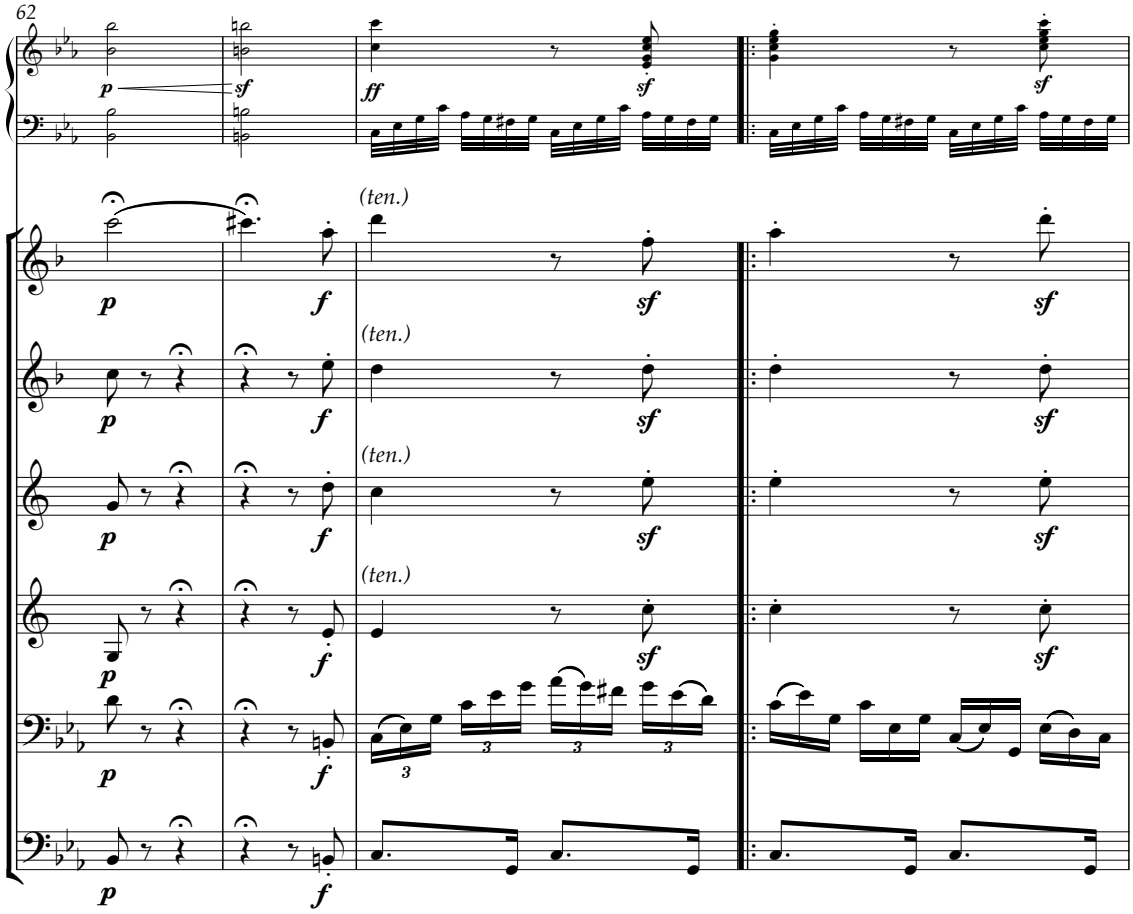

42
tr
f
p
f
p
tr
f
p
f
p
f
p
f
p
f
p
f
p
f
p
f
p
f
p

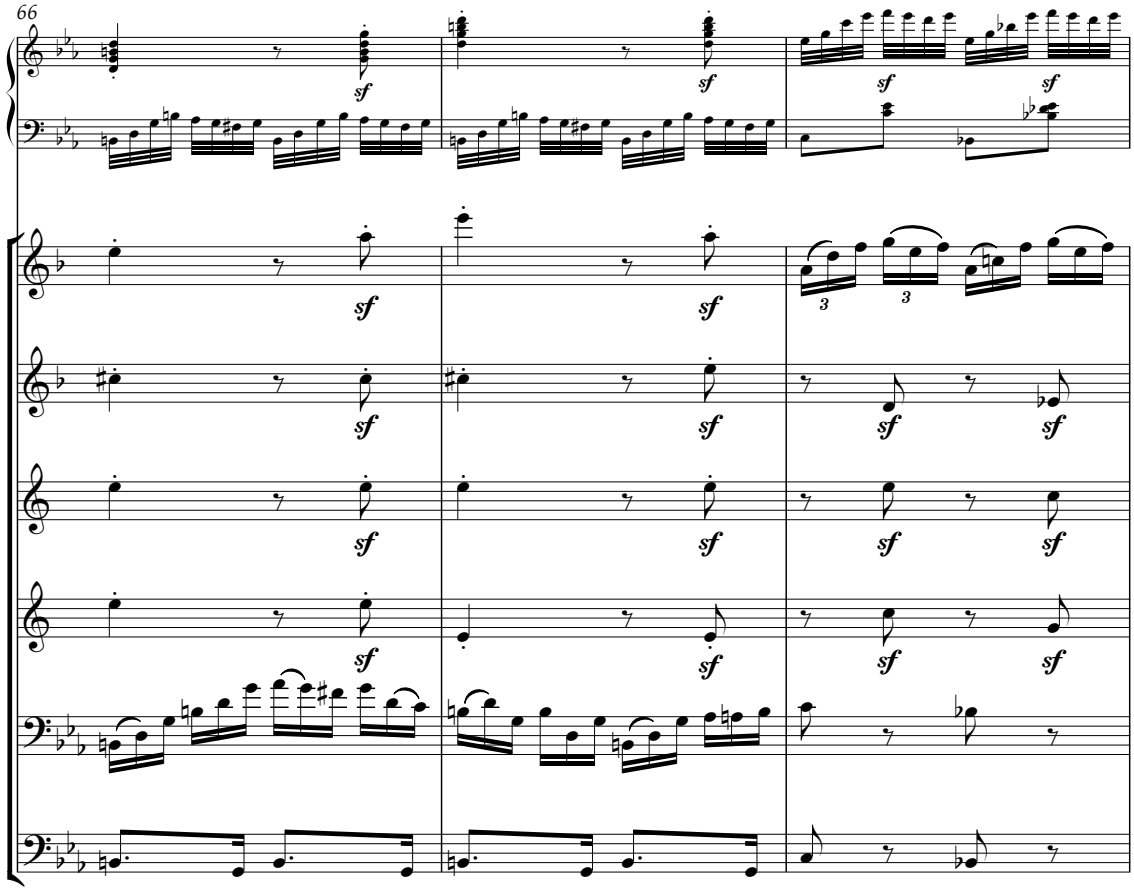

46
ff
p
3
decresc.
f
f
f
f
f
3
decresc.

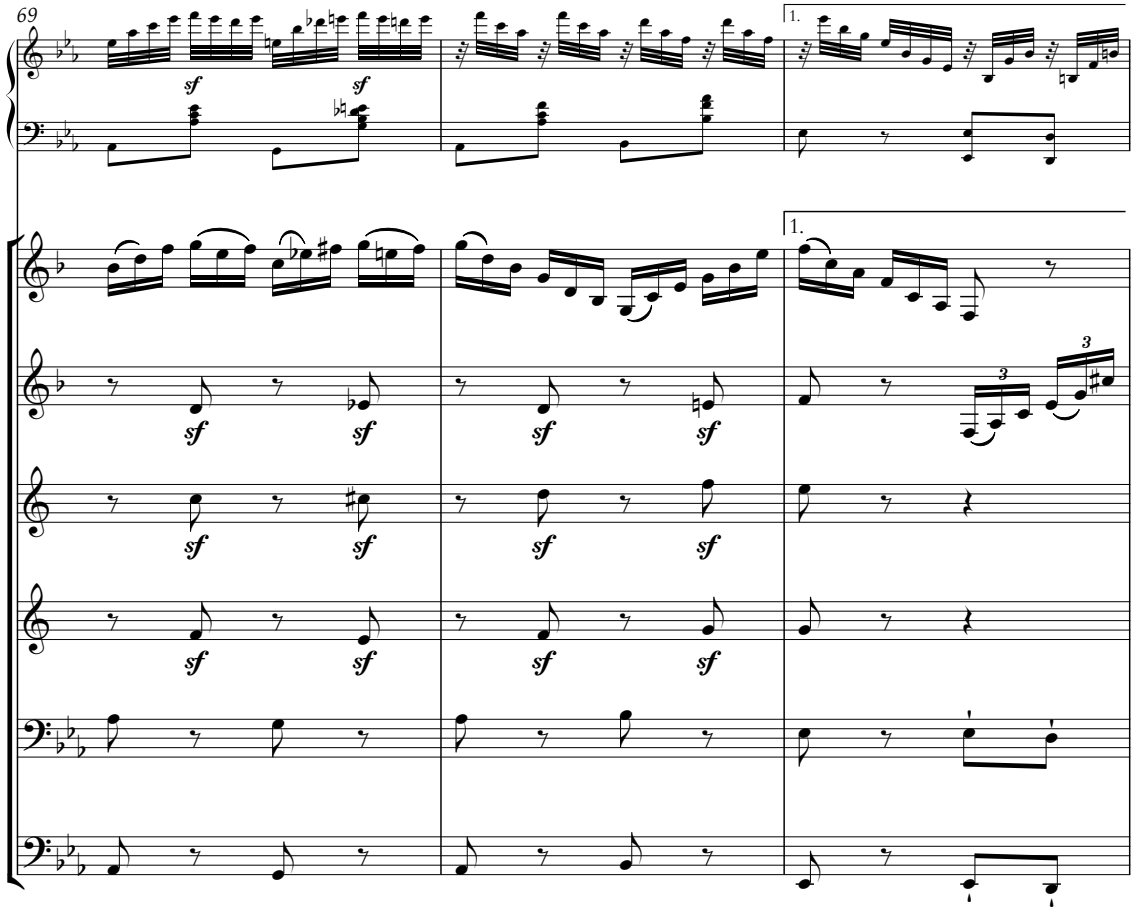

49
sf
cresc.
sf
p
sf
p
p
sf
p
p

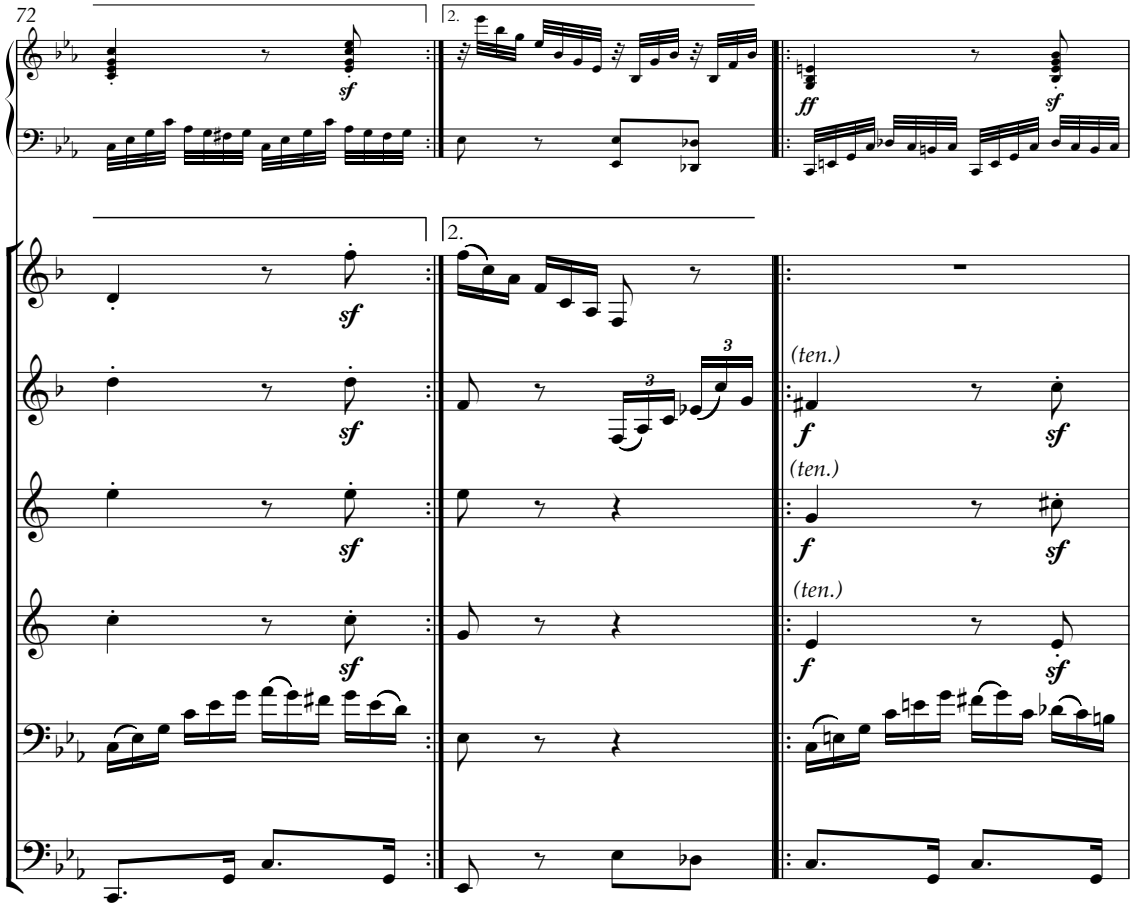

53
p

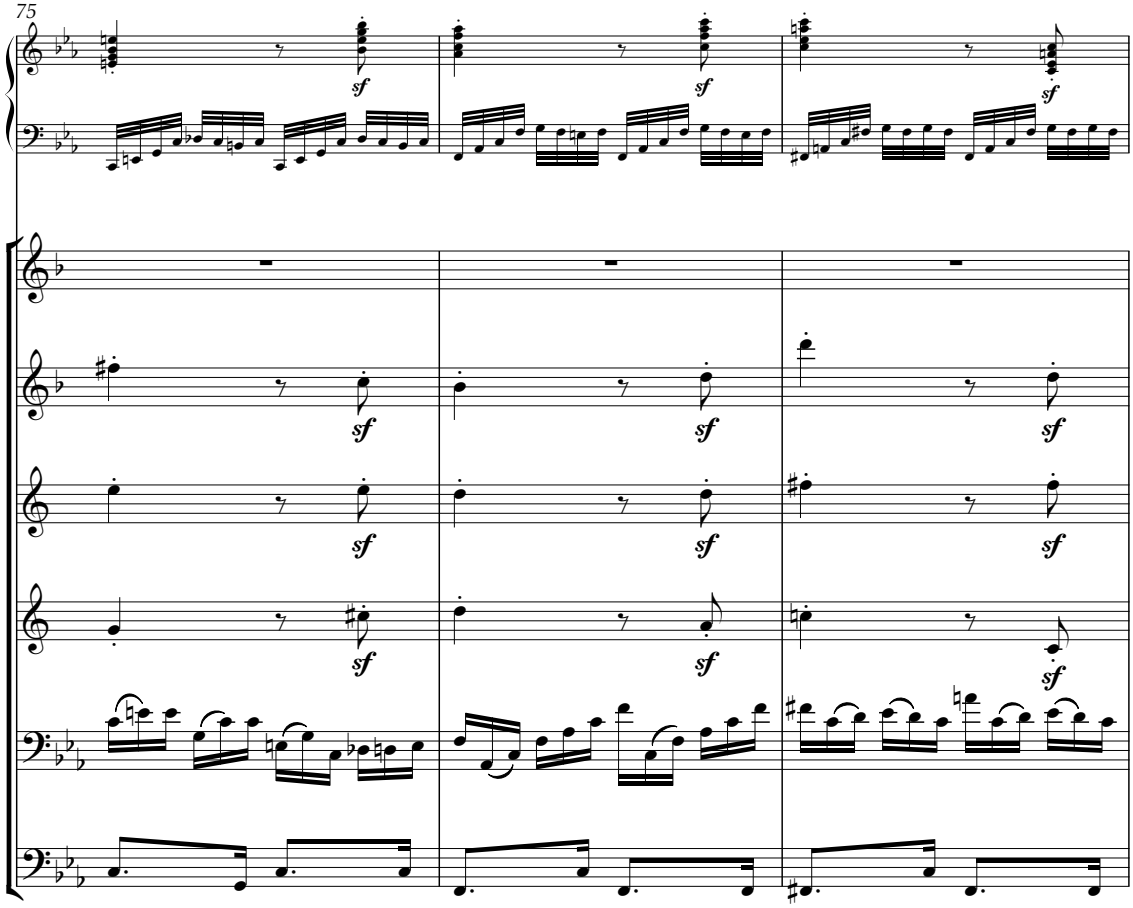

58
sf
sf
sf

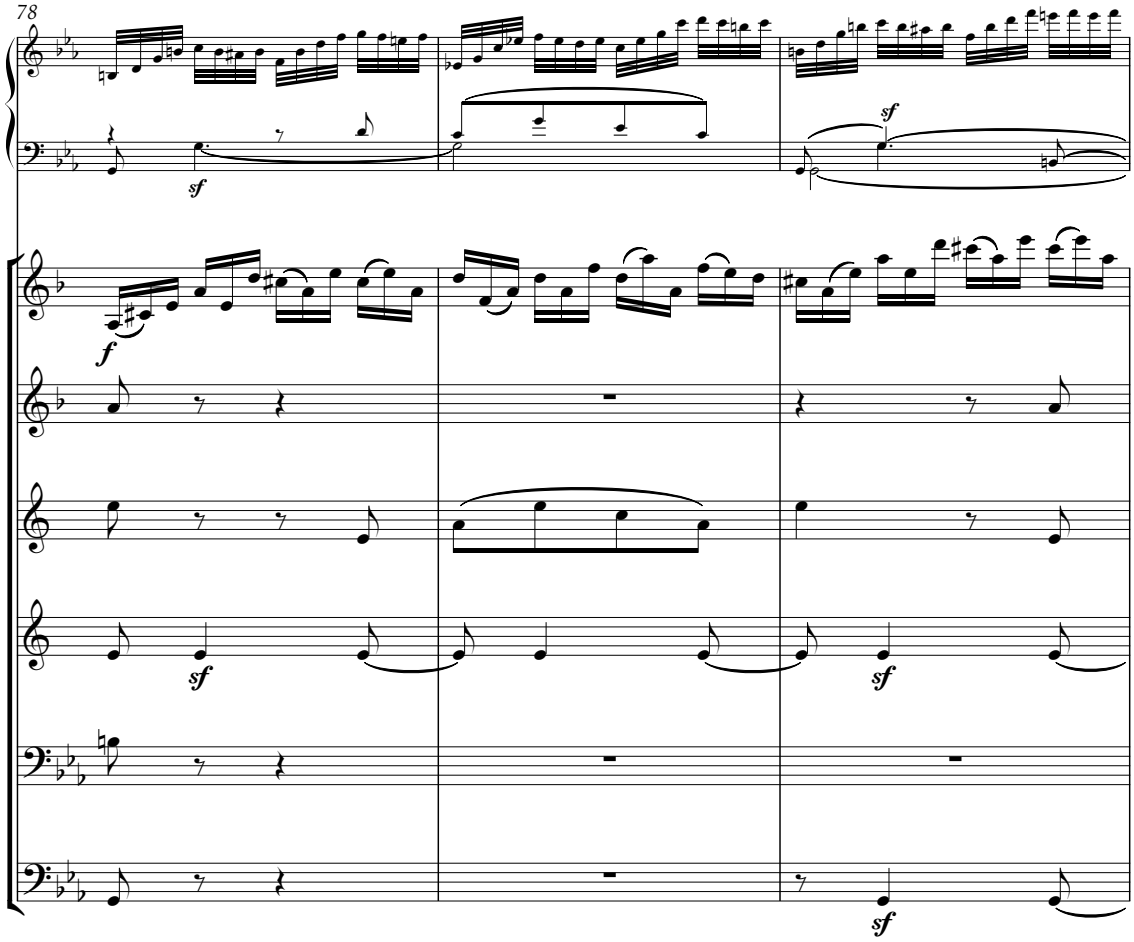

62
p
sf
ff
sf
sf
(ten.)
p
f
sf
sf
(ten.)
p
f
sf
sf
(ten.)
p
f
sf
sf
(ten.)
p
f
p
f

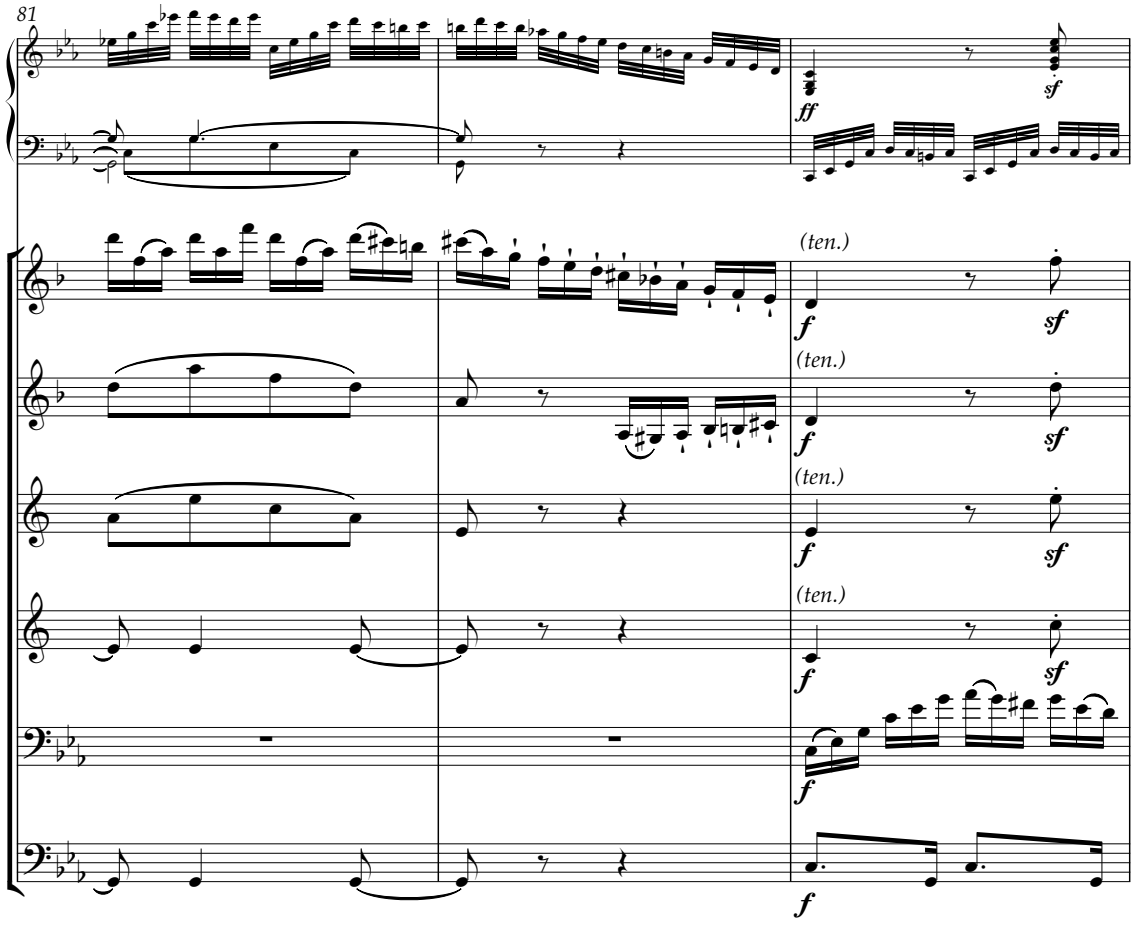

66
sf

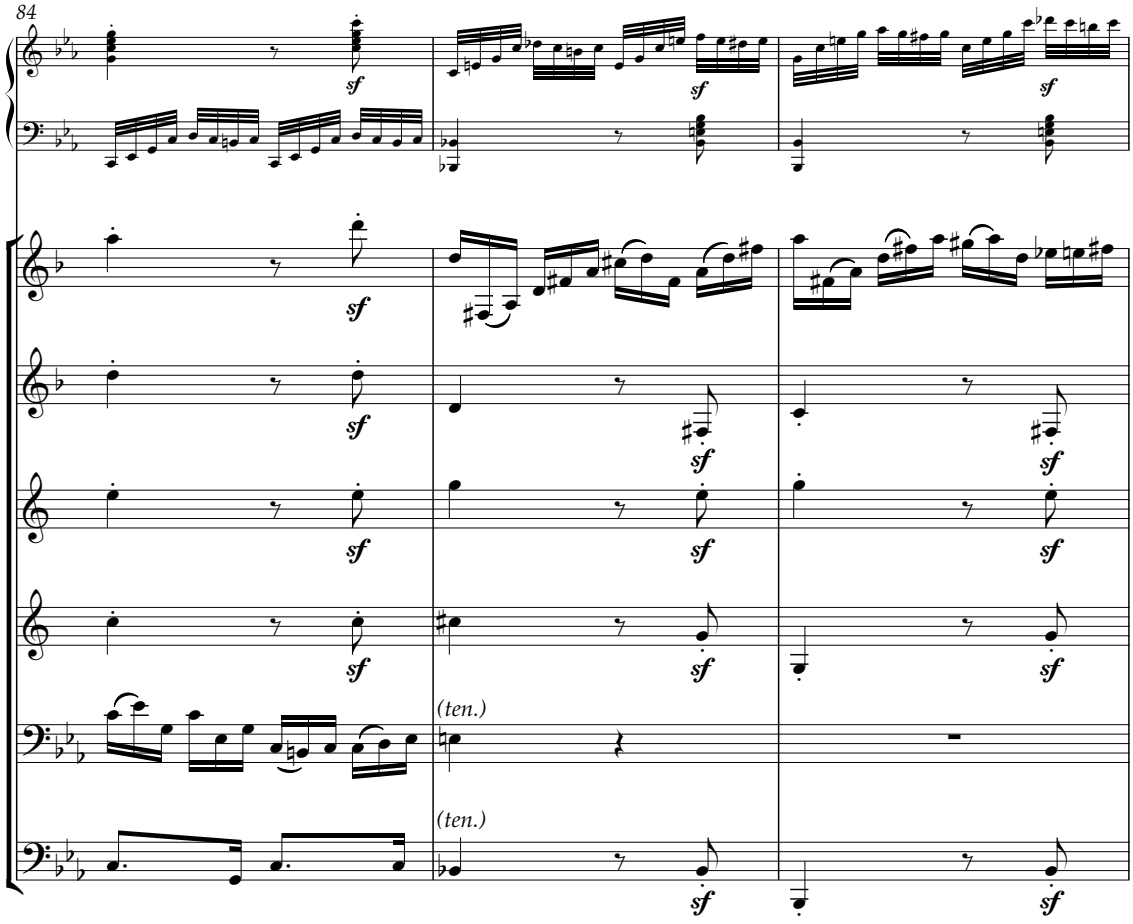

69
sf
1.

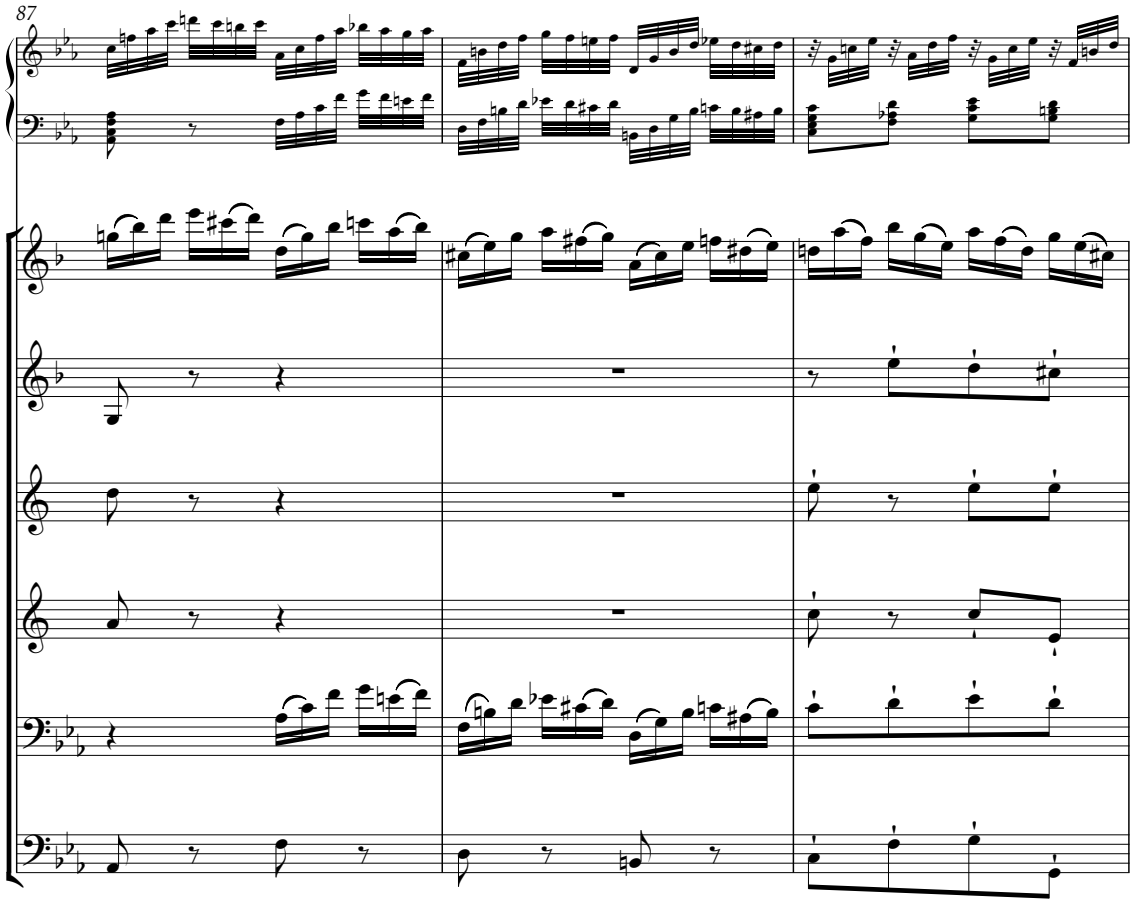

72
2.
2.
sf
ff
(ten.)
f

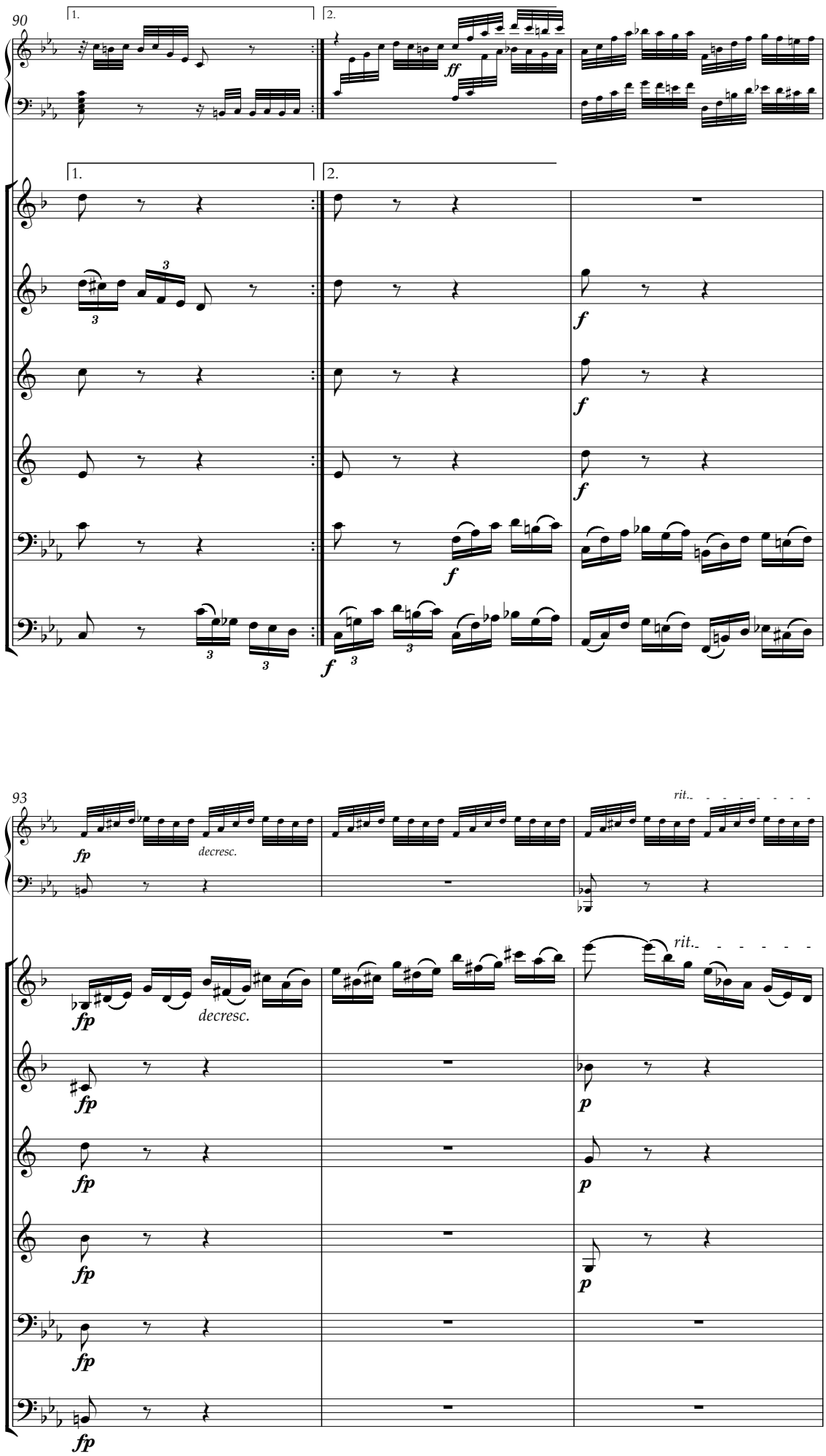

75
sf

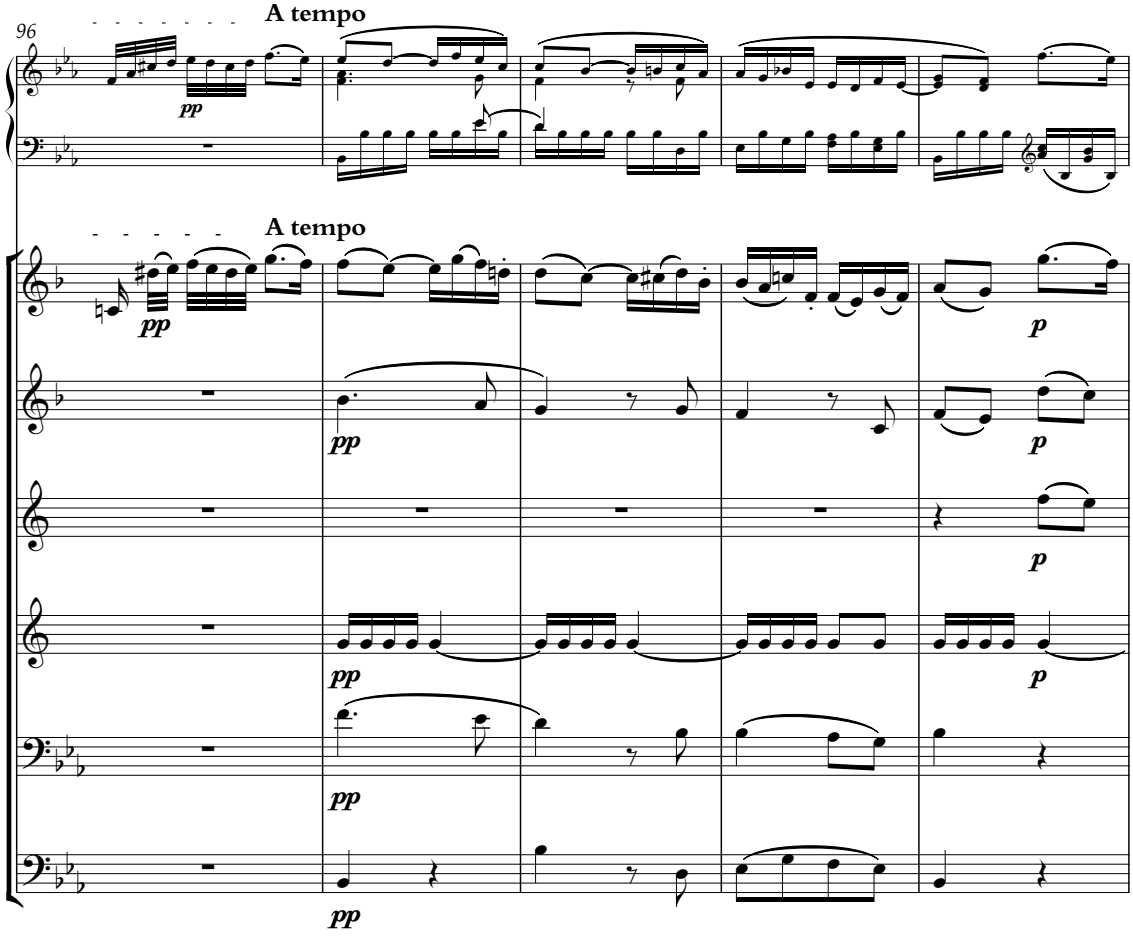

78
sf
sf
f
sf
sf
sf

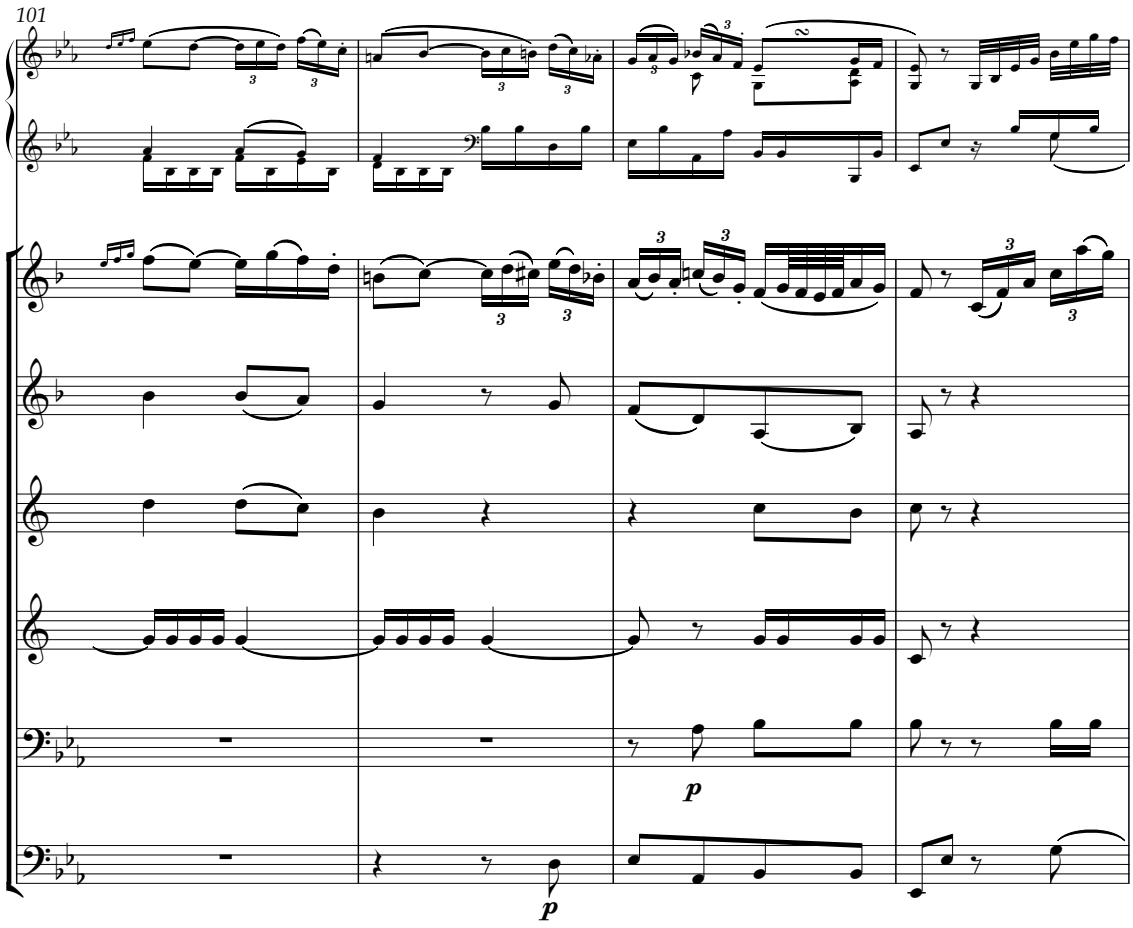

81
ff
sf
(ten.)
f
sf
(ten.)
f
sf
(ten.)
f
sf
(ten.)
f
sf
f

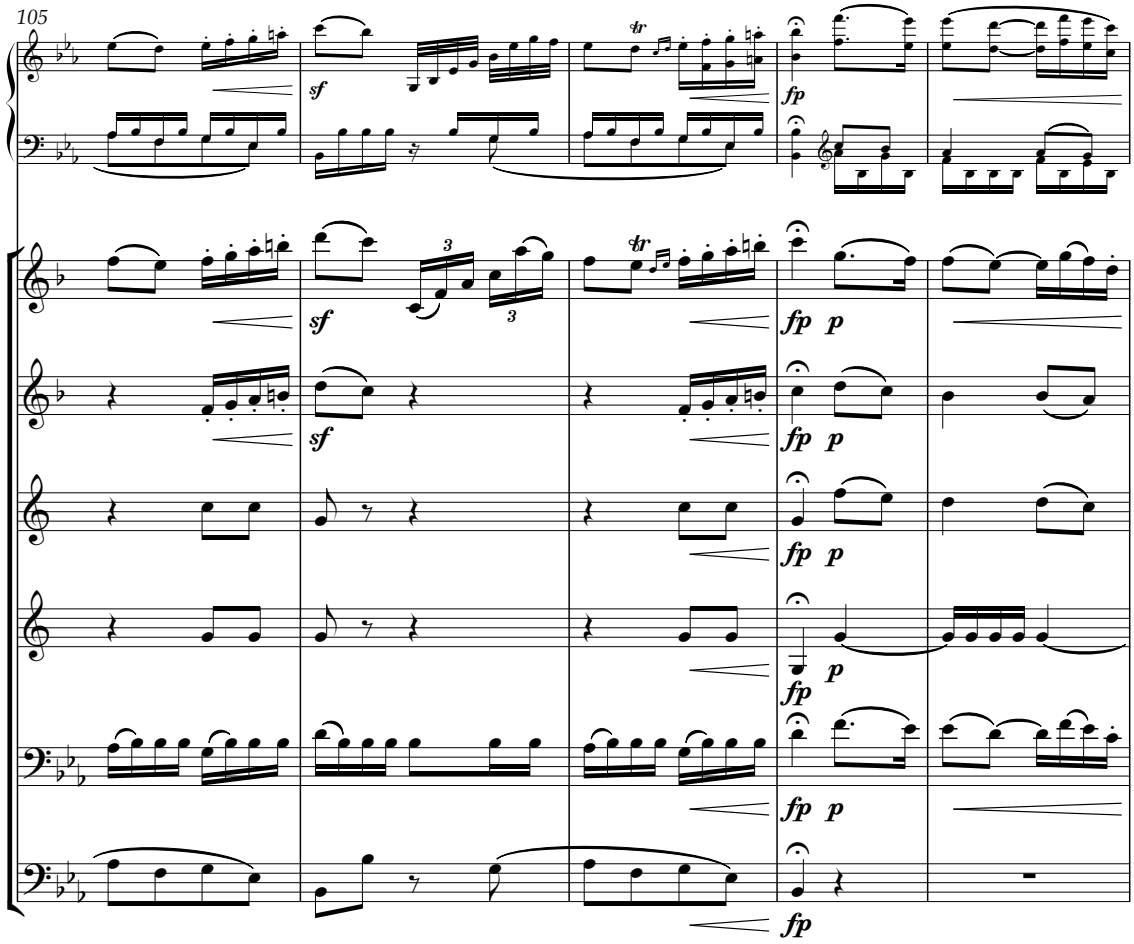

84
sf
(ten.)
(ten.)

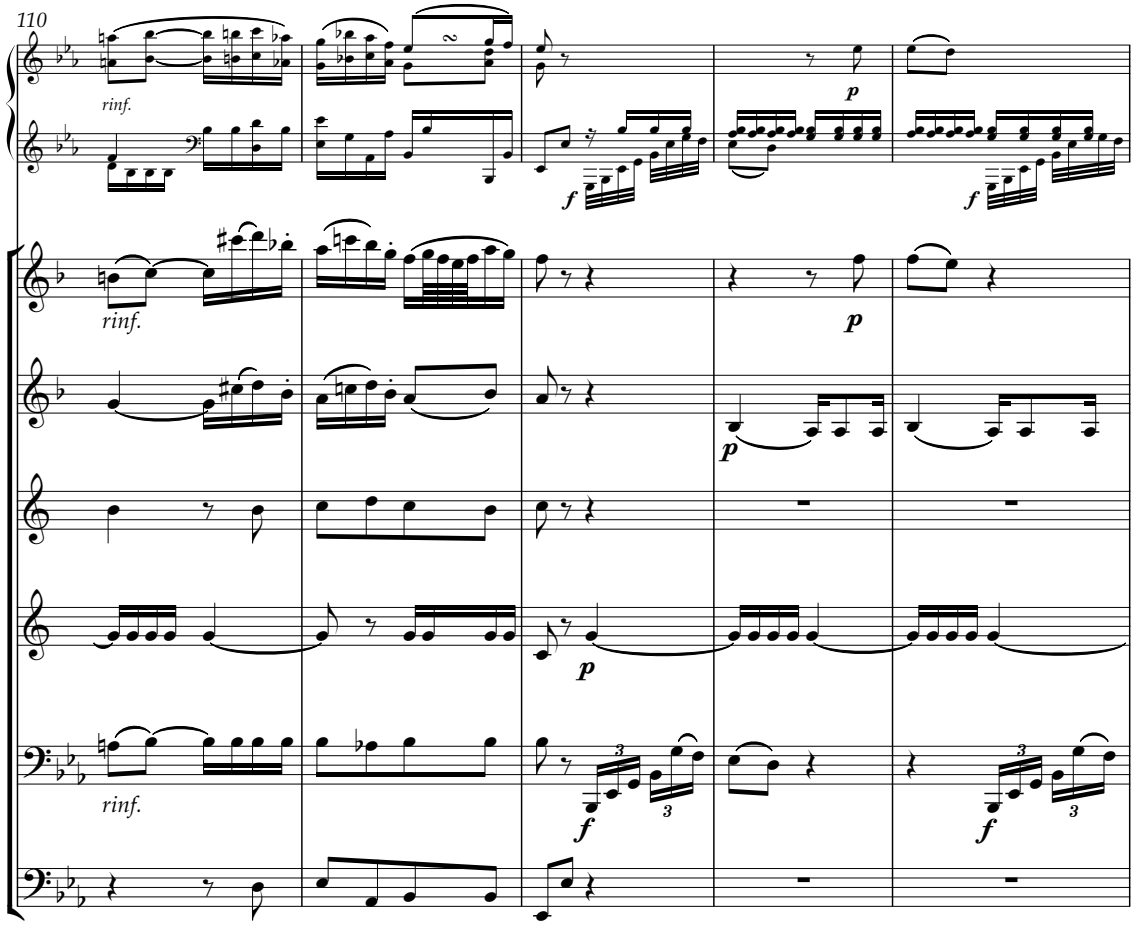

87

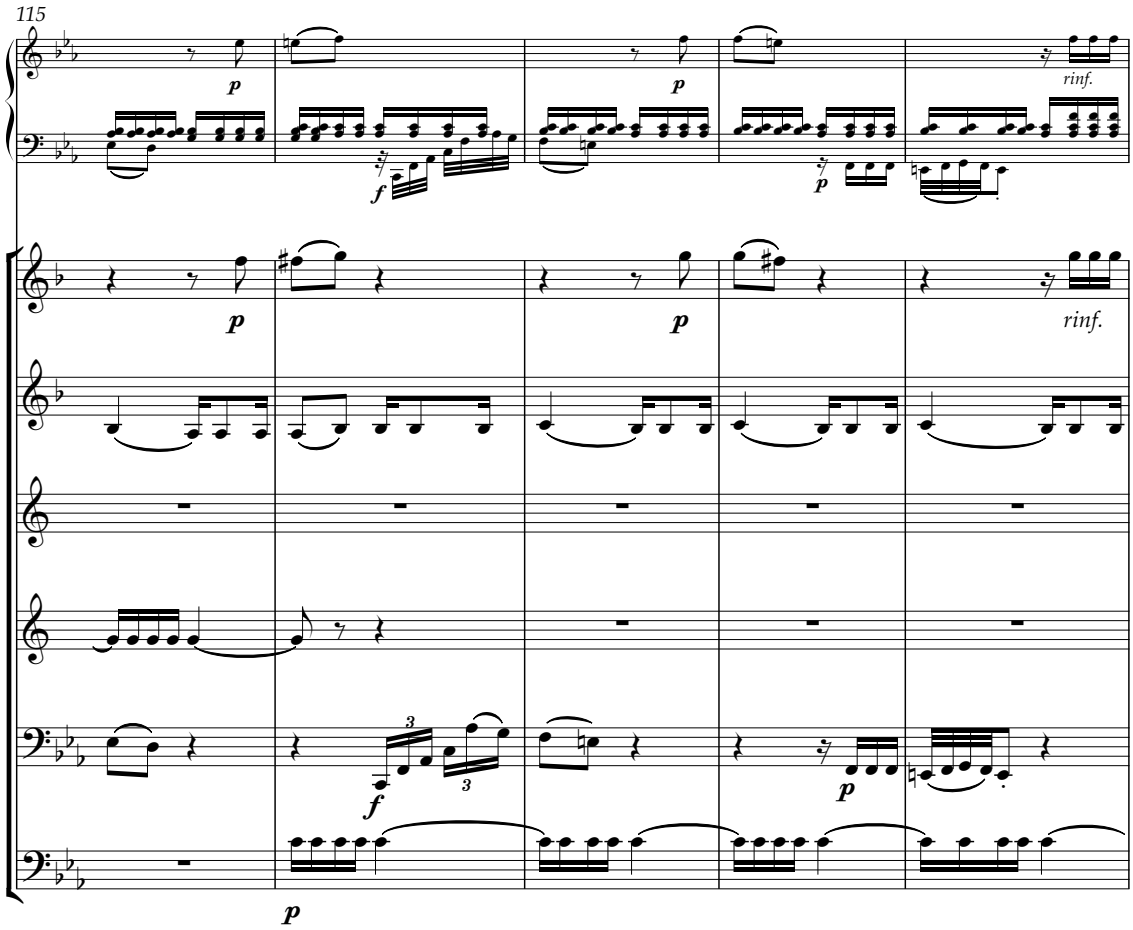

90
1.
2.
ff
f
93
fp
decresc.
rit.
p

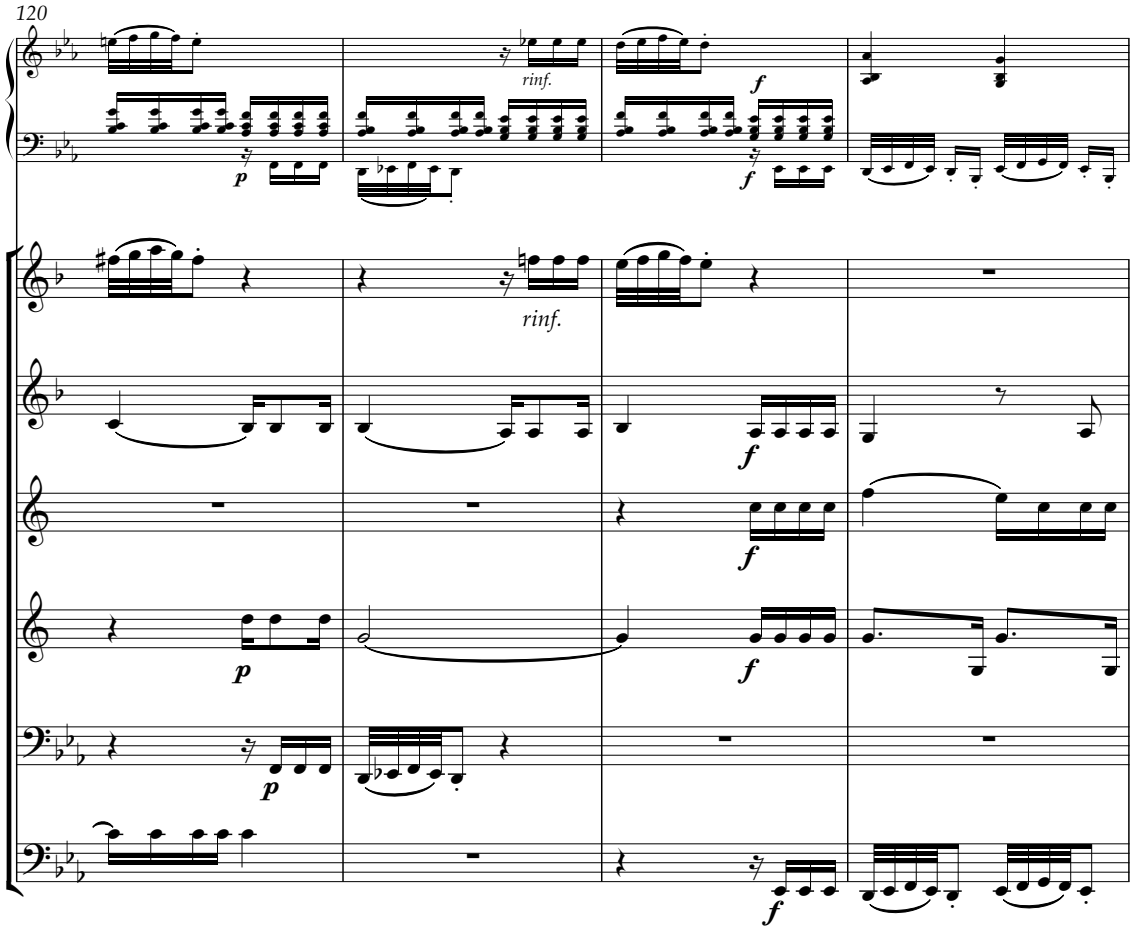

96
A tempo
pp
A tempo
pp
p
pp
p
pp
p
pp
pp

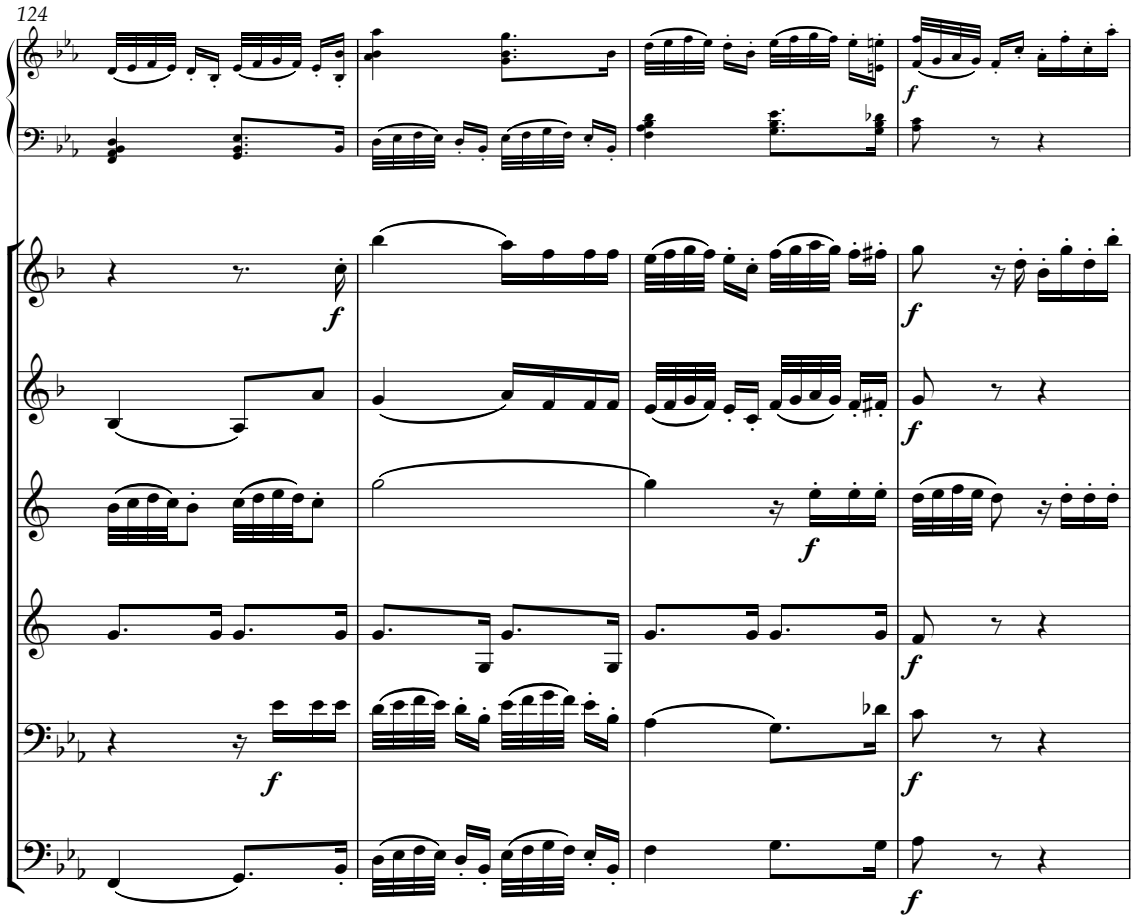

101
p
p

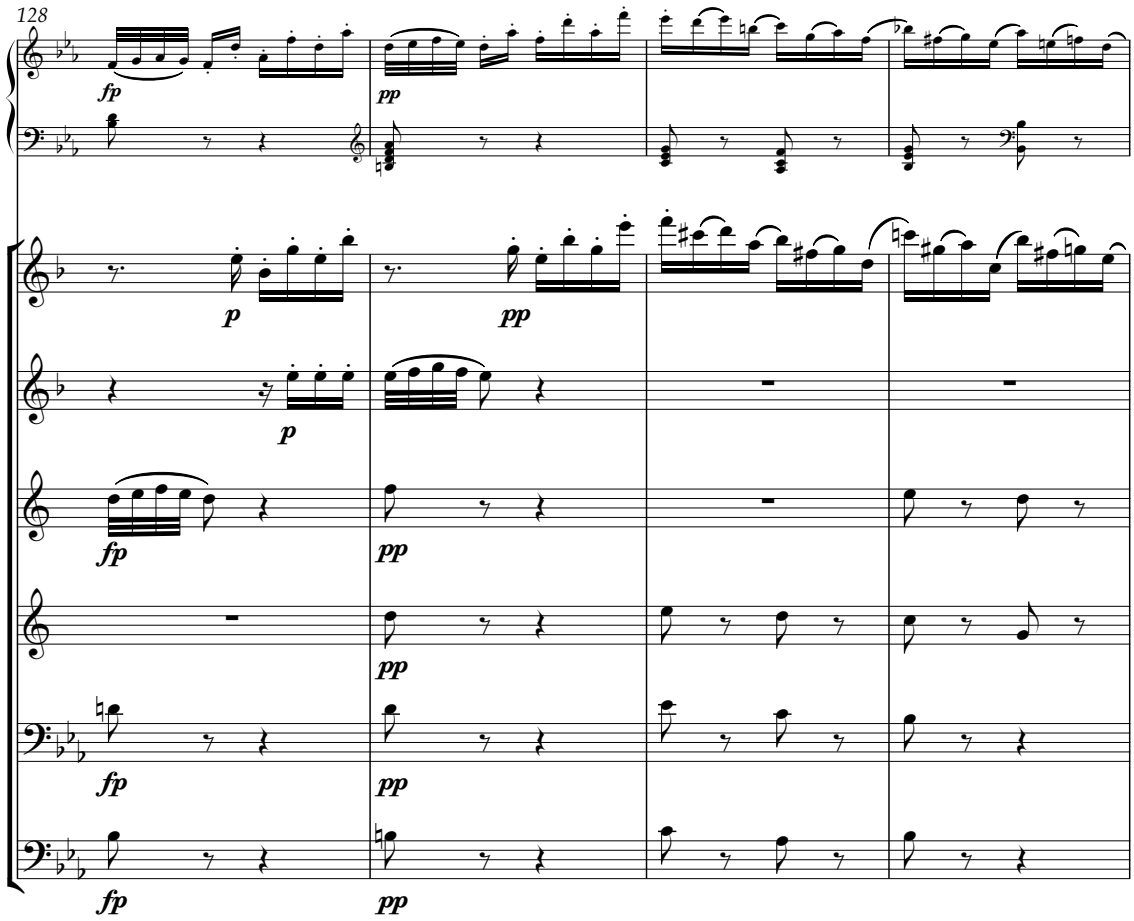

105
sf
fp
p

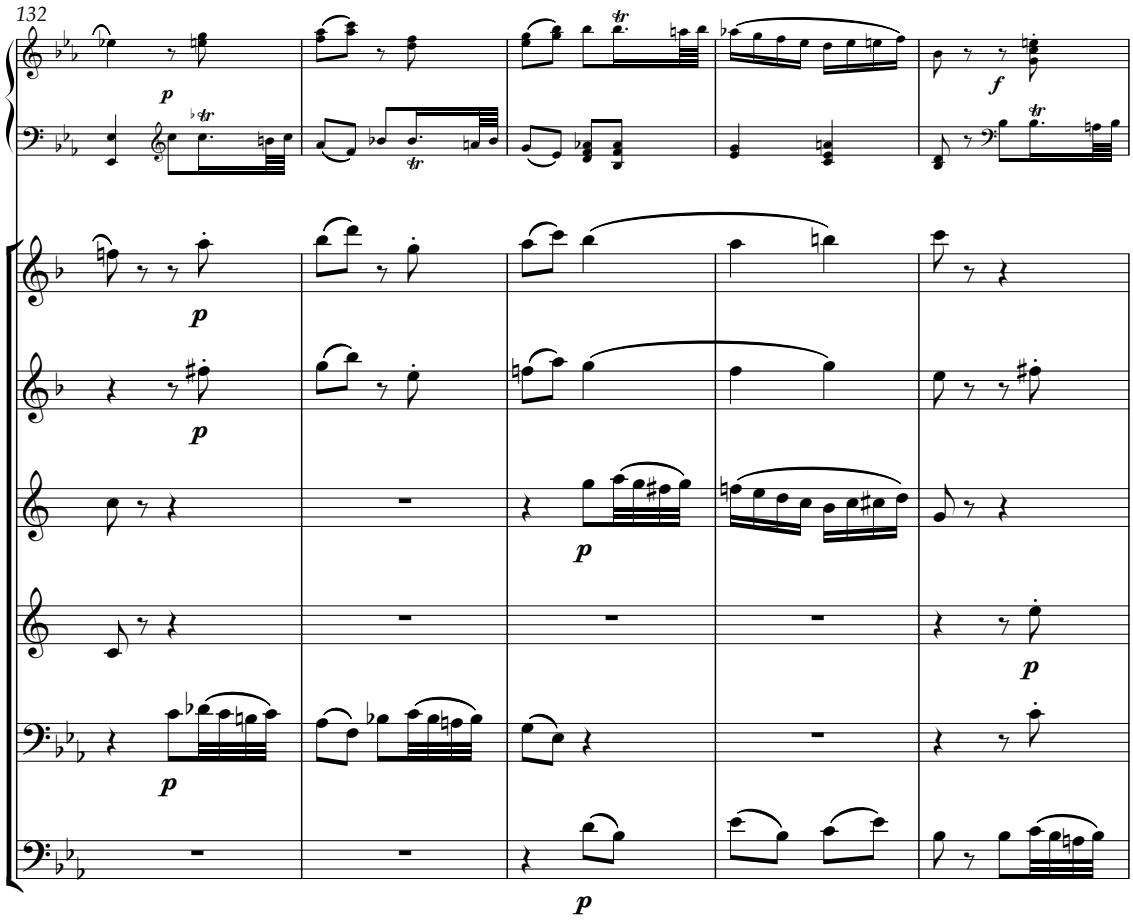

110
rinf.
p
f

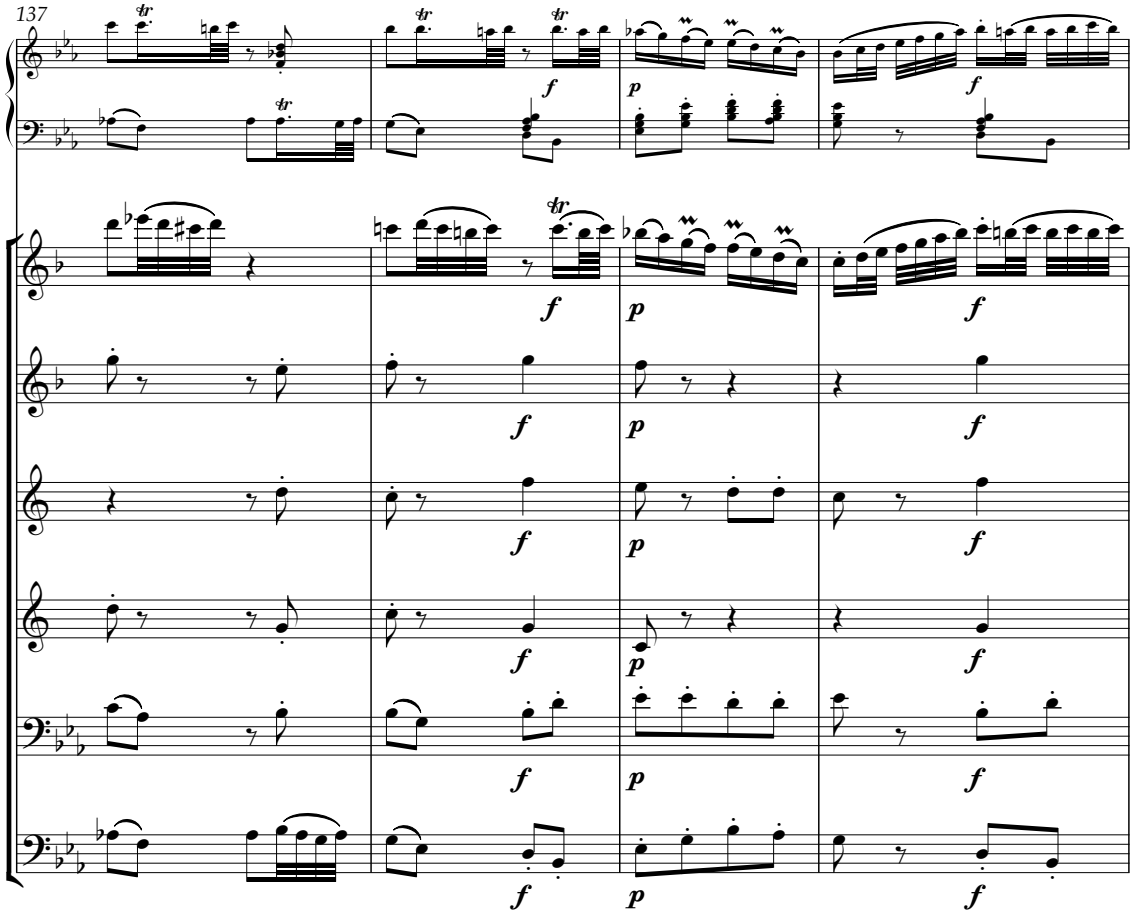

115
rinf.
rinf.

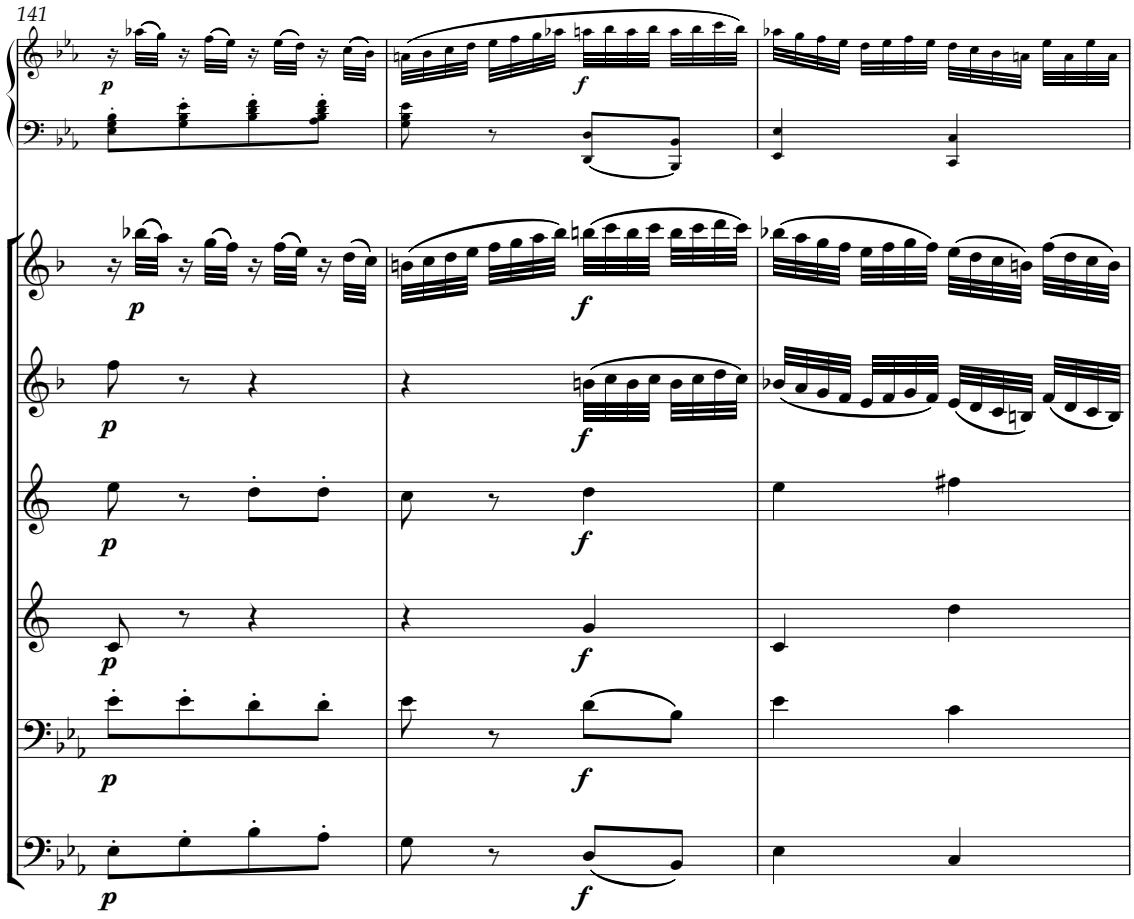

120
rinf.
rinf.

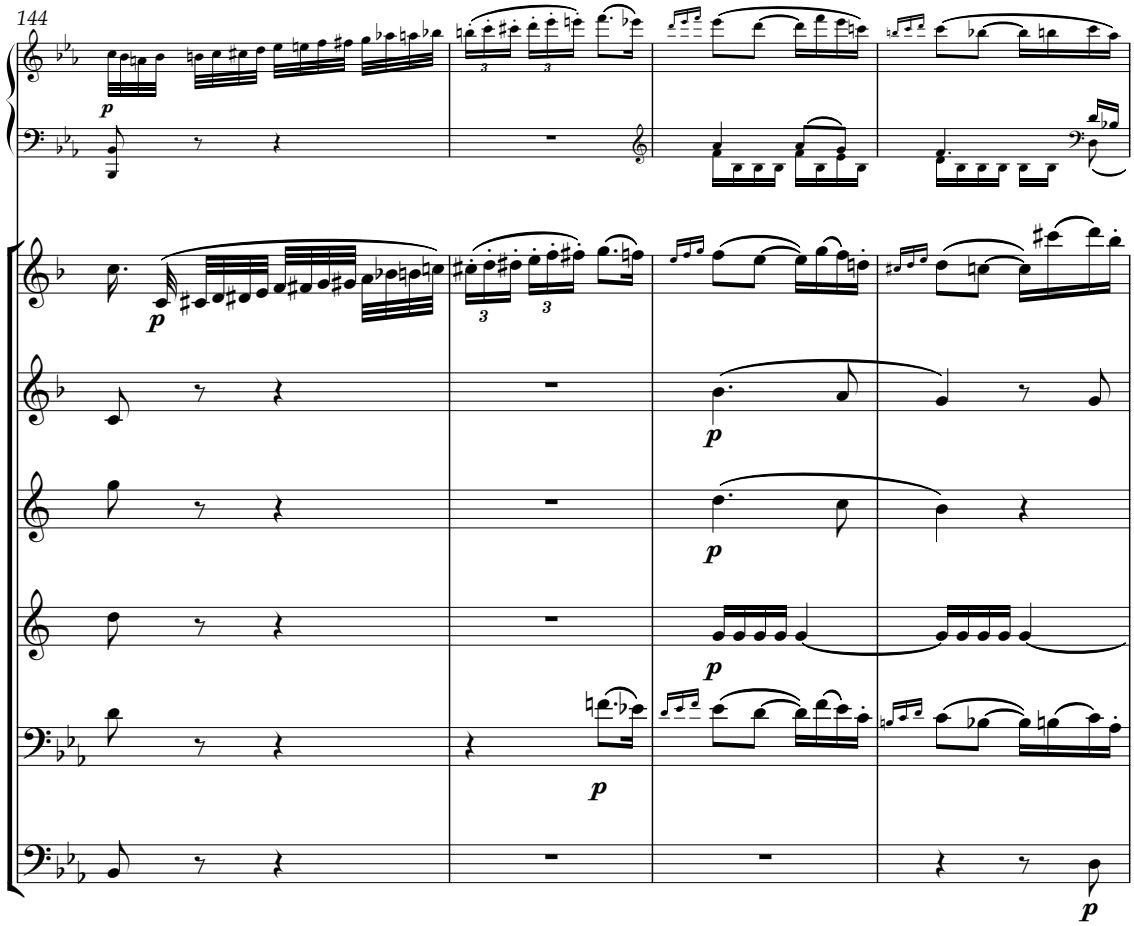

124
f
f
f
f
f
f
f
f

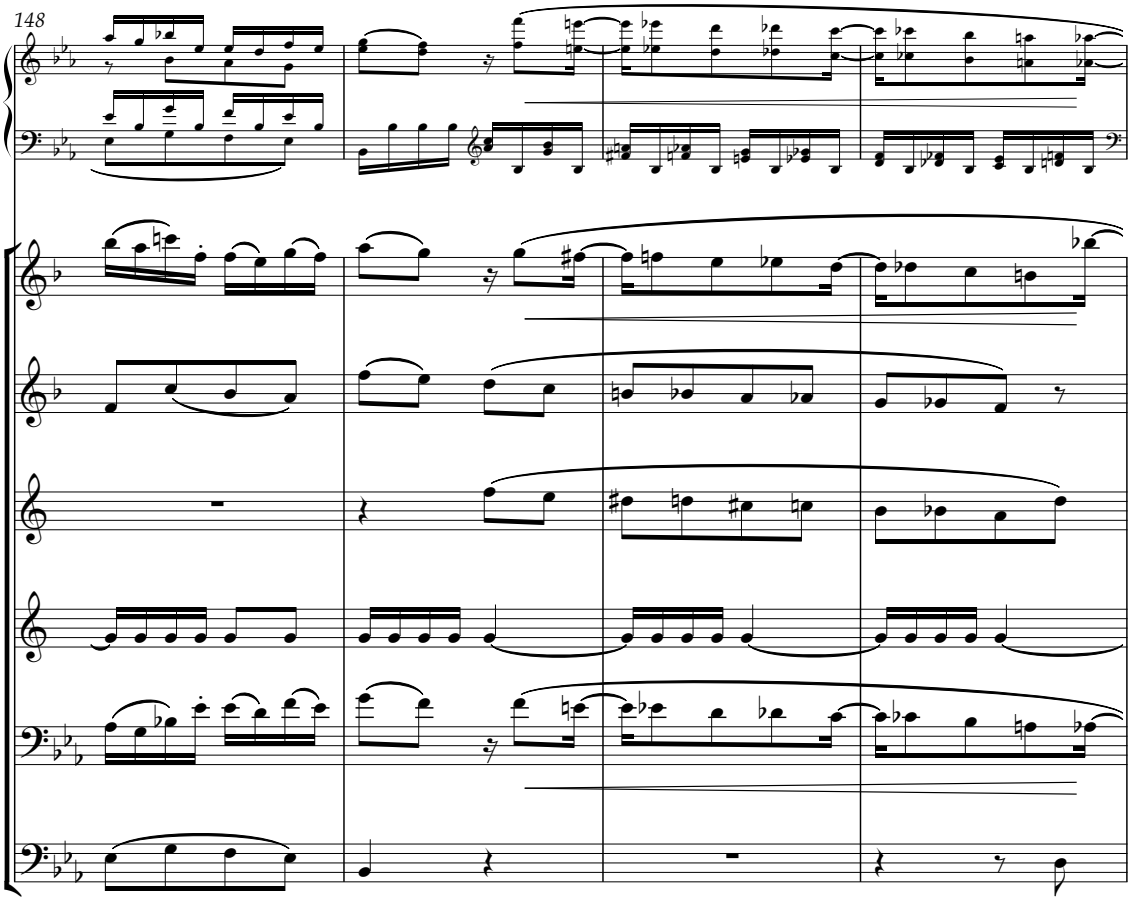

128
fp
pp
p
pp
p
fp
pp
pp
fp
pp
fp
pp

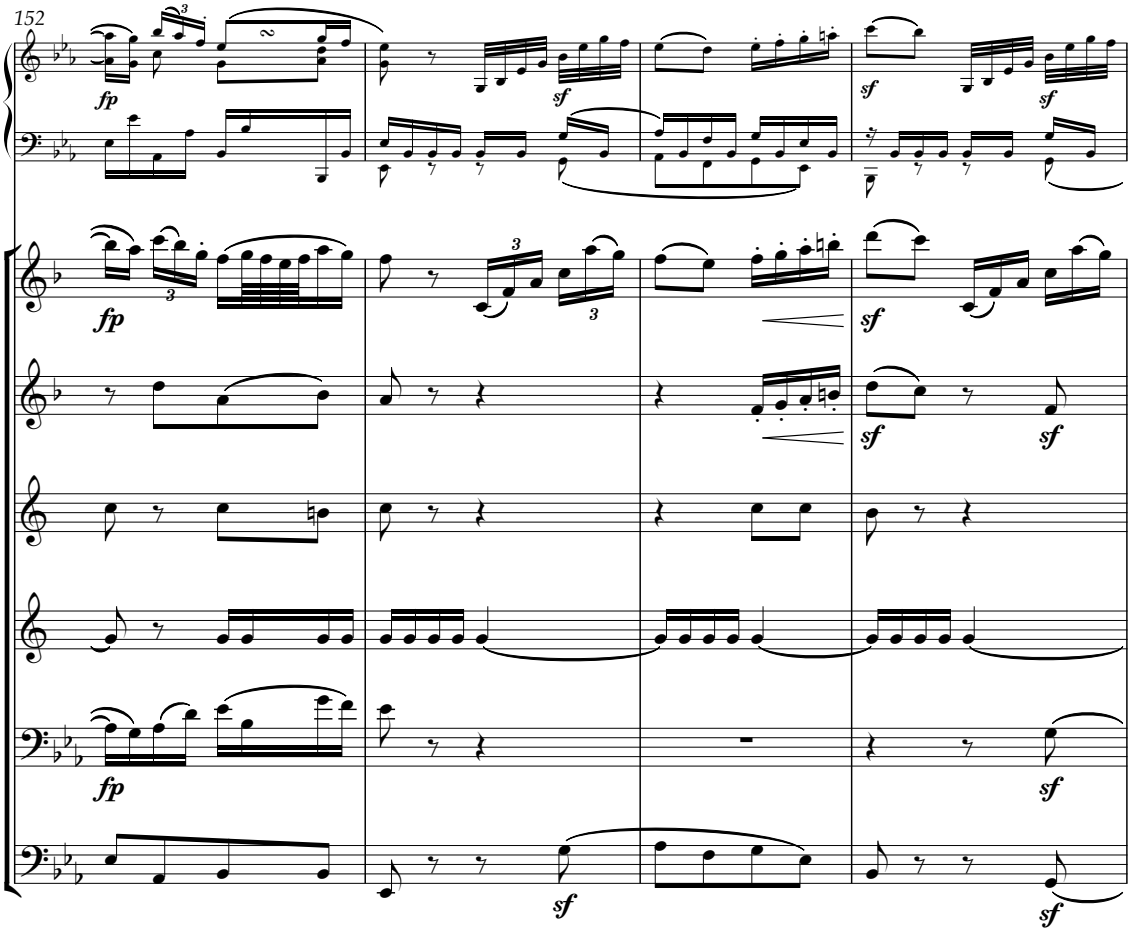

132
p
f
p
p
p
p
p

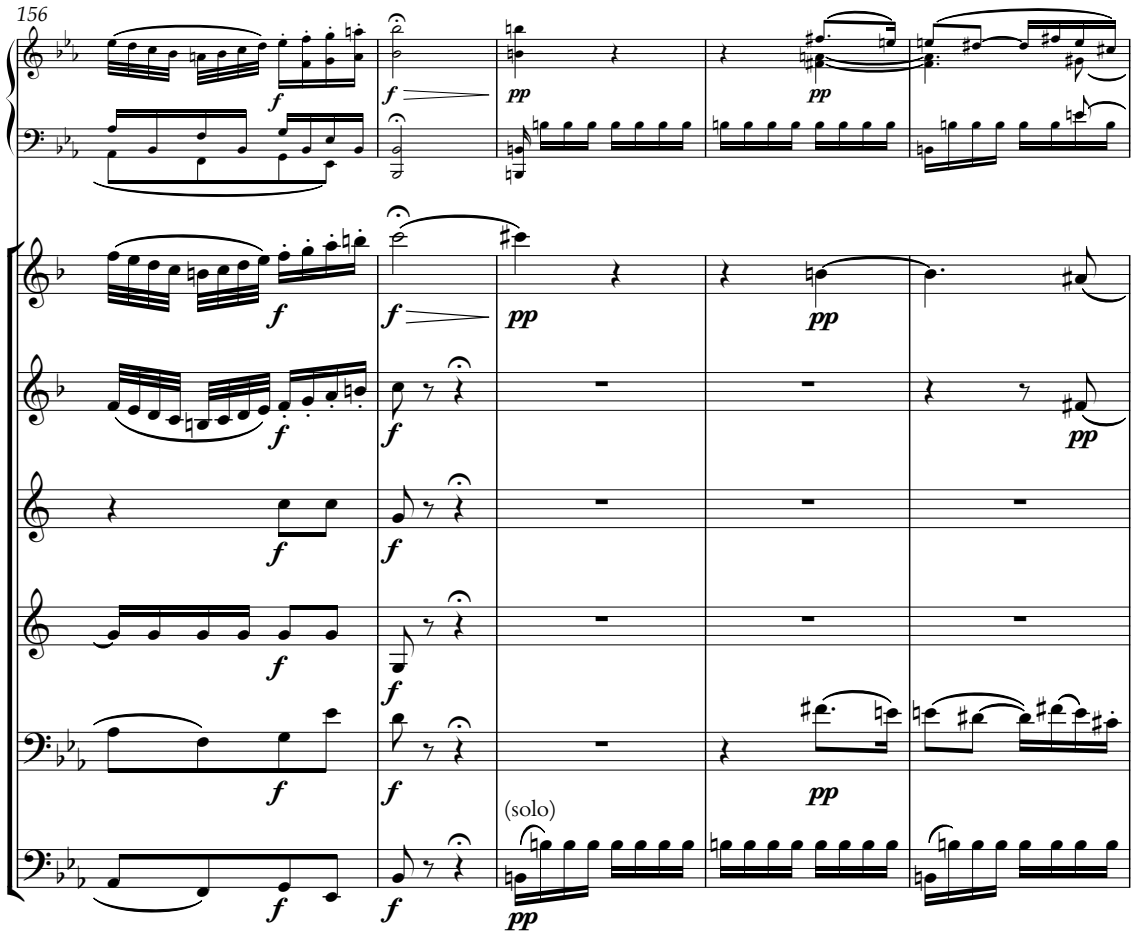

137
f
p
f
f
p
f
f
p
f
f
p
f
f
p
f
f
p
f

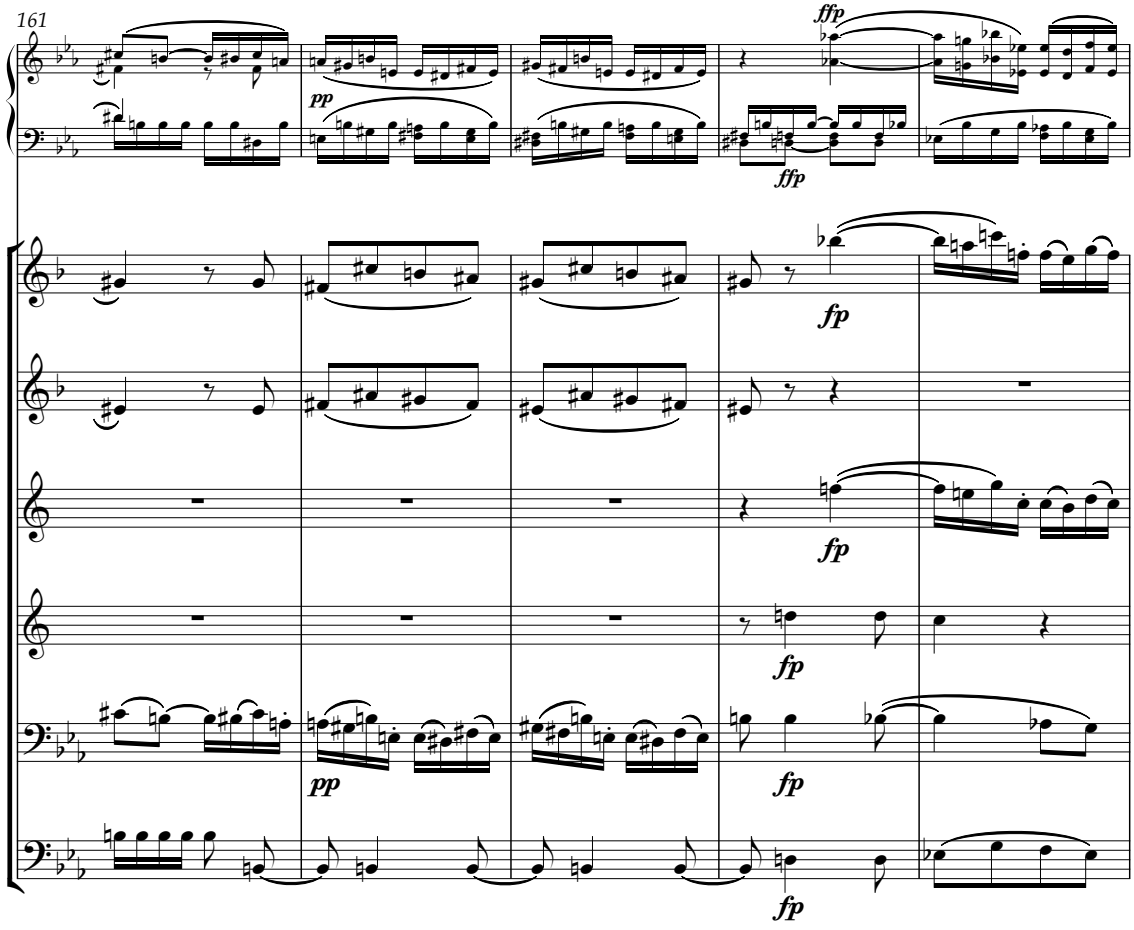

141
p
f

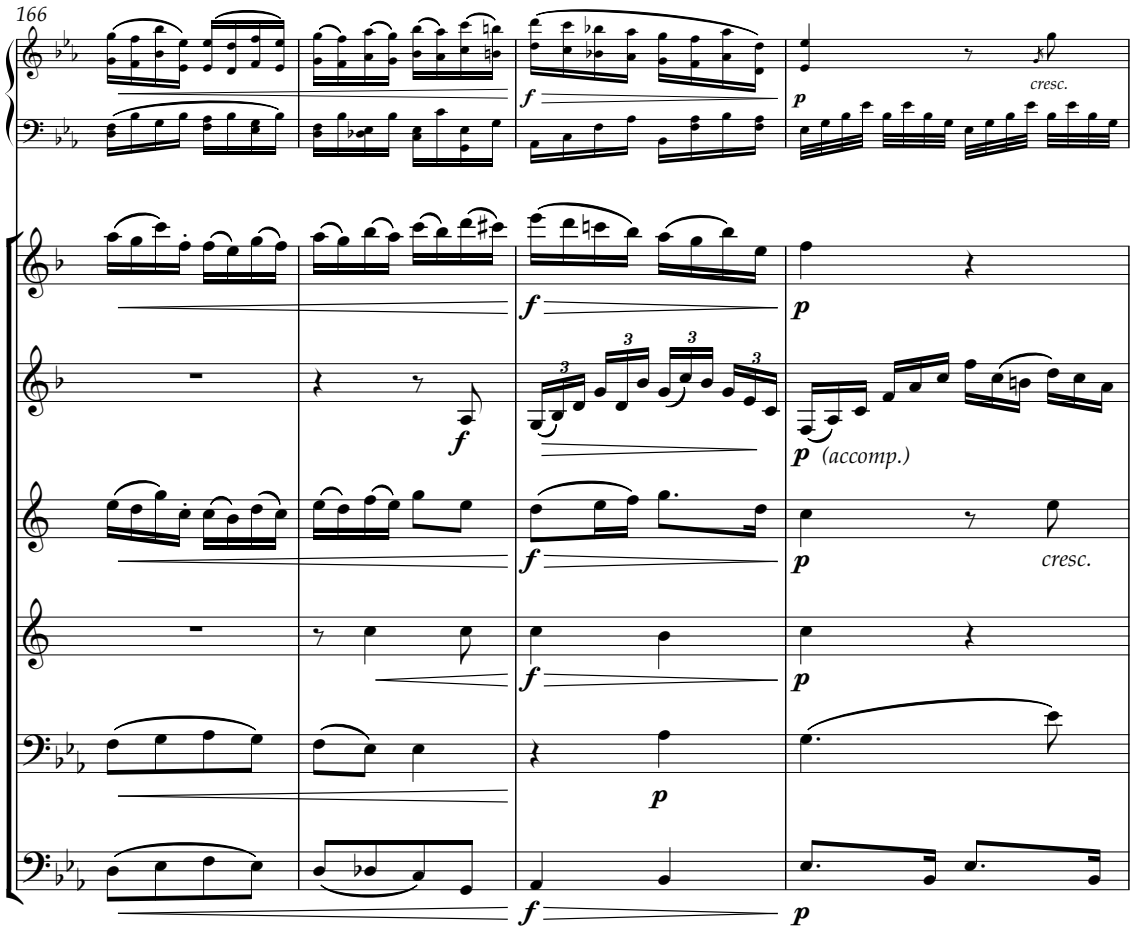

144
p
3

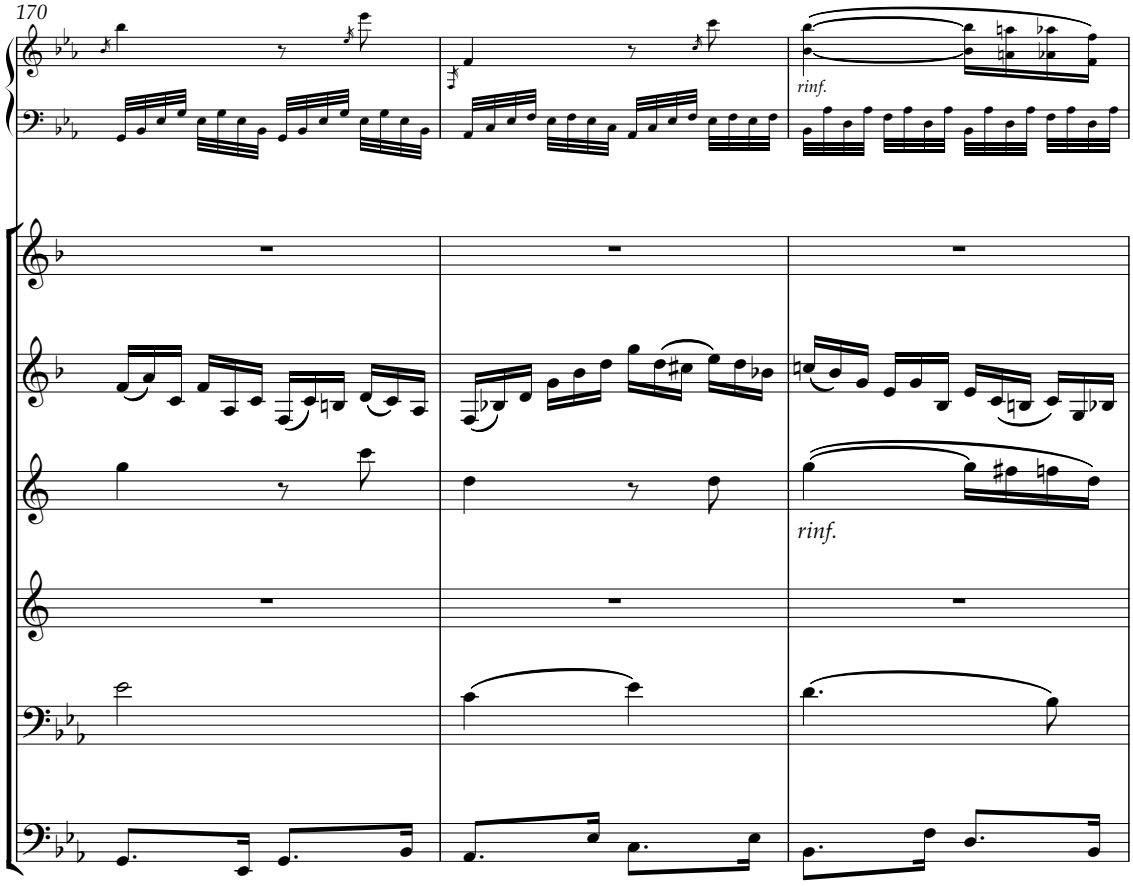

148

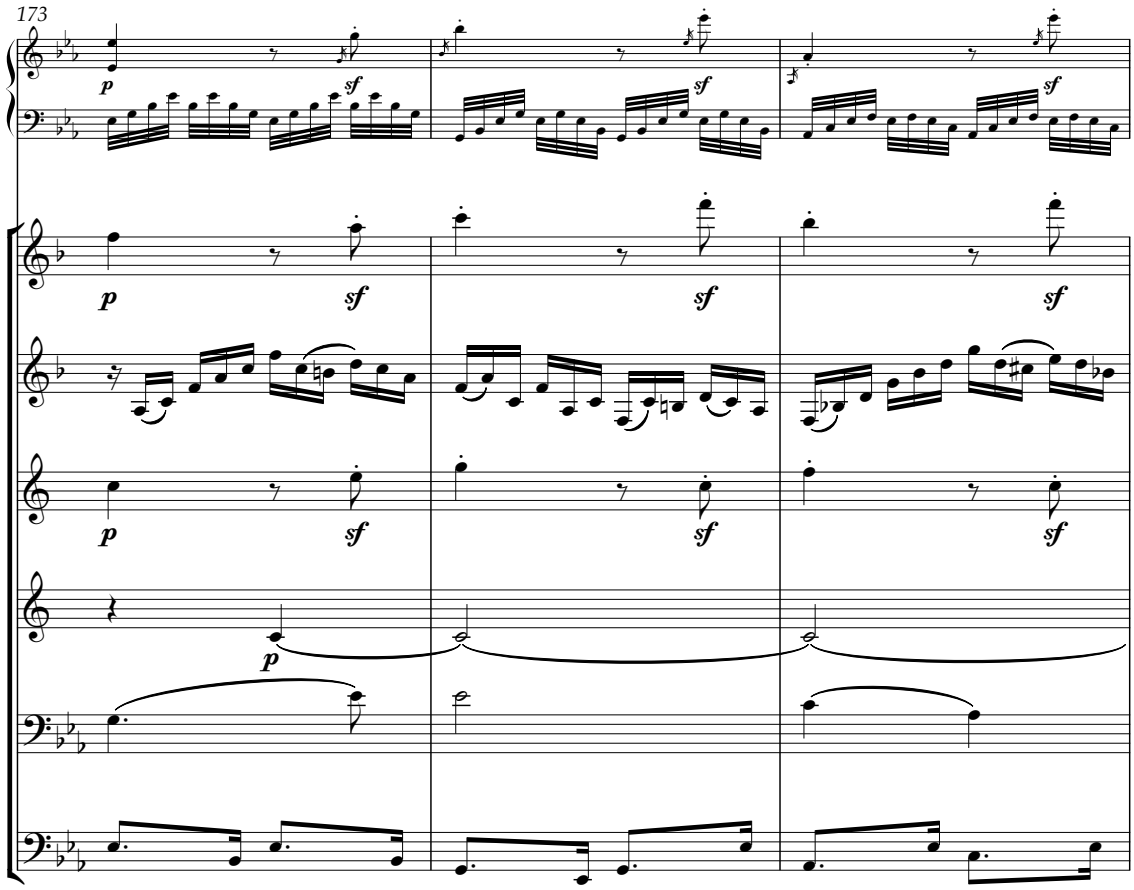

152
fp
sf
fp
sf
sf
sf
fp
sf
sf
sf

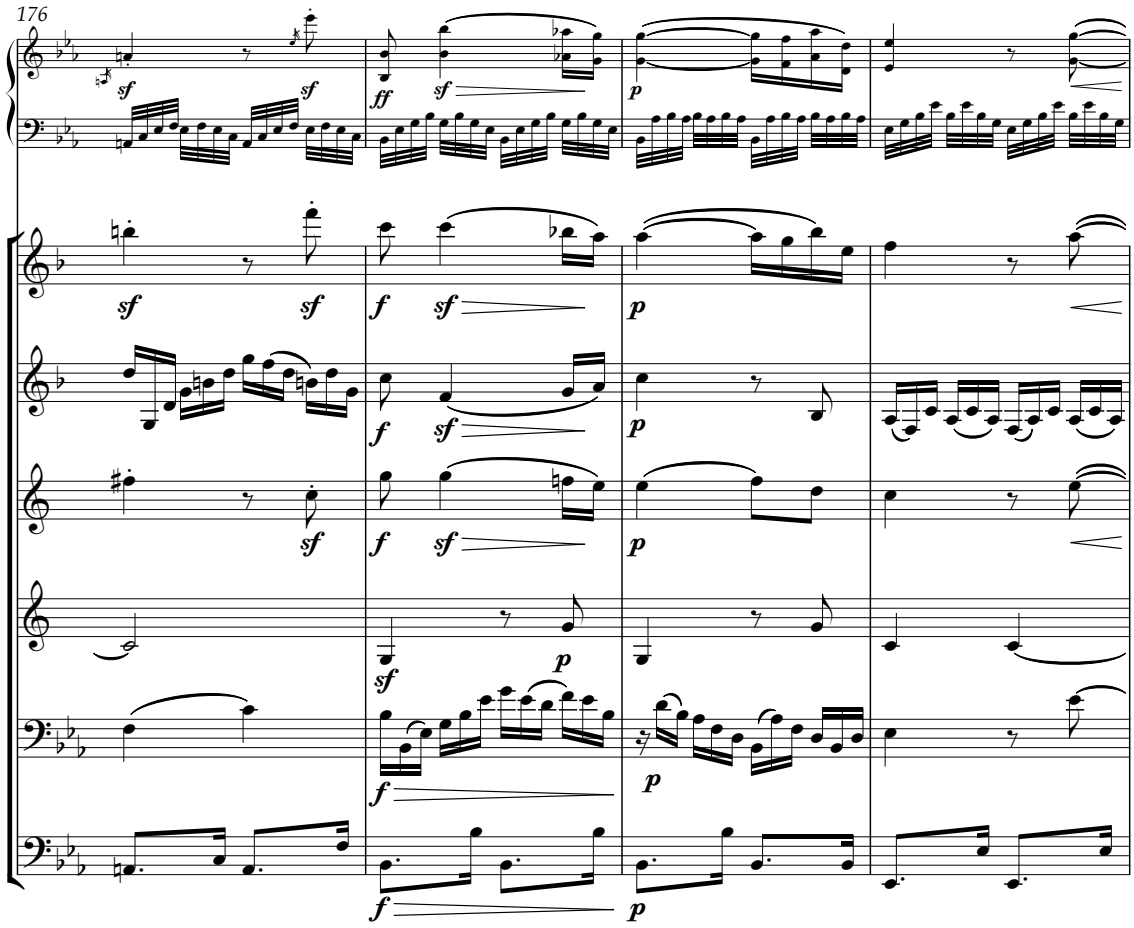

156
(solo)

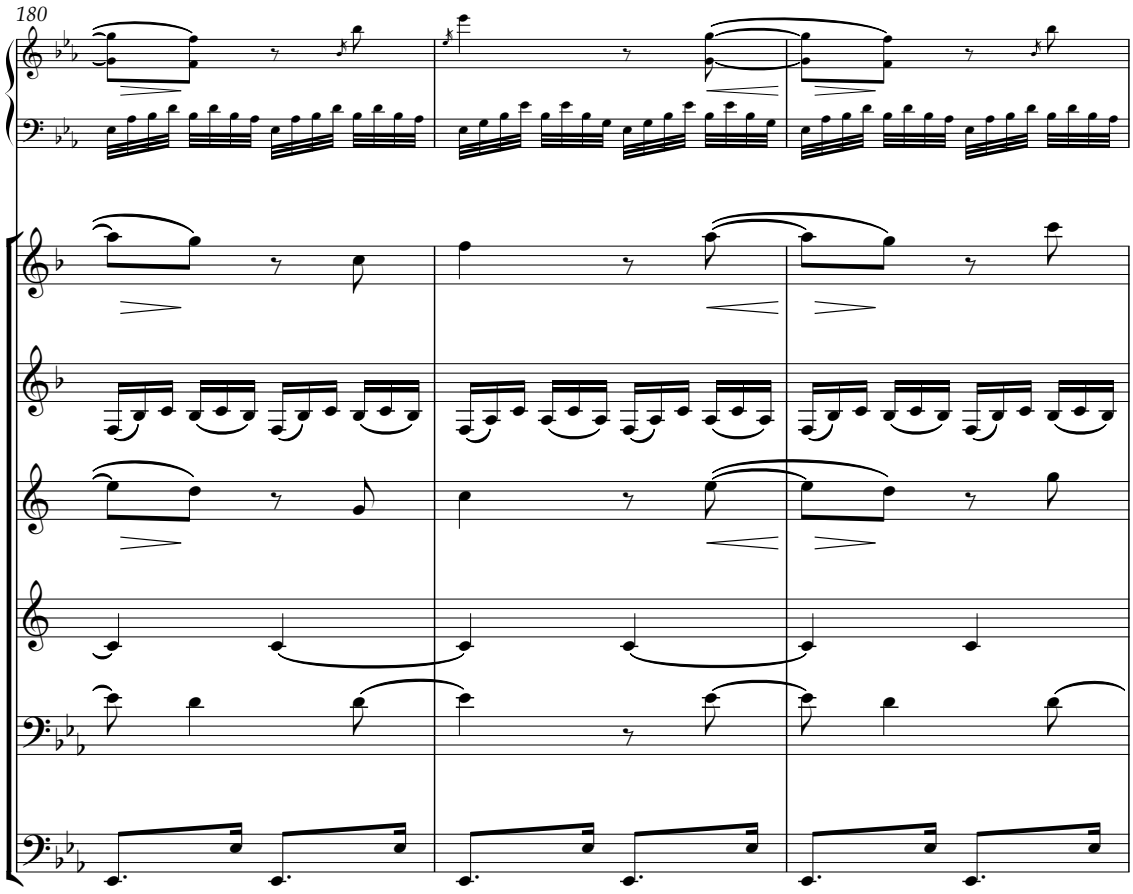

161

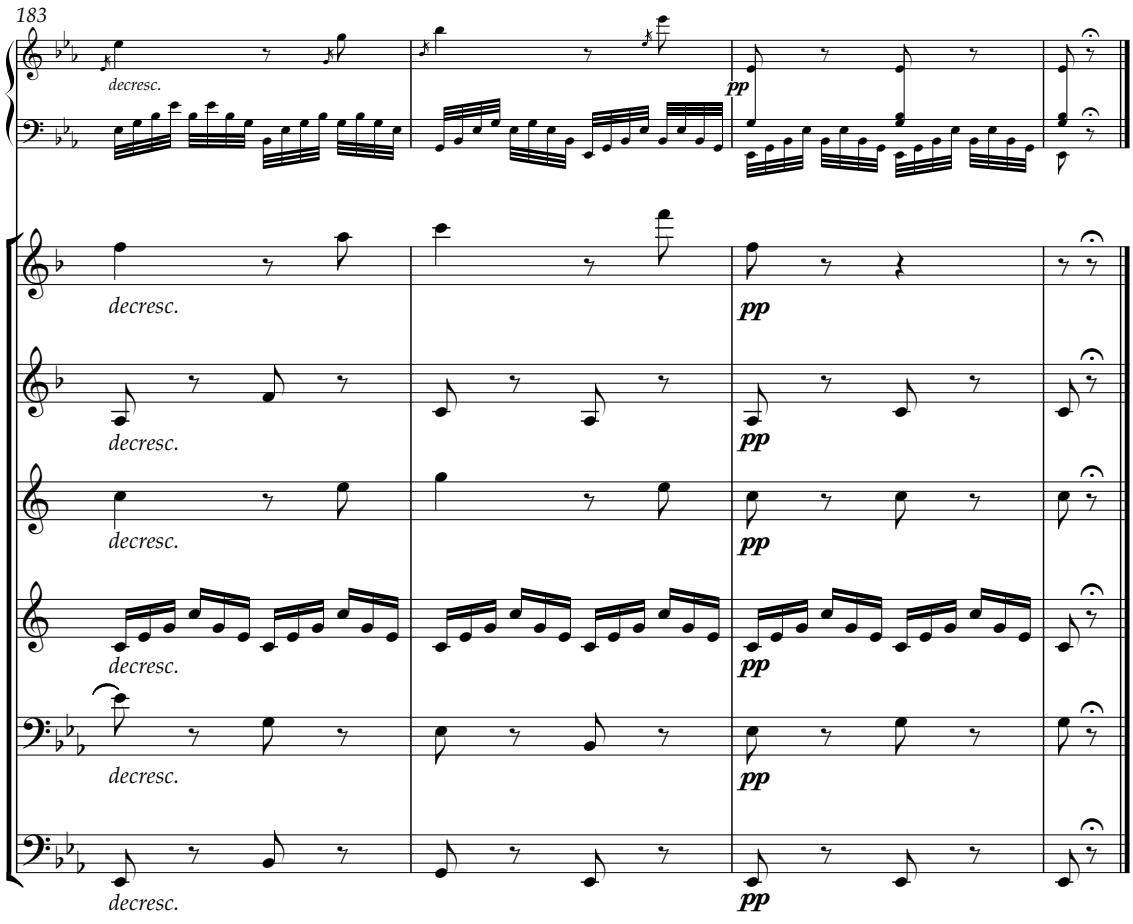

166
cresc.
(accomp.)
cresc.


170
rinf.
rinf.


173
p
sf
p
sf
sf
sf
p
sf
sf
sf
p
sf
sf
sf
p


176
sf
sf
ff
sf
p
sf
sf
f
sf
p
f
sf
p
f
sf
p
sf
p
f
p
f
p


180


183
decresc.
pp
decresc.
pp
decresc.
pp
decresc.
pp
decresc.
pp
decresc.
pp

Conclusion

I set out in this project to outline my pathway towards discovering and refining a practice, one that would provide me with the knowledge required, or a method to obtain that knowledge, to be able to convincingly create arrangements for the players in my wind ensemble.

In Chapter 1 I described the background to the project, my ensemble, Boxwood & Brass, and our repertoire. I then went on to give a brief background to Harmoniemusik in the early 19th century, and explained and explored how arrangements and arrangers were a central feature of the genre. I then proposed that the historical centrality of arrangements, in particular those by Joseph Triebensee, provides a precedent and model by which I might create a much-needed new repertoire for my ensemble. But because we play on historical wind instruments, to be playable by us these new arrangements should be written not only with the capabilities of my colleagues in mind, but also our instruments. I also explained the importance to me that new writing for historical instruments should be both idiomatic and challenging.

Because of a lack of readily-available information aimed at the modern composer for historical instruments, in Chapters 2 and 3 I described the methods I used to familiarise myself with the natural horn and five- or ten-key clarinet. Rather than rely on the testimony of the players explaining what they think are the capabilities of the instruments, I instead analysed examples drawn from historical sources and virtuoso repertoire written for the same instruments and at the same time as the repertoire I wish to arrange.

In Chapter 4 I explored some of the techniques and processes used by historical arrangers of Harmoniemusik, both practical and creative, and how these impact on the decisions and approaches I must take. In Chapter 5, in the context of a new arrangement of Mozart's 40th symphony, I outlined some of the most important large-scale decisions I might make when creating a version of a piece that is effective for Harmonie. Chapter 6 is a more in-depth examination of the issues associated with translating a string

quartet, a central work of the canon, into that rare thing: a piece of chamber music for wind instruments. In Chapter 7 I described in some detail the work involved in making a completely new piece of ensemble music, transforming the themes, harmony and textures of a Beethoven piano sonata using as a model an exceptional arrangement in nine parts of another sonata, and the composer's own practices when arranging his own music.

Scores and recordings demonstrate the final results of my research, endeavours, and practice.

At the end of this journey, I am struck by how, perhaps, what I am doing is almost an act of anti-composition. I am explicitly attempting to create the un-novel, something that in many ways, and in as many ways as possible, is indistinguishable from a piece of music created *c.*1810. Almost the only novelty is *my* choice to do this, and the ways in which I apply the un-novel. I have shown, however, that what I do *is* creative and is not pastiche, perhaps calling into question what is creativity if it is not simply novelty.

Personally in the future I will continue to make arrangements of core Viennese classical repertoire: one can never have too much Harmoniemusik. But I will also move onto other, later periods using similar techniques.

More generally, it seems to me that this is research with which both now-composers and HIP ensembles need to engage. The ensembles because, increasingly, if they are going to survive financially they must engage more with the funding streams that 'new' music attract; and the composers because they must begin to understand the knowledge, both embodied and in more traditional forms, that we as performers who have chosen to use historical instruments possess, and the capabilities, *not* limitations, of those same instruments. Yes, performers want creative dialogue and collaboration with composers, but too often the result of that collaboration seems to be a piece of work that has little engagement with our strengths, or the timbres and characters inherent in our instruments.

There are also implications for the field of musicology. What my research and practice confirm is that composers of the classical era were writing with a knowledge of instruments that governed their creative processes. The harmonic progressions and formal structures of 18th and early-19th century music are only one side of the compositional *and analytical* argument and we should reconsider the extent to which an embodied knowledge of instrumentation has implications when reconstructing or editing musics of all periods.

Appendix

An Index of Horn Pitch Adjacencies

Horn Usage Examples

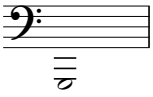
Clarinet Usage Examples

An Index of Horn Pitch Adjacencies

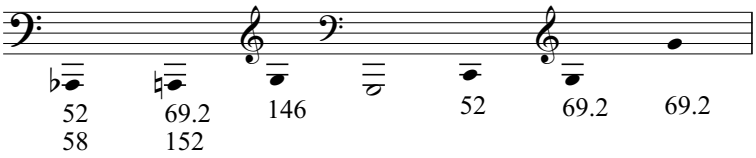
To be used in conjunction with the **Horn Usage Examples**.

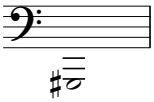
This index lists, for every chromatic pitch:

- the pitch, including enharmonics
- brief notes on the pitch's use in the *Horn Usage Examples*, or 'no examples' if it does not appear,
- followed by staves that show the principal pitch as a white note head, preceded in pitch order using black note heads by all the pitches that immediately precede it in the examples, and followed by all those that follow it, indexing the examples in *Horn Usage* that use this combination.
- A given adjacency might happen more than once in an example.
- Bracketed note heads show pitches that precede or follow the main pitch, but with a *short* rest between them, usually within the same phrase in the manner of a *quasi-staccato*
- *x.1* means in example *x*, horn *1*; *y.1.2* means in example *y*, horns *1 and 2*
- *etc.* shows a common adjacency
- *many* shows an adjacency too common to comment on.

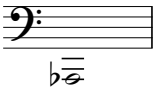


Lowest practical note (although lower F-sharp could be approached by slur from G) and Dauprat says very low (fundamental) C (and lower) is possible on short crooks. Jumped to and from but in a limited fashion.

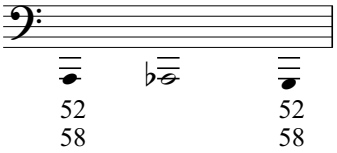


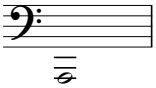


No examples.

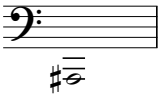


Only in descending chromatic scales.

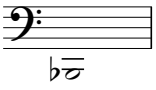




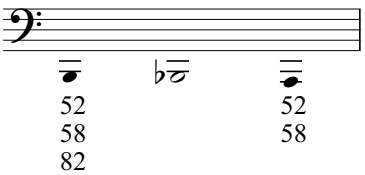
Only in descending scales, both chromatically and diatonically.

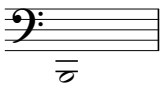


No examples.

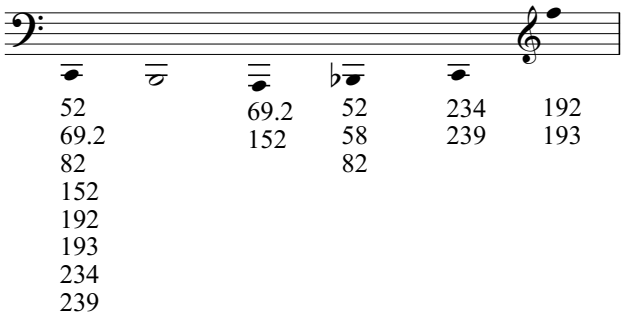


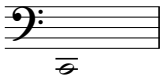
Only in descending chromatic scales.



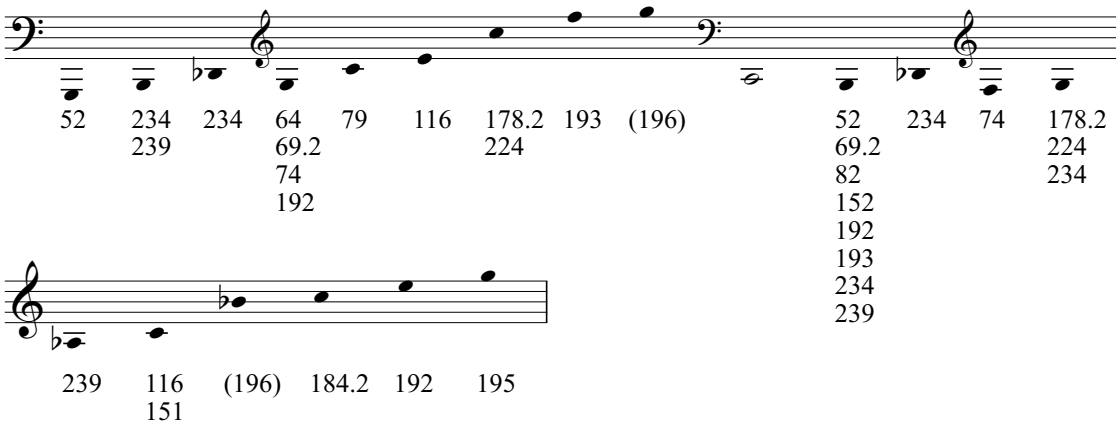


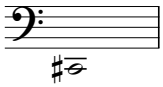
Approached only from C, and used as part of chromatic or diatonic scale, except, exceptionally, by Ries. Only Reicha returns to C.



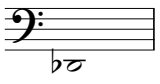


Widely used. May start a phrase (52, 53, 58 etc.). Turn-like figures: 234 (chromatic). Also written in the treble clef (i.e. at pitch) to save repetitive clef changes.

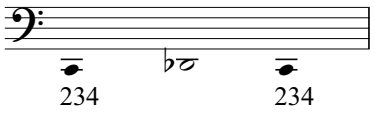


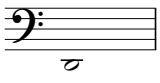


No examples.

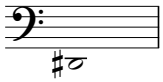


Single example, in Reicha.

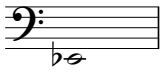




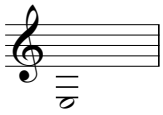
No examples.



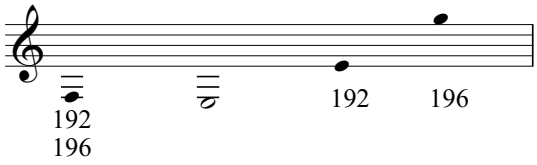
No examples.

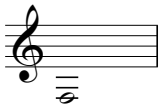


No examples.

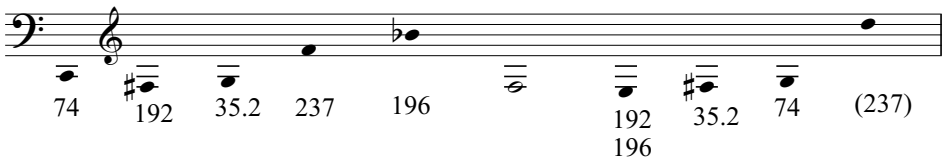


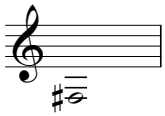
Used only by Ries, and approached by step from F.



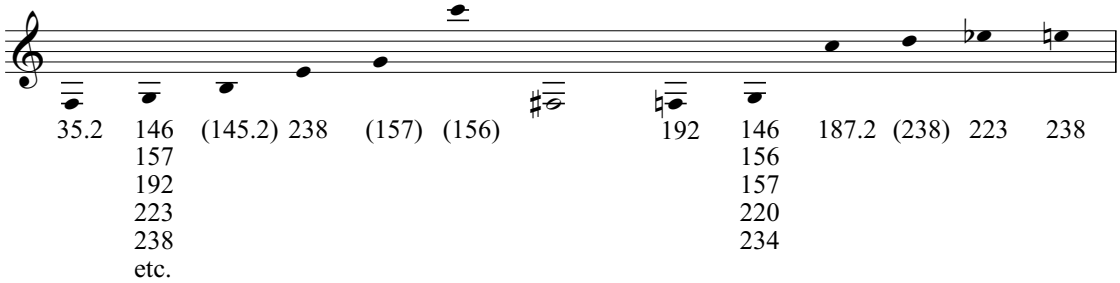


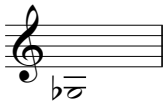
Outside of the examples, used quite widely (e.g. J Stamitz, *Pathétique* arrangement) for cadential bass figures.



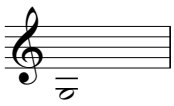


Weber uses to start phrases (156, 157).

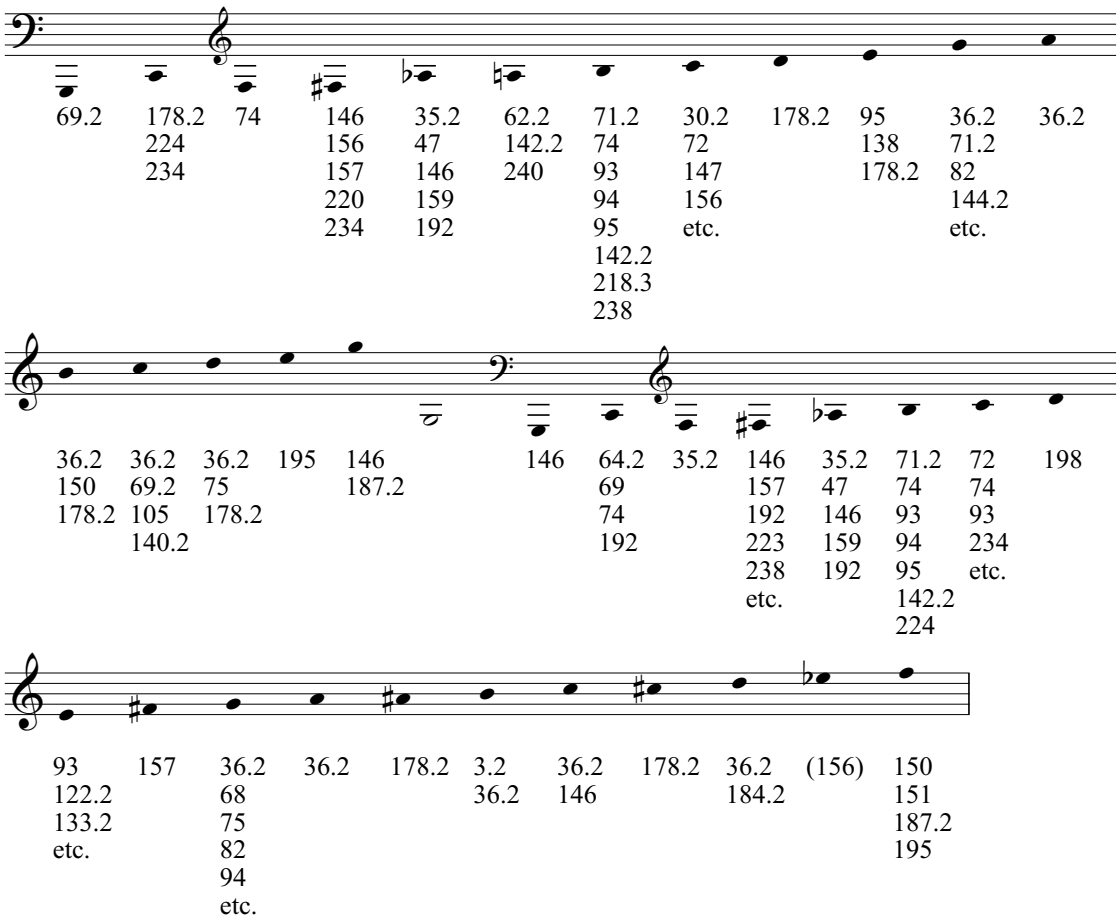


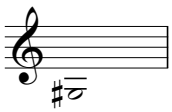


No examples.

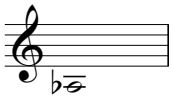


Almost ubiquitous for low players, especially in C major arpeggios. Turn-like figure 146 (Weber). May be preceded by any of the open notes (including very low G) except B-flat, and followed by any except B-flat and high G.

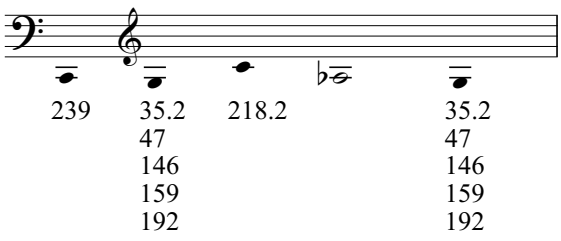


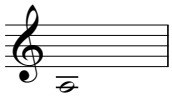


No examples.



Beethoven exploits this as both a loud buzz (35.2 and 159) and as a soft, covered sound (47). Nearly always preceded AND followed by G, except 47 (phrase-start); 218.4 (Berlioz); and 239 (Reicha) where exceptionally it is used as part of a bass line.

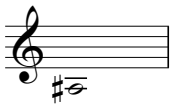




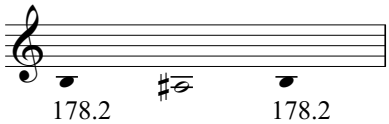
Only used in descending scales, fast or slow.

62
142.2
240

62
142.2
240

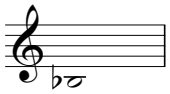


Single example (in Sphor) where it is treated as a chromatic alteration of B.

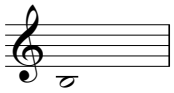


178.2

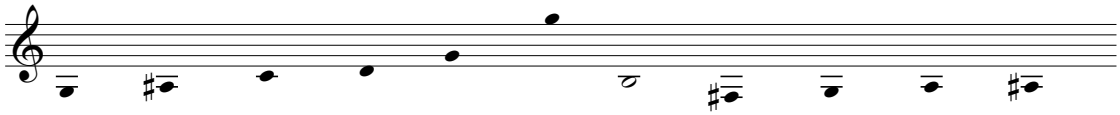
178.2



No examples.



Always preceded by C, or less often by low G, except for Krommer's phrase-starts (131 and 141) and bassline use (127), and by chromatic A-sharp in 178.2 (Spohr). See further Krommer for low G to B figures (e.g. 71.2, 74, 93, 95 etc.).



71.2
74
93
94
95
142.2
224

178.2

62.2
64
80
113.2
124.2
142.2
174
224
231
etc.

238

127.2
238
242

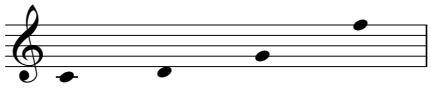
235

145.2

71.2
74
93
94
95
142.2
218.3
238

62
142.2
240

178.2

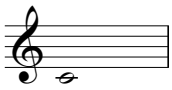


68
80
95
126.2
235
238
etc.

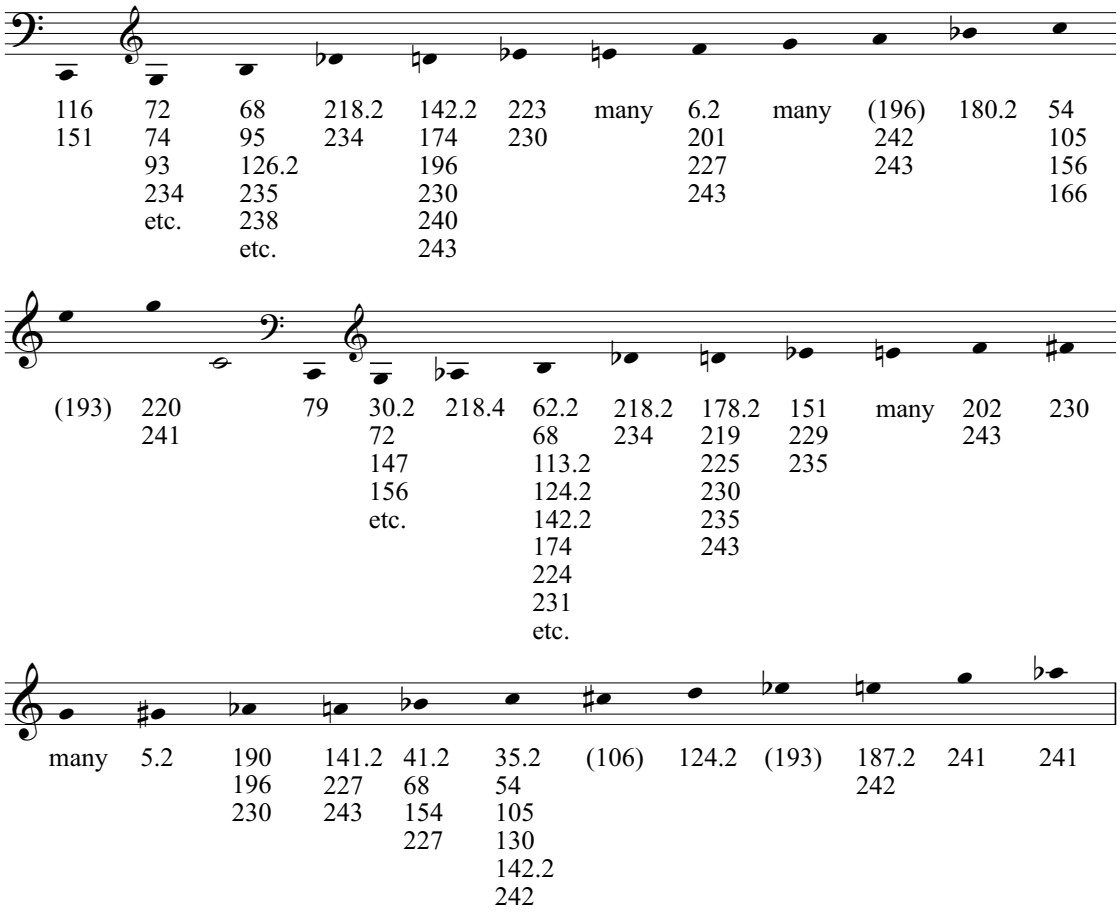
224
231

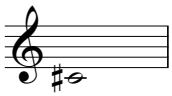
224

166

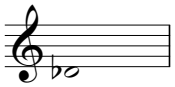


Very common pitch, but rare in 1st or high parts. No examples of ornaments, except the chromatic turn-like figure in 234 (Reicha). May be preceded by any tone except middle F-sharp or A-flat/G-sharp. May be followed by almost any other pitch, except low B-flat, and middle B-natural.

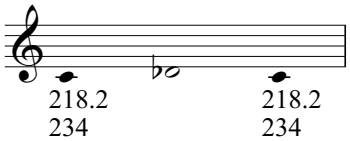


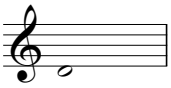


No examples.

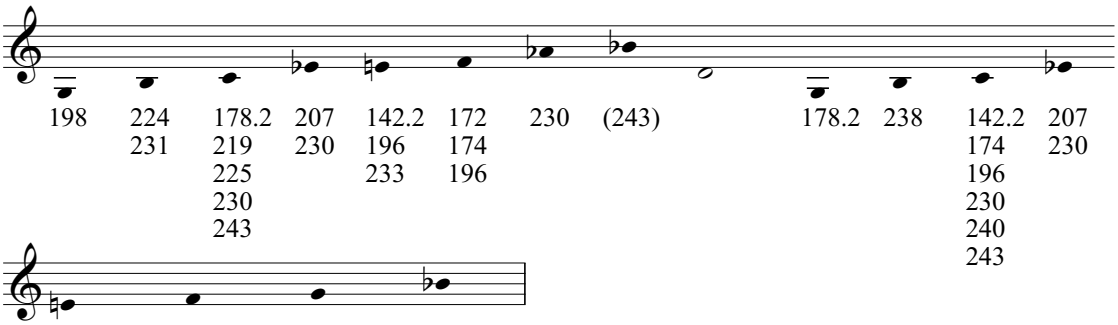


Almost never used: only examples are from a Berlioz orchestral work and a single Reicha quintet (in the bass clef), always adjacent to C.



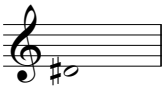


Rare in earlier Viennese practice, mostly only in passing in fast scales. But for isolated melodic use see 172 and 174 (Crusell); 178.2 (Spohr); 198 and 202 (Danzi); and much of Reicha.

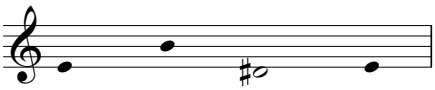


198 224 178.2 207 142.2 172 230 (243) 178.2 238 142.2 207
231 219 230 196 174 174 230
225 233 196 196
230 230
243 240
243

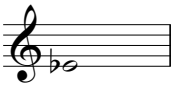
219 224 172 243
225 230 196
233 231 202
235 238



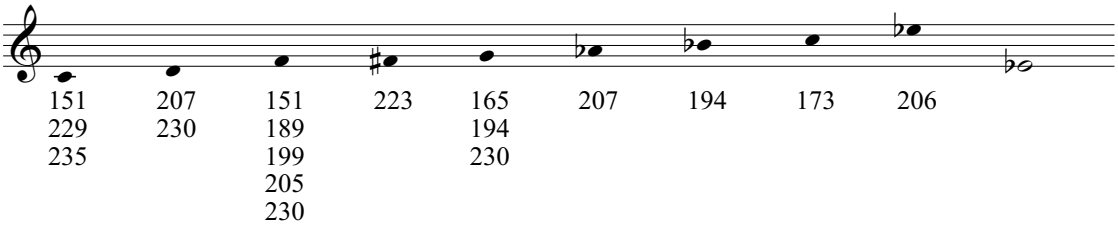
Rare, only ever as a lower chromatic to E.



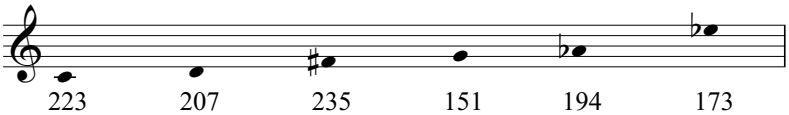
212 238 212
220 220
222 222
232 232
238 238



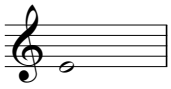
Compared to D-sharp, the use of E-flat is more widespread and less predictable, in part because modulations to E-flat and A-flat majors are not uncommon in solo repertoire.



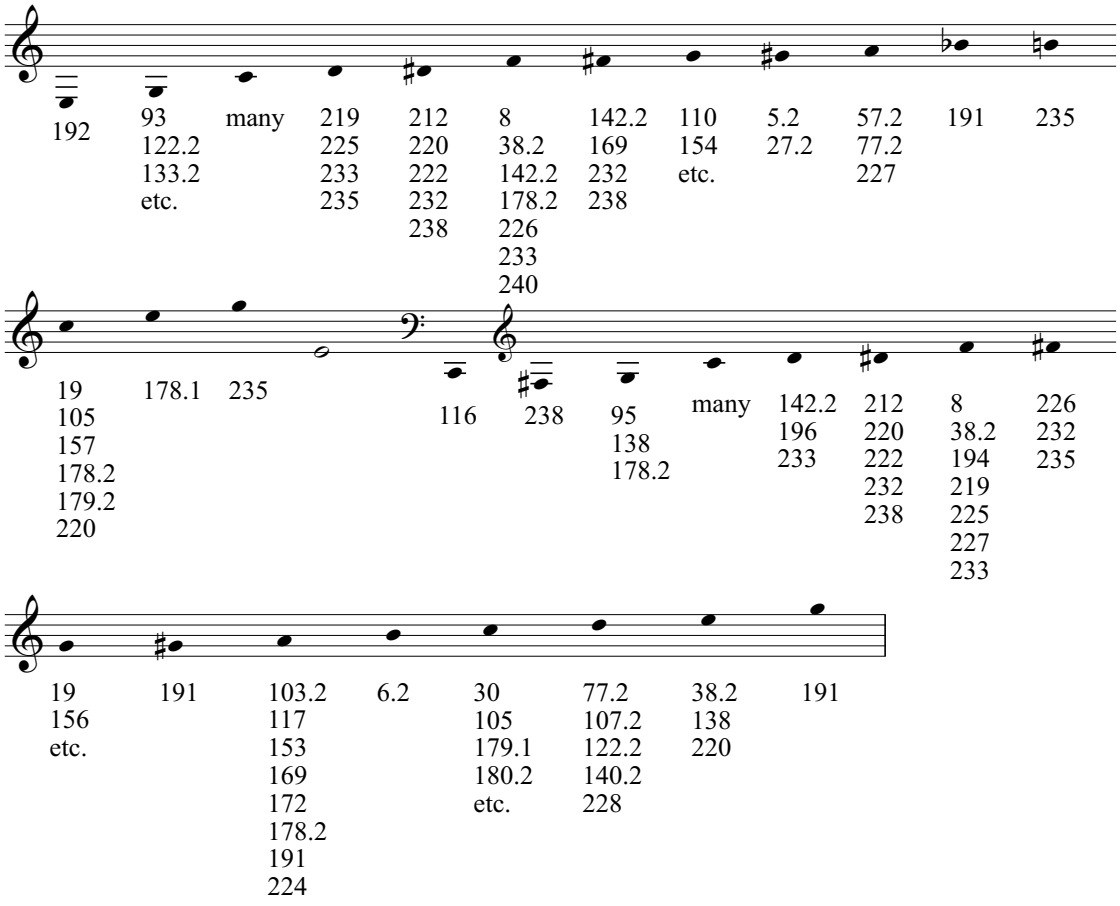
151 207 151 223 165 207 194 173 206
229 230 189 194
235 199 230
205
230

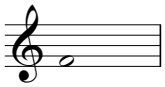


223 207 235 151 194 173
230 230 229

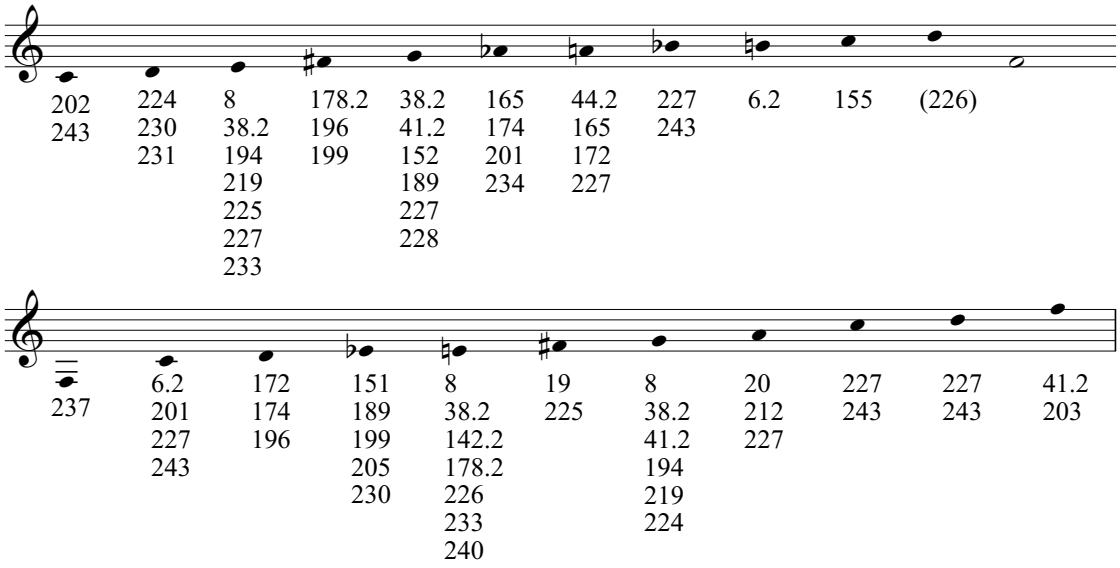


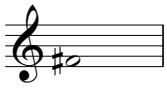
Nearly always adjacent to higher G and lower C. Jumping to or from the higher E is very unusual, as is moving a tone from or to F-sharp, the latter only occuring in Reicha.



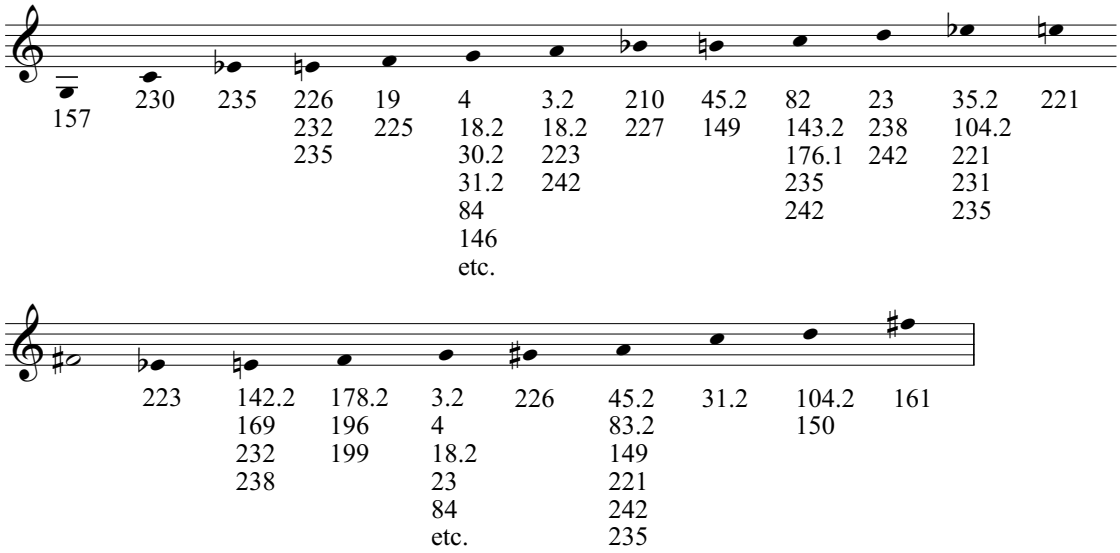


Tends to have a G or E before it, but jumps of up to a sixth exist. 237 (Reicha), 41 (Beethoven), and particularly 203 (Danzi) are exceptional. Trill in 234 (Reicha).

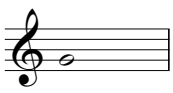




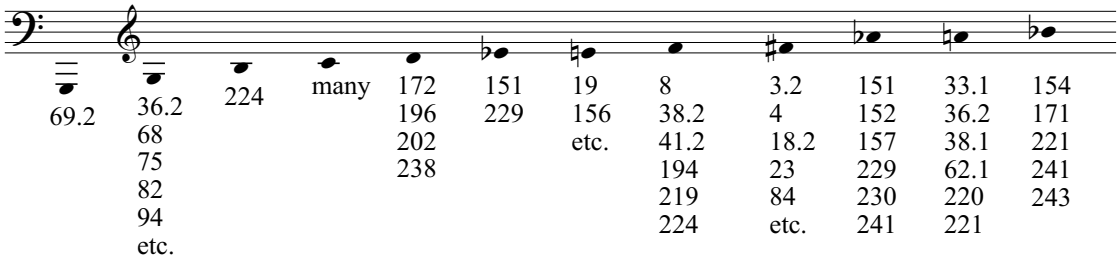
With the following exceptions, F-sharp is always immediately adjacent to G: 45.2 (Beethoven) and 242 (Reicha, D major arpeggio); 104.2 (Krommer, G delayed); 221, 223, 225, 235 (Reicha, diminished arpeggio); 226 (Reicha, melodic minor scale).



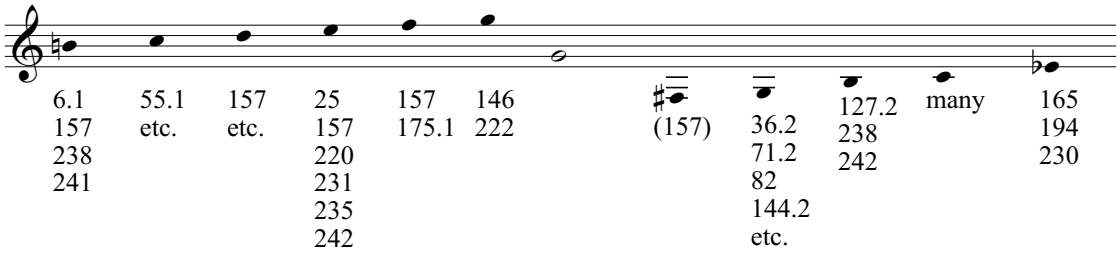
No examples.



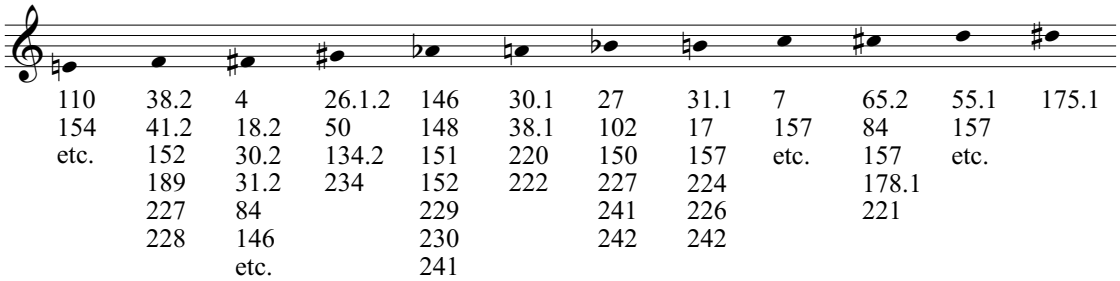
Jumps from and to low G, and to high G quite common, from high G much less so. Almost all intervals are represented. For turn-like figures on G see 18.2, 38.2, 142.2, 171, and 146 (chromatic). From Reicha, there is a notated turn in 222 and trills in 224, 235 and 242.



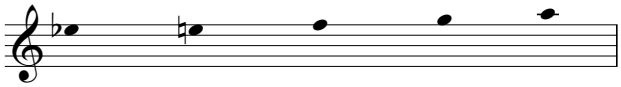
69.2 36.2 68 75 82 94 etc. | 224 | many | 172 196 202 238 | 151 229 | 19 156 etc. | 8 38.2 41.2 194 219 224 | 3.2 4 18.2 23 84 etc. | 151 152 157 229 230 241 | 33.1 36.2 38.1 62.1 220 221 | 154 171 221 241 243



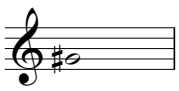
6.1 157 238 241 | 55.1 etc. | 157 etc. | 25 157 220 231 235 242 | 157 175.1 | 146 222 | (157) | 36.2 71.2 82 144.2 etc. | 127.2 238 242 | many | 165 194 230



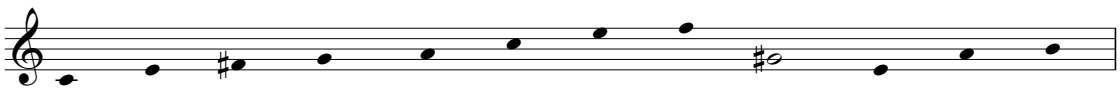
110 154 etc. | 38.2 41.2 152 189 227 228 | 4 18.2 30.2 31.2 84 146 etc. | 26.1.2 50 134.2 234 | 146 148 151 152 229 230 241 | 30.1 38.1 220 222 | 27 102 150 227 241 242 | 31.1 17 157 224 226 242 | 7 157 etc. | 65.2 84 157 178.1 221 | 55.1 157 etc. | 175.1



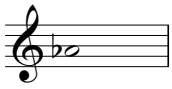
34.2 48.2 63 130.1 174 213 241 | 3.1 134.1 223 226 231 etc. | 130.1 141.1 157 178.1 197 223 etc. | 23 48.1 141.1 170 220 221 235 etc. | 164



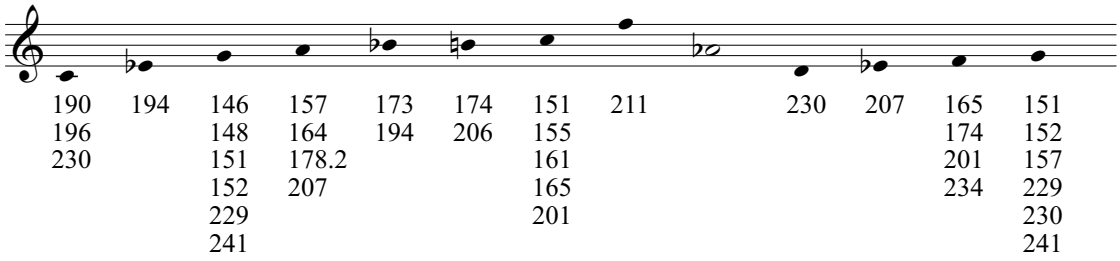
Except in 5 (Mozart) and 191 (Ries, E major arpeggio), G-sharp is always adjacent to A.



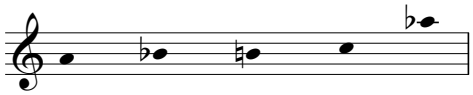
5.2 | 191 | 226 | 26.1.2 50 134.2 234 | 28 191 209 222 | 5.1 | 160 | 27.1.2 164 | 5.2 27.2 | 26.1.2 209 222 | 28 191



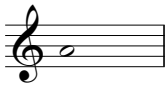
A-flat always adjacent to G, except: in F minor arpeggio (155, 165, 201); diminished arpeggio (174); when functioning as the tonic (173, 176); in modulating passages (207, 211). Weber writes trills (151) and turns (152).



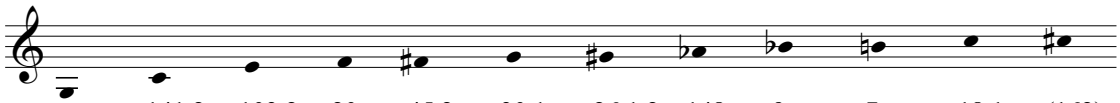
190 194 146 157 173 174 151 211 230 207 165 151
196 148 164 194 206 155 174 152
230 151 178.2 161 201 157
152 207 165 234 229
229 201 230
241 241



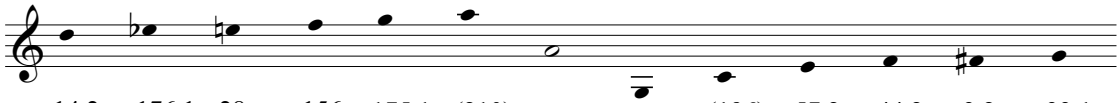
148 152 (207) (173) 151
155
194
206



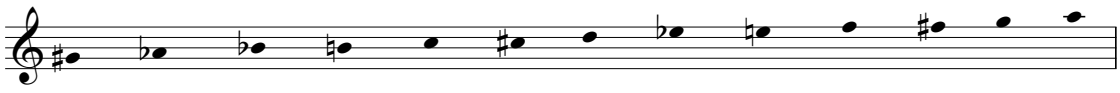
Almost ubiquitous for both first and second parts. Almost any pitch in the middle range (C to high G) may precede or follow A, except high F-sharp, or C-sharp before. Turn-like figures in 41.2, 42.2, 152 etc. Notated turns in 223, 224. Trills: (tone) 160, 167, 169, 182.2, 187, 235, 242; (semitone) 234.



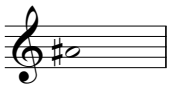
36.2 141.2 103.2 20 45.2 30.1 26.1.2 148 9 7 18.1 (162)
227 117 212 83.2 38.1 209 41.1.2 18.1 23
243 153 227 149 147.2 222 44.1 28 etc.
169 221 220 124.1 62
172 235 222 152 101
178.2 242 etc. etc. etc.
191
224



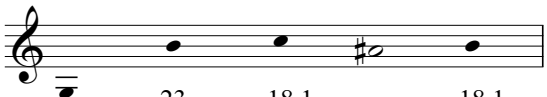
14.2 176.1 28 156 175.1 (210) 36.2 (196) 57.2 44.2 3.2 33.1
45.2 38.2 171 242 77.2 165 18.2 36.2
152 119.1 228 243 172 223 38.1
168 178.1 227 242 62.1
187.2 220
221 221
227
etc.



28 157 26.1.2 4 27.1.2 168 23 44.2 57.1 42.2 168 193 28
191 164 43 18.1 28 149 158 164 152 168
209 178.2 44.1 124.1 etc. 168 194 196
222 207 152 etc. 187.2 222
etc. etc. 243



Rare, and always followed by B natural.



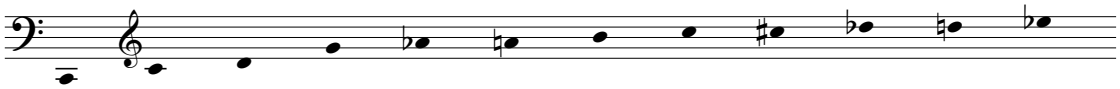
178.2

23
33.2
46.2
242

18.1

18.1
23
33.2
46.2
178.2
242

Earlier Viennese usage (Mozart, Beethoven) typically used B-flat only in scales or as per its flat tuning, as a 7th resolving to A. Later practice gives it more independance. However, it is not preceded by low G, middle F, or high E, and is followed by only a single middle E, and not by low G or high E. Turn-like figures: 44.1, 61.2, 154. Notated turns 171, 234.



(196)

41.2
68
154
227

243

27
102
150
227
241
242

152
155
194
206

26.1.2
43
44.1
152
etc.

65
191
196
207
243

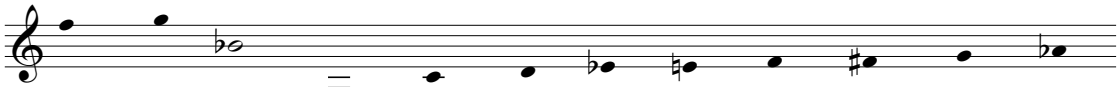
41.1
44.1.2
46.2
77
81
124.1
158

14.2
221

241

152
221

130.2
152
165



146
217

81

196

180.2

(243)

194

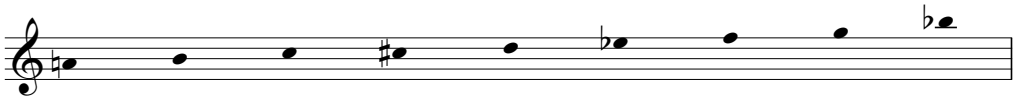
191

227
243

210
227

154
171
221
241
243

173
194



9
41.1.2
44.1
124.1
152
etc.

26.1.2
33.2
43
222
225

44.1.2
46.2
81
152
158
200

27.1.2
77.1
242

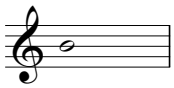
81
102
171
227

76.1
87.1
146
152
194
200

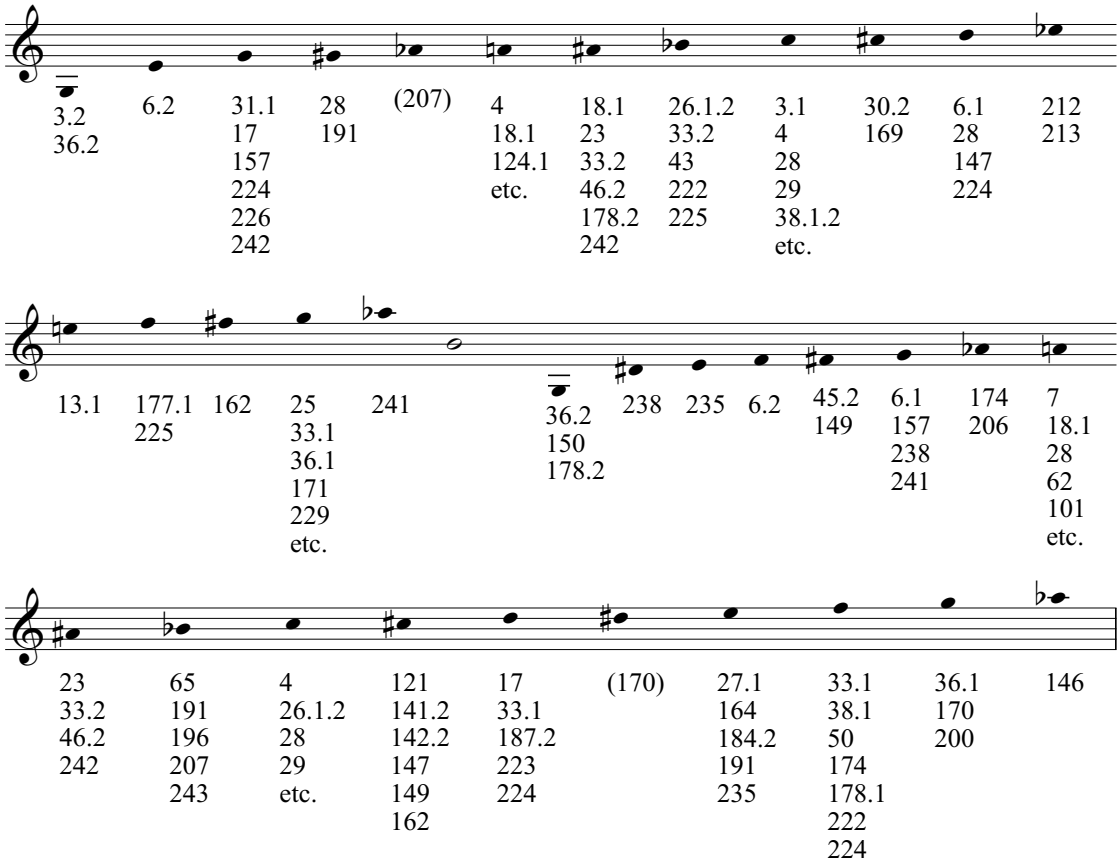
214
243

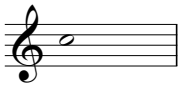
130.1
153
214
234

152

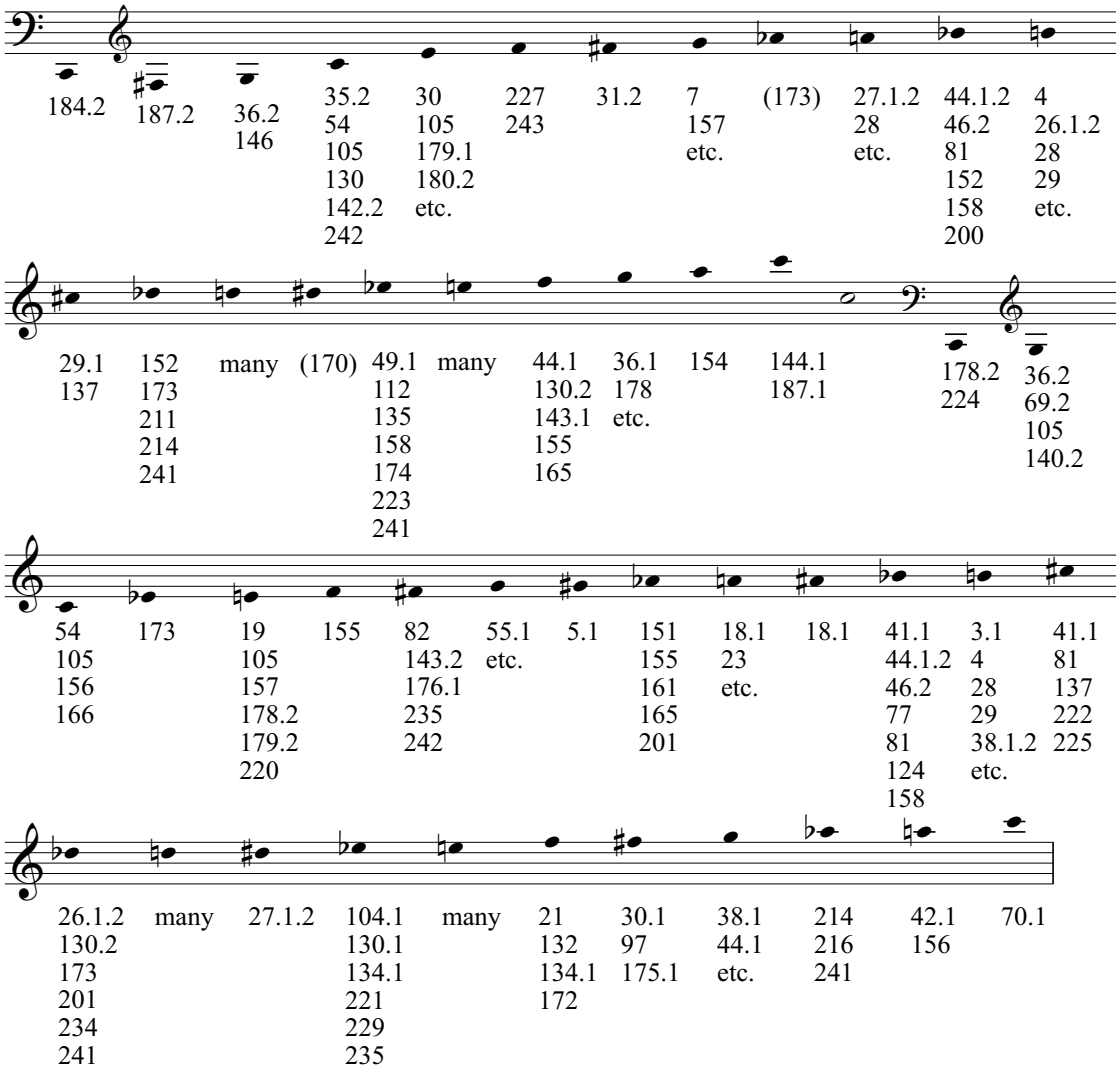


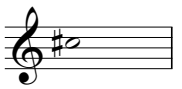
Almost ubiquitous for both first and second parts. Almost any pitch in the middle range (E to high A-flat) may precede or follow B, although F-sharp in either octave is unusual. Phrases start on B in 18.2, 38.1, 49.2, 55.1, 71.1, and 141.2. Turn-like figures, chromatic and diatonic, in 23, 33.2, 113.1, 170; notated turn in 223. Trills in 169 (whole tone) and 235.



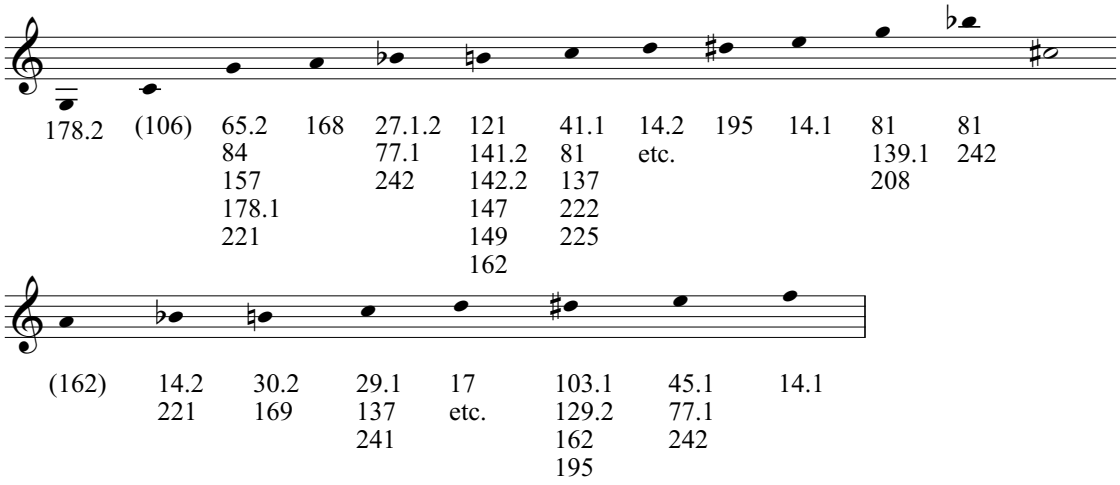


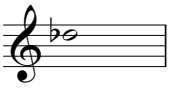
Almost any pitch my preceed or follow C. (The lack of middle Fs is probably because high F is easier to obtain.) Turns-like figures: diatonic 153, 170 (notated), 175.1, 182.1; chromatic 173, 176.1, 217 (notated). Trills 156, 224, 226, 235.



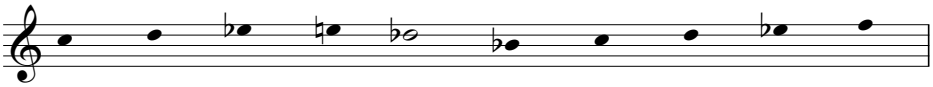


All C-sharps are adjacent to D, except: 14.1 and 71.1, 221, 242 (quasi diminished arpeggio); 103.1, 129.2, 162, and 195 (modulation). Phrase-starts in 106.2 and 175.1. Trills in 157 and 169.

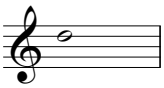




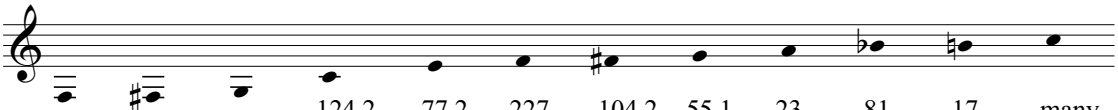
All D-flats are adjacent to C. Diminished arpeggio in 241.



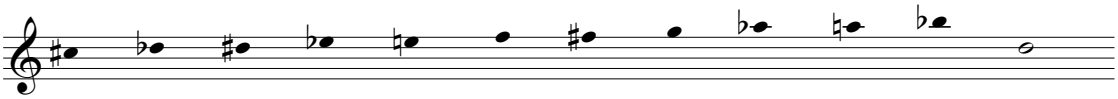
26.1.2 214 152 211 241 152 26.1.2 201 216
130.2 211 216 173 130.2 217
173 211
201 214
234 241
241



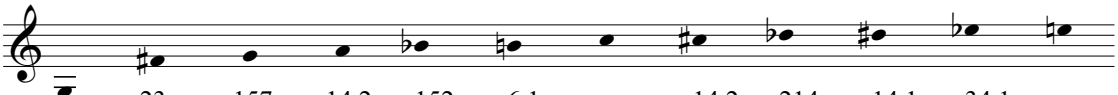
Very common, adjacent to almost any other pitch, except the jumps down to middle C (ninth below) and middle E. Trills in 144, 164 (tone), 204 (semitone!). Turn-like figures in 17, 31.1, 33.1, 46.1 (chromatic), 153, 170.



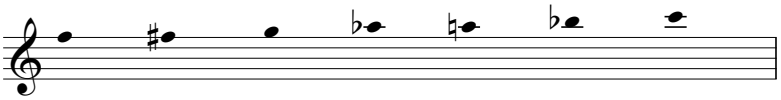
(237) (238) 36.2 124.2 77.2 227 104.2 55.1 23 81 17 many
184.2 107.2 243 150 157 149 102 33.1
122.2 etc. 168 171 187.2
140.2 187.2 227 223
228 etc. 224



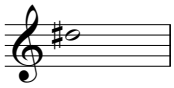
17 26.1.2 29.1 16 many 7 104.1 16 177.1 168 171
etc. 130.2 33.1 28 143.2
127 etc. 144.1
221 etc.
230



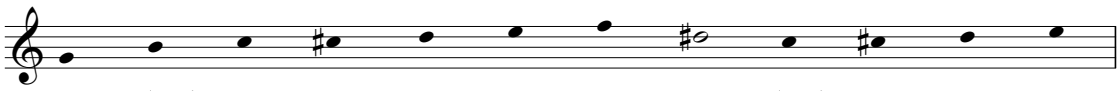
36.2 23 157 14.2 152 6.1 many 14.2 214 14.1 34.1 many
75 238 etc. 45.2 221 28 etc. 33.1 etc.
178.2 242 152 147
168 222
187.2
221
227
etc.



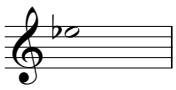
27.1.2 45.1 25 146 41.1 236 142.1
etc. 139.1 30.2 174
169 33.1
238 81
235



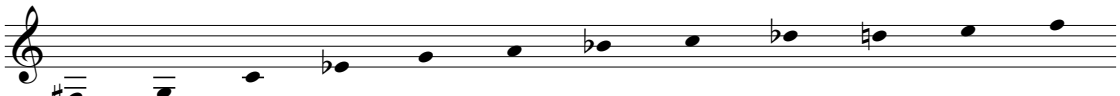
All D-sharps are adjacent to E, except 103. Trill in 157. Turn-like figure in 195.



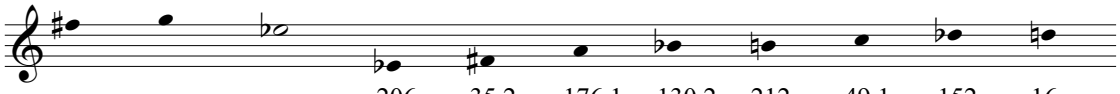
175.1 (170) 27.1.2 103.1 129.2 162 195 14.1 33.1 13.1 etc. 17.1 175.1 182.2 (170) 195 29.1 13.1 etc.



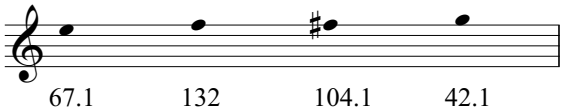
E-flat has rather freer usage than D-sharp, especially when in C minor, but it is never followed by middle G or middle C. Most, however, are adjacent to D, with the exception of: 51.2, 143.1, 211 (modulating); 132, 135, 143.2, 229, 241 (C minor arpeggio); 221, 223 (diminished arpeggio); 152, 216, 217 (A-flat major); 171, 173 (E-flat major). Turn-like figure in 171. E-flat may start phrases (e.g. 42.1, 90.1, 127.1, 151, 156, 165).



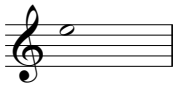
223 (156) (193) 173 34.2 48.2 63 130.1 174 213 241 44.2 158 76.1 87.1 146 152 194 200 104.1 130.1 134.1 221 229 235 201 217 34.1 etc. 16 etc. 34.1 132.1 235 241



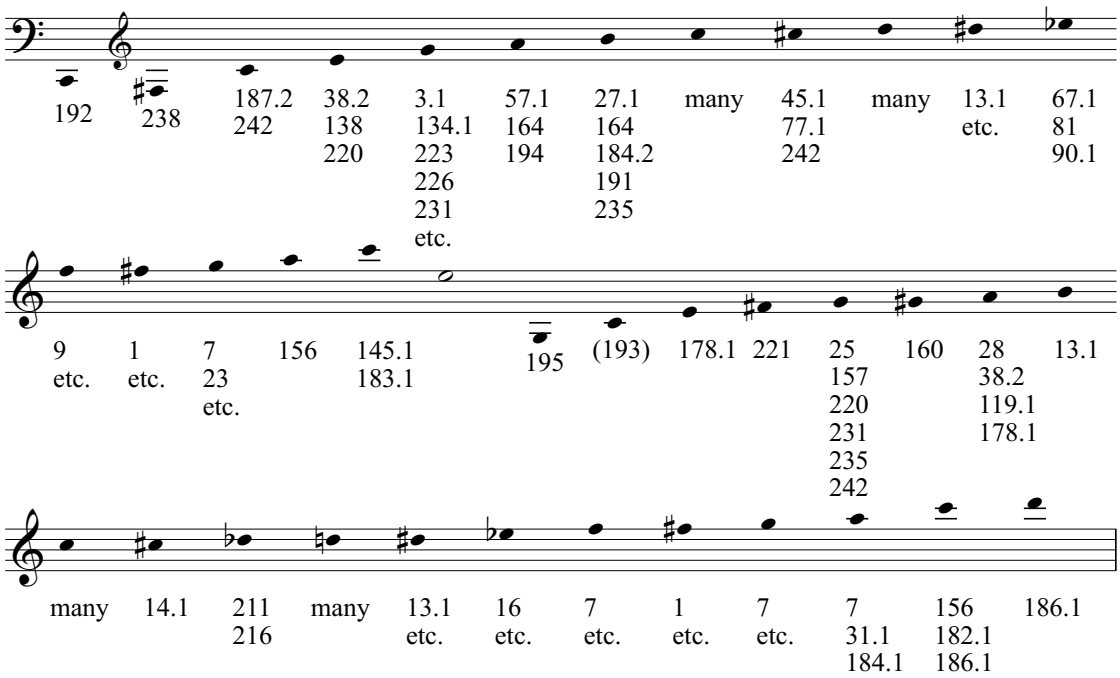
215 127.1 132 206 35.2 104.2 221 231 235 176.1 130.2 152 165 212 213 49.1 112 135 158 174 223 241 152 211 16 33.1 127 221 230

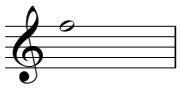


67.1 81 90.1 132 146 241 104.1 42.1 132 229

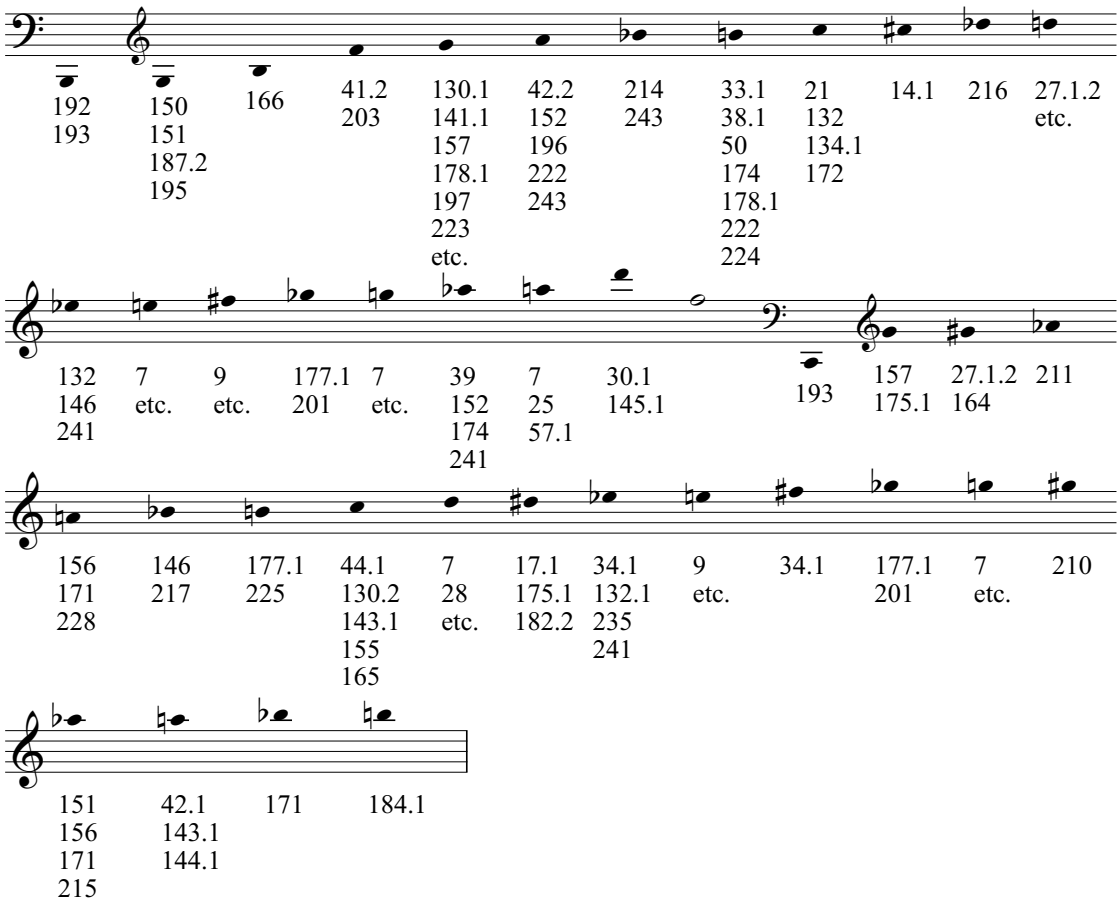


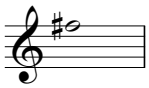
Very common, although arpeggio figures in E major/minor are rare. Trills: tone in 162, 169; semitone 156, 234. Turn-like figures in 25, 33.2, 170.



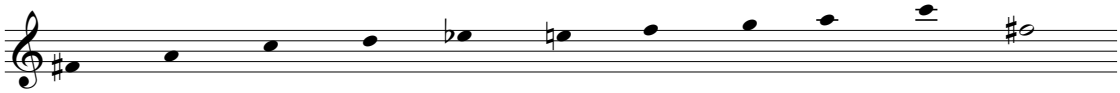


F is often treated as a 7th, coming from G and/or falling to the adjacent E. But it is also used more widely than other “chromatic” pitches. Trills in 9, 21 and 157. Turns in 152 and 171.

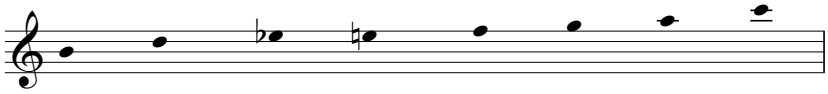




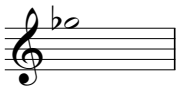
F-sharp is not common (perhaps because of its inherent flatness, requiring the hand to be fully out of the bell). It is always adjacent to either G or E, and often both. A single exception is 169 (Crusell), a D major arpeggio. There are trills in 1 and 17 (both Mozart). F-sharp may start a phrase when followed by G.



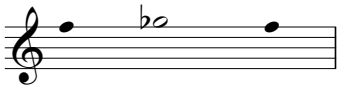
161 168 30.1 97 175.1 45.1 139.1 169 238 104.1 1 etc. 34.1 1 etc. 170 145.1



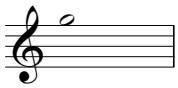
162 104.1 215 1 etc. 9 etc. 1 etc. 45.1 157 169 170 32.1 45.1



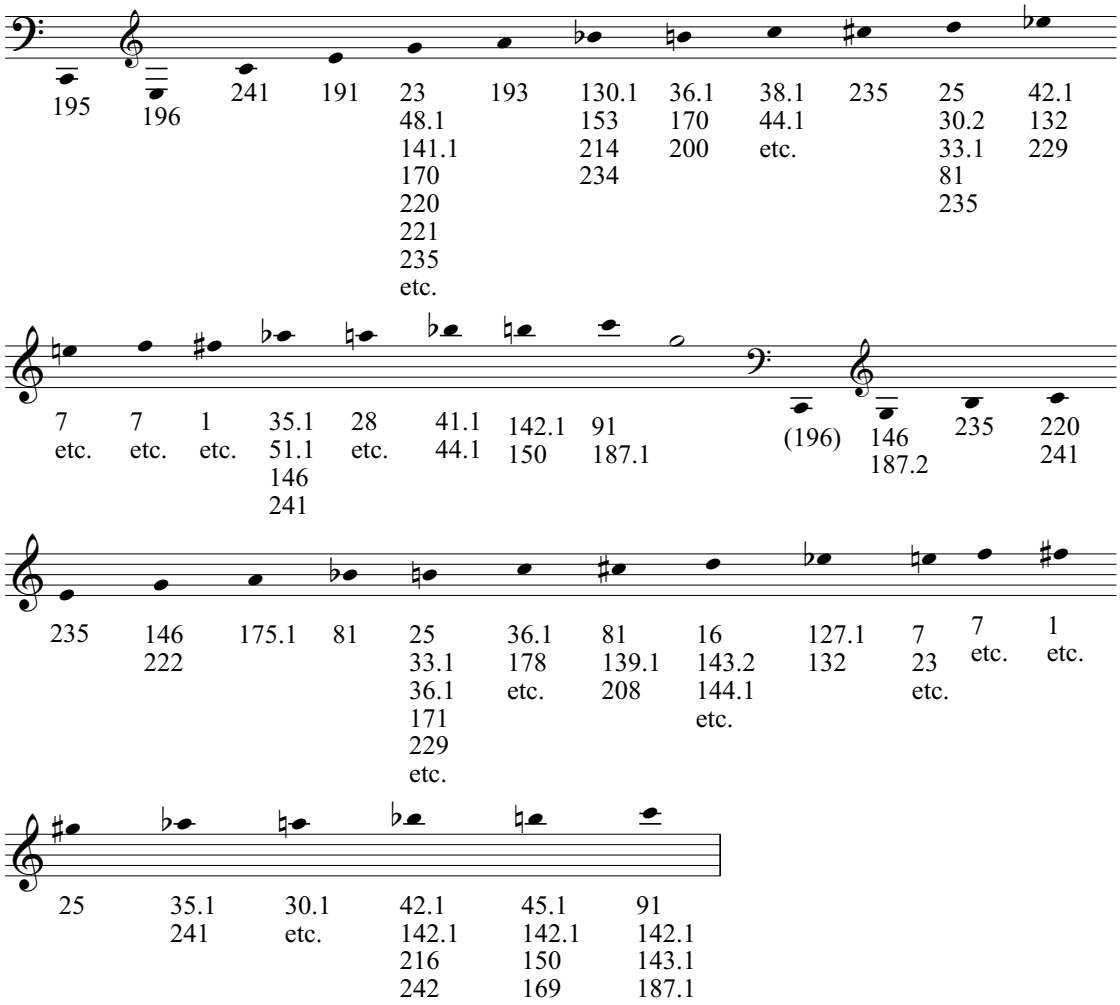
Only preceeded and followed by F.

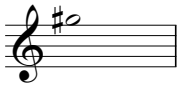


177.1 201 177.1 201

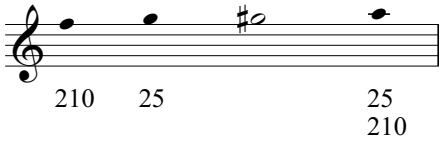


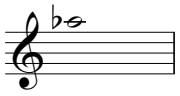
A very versatile pitch, almost fully chromatic on adjacent notes in range middle E to top C. Highest reasonable pitch for a low player. Turn-like figures in 35.1, 41.1, 144.1, and 175.1.



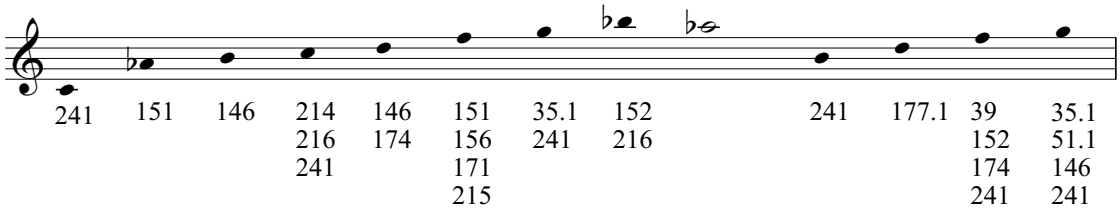


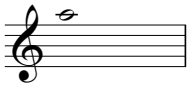
G-sharp always moves to A.



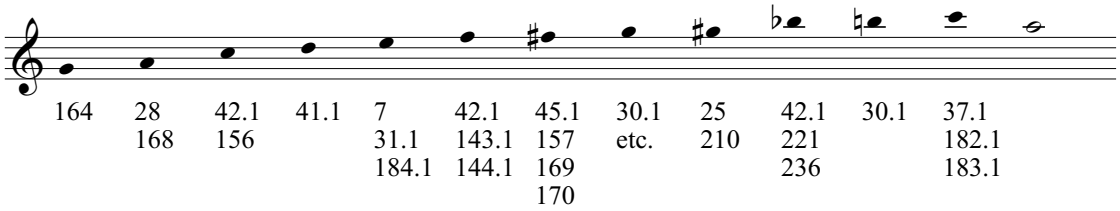


A-flat is always adjacent to G, unless it ends a phrase (146, 151), or is part of a dominant or diminished arpeggio (151, 156, 174, 241). A-flat starts phrases in 146, 155 and 211.

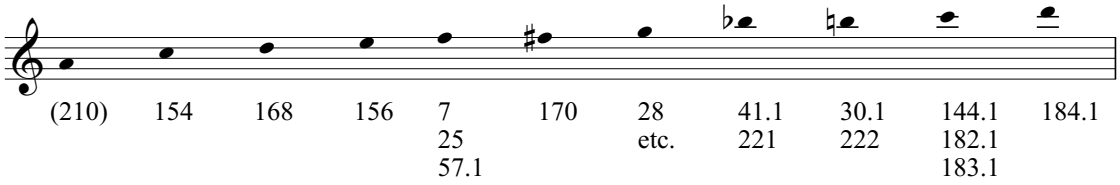




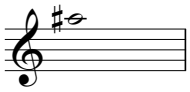
Usually considered the most treacherous of pitches, but widely used, even as a phrase-start in 40.1 and 57.1. Can be played either stopped or fully open.



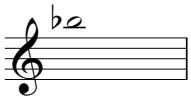
164 28 168 42.1 156 41.1 7 31.1 184.1 42.1 143.1 144.1 45.1 157 169 170 30.1 etc. 25 210 42.1 221 236 30.1 37.1 182.1 183.1



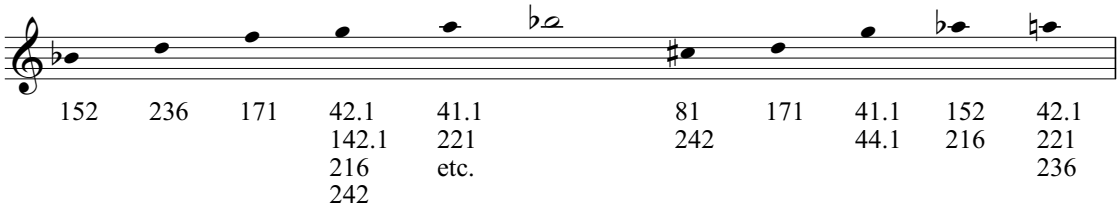
(210) 154 168 156 7 25 57.1 170 28 etc. 41.1 221 30.1 222 144.1 182.1 183.1 184.1



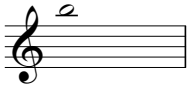
No examples.



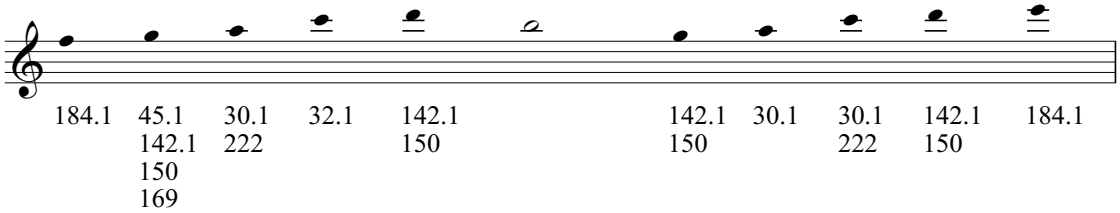
Used only once by Krommer (81), in a solo. Usually approached by step from A, or from G: exceptions are 152, Weber; 171, B-flat major arpeggio; 236, Reicha, firmly established in G minor.



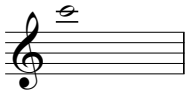
152 236 171 42.1 142.1 216 242 41.1 221 etc. 81 242 171 41.1 44.1 152 216 42.1 221 236



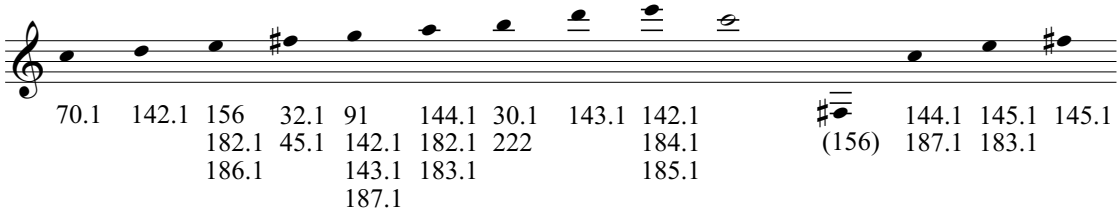
Except 184.1 (Pleyel, scale in thirds) B is only ever part of a scalic figure, or G major arpeggio (142.1, 150, 169).

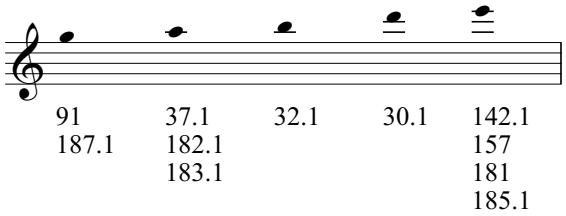


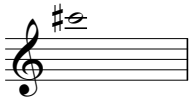
184.1 45.1 142.1 150 169 30.1 222 32.1 142.1 150 142.1 150 30.1 30.1 222 142.1 150 184.1



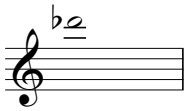
A surprisingly versatile note, treated as a seventh in relation to F-sharp, as well as a tonic.



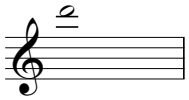




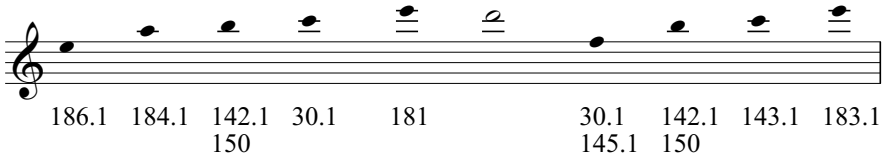
No examples.



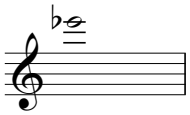
No examples.



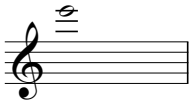
As with high B, except 184.1 (Pleyel, scale in thirds) D is only ever part of a scalic figure, or G major arpeggio (142.1, 150).



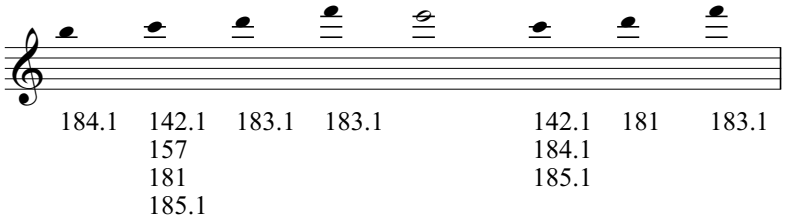
No examples.

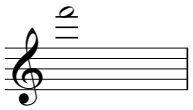


No examples.

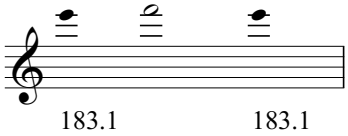


Except 184.1 (Pleyel, scale in thirds) E is only ever part of a scalic figure, or C major arpeggio (142.1, 157, 181, 185).





Only ever adjacent to E



Horn Usage Examples

The collection of examples is drawn from the horn writing of numerous composers *c.*1780–1820: a full list of composers, works, and sources can be found in the Bibliography. The ordering of the examples is a little haphazard (the numbering here, and in the *Adjacencies Index*, are hand-generated, so it hasn't been possible to revise the ordering) but, broadly, individual composer's and work-types are grouped together: Harmoniemusik and chamber music by Mozart, Beethoven, and Krommer (examples 62–145); Weber's *Concertino;* Beethoven & Mozart works with piano; Crusell, Spohr, Pleyel; Ries, Danzi, and de Krufft sonatas; Berlioz, and Reicha's quintets from example 219 onwards.

Where possible, examples are taken from early editions, and I have duplicated their layout, particularly with respect to the placement of dynamics and articulation. I have added a handful of bracketed editorial accidentals where there is some doubt in the original.

Multiple examples from a single piece follow one another in order; each piece starts with its composer and title. As well as movement tempos and time signatures, metronome marks are included where appropriate, and also the key of the movement or extract, and the horn crook used. Bar numbers and rehearsal marks are included where they exist in the original edition to aid in location if cross-referencing with the original is required. Each example is numbered and ends with a double bar; extracts are labelled with 1. and 2. to show the part quoted, or with nothing if from a solo part.

***Horn Usage Examples* which demonstrate specific tonalities (sometimes briefly)**

C major: many, but particularly: 7, 25, 30 (b.16–21), 36, 38ff, 64, 69, 72–74, 78–80, 84, 85, 91, 94, 97ff, 99, 105, 109, 113, 114, 134ff, 141ff, 142–145, 147, 157, 163ff, 166, 178, 179, 181, 183–187, 196, 219, 220, 222, 223

a minor: 13, 14, 27, 28fff, 29, 164ff, 172, 191ff

G major: 1, 3, 4, 16–18, 23, 31ff, 32ff, 33ff, 35 (b.80–), 45ff (b.37–42), 84 (b.90–), 97 (b.5–), 101, 137, 142 (b.21–), 160ff, 167ff, 182 (b.61–), 187 (b.86–), 193ff, 209ff, 210, 224ff for a large G^7 arpeggio, 235ff, 238ff, 242

e minor: 13, 109 (b.85–), 129ff, 170ff, 232

F major: 41ff, 42 (b.21–24), 44ff, 61, 154, 227ff, 234ff, 243

d minor: 42 (b.25–28 and 33–), 92, 106 (b.35–), 152ff (158–159)

D major: 30 (b.24), 45 (b.42–), 162ff, 168, 169ff

b minor: (none)

B♭ major: 42 (b.29–33), 81ff, 158 (b.60–64)

g minor: 81ff, 82 (b.36–44), 87, 102, 104, 149 (b.109), 150 (b.132), 158ff, 171 (b.356–), 176, 188, 221ff, 236

A major: (none)

f♯ minor: (none)

E♭ major: 146 (b.11), 152 (b.160–161), 165, 171ff (b.345–354), 200, 204, 206, 211, 214

c minor: 34, 35 (b.78–80), 48, 49, 51, 56 (b.196), 112, 127 (b.66–), 130, 132, 135, 143 (b.81–), 146ff, 151, 152 (b.164–), 156 (b.300–303), 161, 174, 177, 190, 199, 207, 213ff, 229, 230ff, 239, 241ff

E major: 195 (b.182–4)

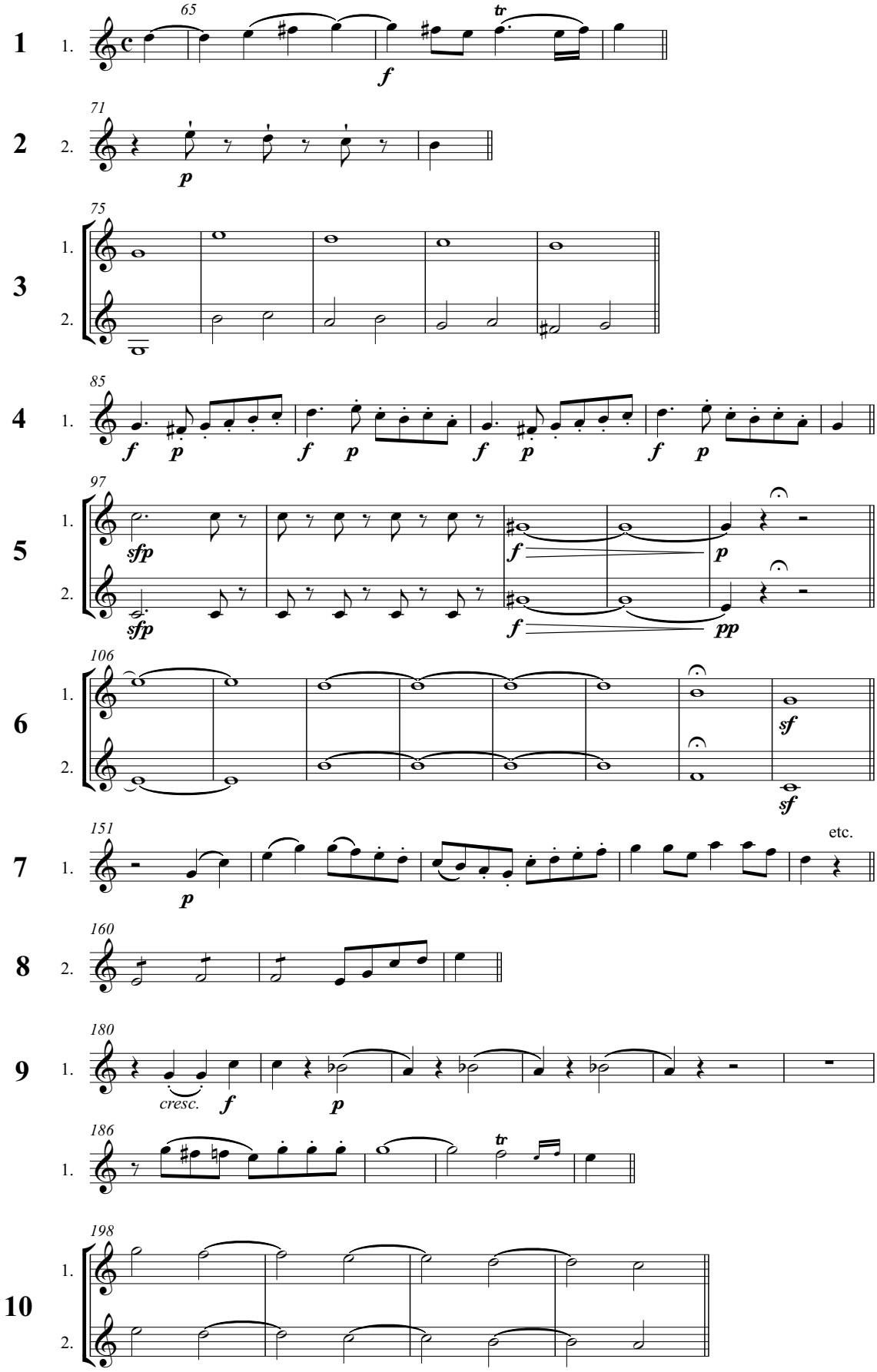
c♯ minor: (none)

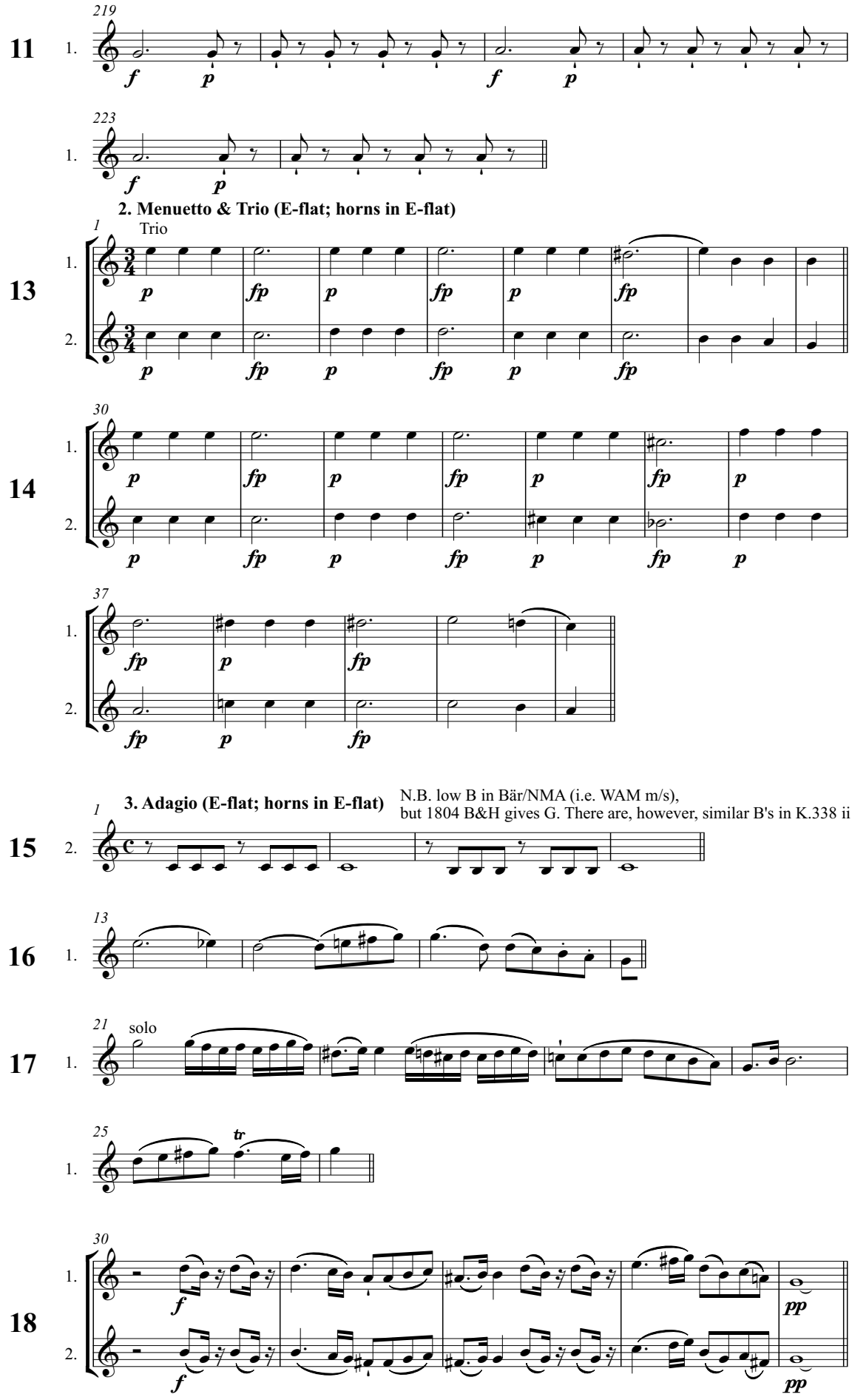
A♭ major: 152 (b.162–3), 173ff

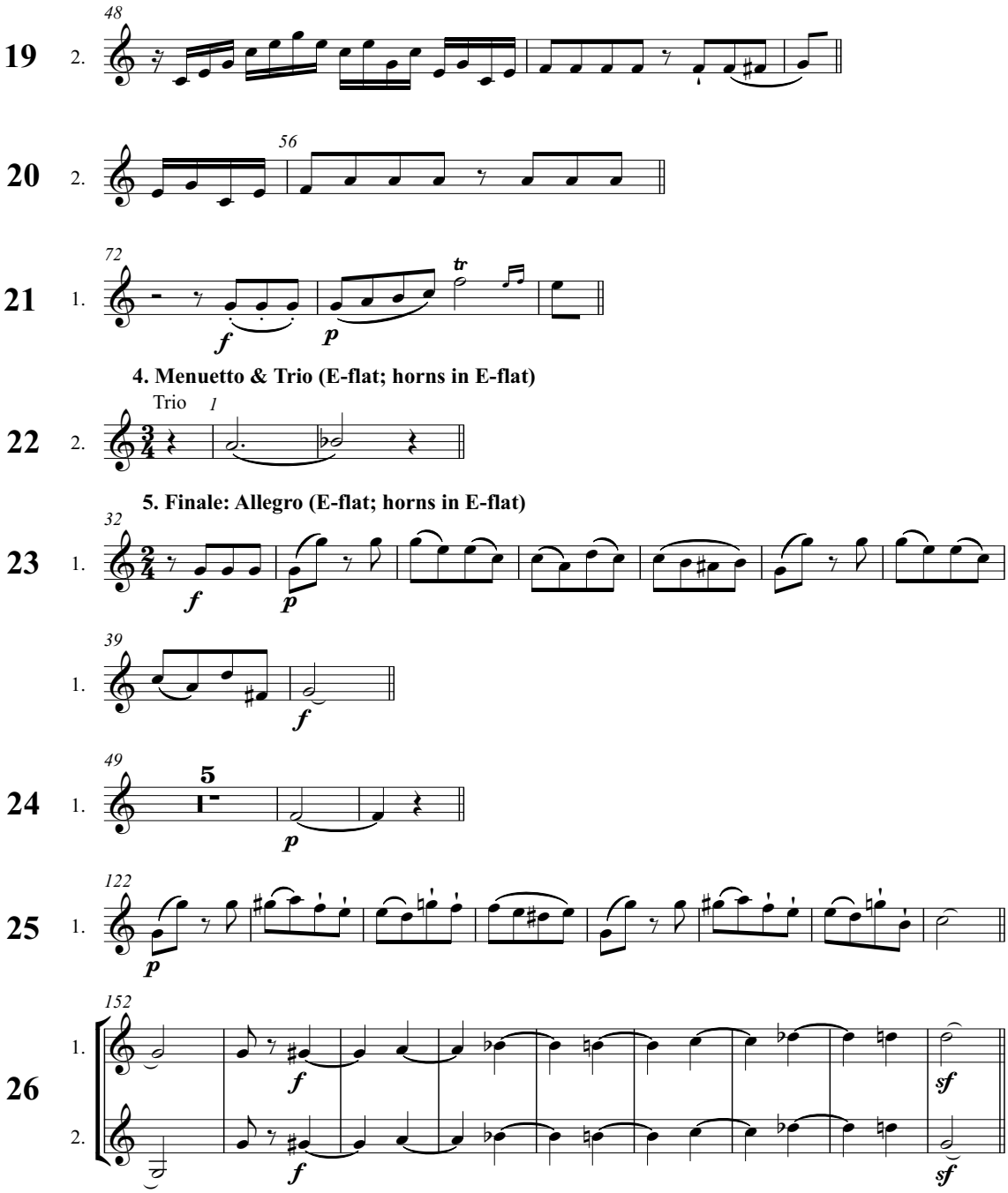
f minor: 39, 155, 165 (b.89), 201

Mozart Serenade in E-flat K375 (6-part version)

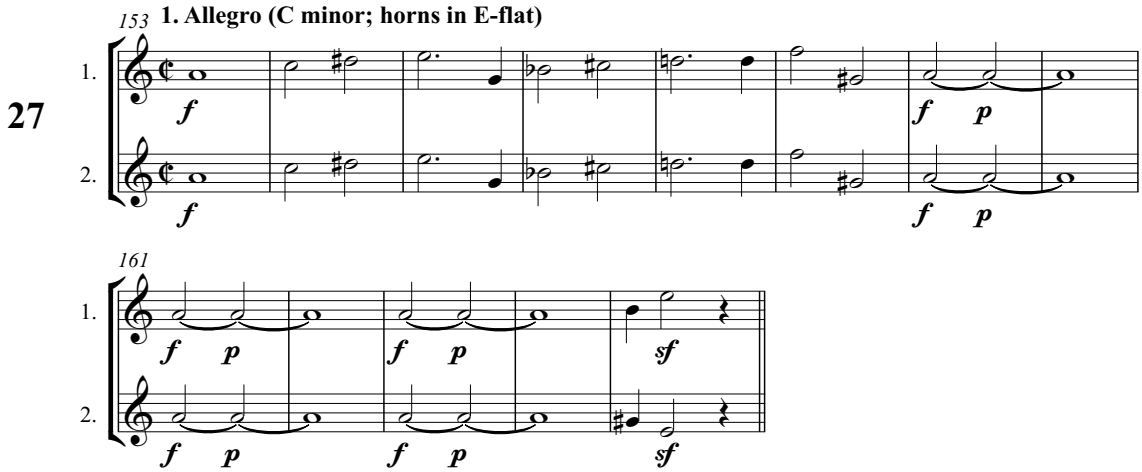
1. Allegro maestoso (E-flat; horns in E-flat)

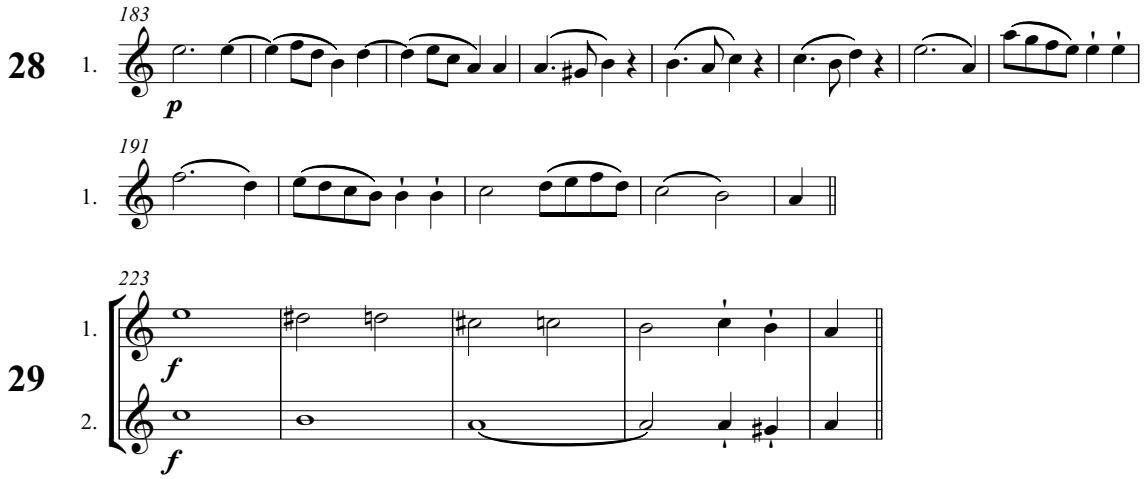



11
219
1.
f
p
f
p
223
1.
f
p
2. Menuetto & Trio (E-flat; horns in E-flat)
13
1
Trio
1.
2.
p
fp
14
30
37
3. Adagio (E-flat; horns in E-flat)
N.B. low B in Bär/NMA (i.e. WAM m/s),
but 1804 B&H gives G. There are, however, similar B's in K.338 ii
15
16
13
17
21
solo
25
tr
18
30
pp

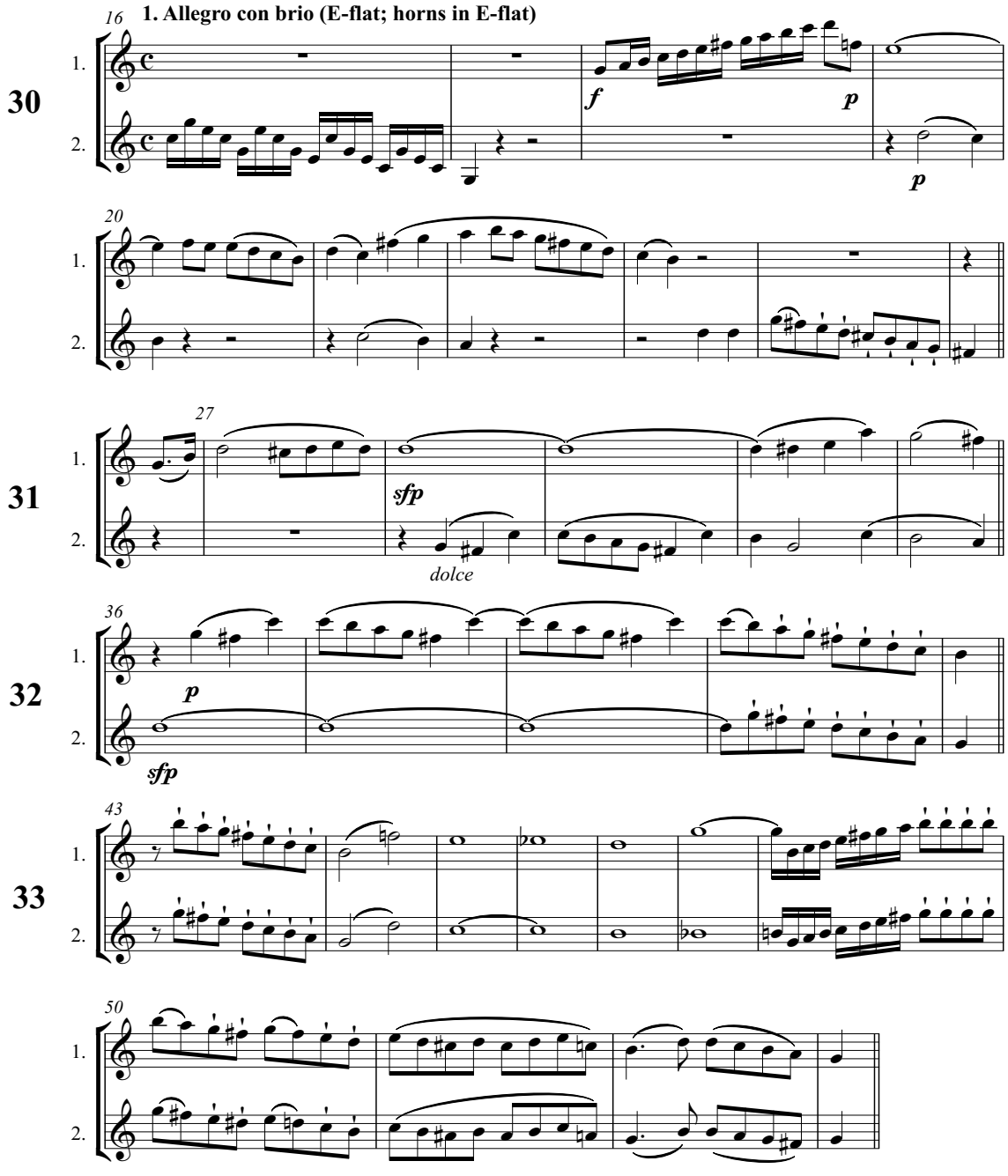


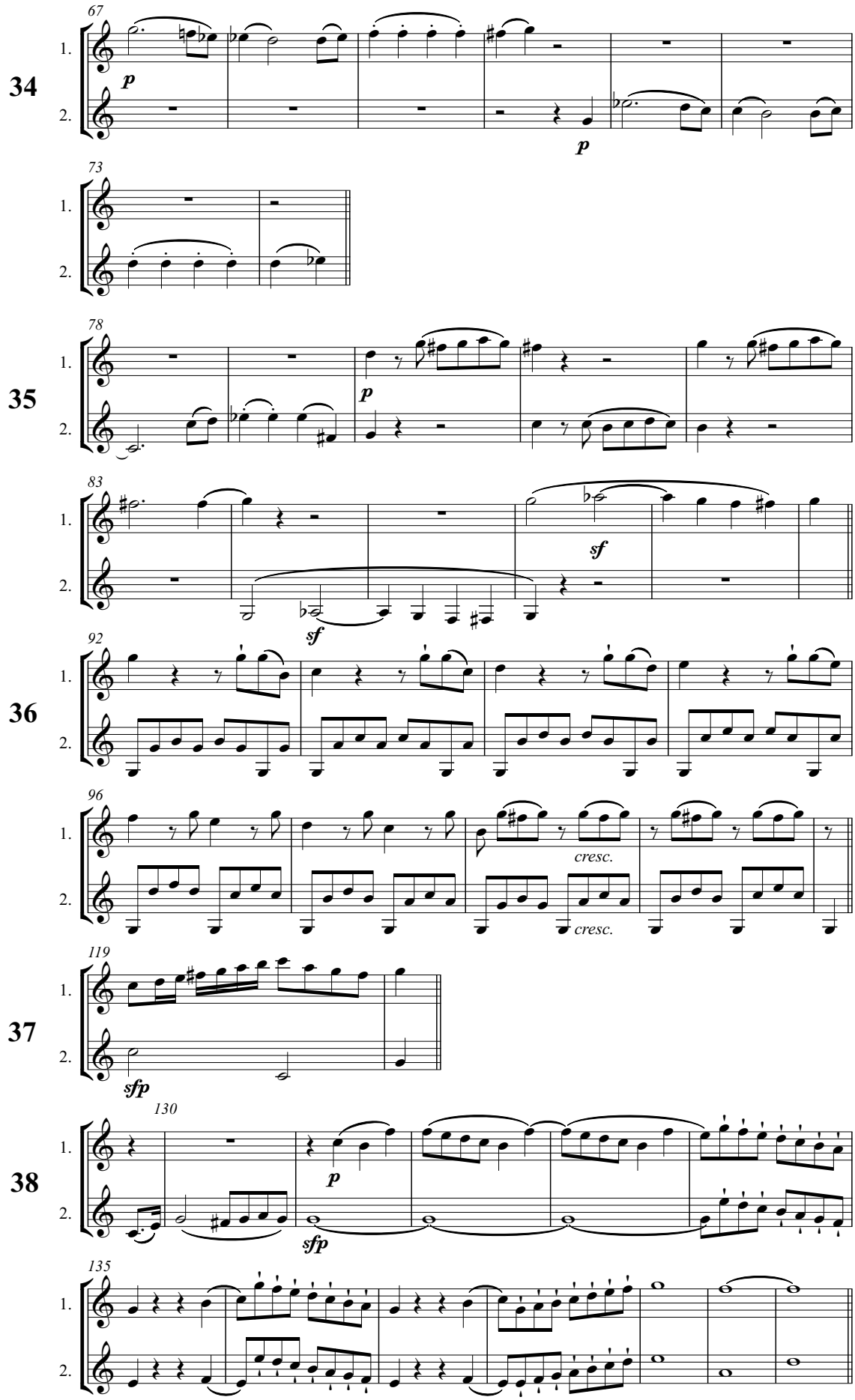
Mozart Serenade in C minor K388

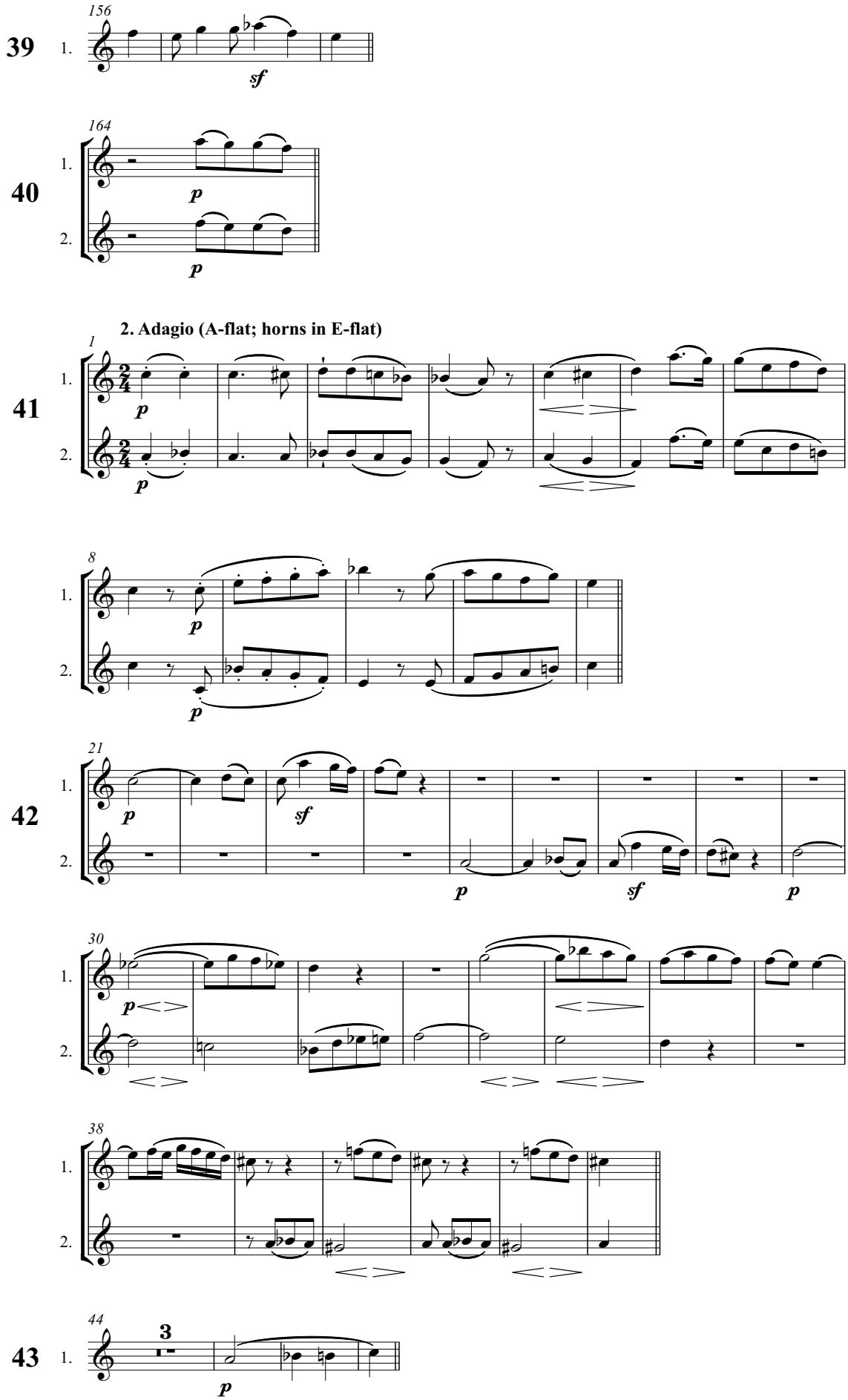


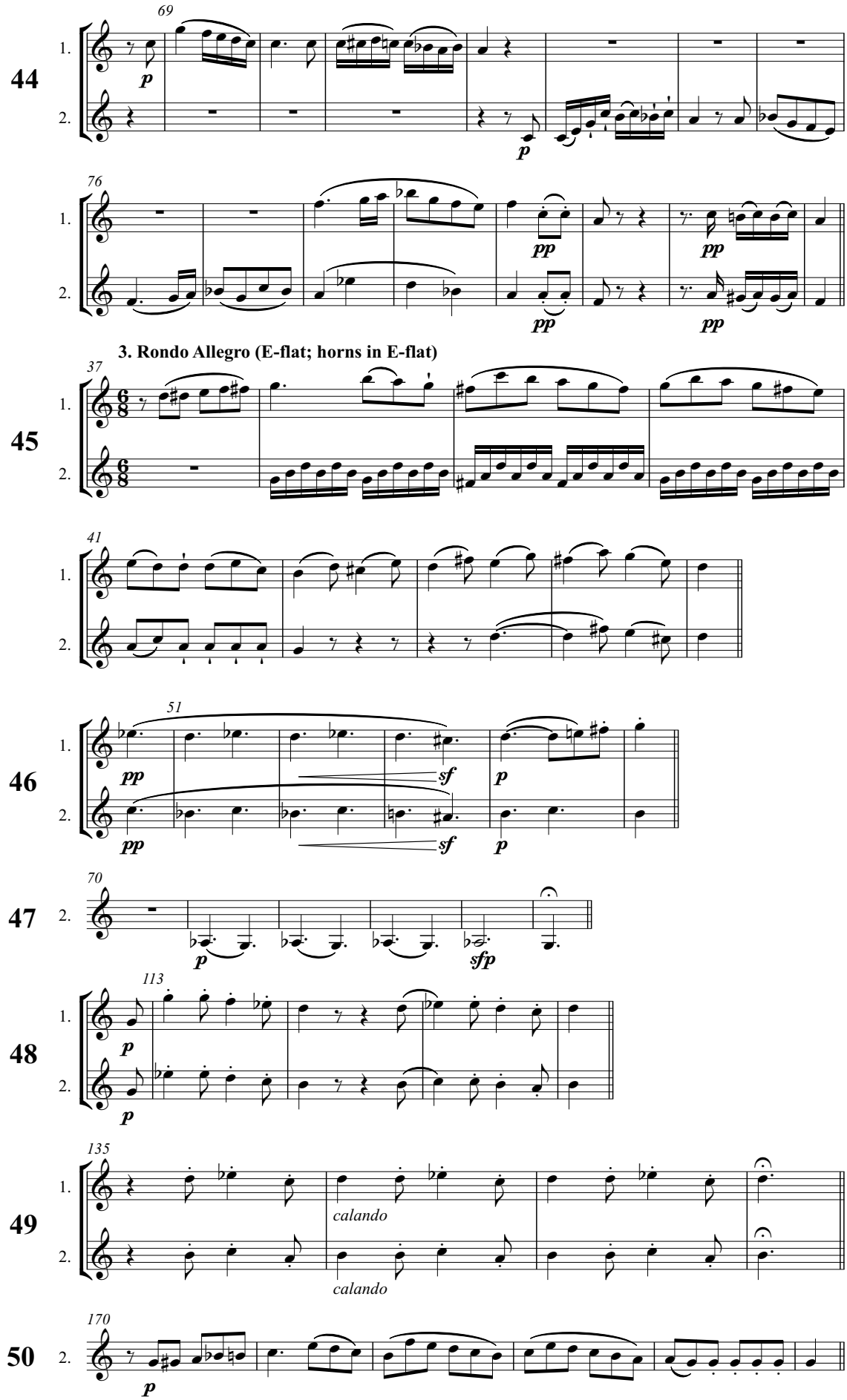


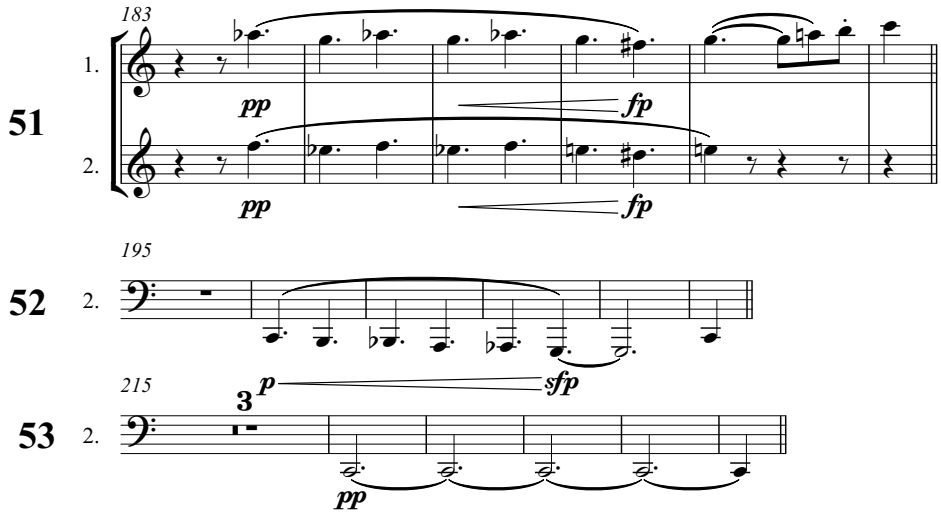
Beethoven Sextet op. 81b in E-flat (for 2 horns and strings)



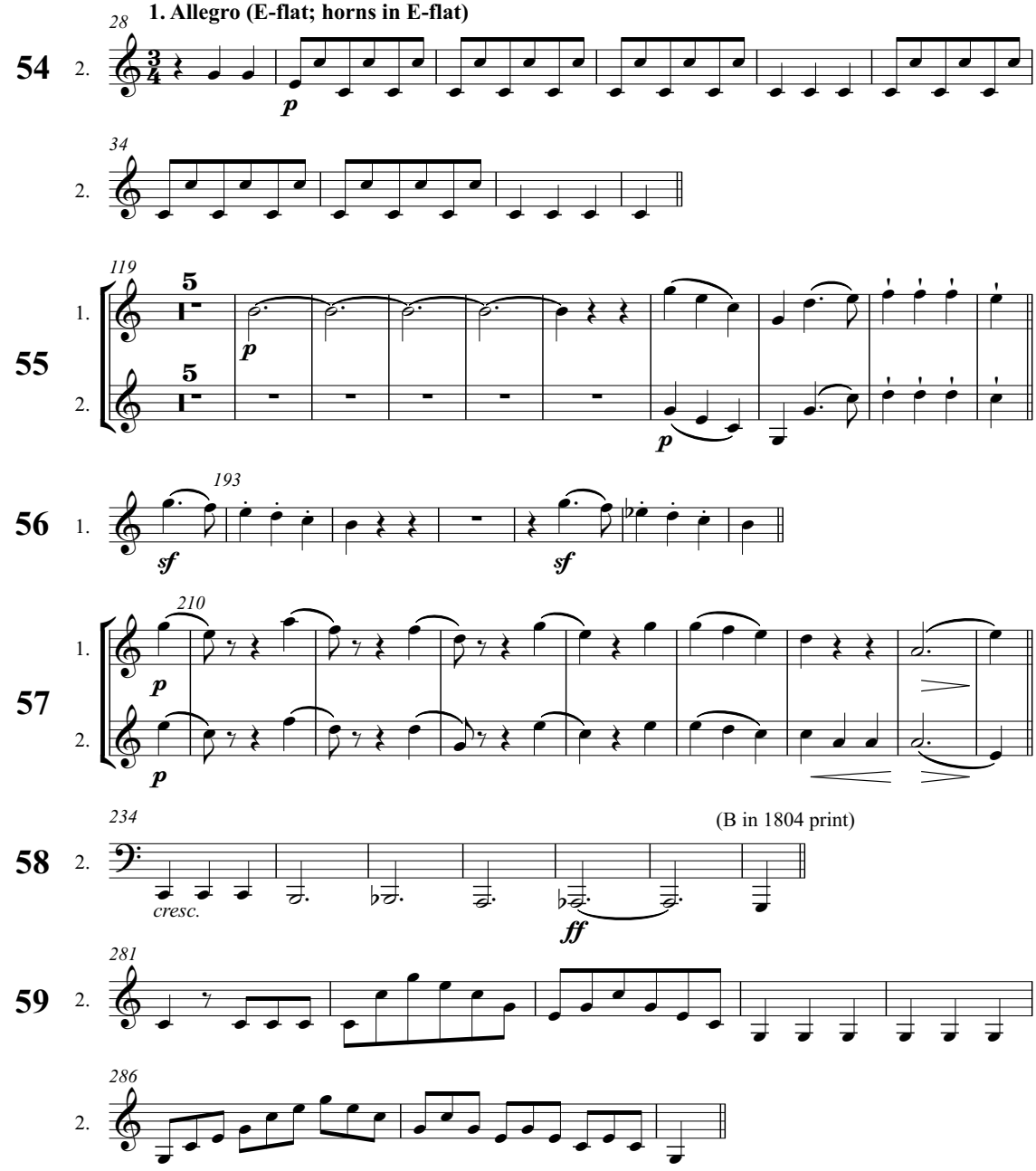

34
35
36
37
38
67
73
78
83
92
96
119
130
135
1.
2.
p
sf
sfp
cresc.


39
156
1.
sf
40
164
1.
p
2.
p
2. Adagio (A-flat; horns in E-flat)
41
1
1.
2/4
p
2.
2/4
p
8
1.
p
2.
p
42
21
1.
p
sf
2.
p
sf
p
30
1.
p
2.
38
1.
2.
43
44
1.
3
p


44
69
1.
2.
p
p
76
pp
pp
pp
pp
3. Rondo Allegro (E-flat; horns in E-flat)
45
37
41
46
51
pp
sf
p
pp
sf
p
47
70
p
sfp
48
113
p
p
49
135
calando
calando
50
170
p

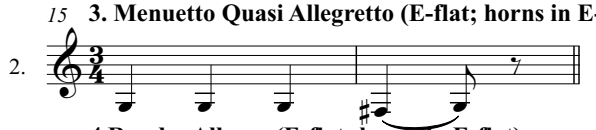


Beethoven Sextet op. 71 in E-flat (for winds)



15 **3. Menuetto Quasi Allegretto (E-flat; horns in E-flat)**

60



79 **4.Rondo: Allegro (E-flat; horns in E-flat)**

61

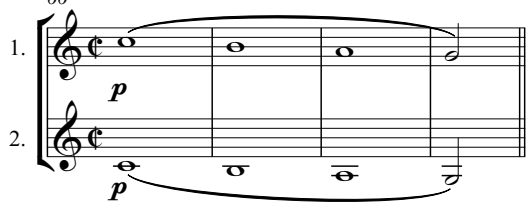
88

Krommer Harmonie op. 45 no. 1 in B-flat

1. Allegro vivace (B-flat; horns in F)

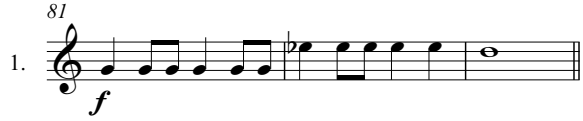
66

62



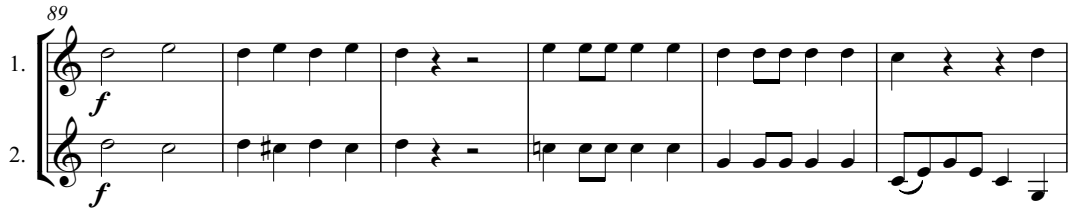
81

63

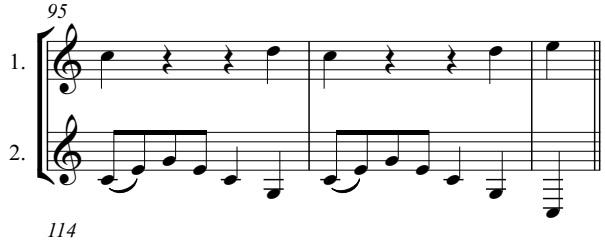


89

64

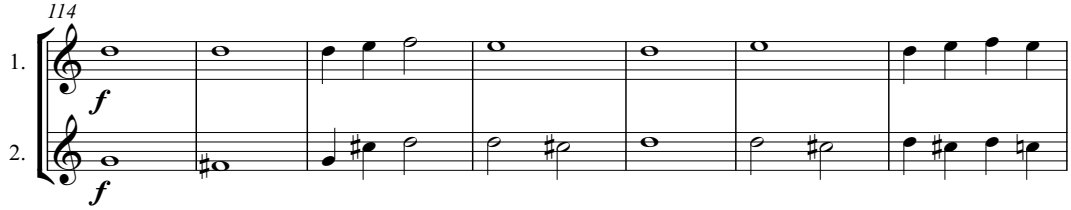


95

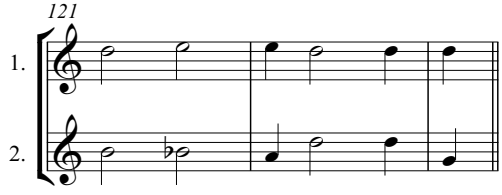


114

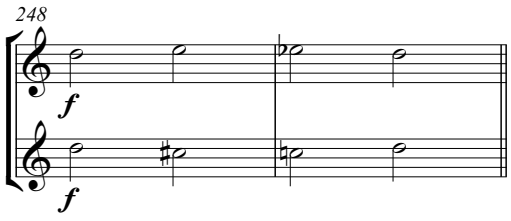
65



121

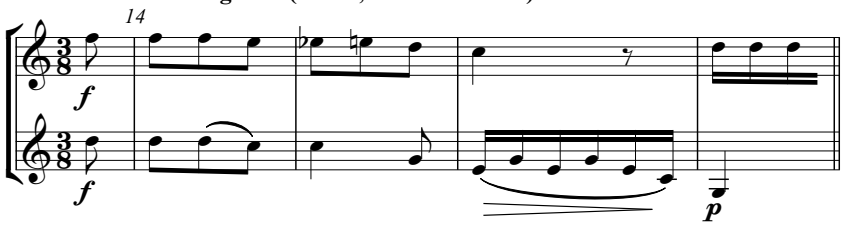


66

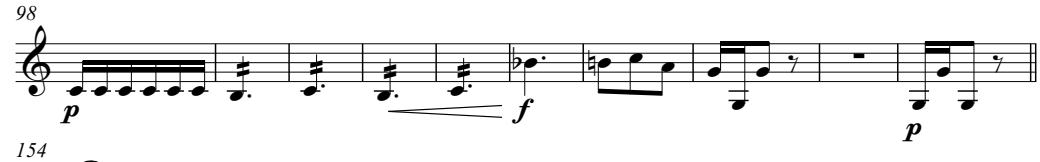


2. Andante Allegretto (E-flat; horns in E-flat)

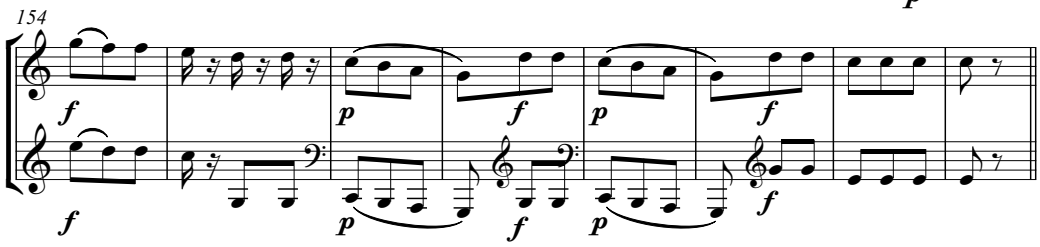
67



68

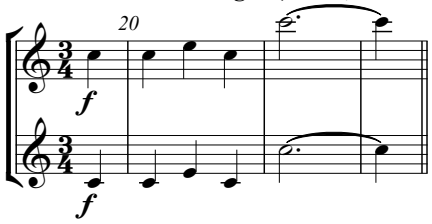


69



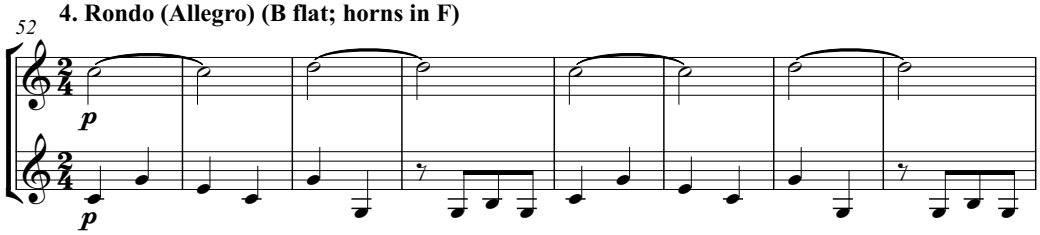
3. Menuetto Allegro (B-flat; horns in F)

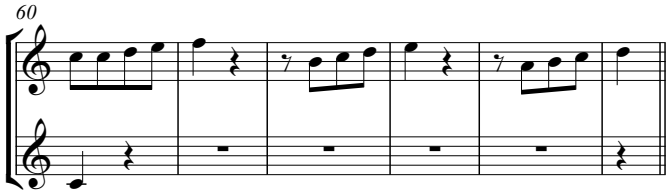
70



4. Rondo (Allegro) (B flat; horns in F)

71

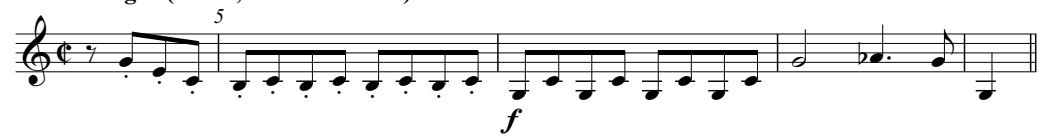


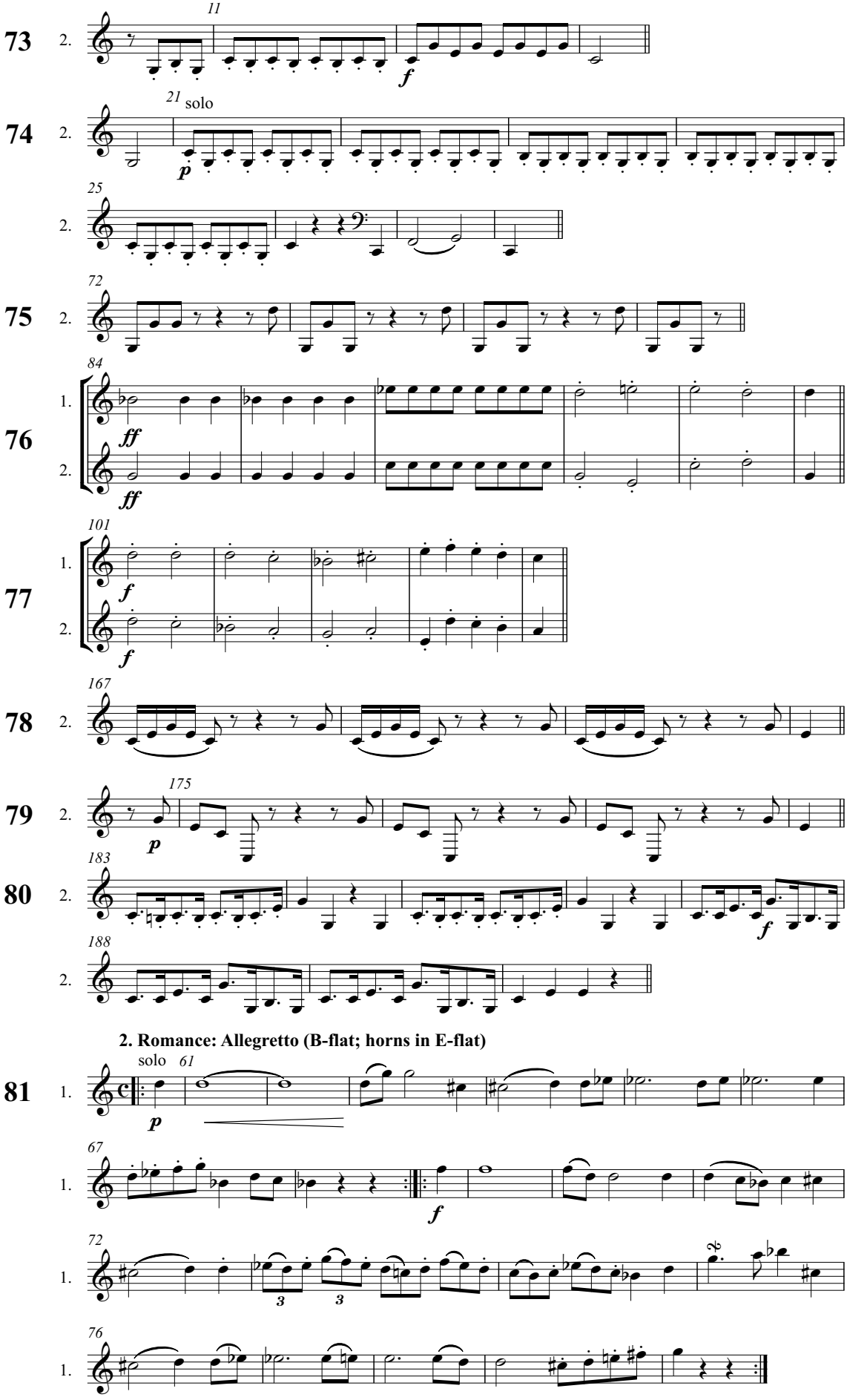


Krommer op. 45 no. 2 in E-flat

1. Allegro (E-flat; horns in E-flat)

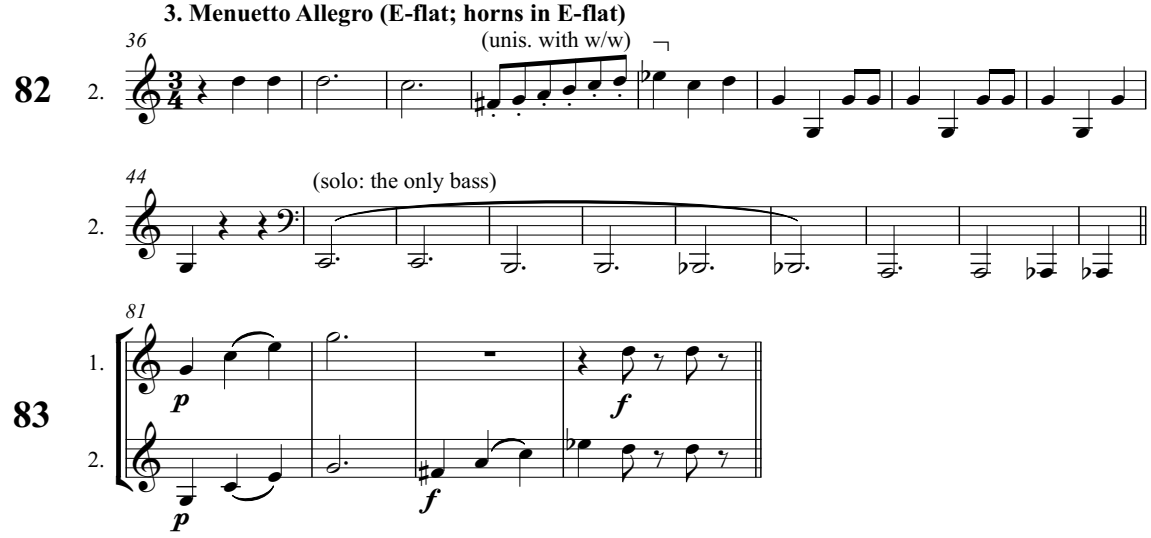
72



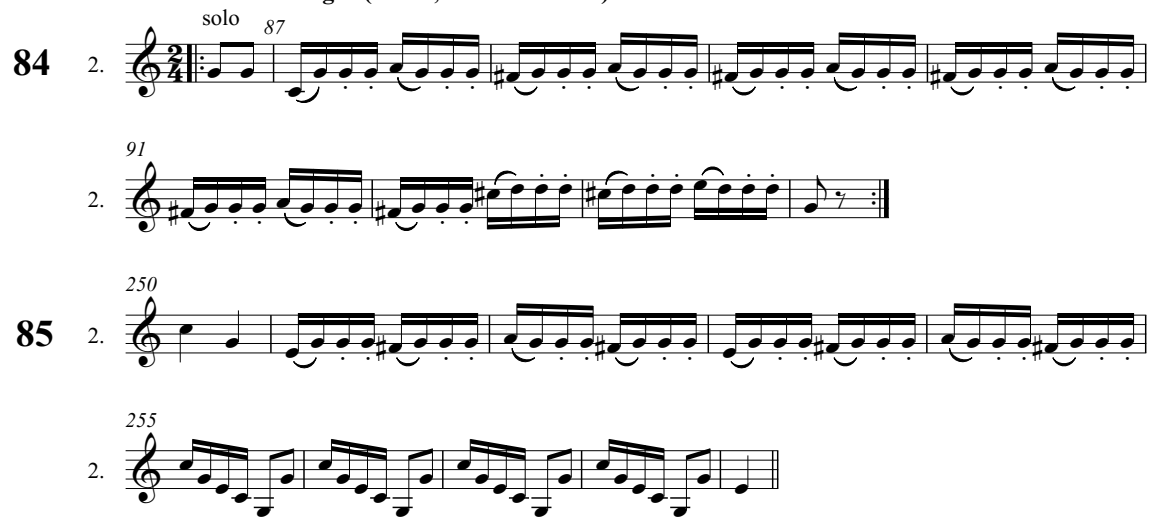


2. Romance: Allegretto (B-flat; horns in E-flat)

3. Menuetto Allegro (E-flat; horns in E-flat)

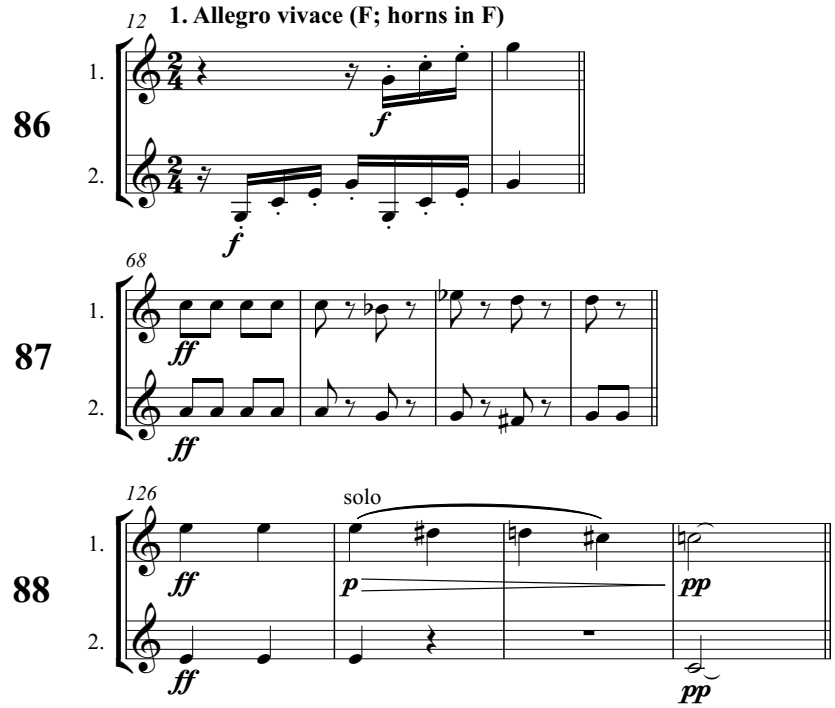


4. Rondo Allegro (E-flat; horns in E-flat)



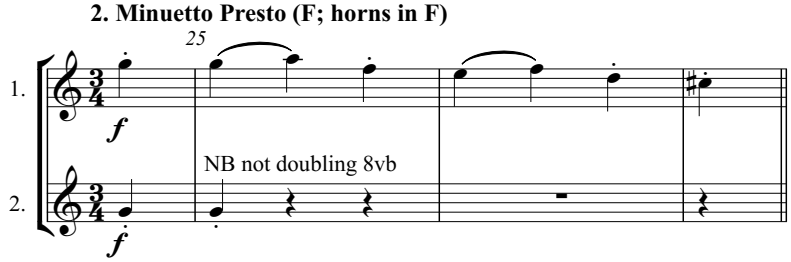
Krommer Harmonie op. 57 in F

1. Allegro vivace (F; horns in F)



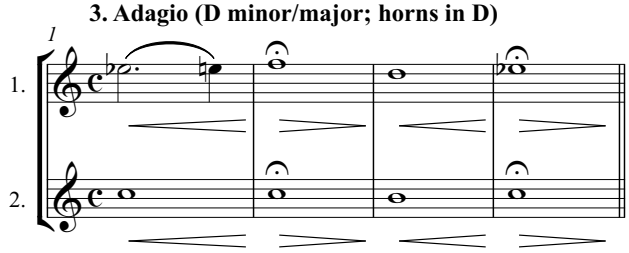
2. Minuetto Presto (F; horns in F)

89



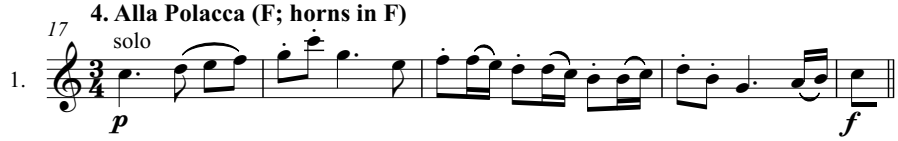
3. Adagio (D minor/major; horns in D)

90

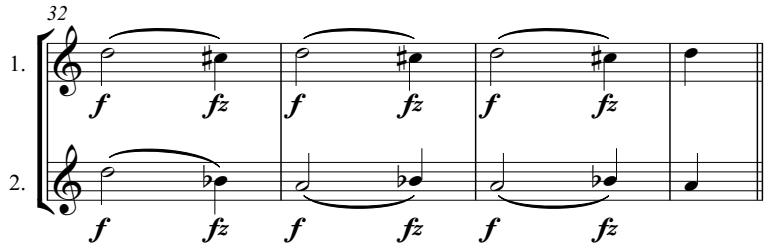


4. Alla Polacca (F; horns in F)

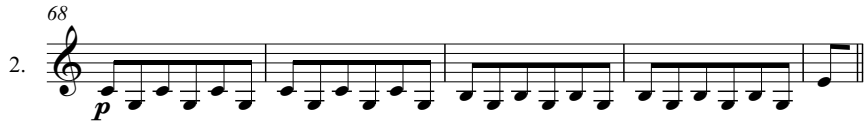
91



92



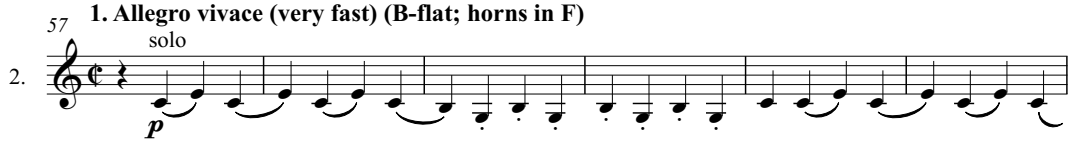
93

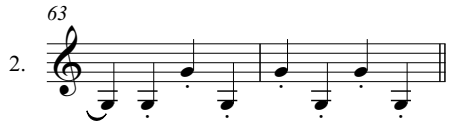


Krommer Harmonie op. 67 in B-flat

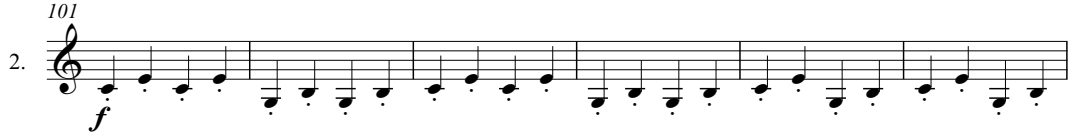
1. Allegro vivace (very fast) (B-flat; horns in F)

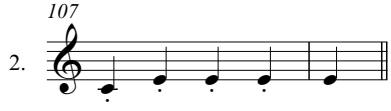
94



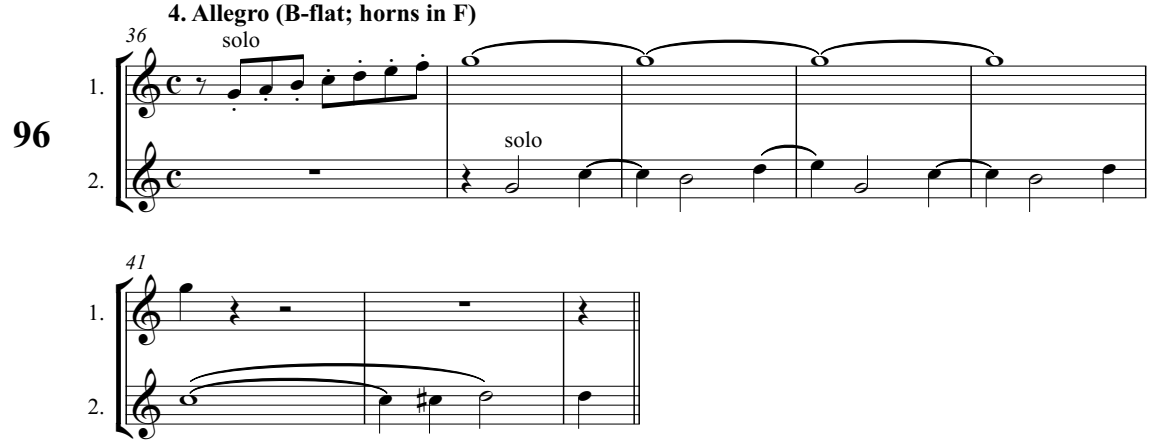


95



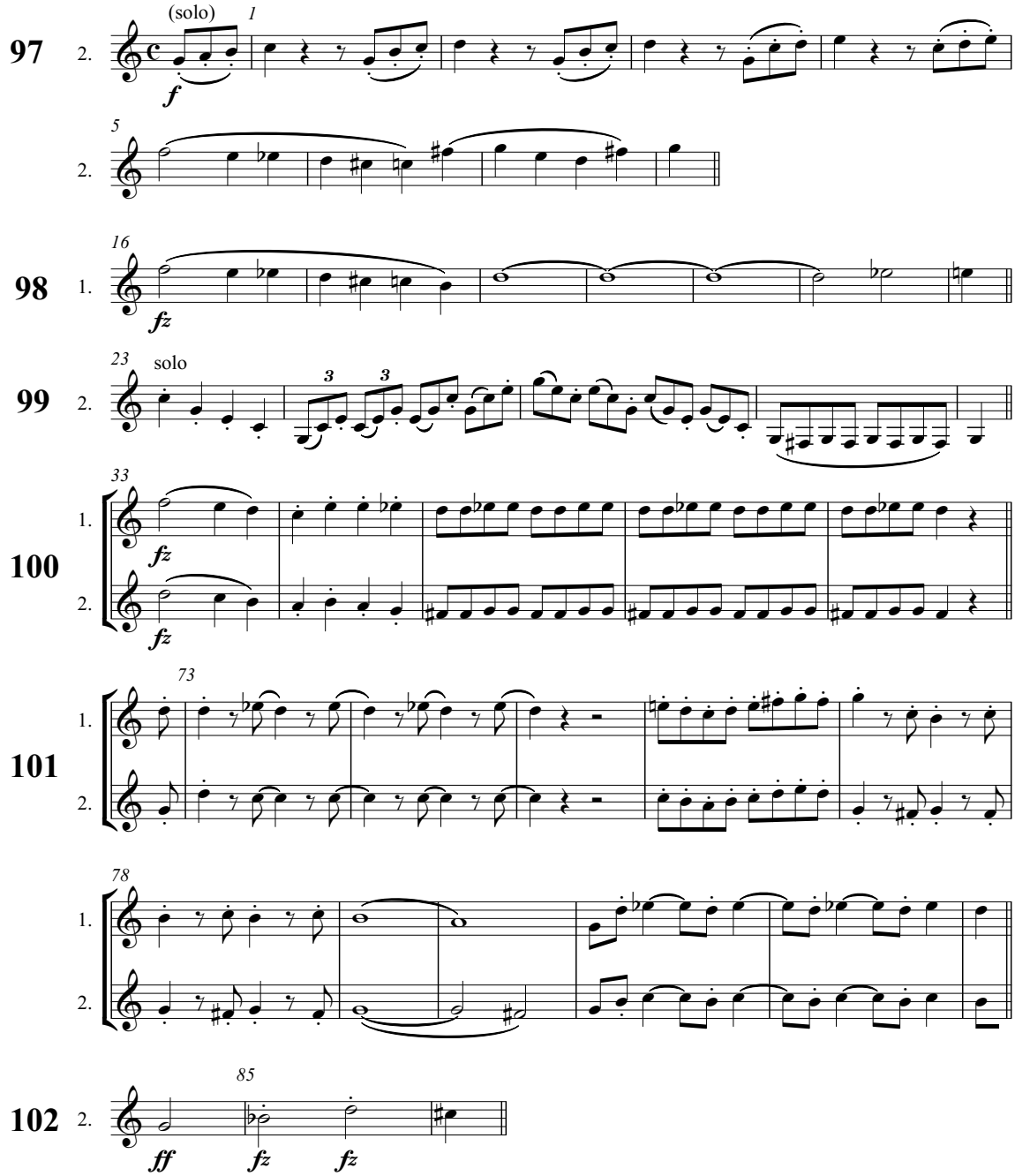


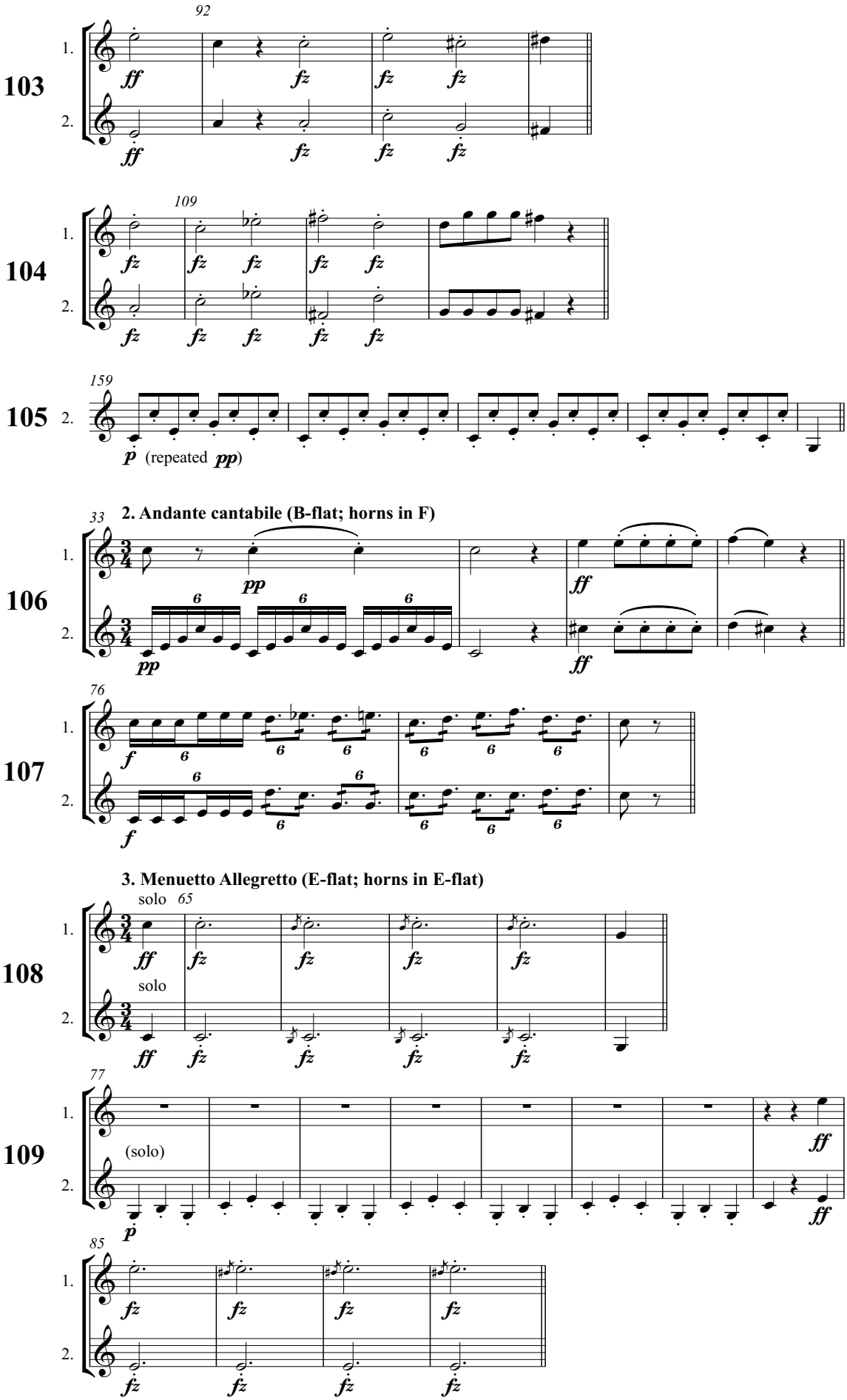
4. Allegro (B-flat; horns in F)



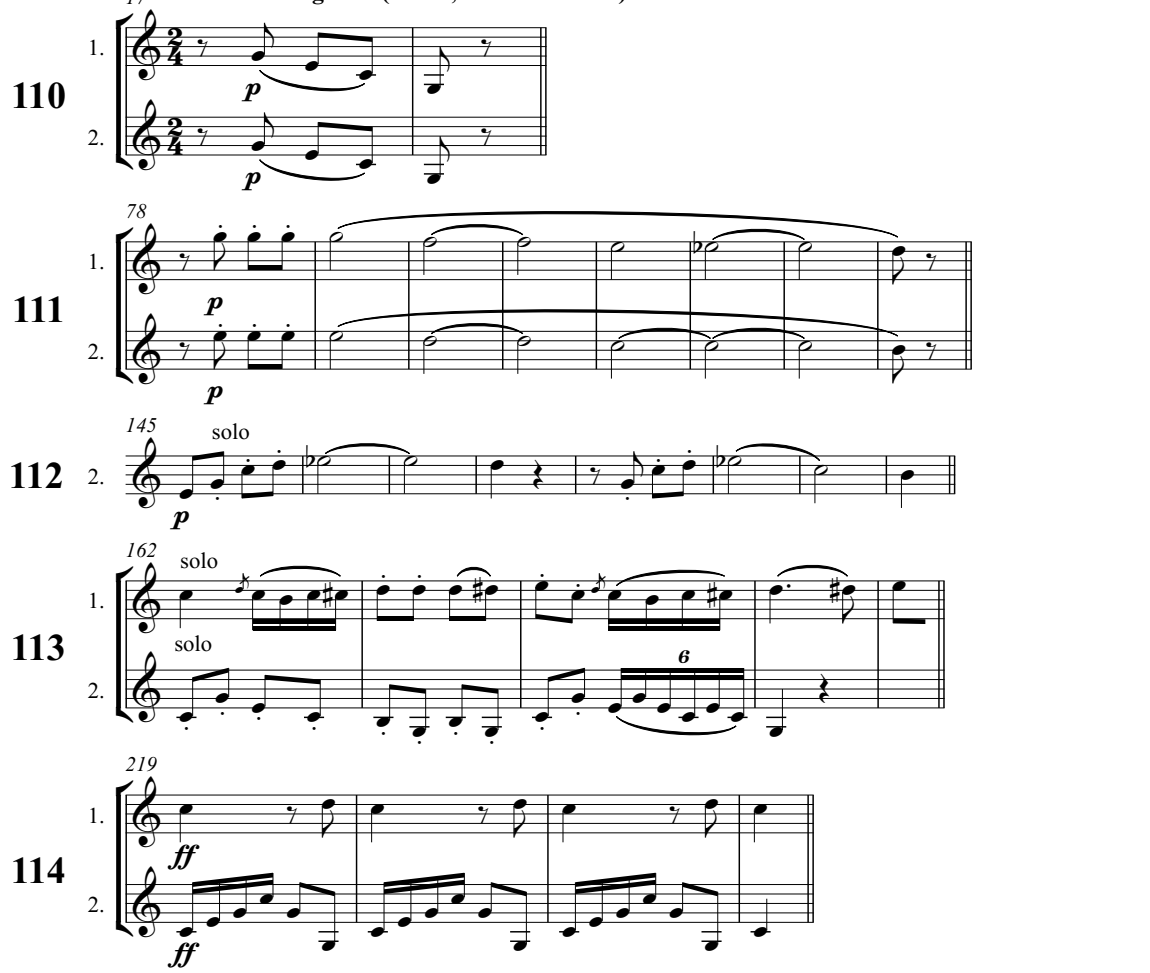
Krommer Harmonie op. 69 in E-flat

1. Allegro (E-flat; horns in E-flat)



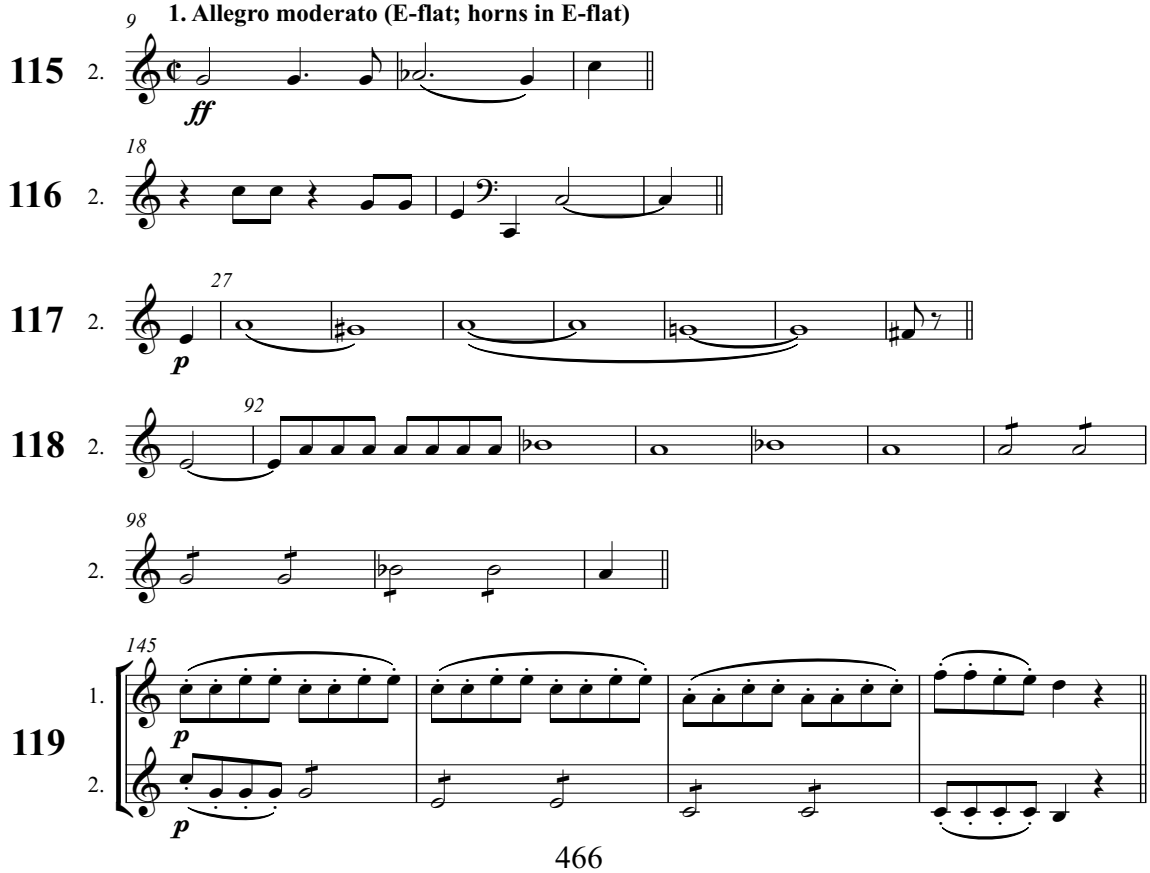

103
92
1.
2.
ff
fz
104
109
105
159
p (repeated pp)
2. Andante cantabile (B-flat; horns in F)
106
33
pp
ff
107
76
f
3. Menuetto Allegretto (E-flat; horns in E-flat)
108
solo 65
solo
109
77
(solo)
85

4. Rondo Allegretto (E-flat; horns in E-flat)

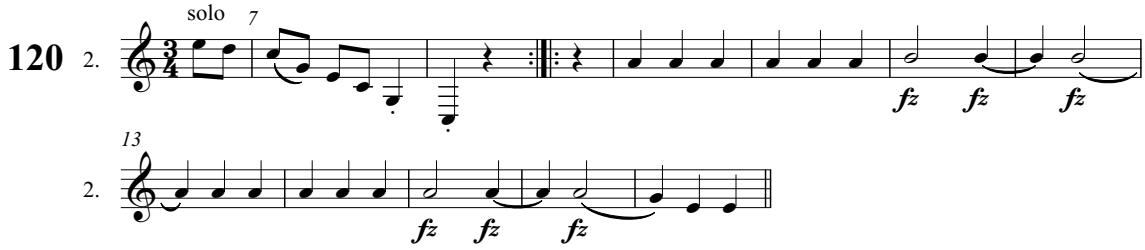


Krommer Harmonie op. 71 in E-flat

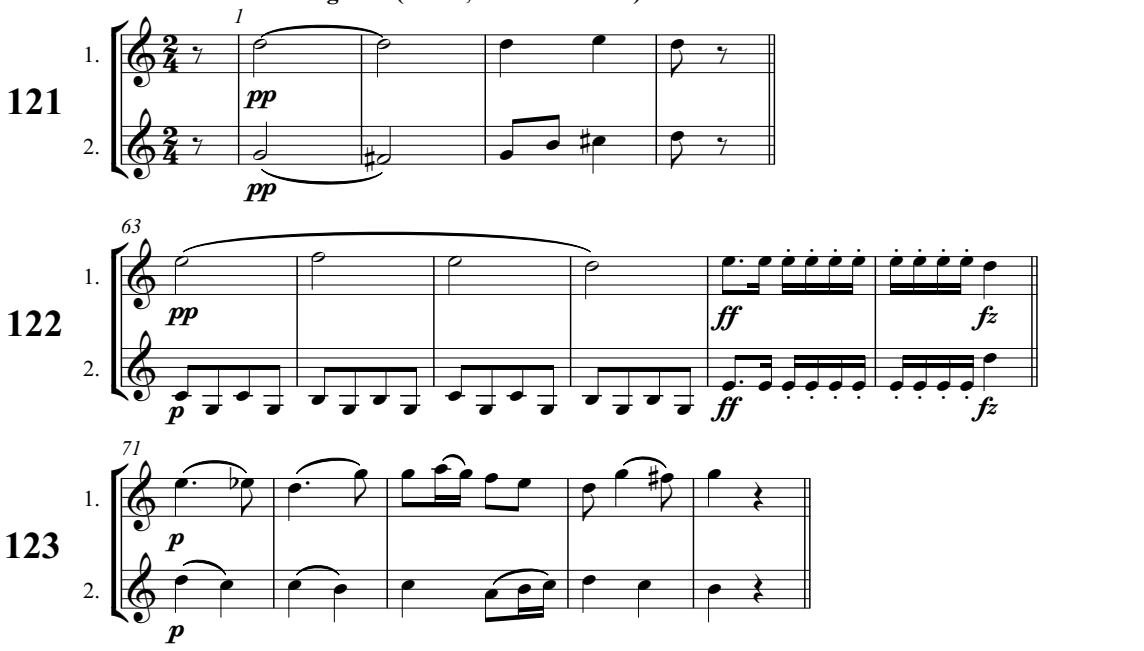
1. Allegro moderato (E-flat; horns in E-flat)



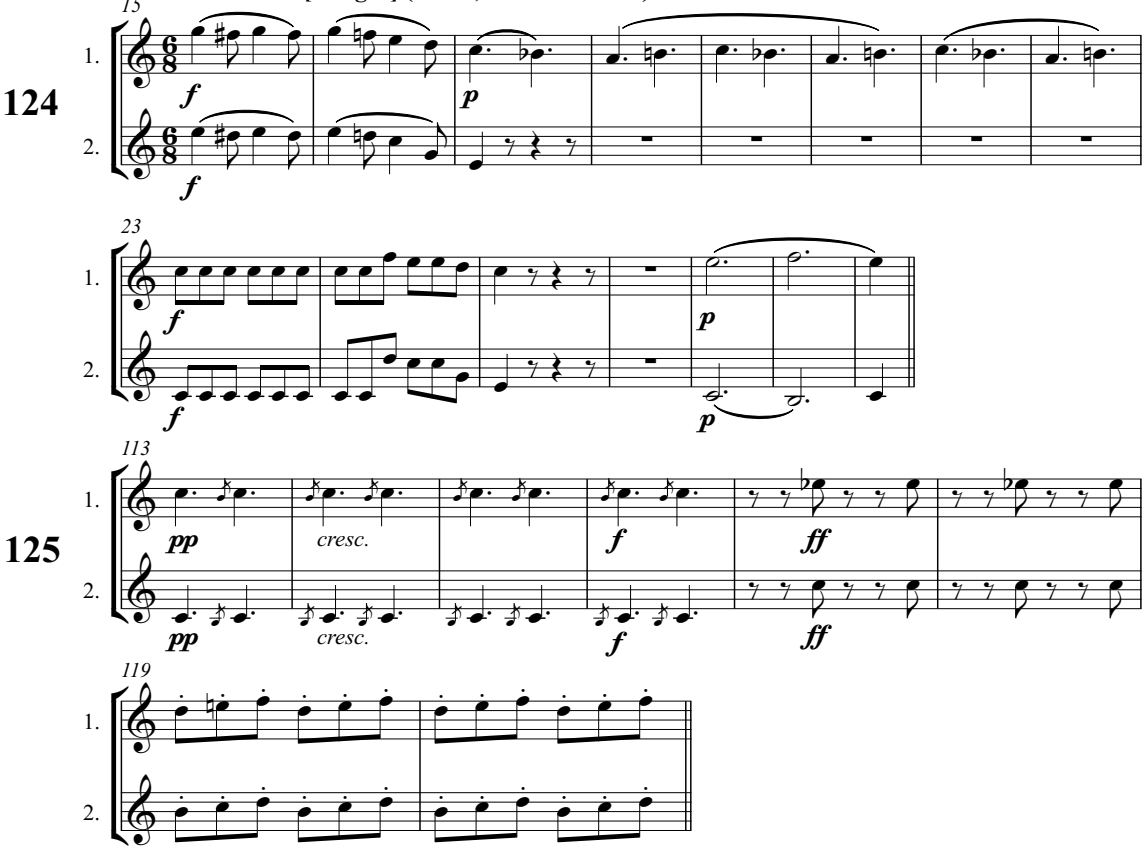
2. Menuetto Allegretto (E-flat; horns in E-flat)

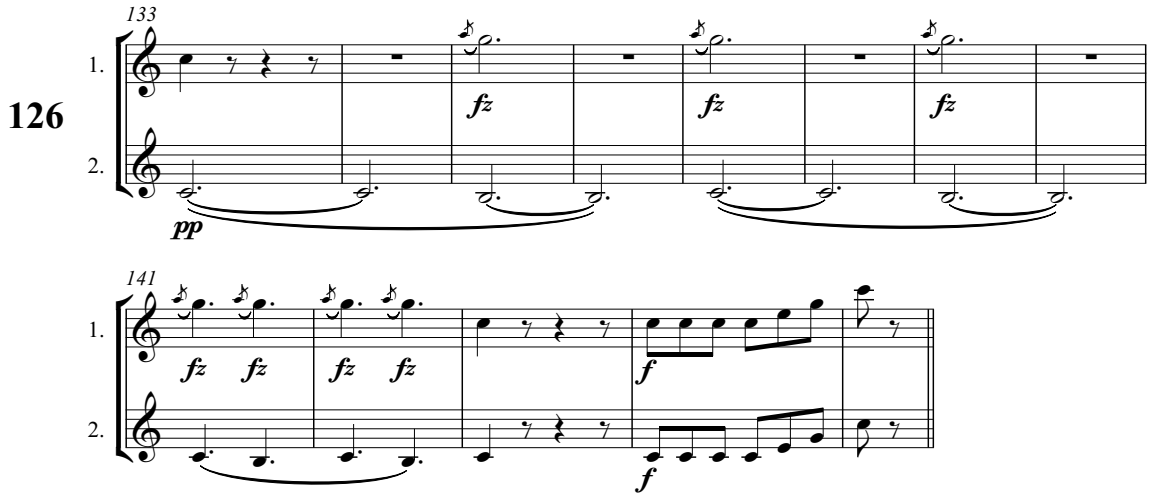


3. Andante Allegretto (B-flat; horns in E-flat)

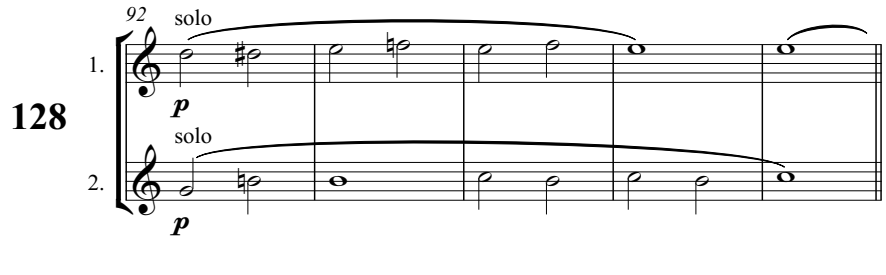


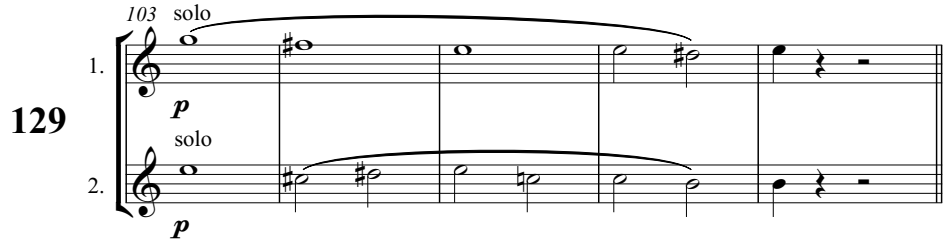
4. La Chasse [Allegro] (E-flat; horns in E-flat)

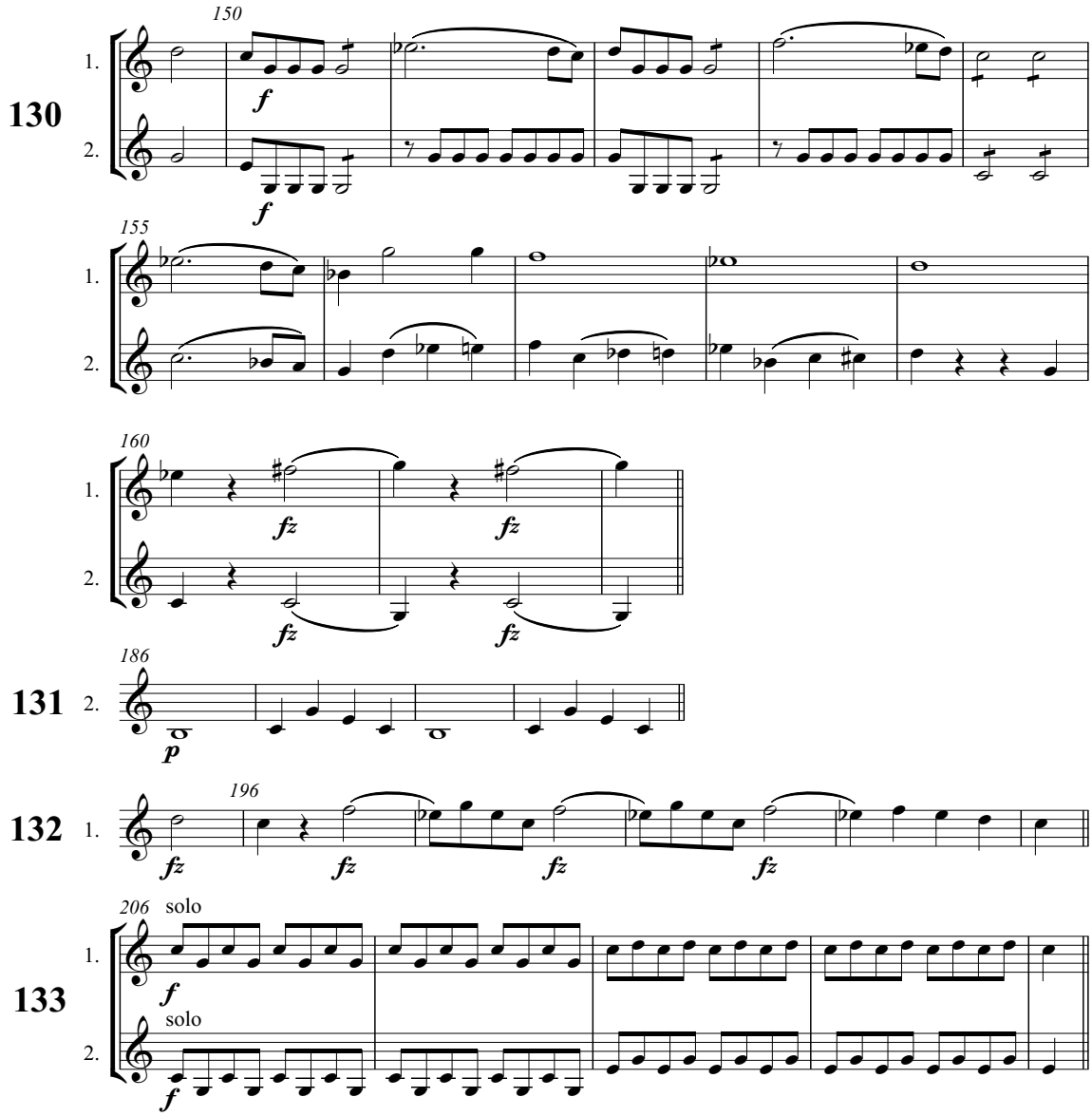




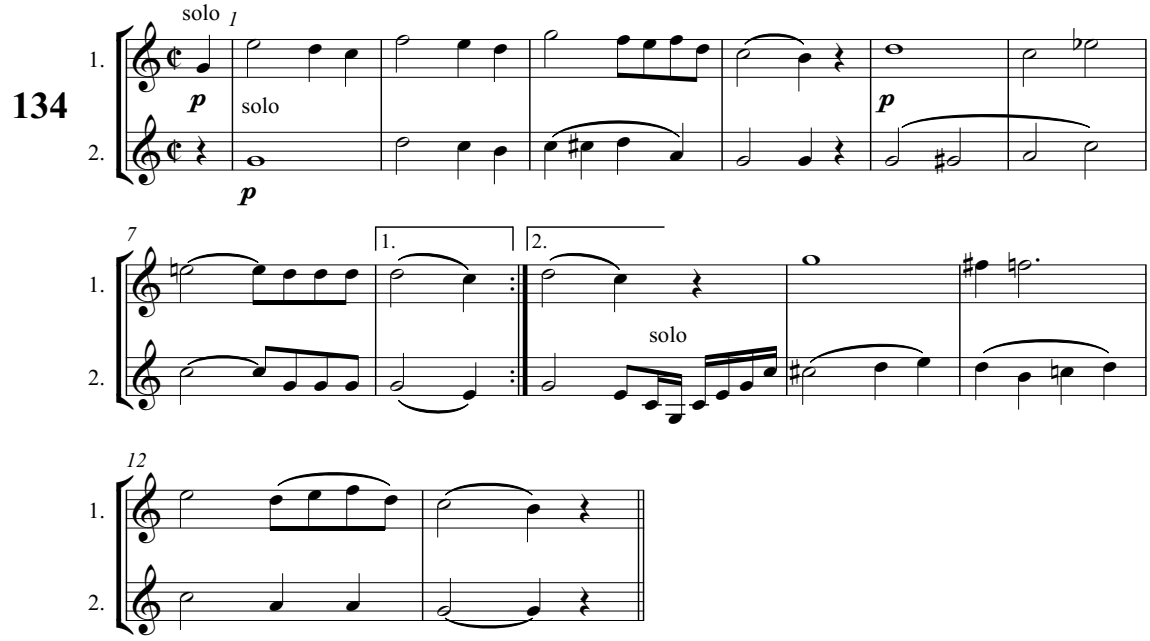
Krommer Harmonie op. 76 in C





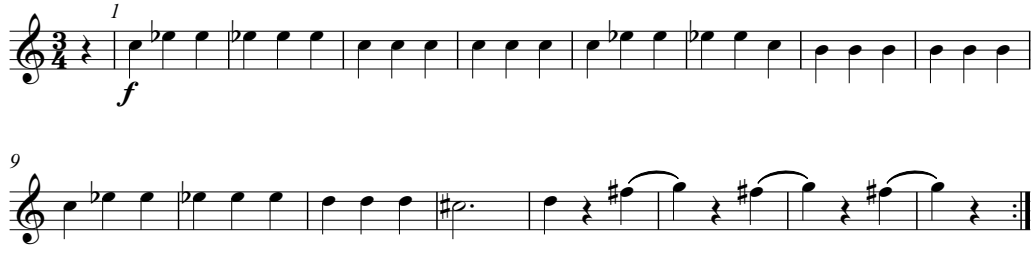


2. Adagio (F; horns in F)



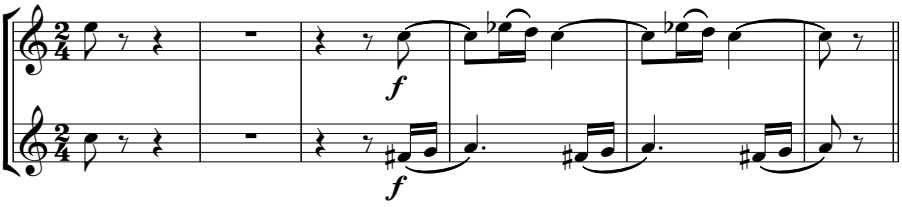
3. Menuetto Allegro (C minor; horns in C)

135



4. Rondo Allegro (C; horns in C)

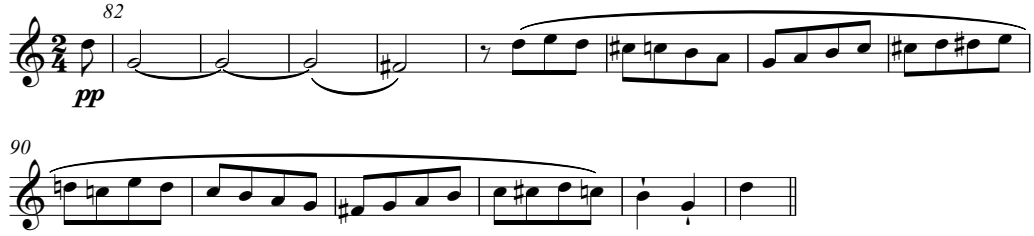
136



Krommer Harmonie op. 77 in F

4. Allegro (F; horns in F)

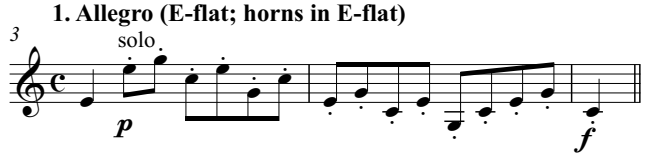
137



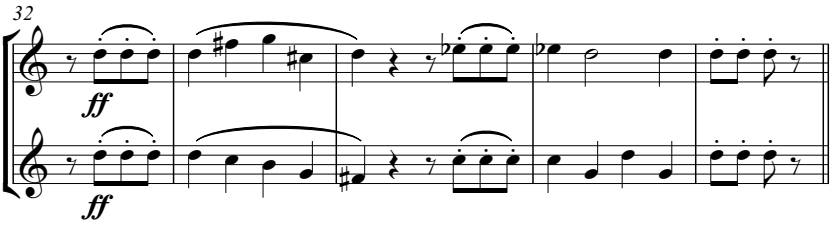
Krommer Harmonie op. 79 in E-flat

1. Allegro (E-flat; horns in E-flat)

138

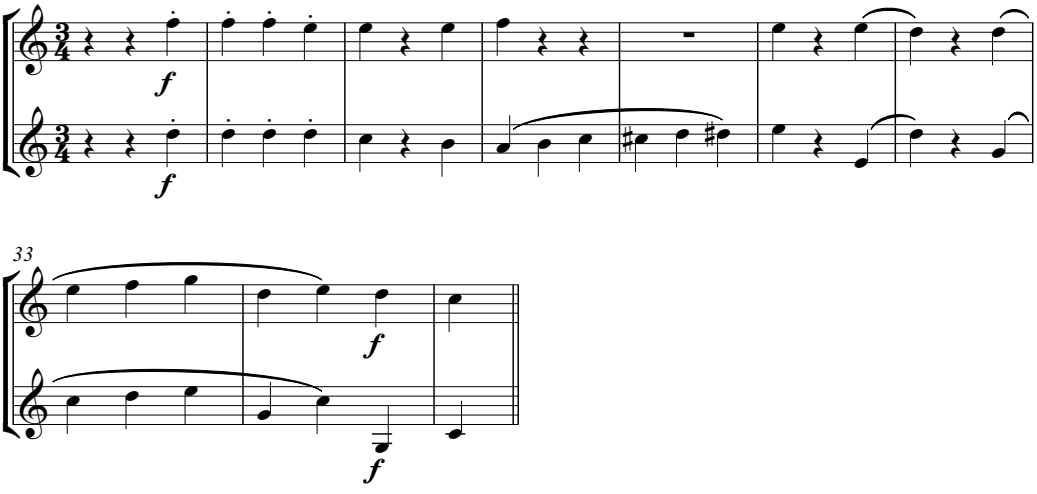


139

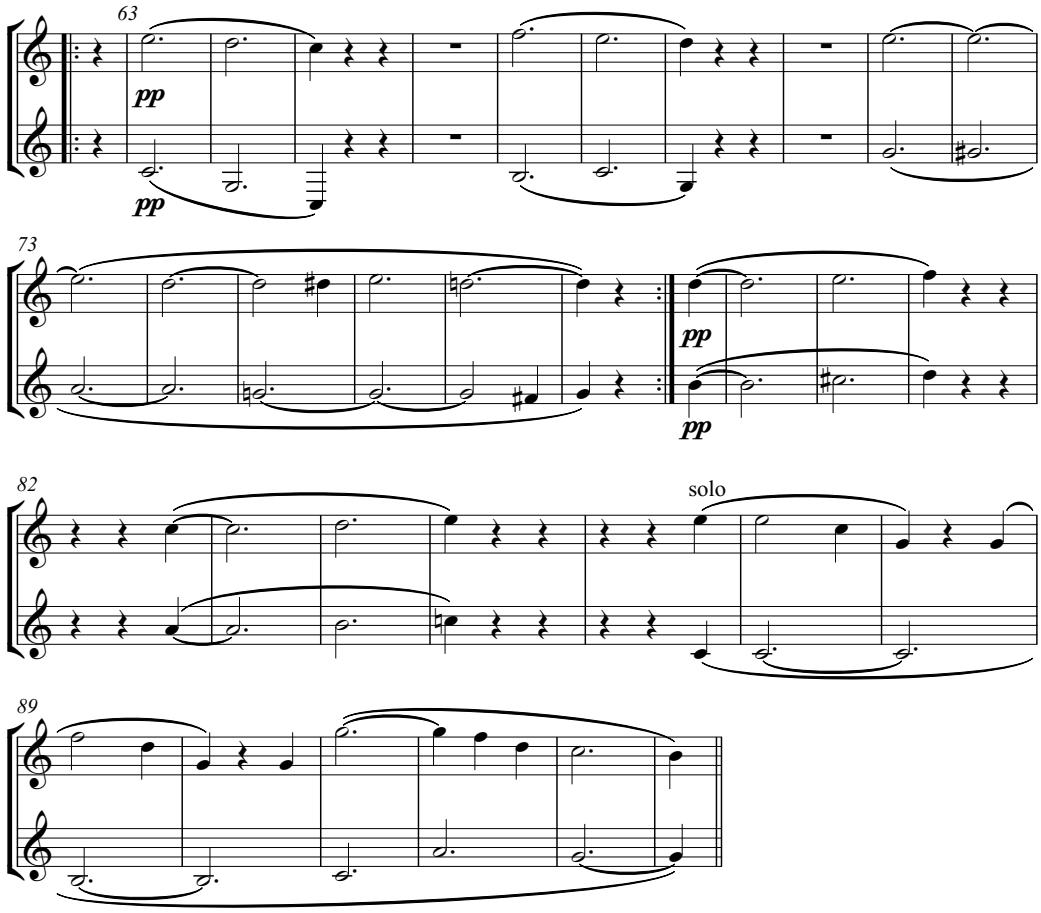


2. Menuetto Allegretto (E-flat; horns in E-flat)

140



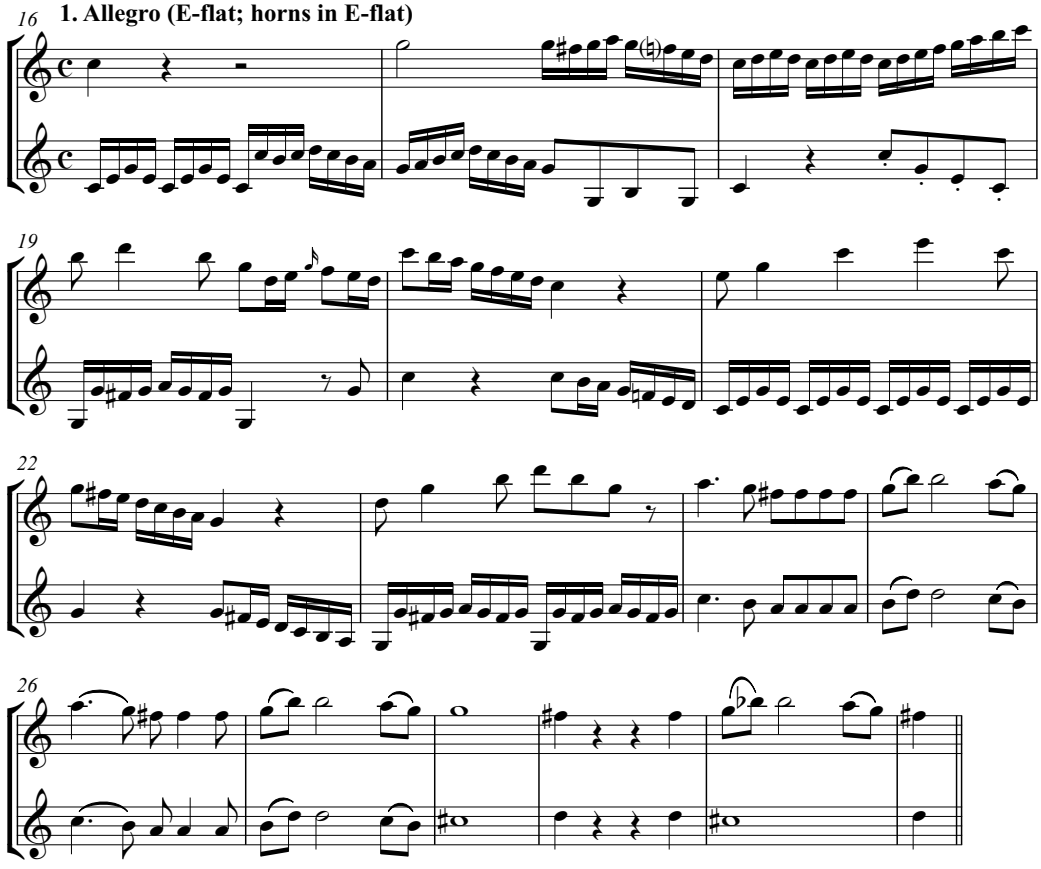
141

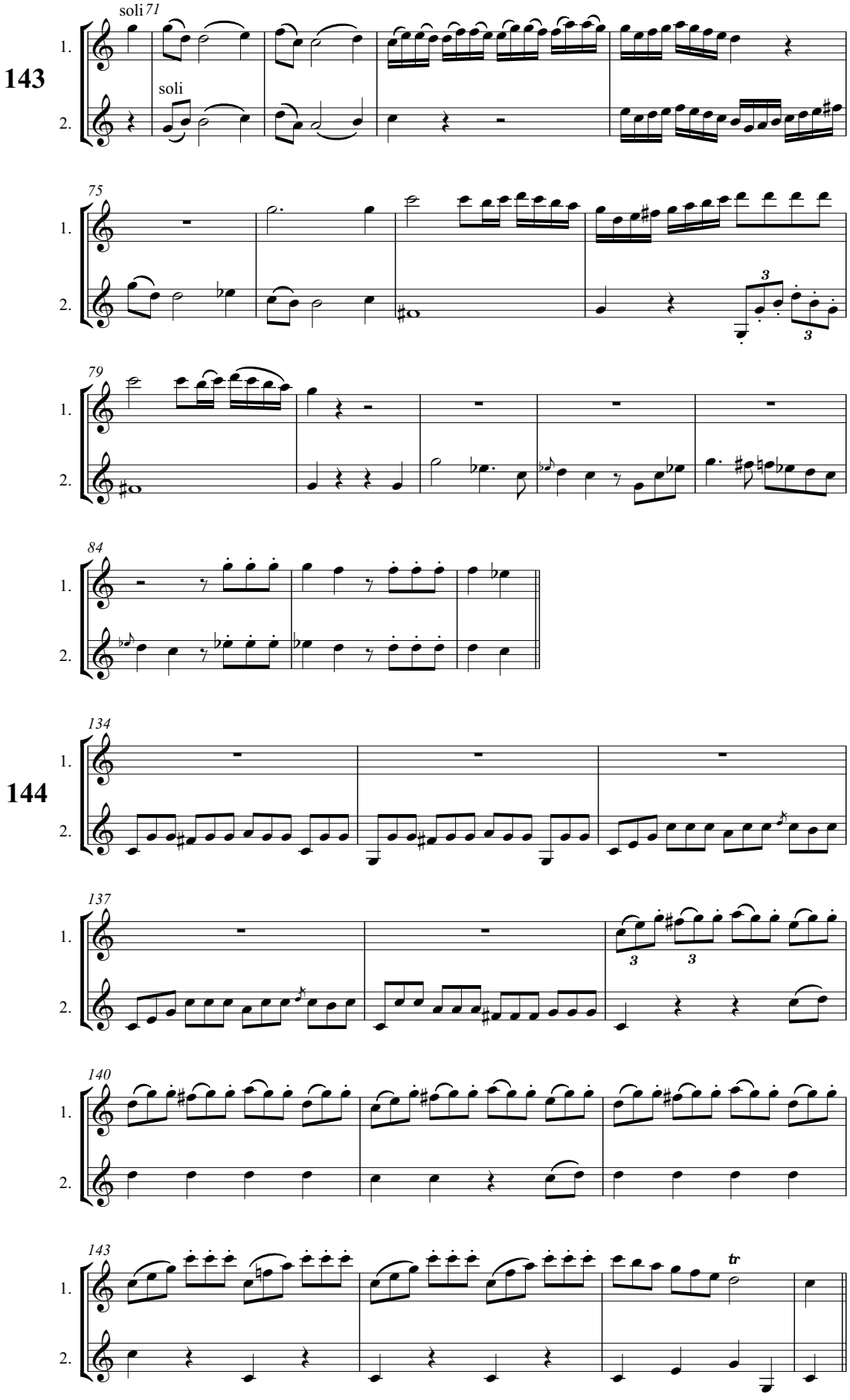


Krommer Parthia in E-flat FVK19.2; KHoO5; (for six(?) winds)

142

1. Allegro (E-flat; horns in E-flat)

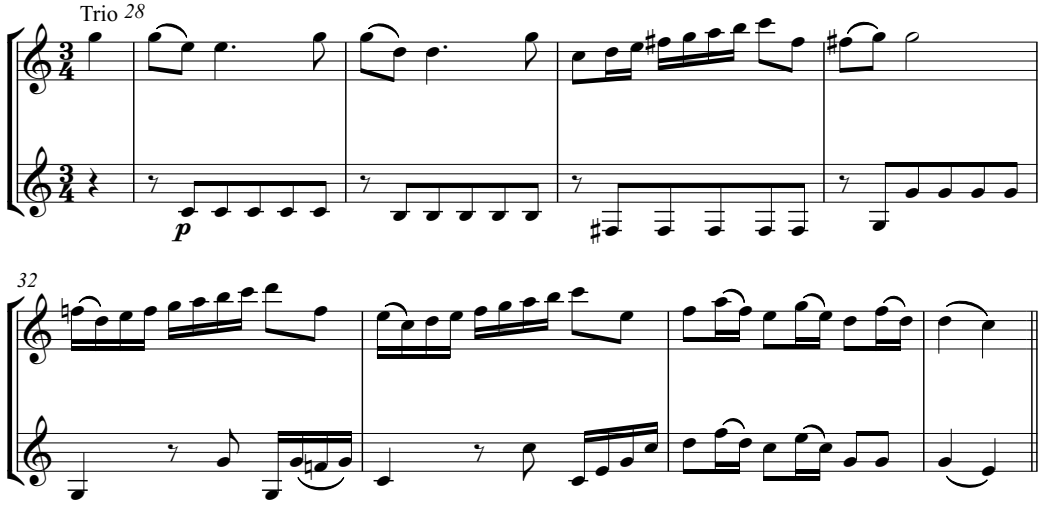



143
soli 71
soli
1.
2.
75
79
84
144
134
137
140
143
tr

3. Menuetto (E-flat; horns in E-flat)

Trio *28*

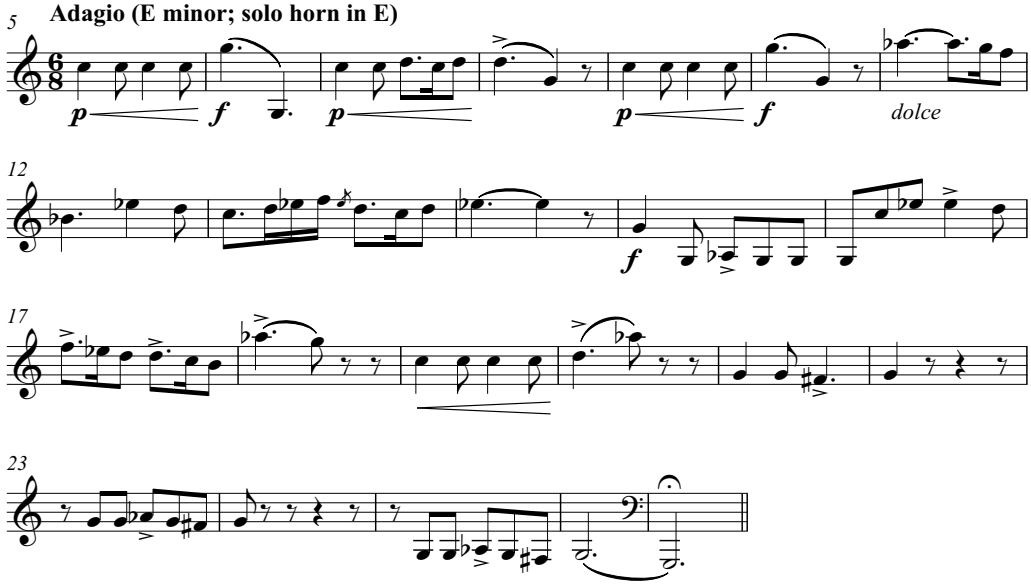
145



Weber Concertino for Horn op. 45

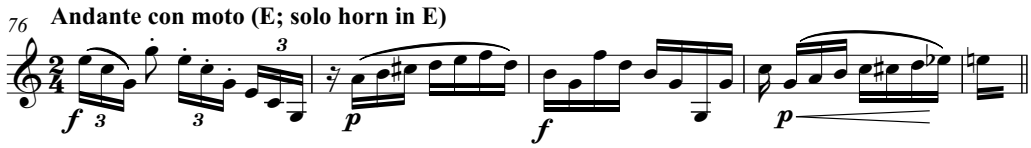
Adagio (E minor; solo horn in E)

146

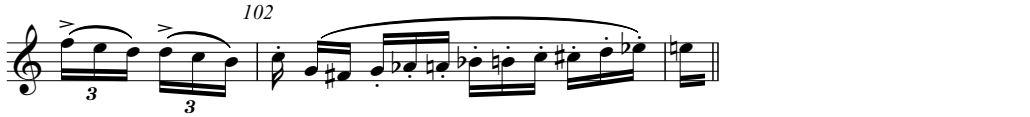


Andante con moto (E; solo horn in E)

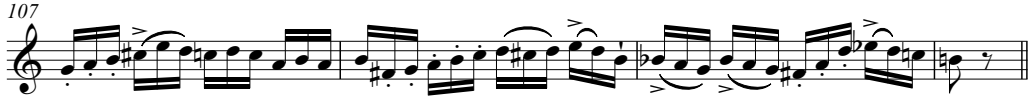
147



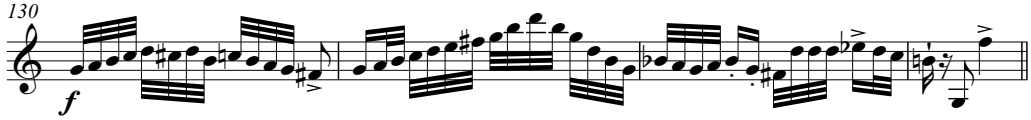
148



149



150



Recit., Adagio (E minor; solo horn in E)

151

149 *cadenza*

152

155

152

158 *dolce*

162

166 a piacere

Polacca (E; solo horn in E)

153

226

230

154

235

240

155

250

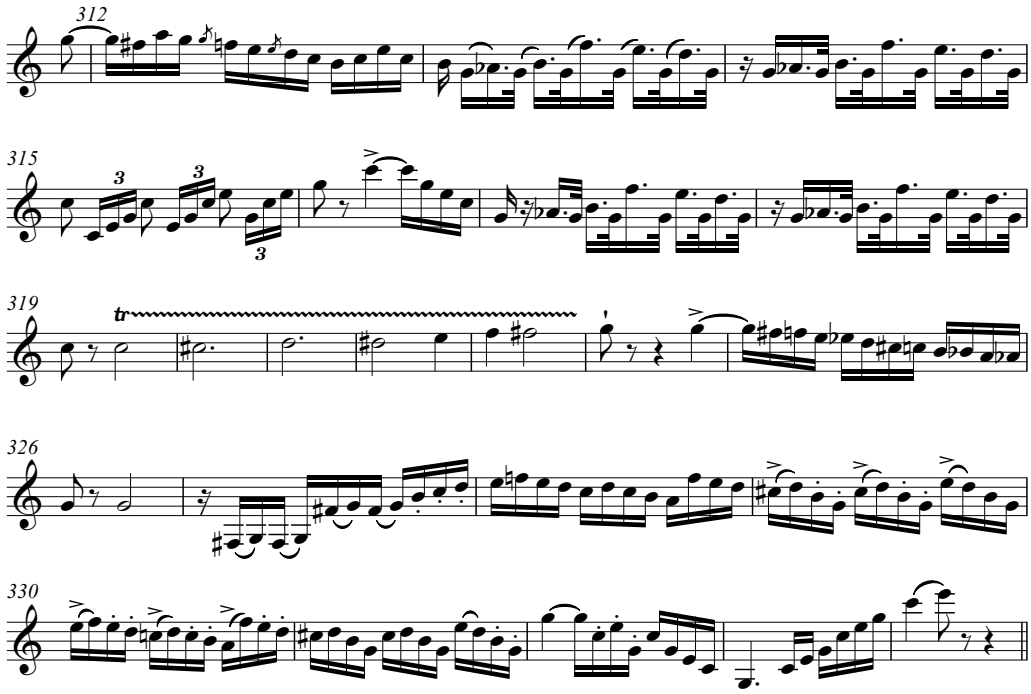
156

295

299

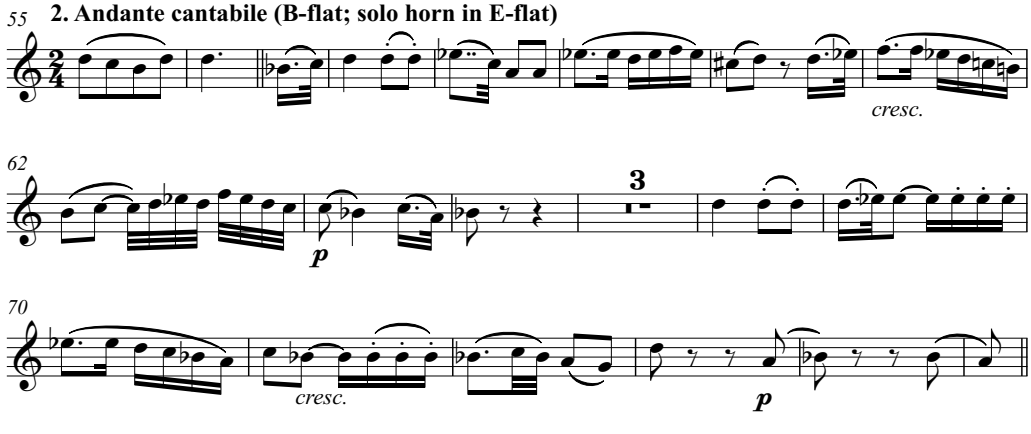
305

157

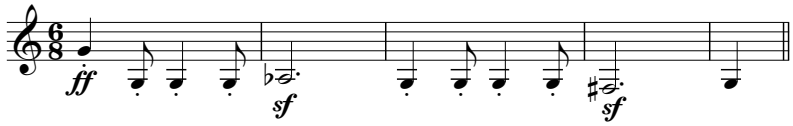


Beethoven Quintet for Piano and Winds in E-flat op. 16

158 55 **2. Andante cantabile (B-flat; solo horn in E-flat)**

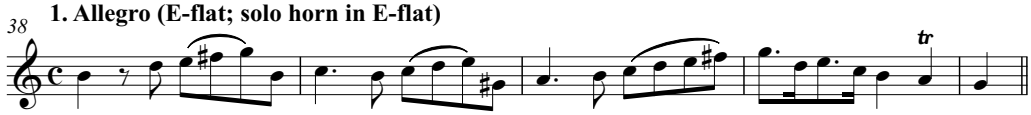


159 122 **3. Rondo: Allegro, ma non troppo (E-flat; solo horn in E-flat)**

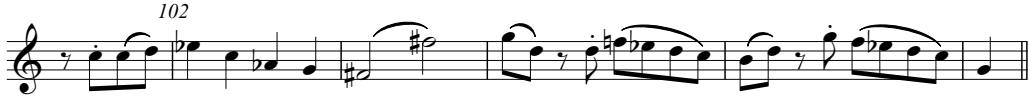


Mozart Quintet for Horn and Strings in E-flat K407

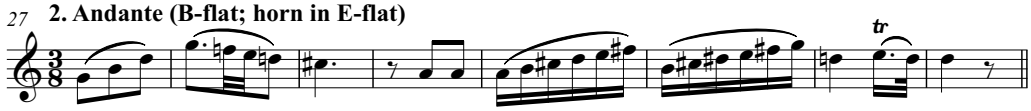
160 38 **1. Allegro (E-flat; solo horn in E-flat)**



161

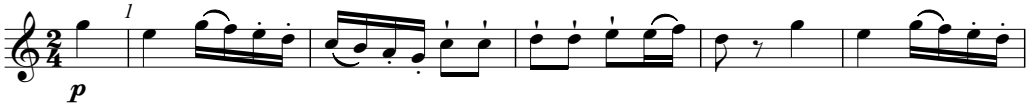


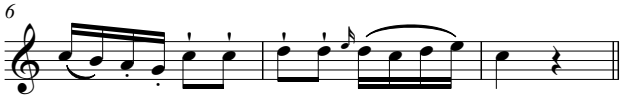
162 27 **2. Andante (B-flat; horn in E-flat)**



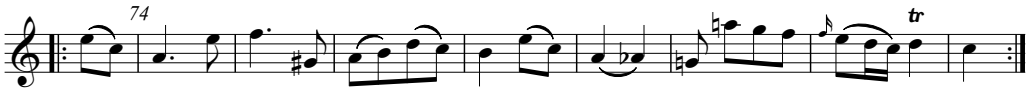
3. Rondo: Allegro (E-flat; solo horn in E-flat)

163





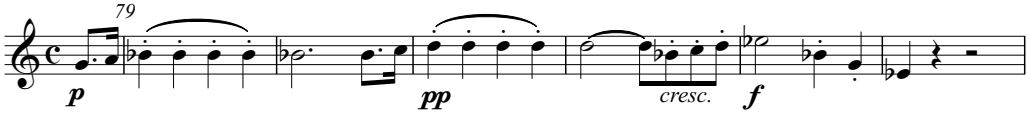
164

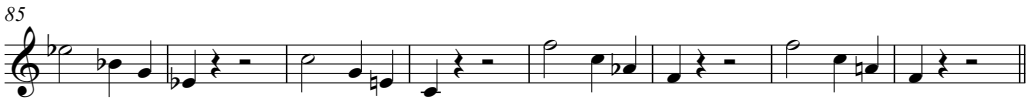


Beethoven Sonata for Piano and Horn in F op. 17

1. Allegro moderato (F; solo horn in F)

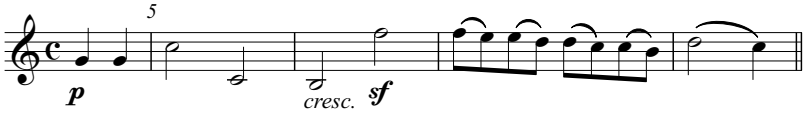
165





3. Allegro moderato (F; solo horn in F)

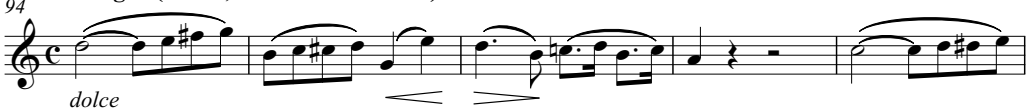
166

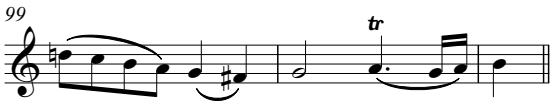


Crusell Concertante op. 3 for Clarinet, Horn, Bassoon & Orchestra

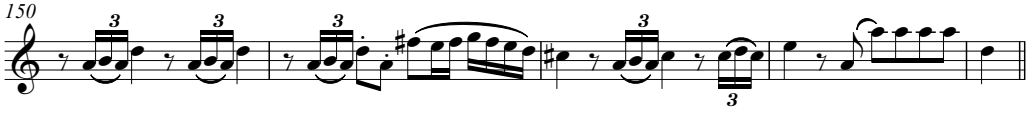
1. Allegro (B-flat; solo horn in E-flat)

167

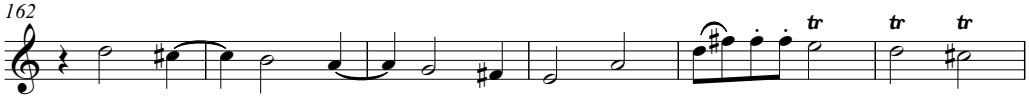


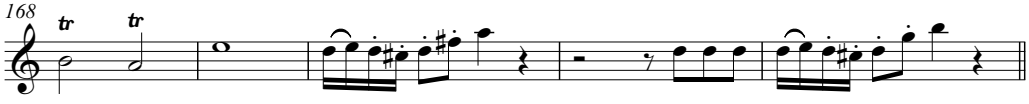


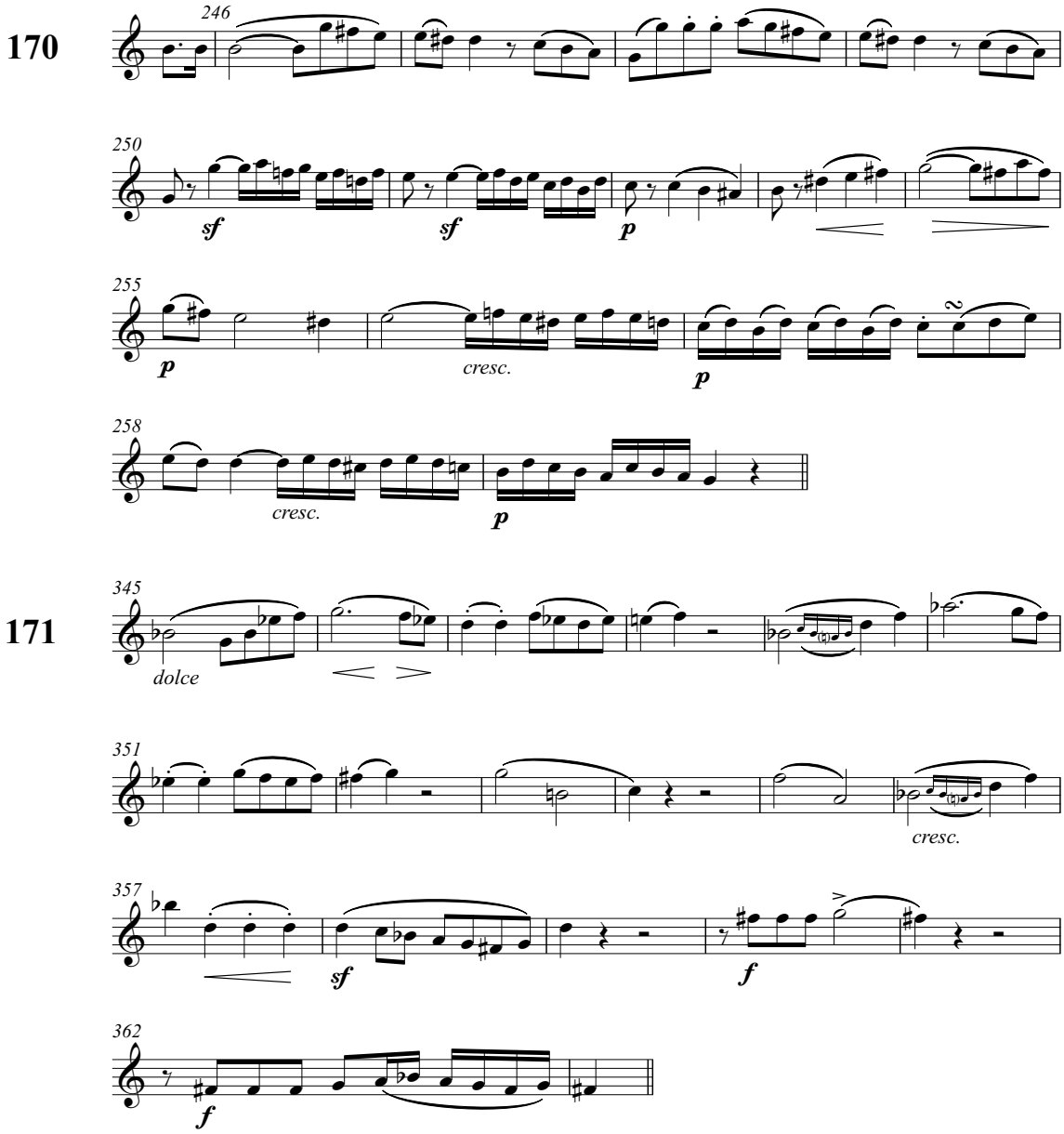
168



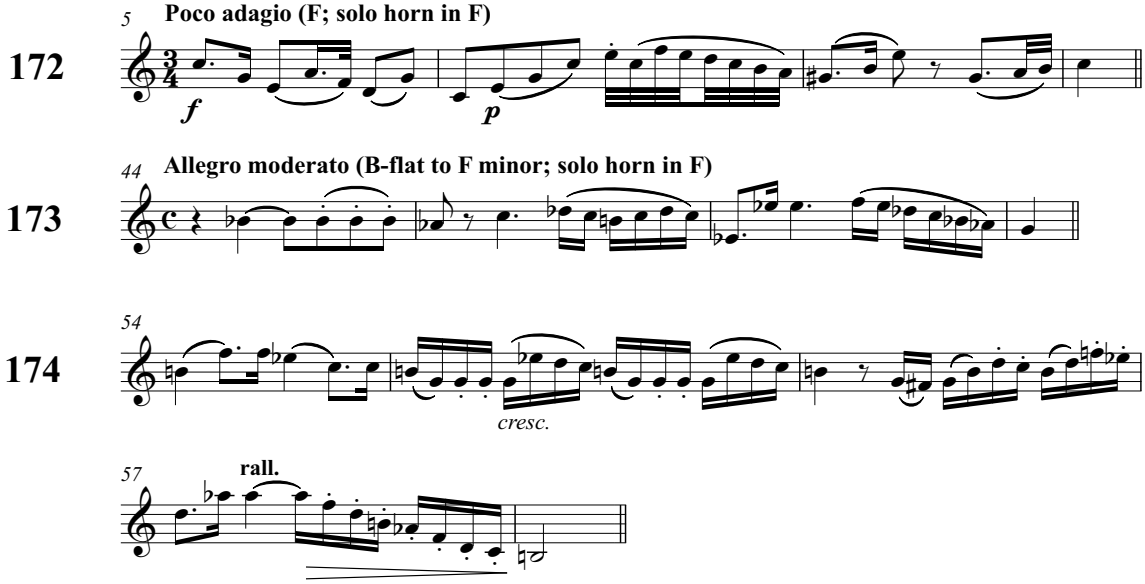
169





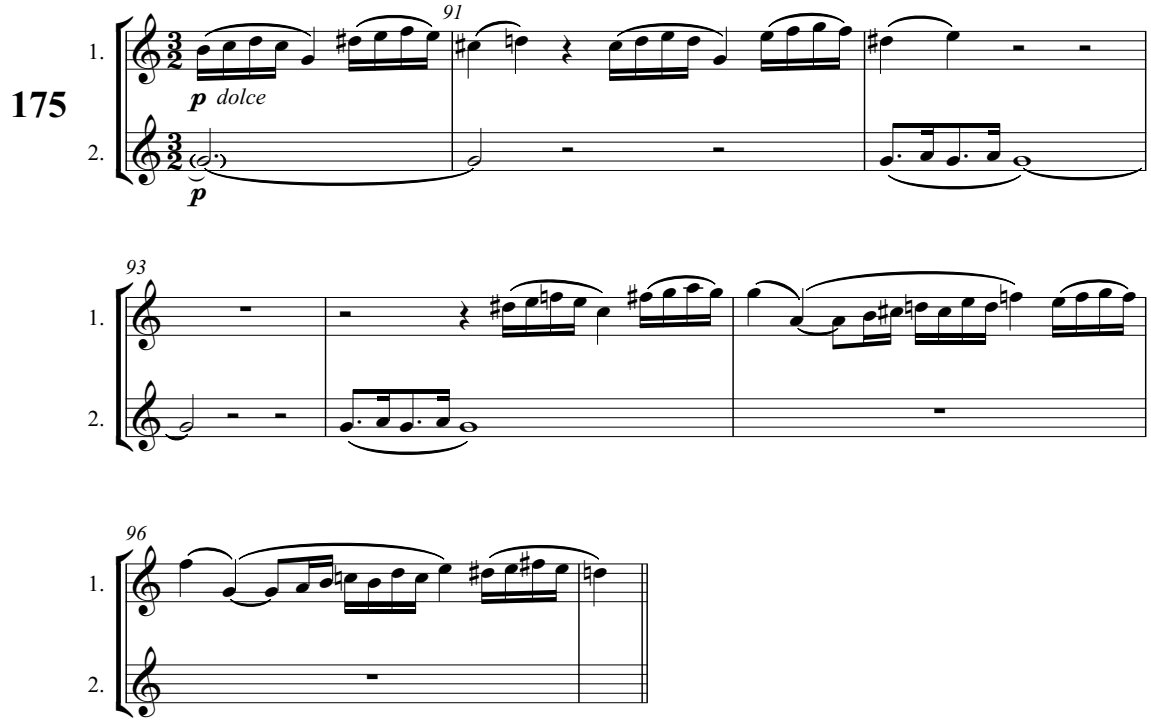


Crusell Concert Trio (Pot-Pourri) for Clarinet, Horn & Bassoon

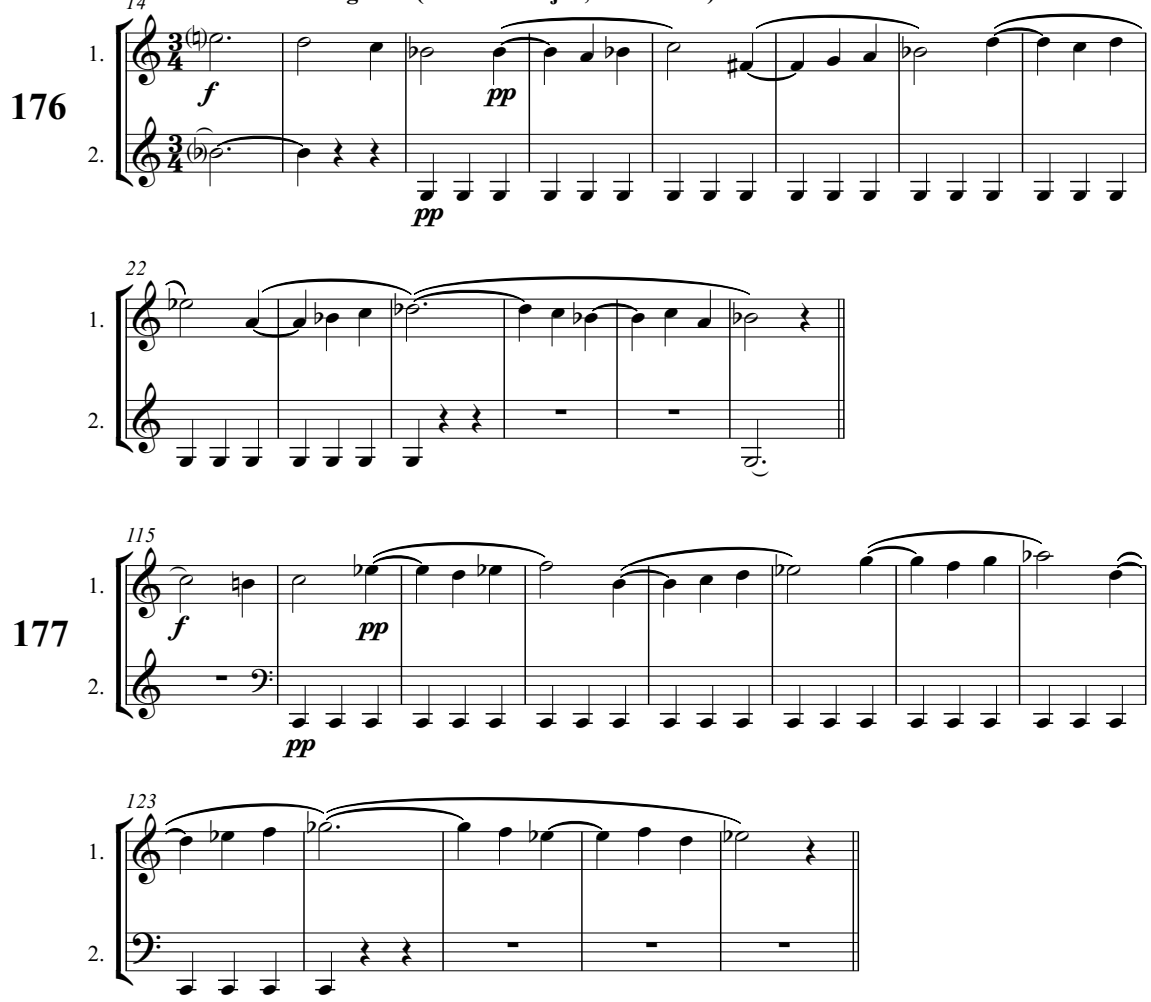


Spohr Octet in E op. 32 for clarinet, 2 horns & strings

1. Allegro (E; horns in E)



2. Menuetto Allegretto (E minor/major; horns in E)



3. Andante con Variazione (E; horns in E)

178

(Var. IV) 50

1. 2.

dolce

6

54

56

pp

60

63

4. Finale: Allegretto (E; horns in E)

179

133

f *p* *f*

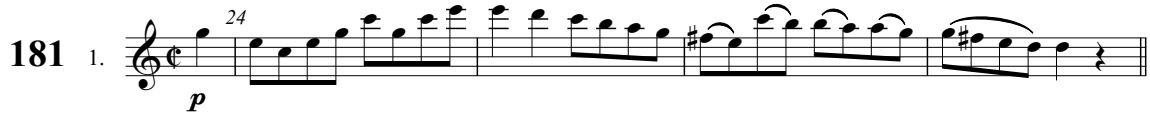
180

156

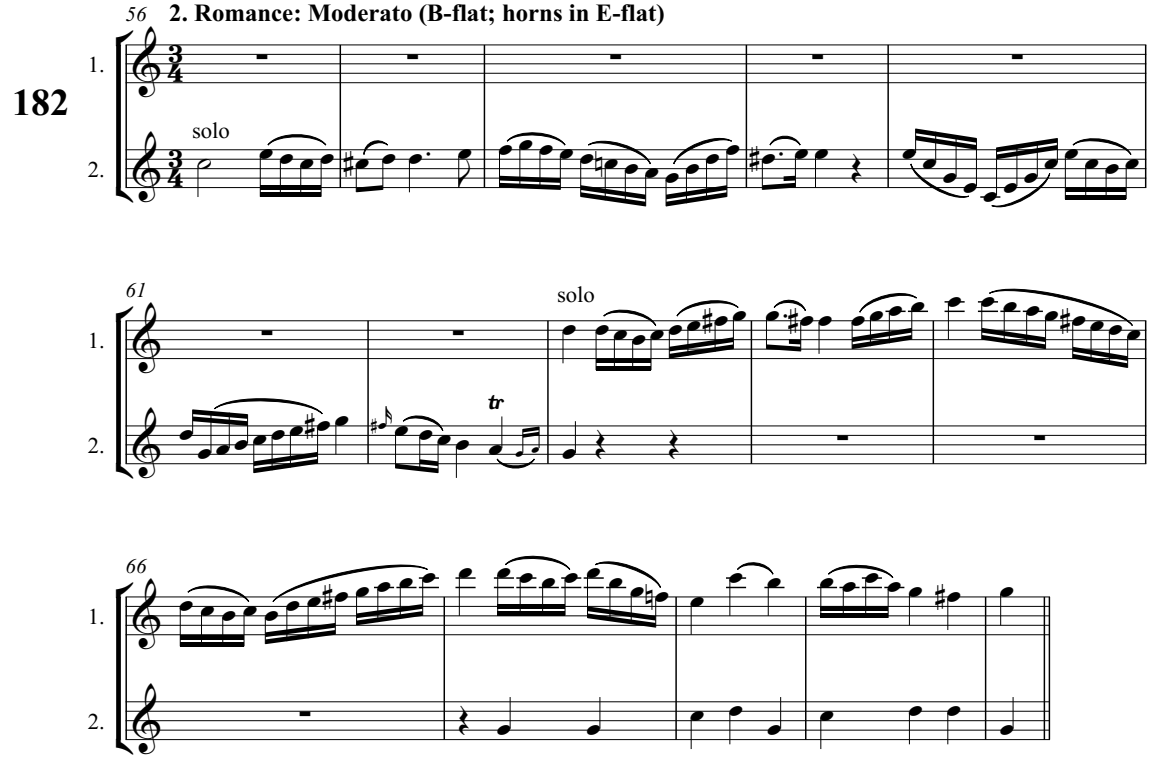
pp

Pleyel Harmonie [no. 2] in E-flat (in six parts)

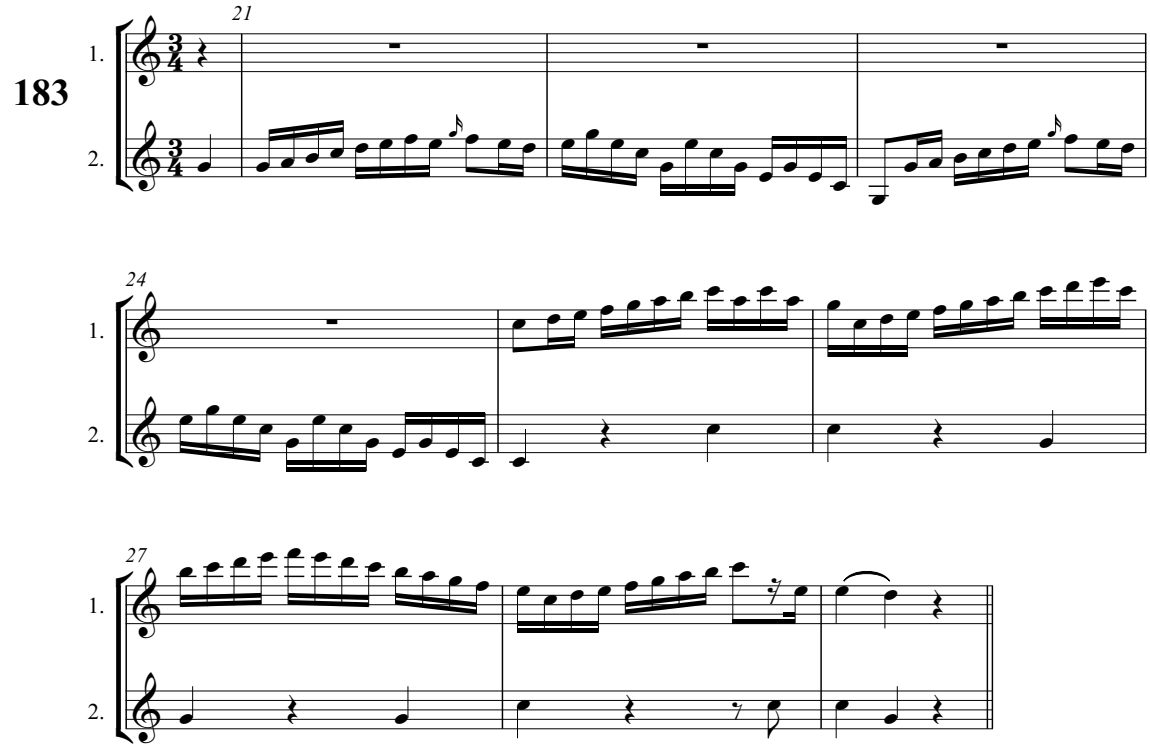
1. Allegro moderato (E-flat; horns in E-flat)



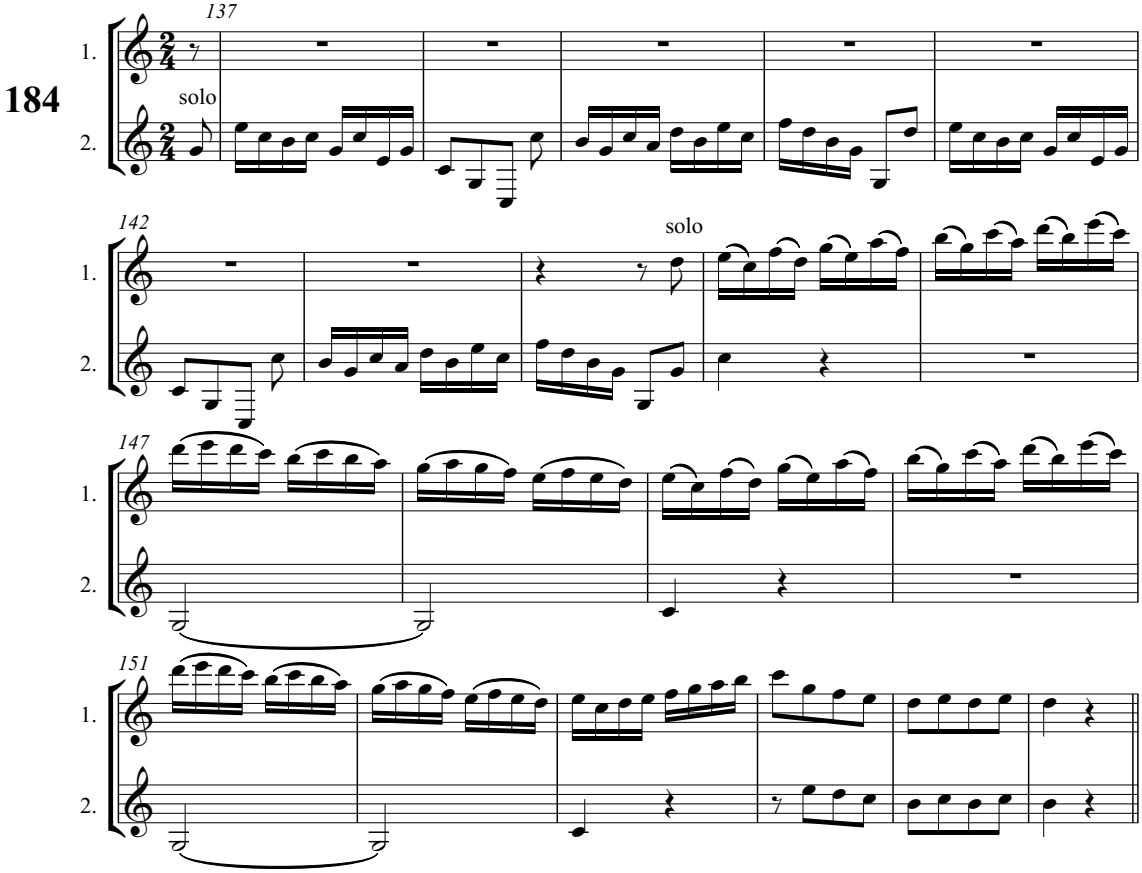
2. Romance: Moderato (B-flat; horns in E-flat)



3. Menuetto (E-flat; horns in E-flat)

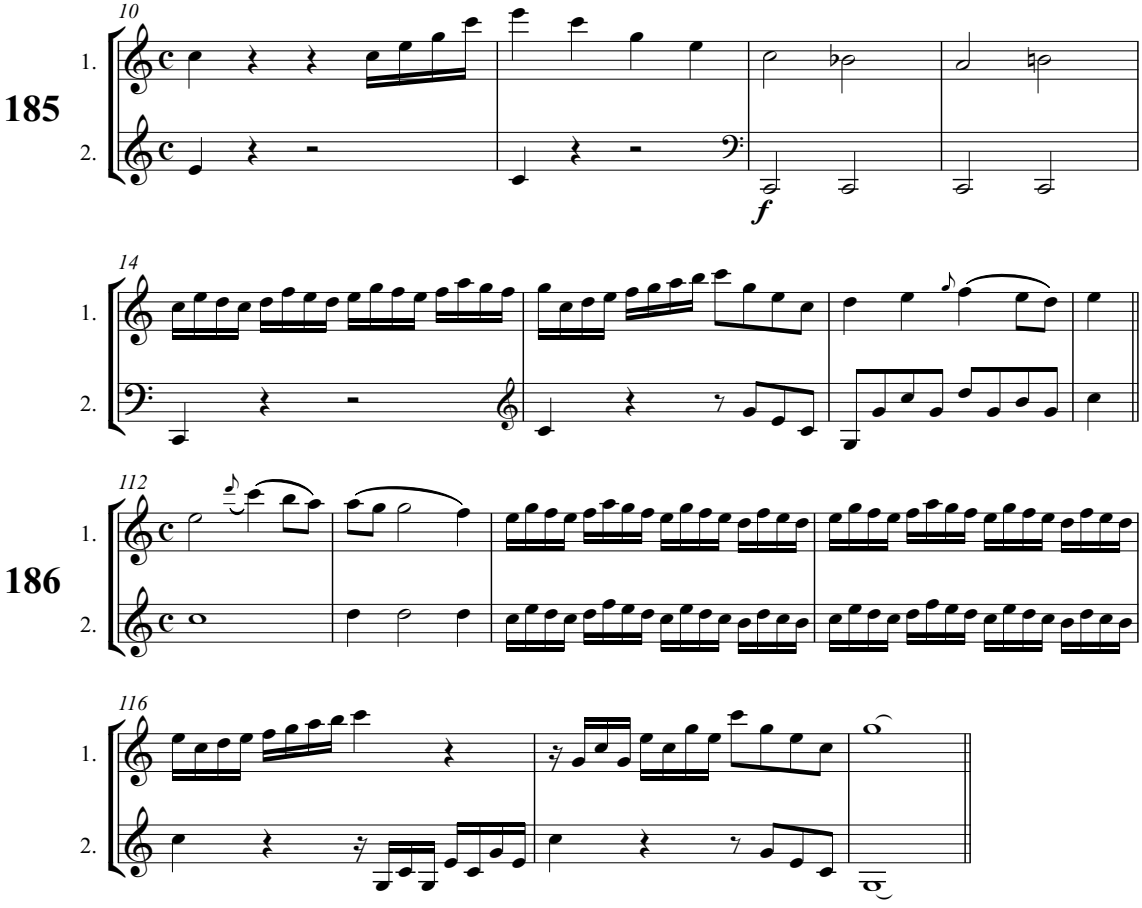


4. Rondo Allegro (E-flat; horns in E-flat)

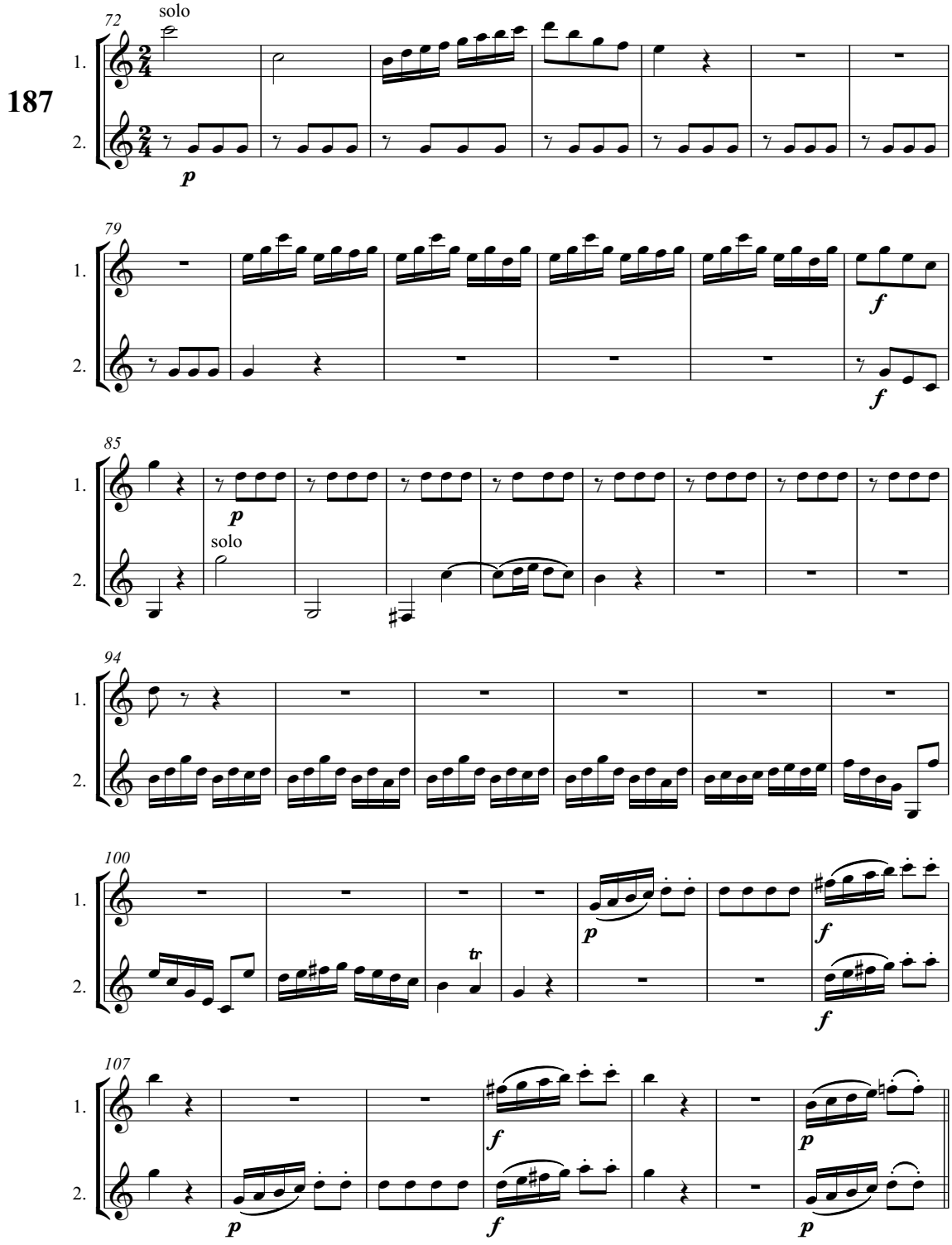


Pleyel Harmonie [no. 3] in E-flat (in six parts)

1. Allegro con brio (E-flat; horns in E-flat)

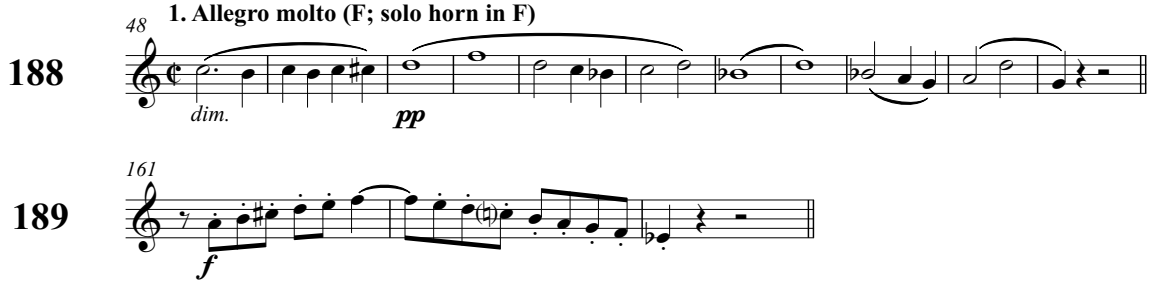


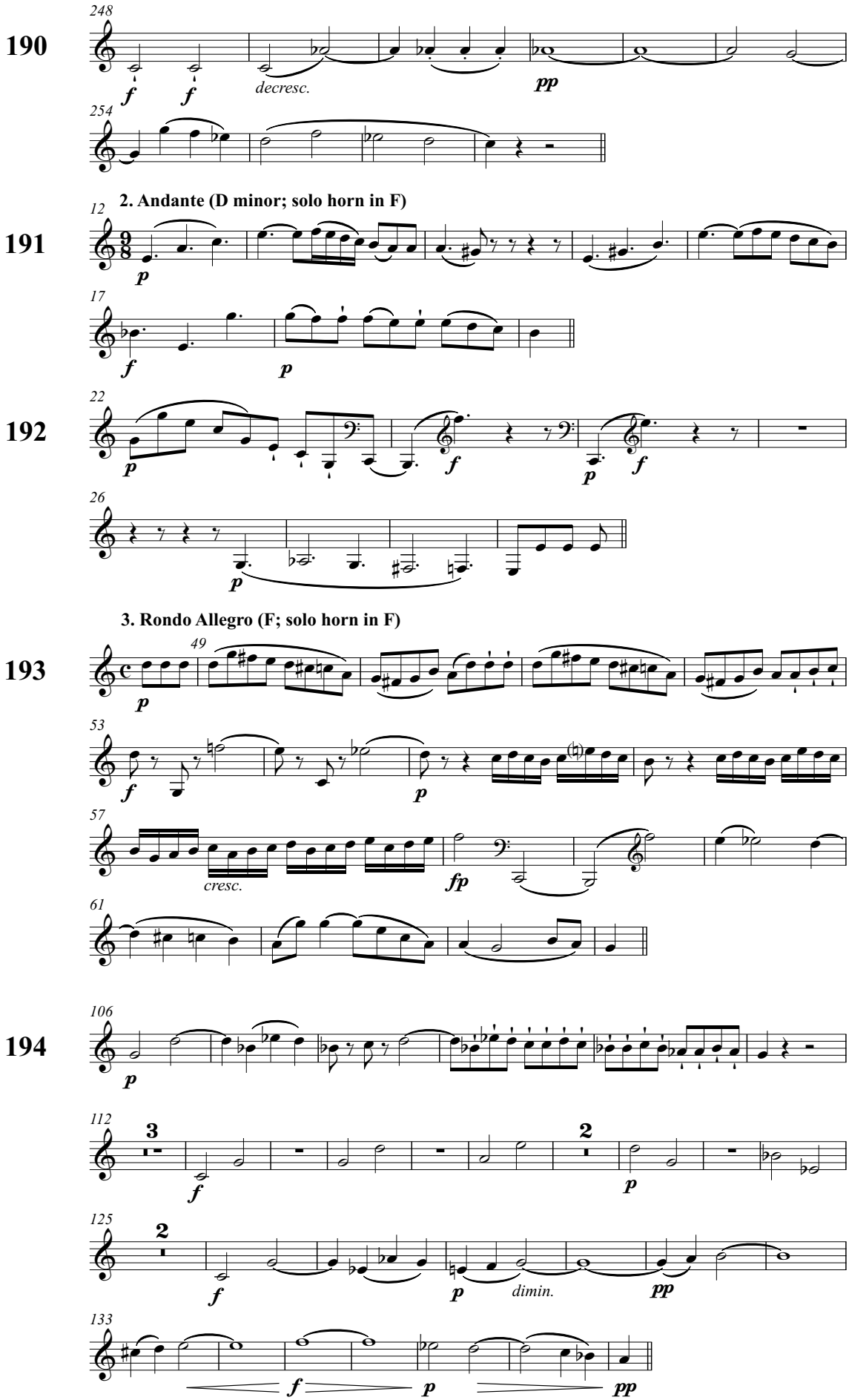
4. Allegro

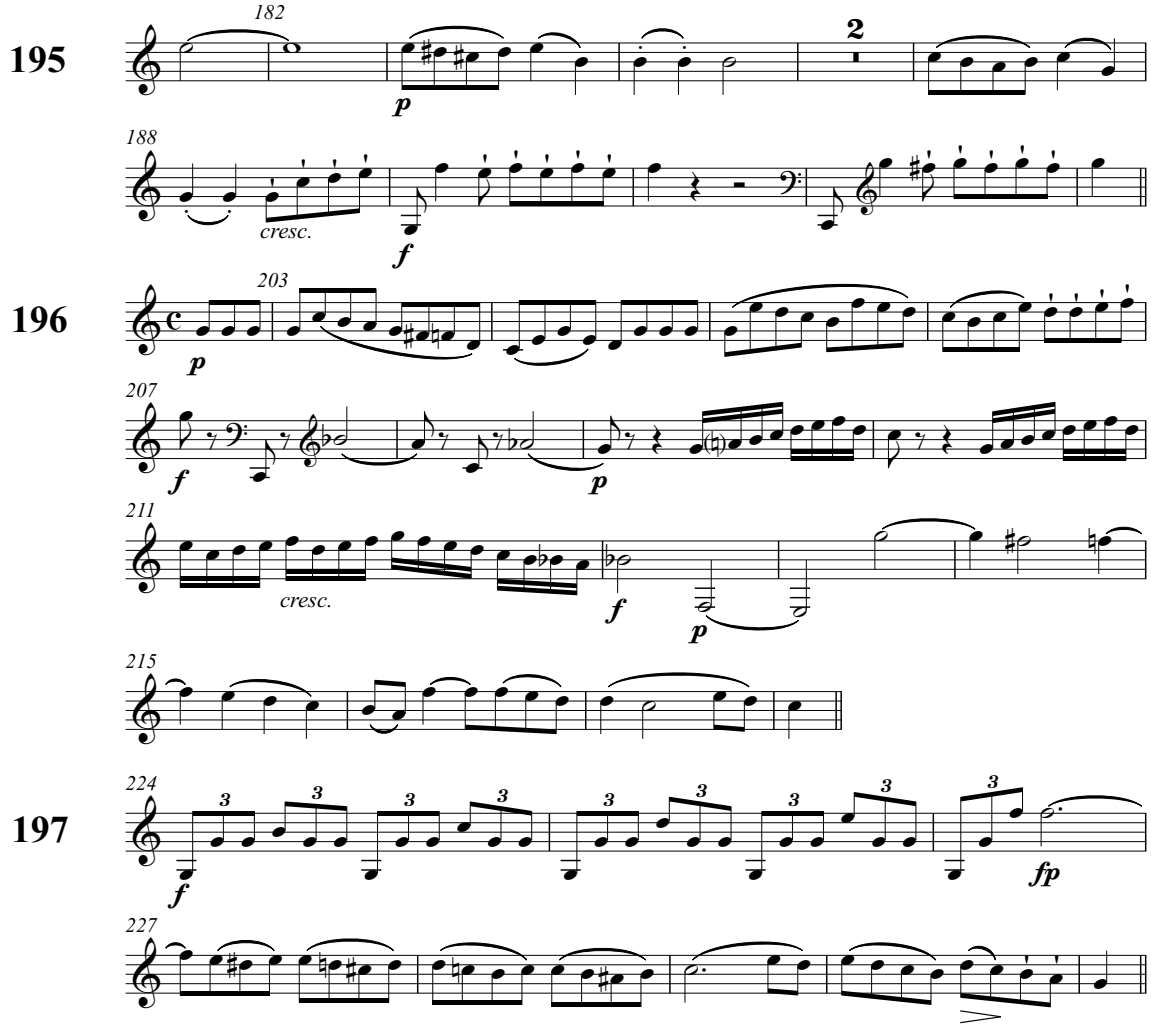


Ries Sonate op. 34 (*c*1811)

1. Allegro molto (F; solo horn in F)

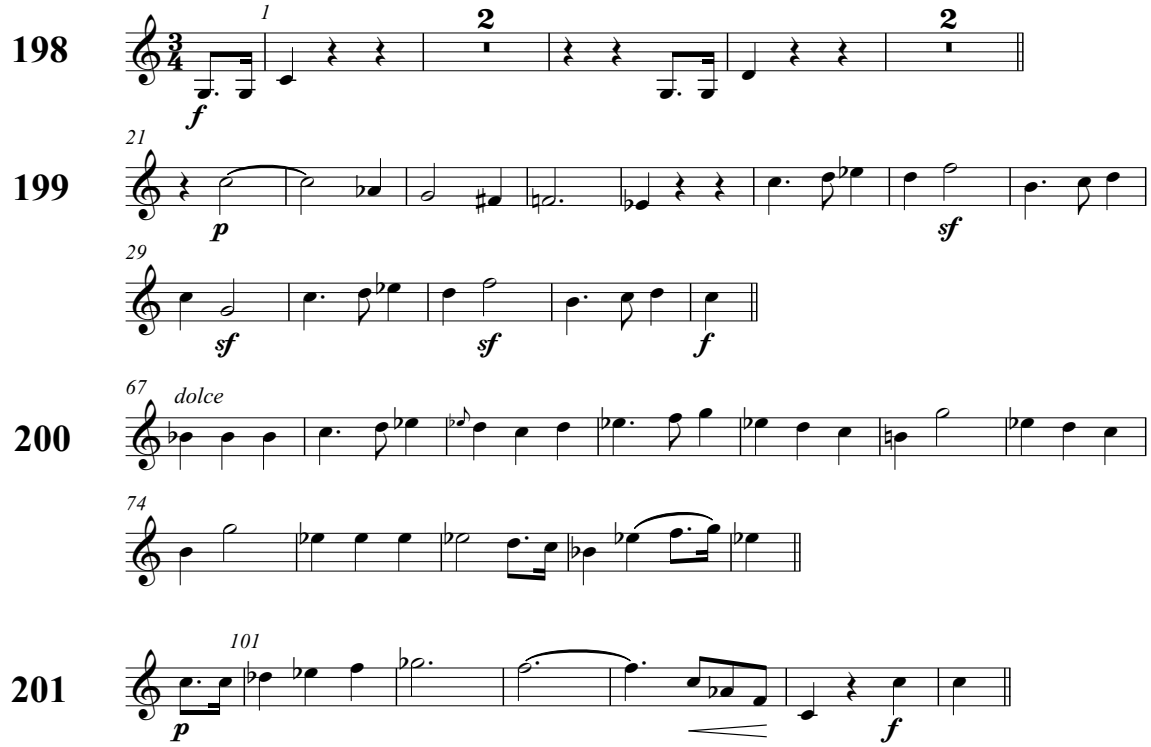


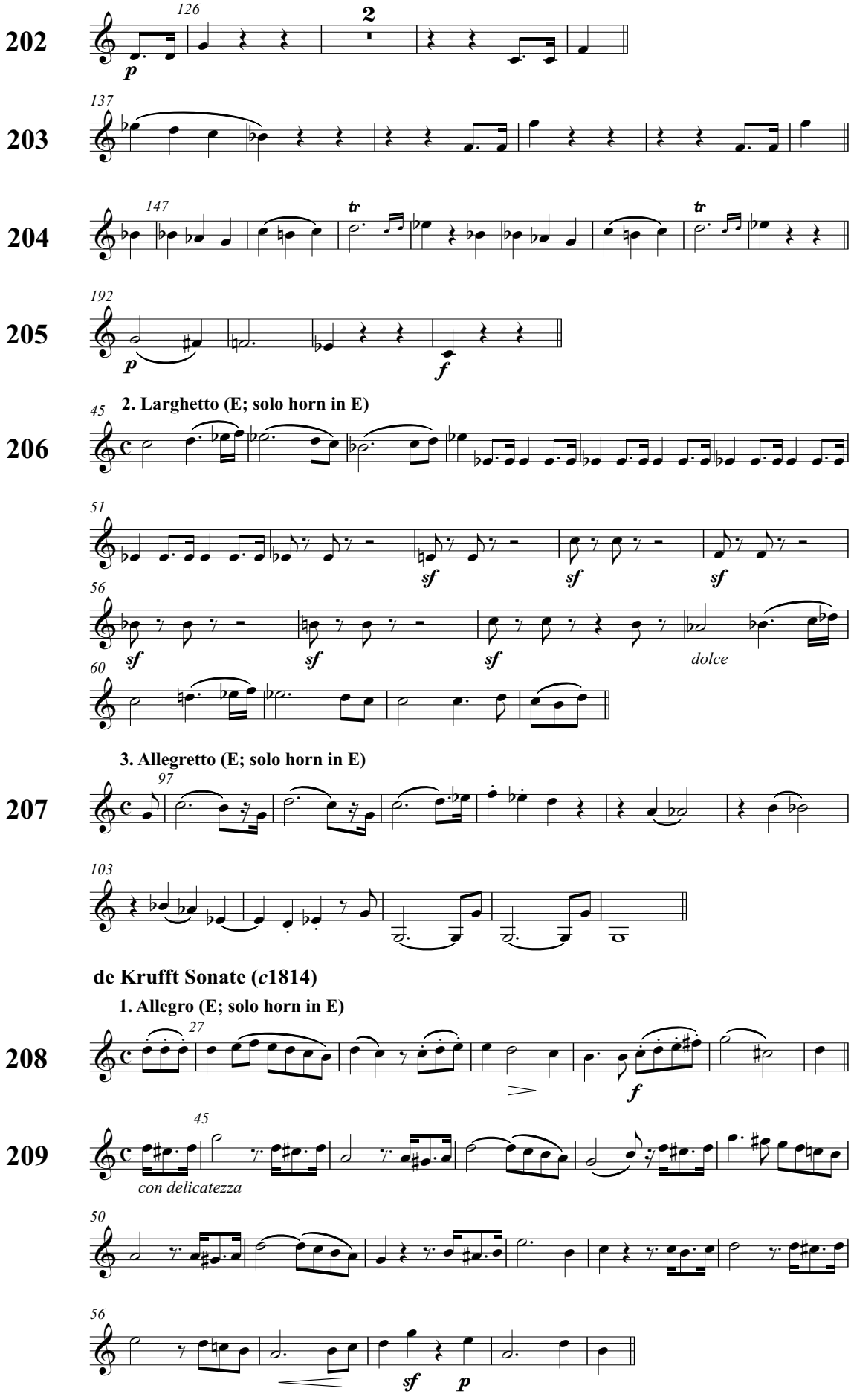

190
248
f
f
decresc.
pp
254
2. Andante (D minor; solo horn in F)
191
12
p
17
f
p
192
22
p
f
p
f
26
p
3. Rondo Allegro (F; solo horn in F)
193
49
p
53
f
p
57
cresc.
fp
61
194
106
p
112
3
f
2
p
125
2
f
p
dimin.
pp
133
f
p
pp

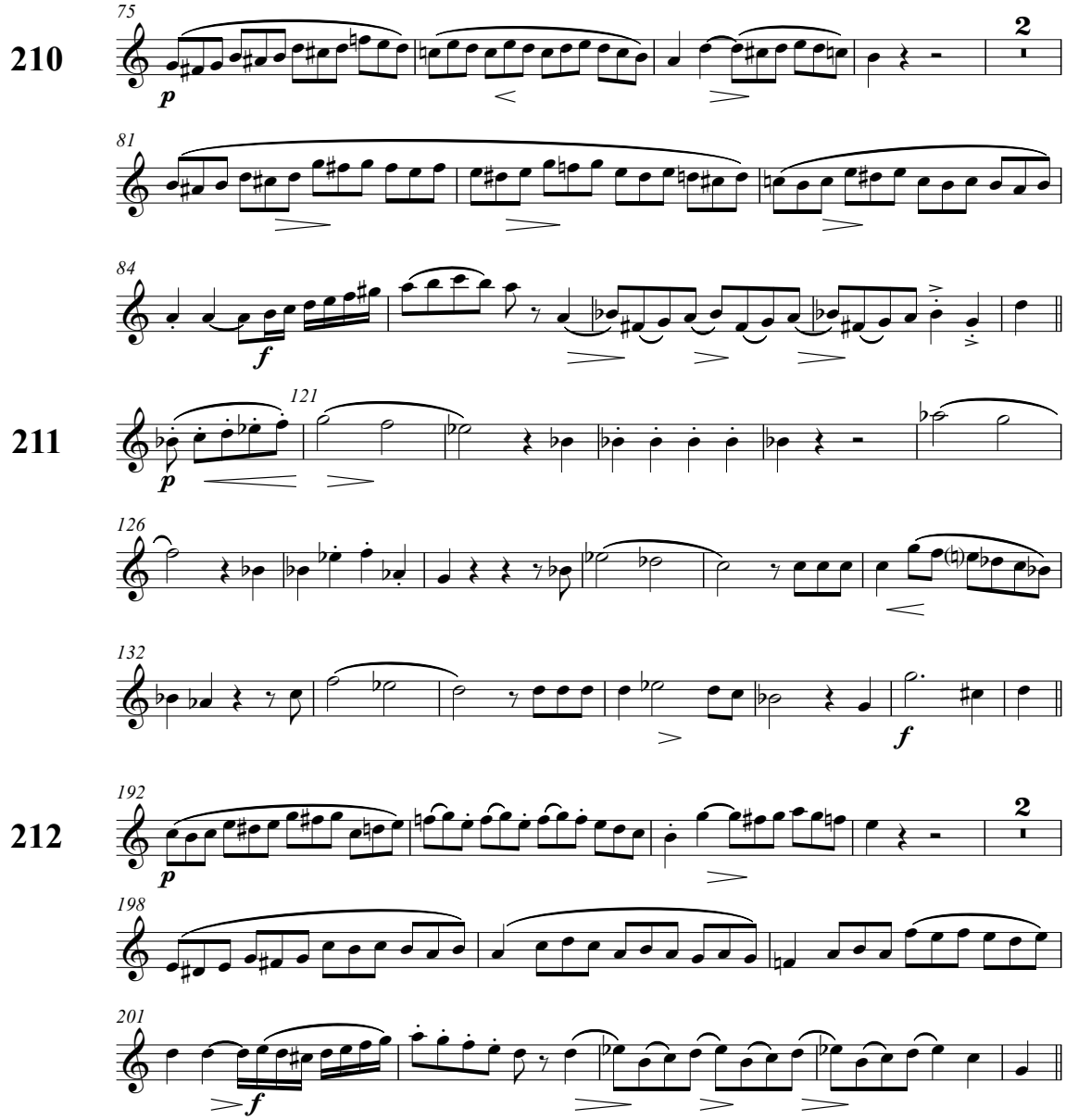


Danzi Sonate op. 44 (*c*1814)

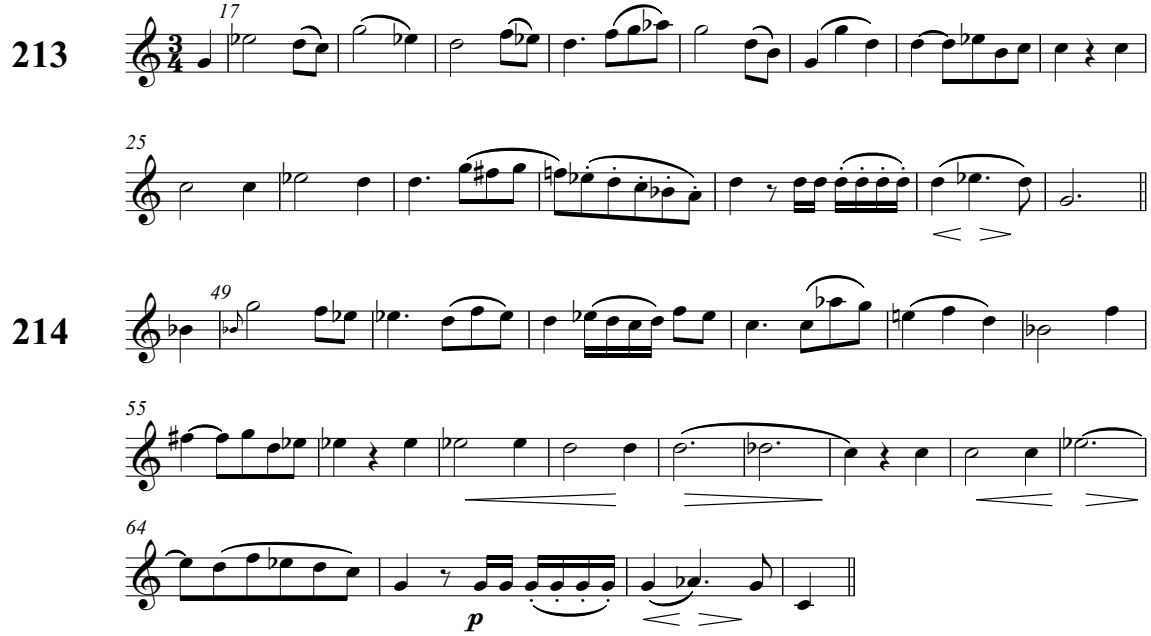
1. Allegro (E minor; solo horn in E)

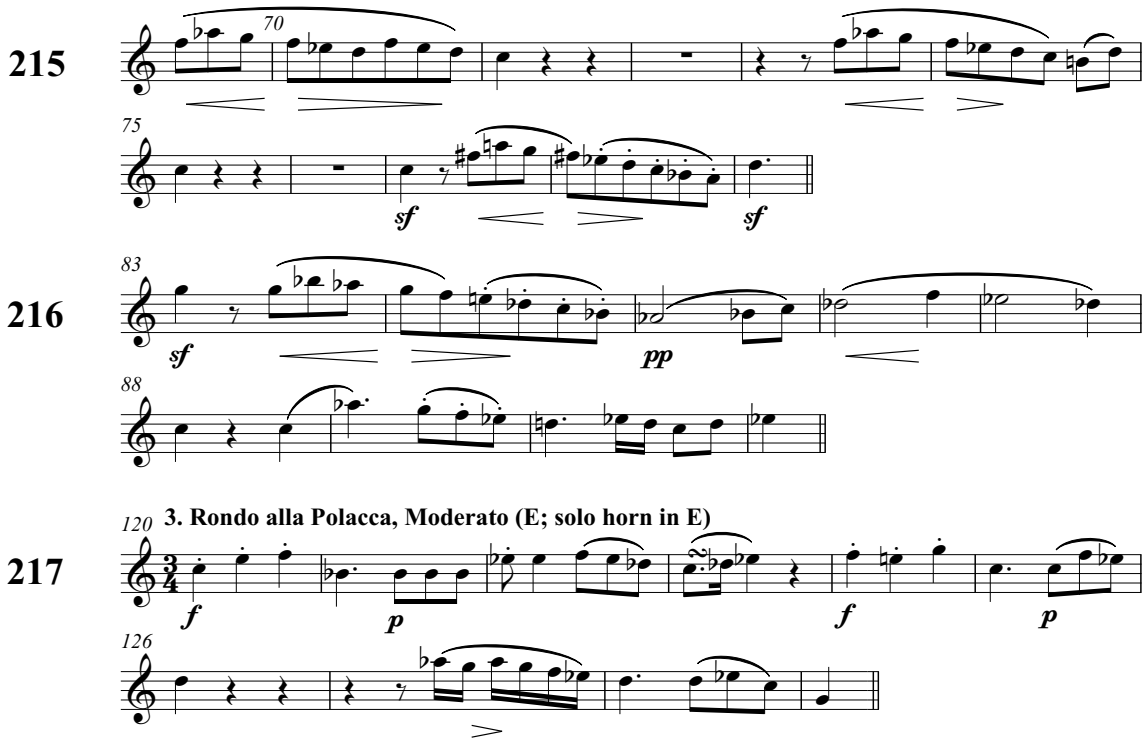



202
126
2
p
203
137
204
147
tr
tr
205
192
p
f
2. Larghetto (E; solo horn in E)
206
45
51
sf
sf
sf
56
sf
sf
sf
dolce
60
3. Allegretto (E; solo horn in E)
207
97
103
de Krufft Sonate (c1814)
1. Allegro (E; solo horn in E)
208
27
f
209
45
con delicatezza
50
56
sf
p



2. Andante espressivo (E minor; solo horn in E)

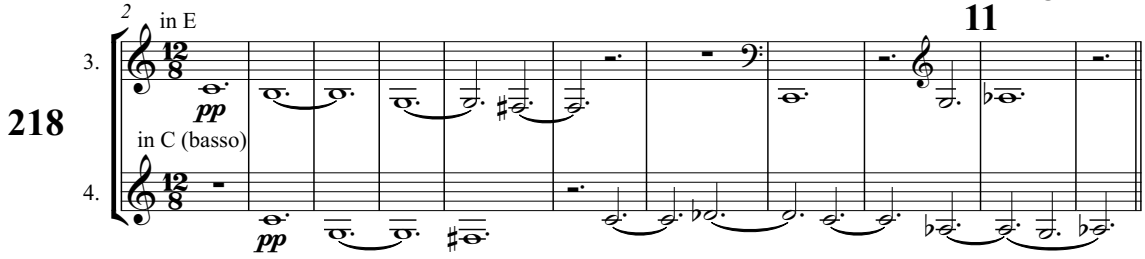




Berlioz *La Mort de Cléopatre* (1829)

***Méditation*. Largo misterioso**

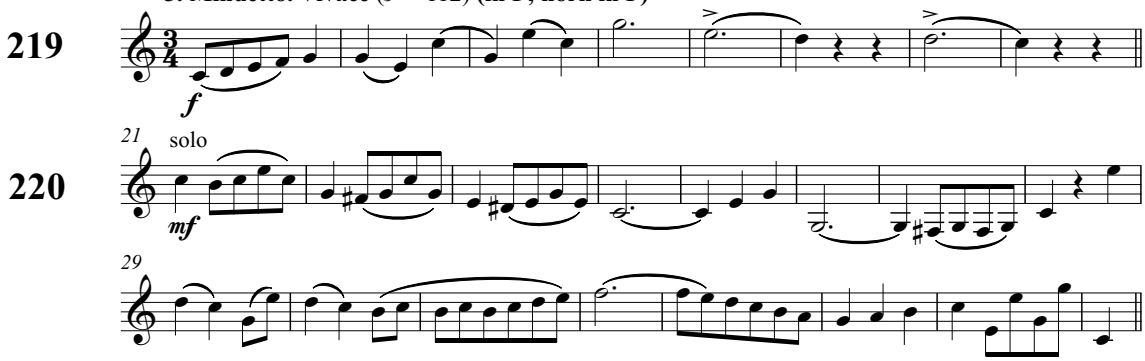
(F minor; with low clarinets, bassoons, horns 1 and 2 in F, trombones, and low strings)



From Reicha's Wind Quintets

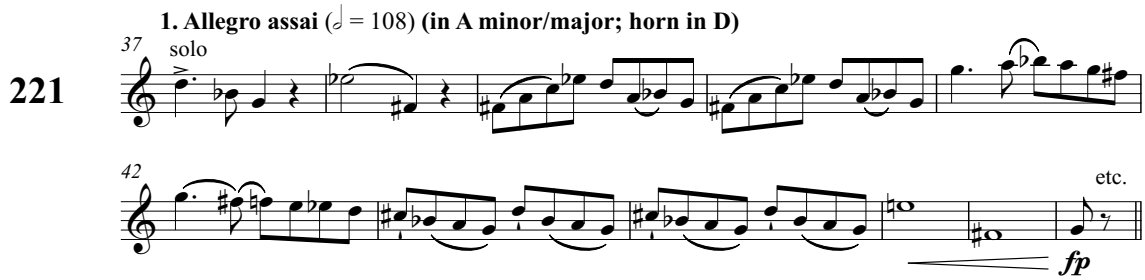
op. 88 no. 6 in F

3. Minuetto. Vivace (𝅗𝅥. = 112) **(in F; horn in F)**



op. 91 no. 2 in A minor

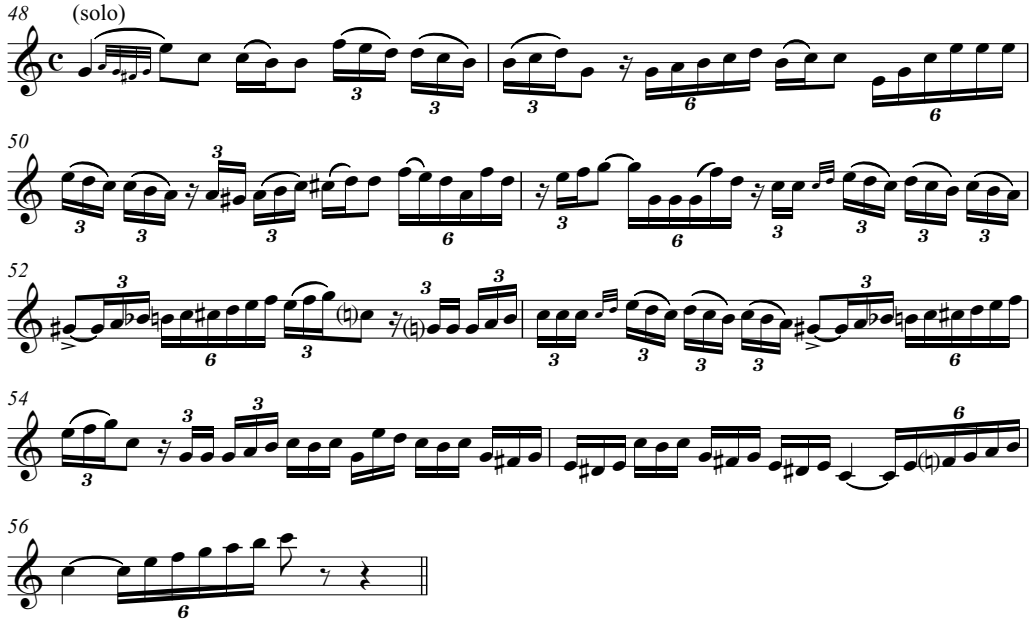
1. Allegro assai (𝅗𝅥 = 108) **(in A minor/major; horn in D)**



op. 91 no. 4 in G minor

2. Adagio cantabile (♪ = 84) **(in D; horn in D)**

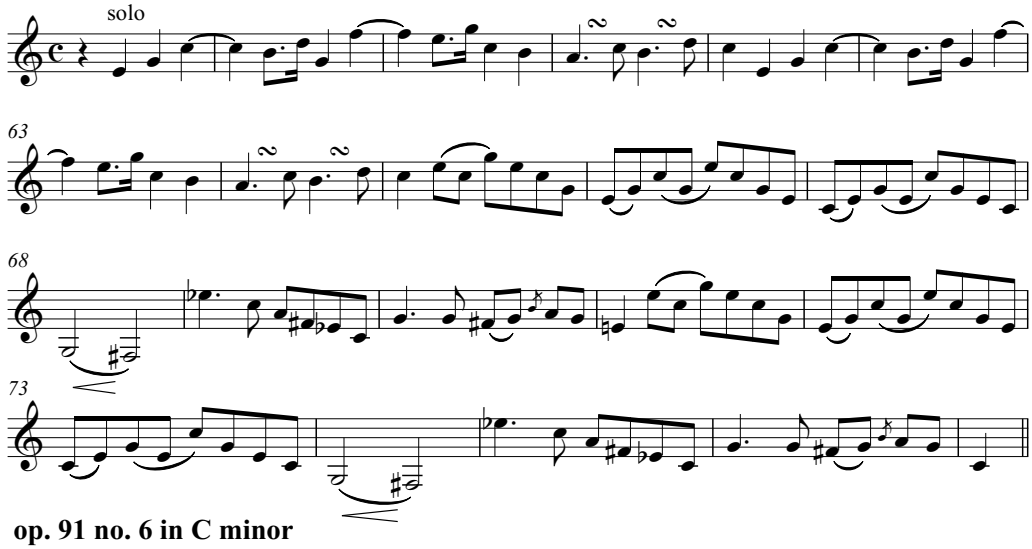
222



op. 91 no. 5 in A major

1. Allegro (𝅗𝅥 = 92) **(in A; horn in E)**

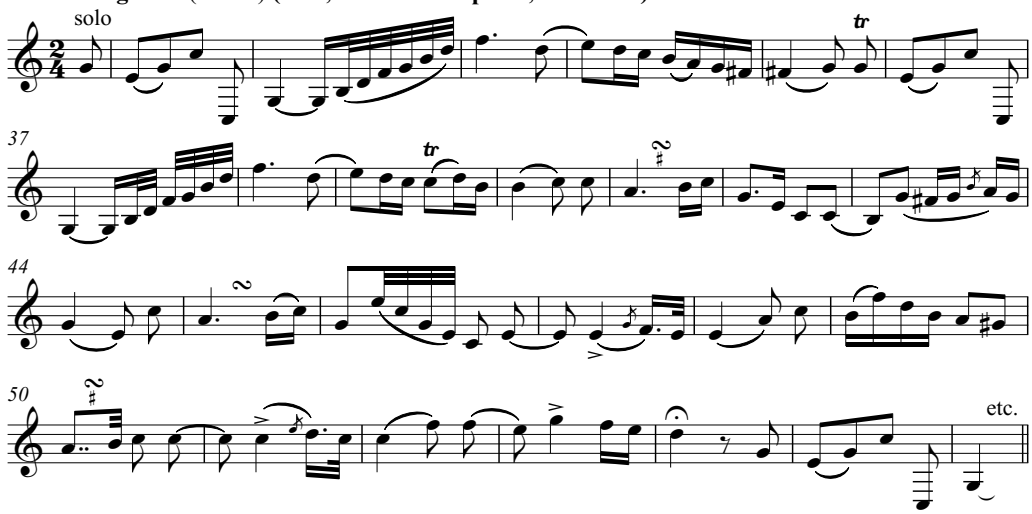
223



op. 91 no. 6 in C minor

2. Larghetto (♩ = 50) **(in C, but F at this point; horn in F)**

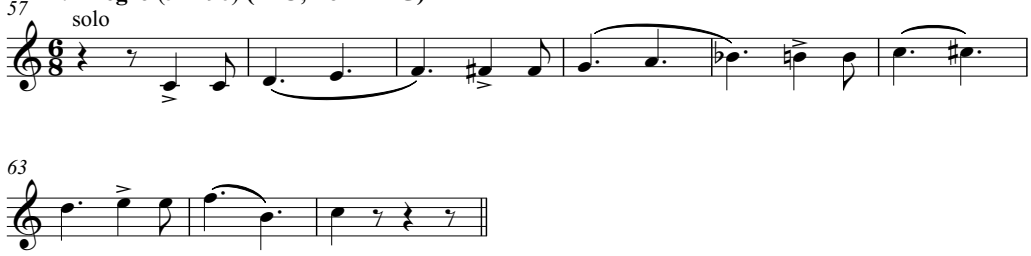
224



op. 99 no. 1 in C major

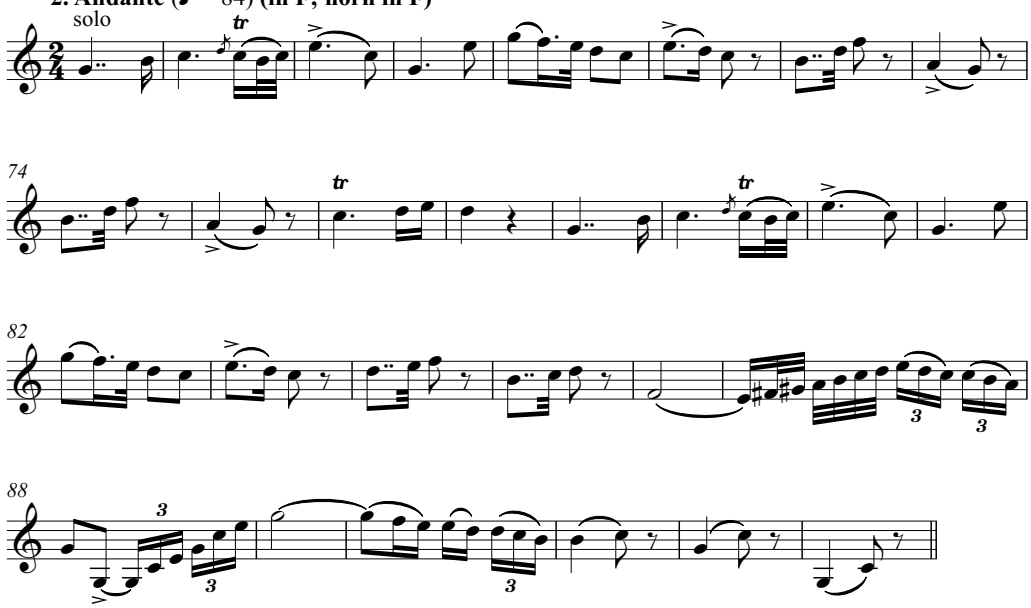
1. Allegro (𝅗𝅥. = 96) **(in C; horn in G)**

225



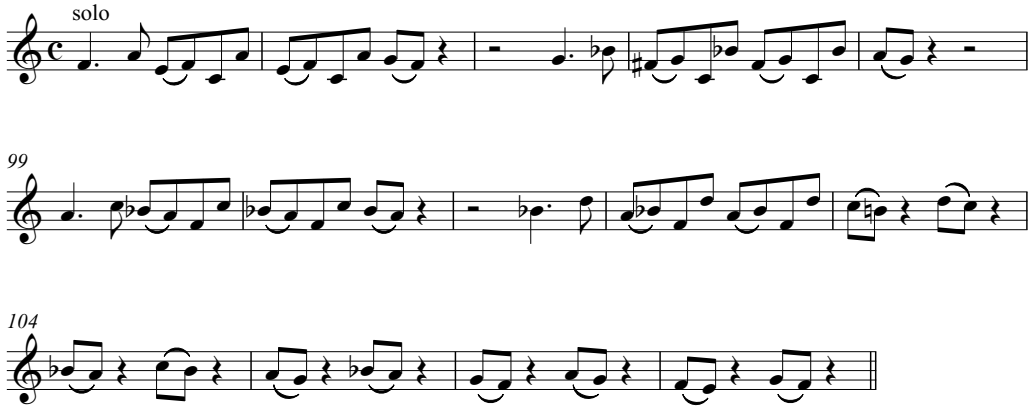
2. Andante (♪ = 84) **(in F; horn in F)**

226

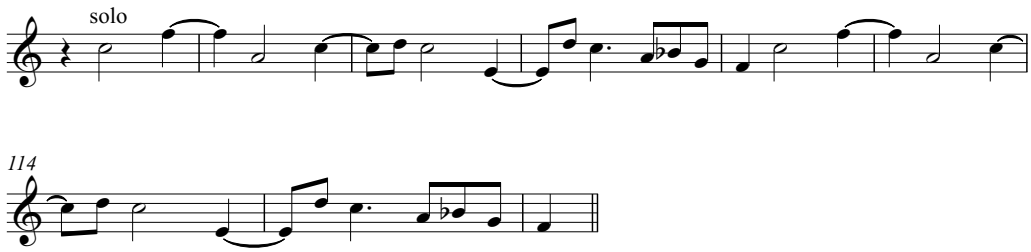


4. Allegro assai (𝅗𝅥 = 116) **(in C; horn in G)**

227



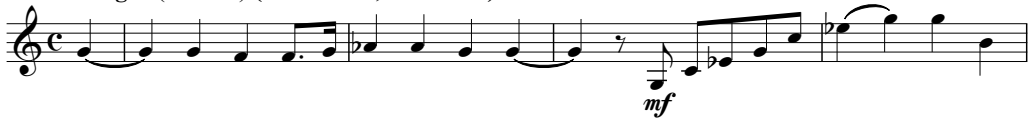
228



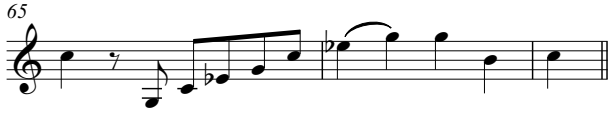
op. 99 no. 2 in F minor

1. Allegro (𝅗𝅥 = 100) **(in F minor; horn in F)**

229

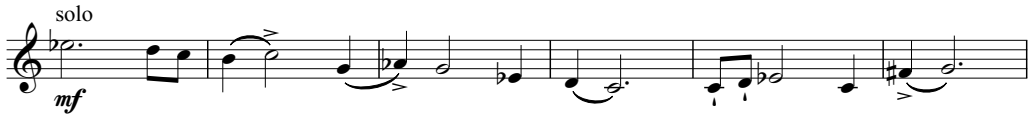


65

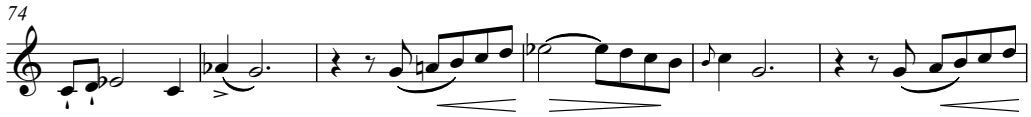


230

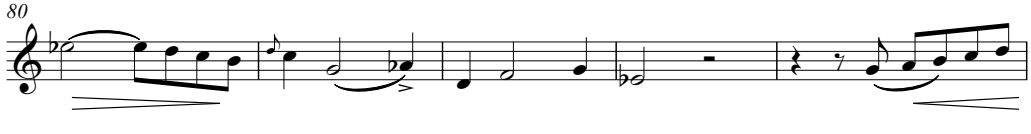
solo



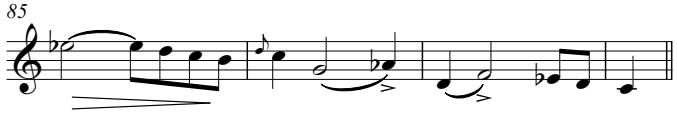
74



80



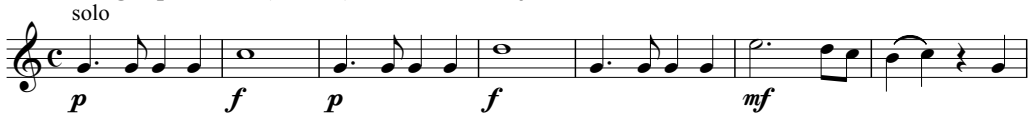
85



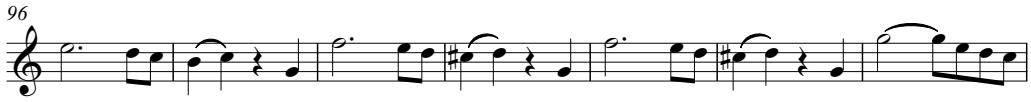
4. Allegro poco vivo (𝅗𝅥 = 112) **(in F minor/major; horn in F)**

231

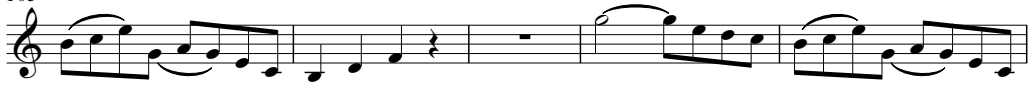
solo



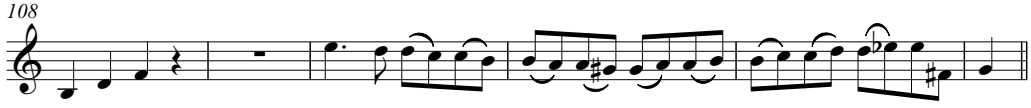
96



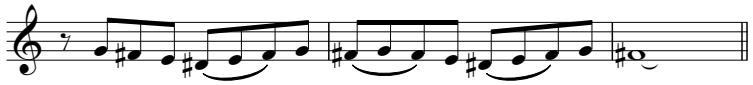
103



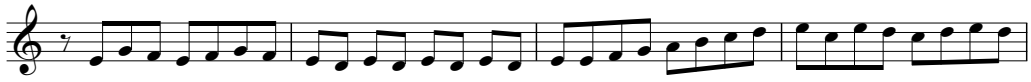
108



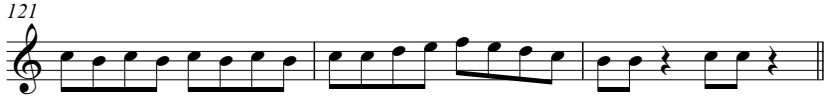
232



233



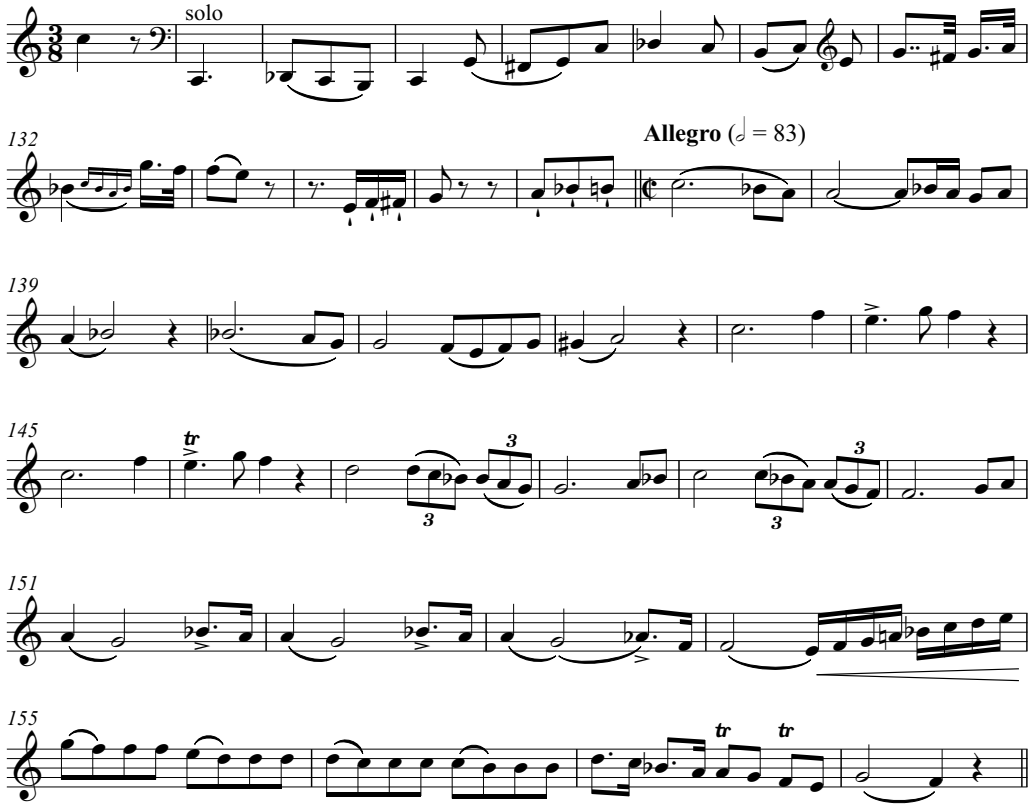
121



op. 99 no. 3 in A

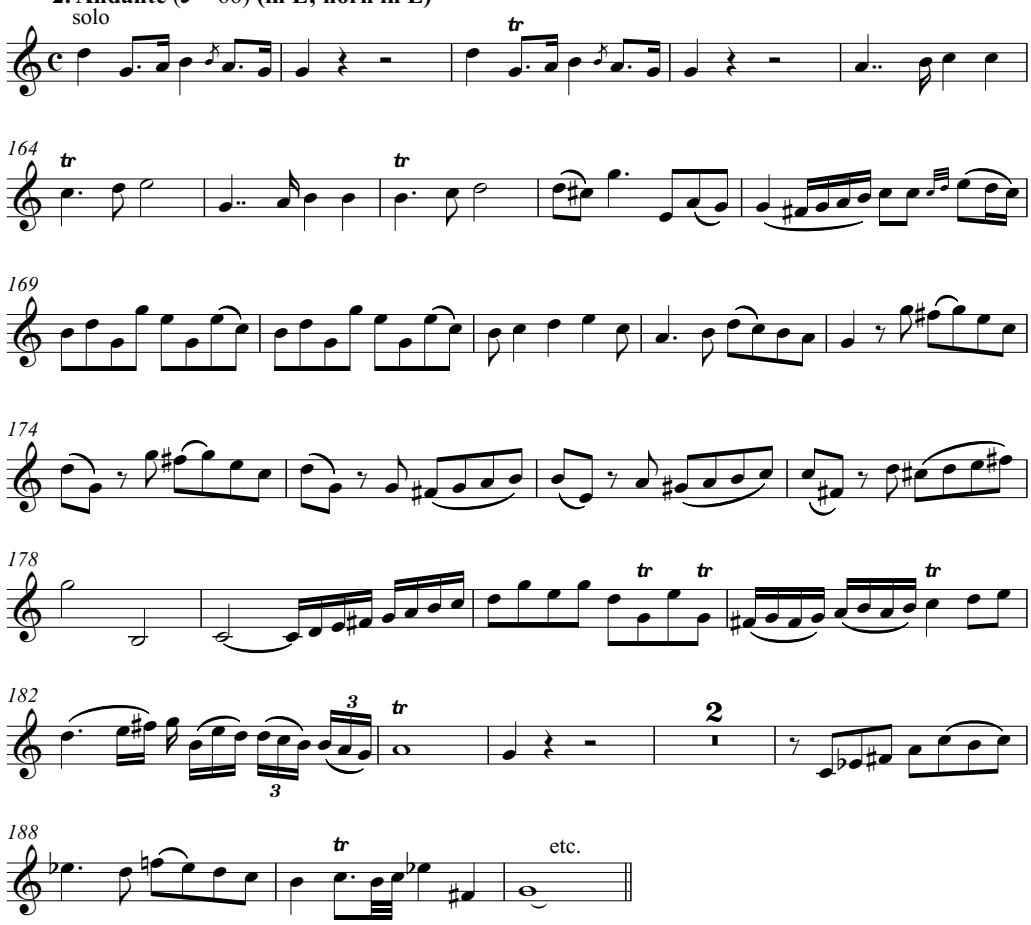
1. Lento (♪ = 54) **(in A; horn in E)**

234



2. Andante (♩ = 66) **(in E; horn in E)**

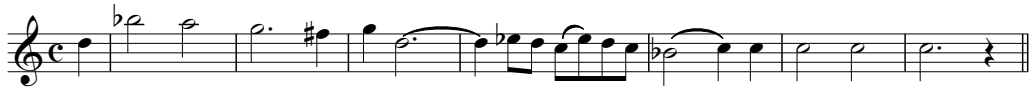
235



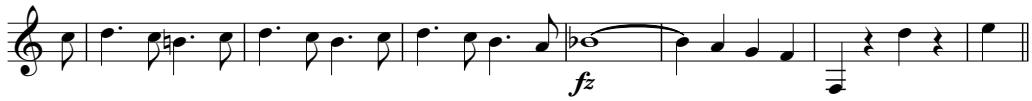
op. 99 no. 4 in D

4. Allegro assai (𝅗𝅥 = 116) **(in D; horn in D)**

236



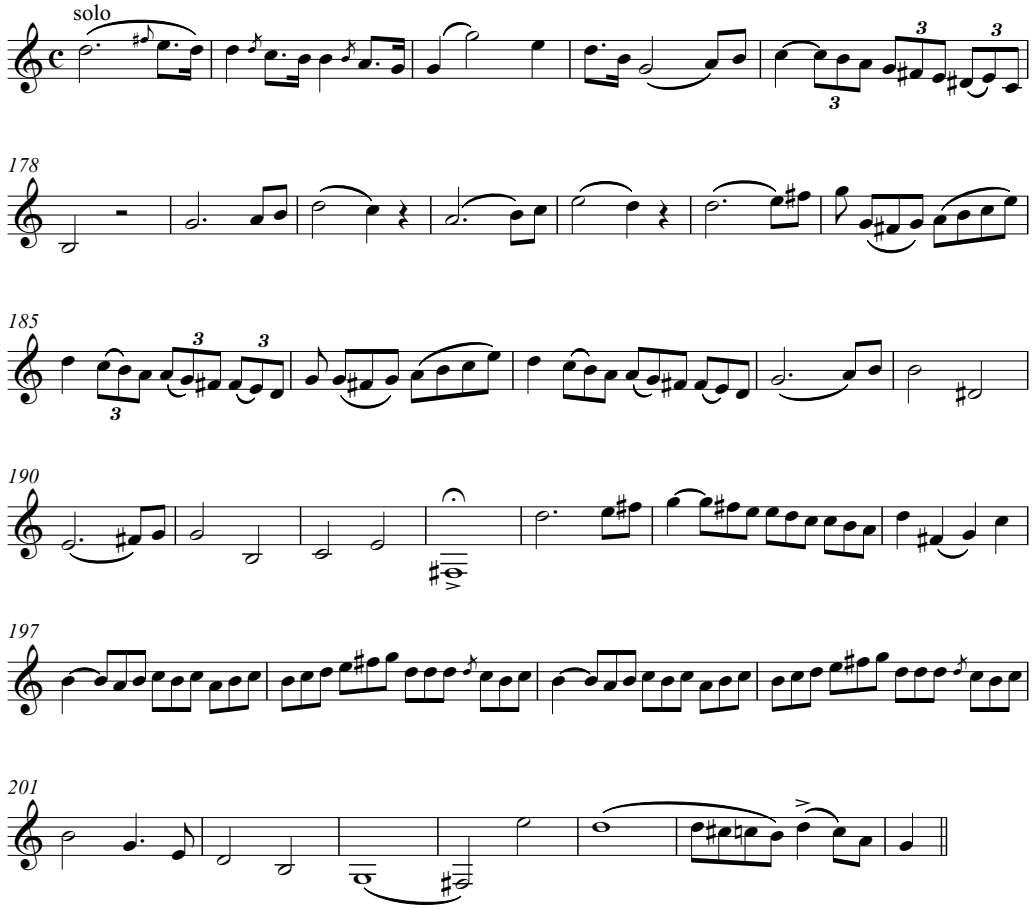
237



op. 99 no. 5 in B minor

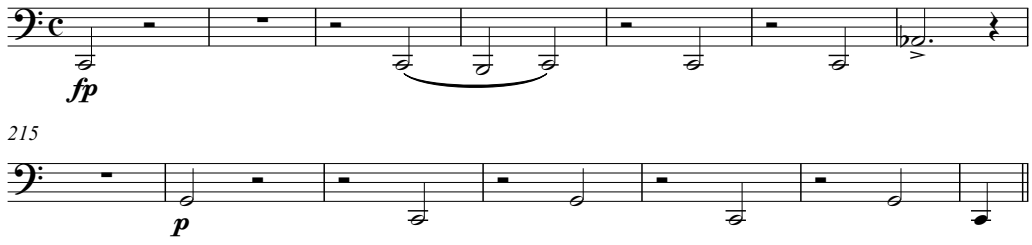
1. Allegro (𝅗𝅥 = 96) **(in B major at this point; horn in E)**

238



4. Allegro spiritoso (𝅗𝅥 = 112) **(in B minor; horn in E)**

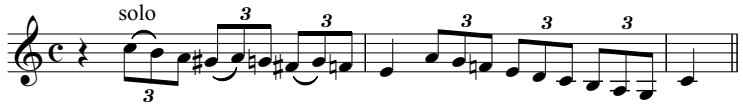
239



op. 99 no. 6 in G

4. Allegro vivo (𝅗𝅥 = 104) **(in G; horn in G)**

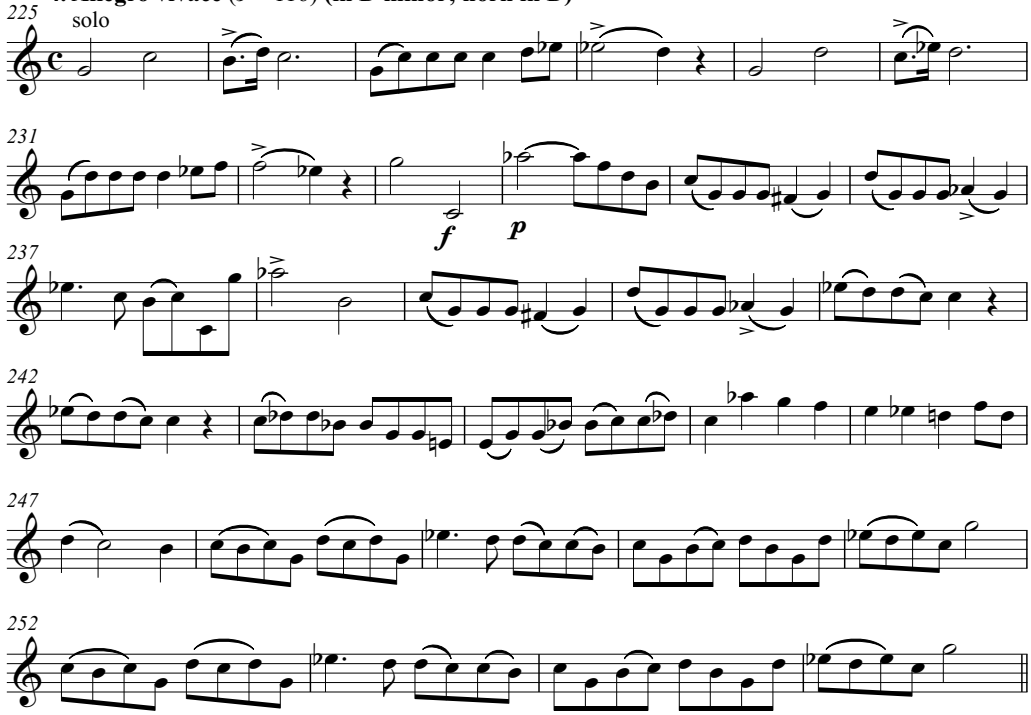
240



op. 100 no. 2 in D minor

4. Allegro vivace (𝅗𝅥 = 116) **(in D minor; horn in D)**

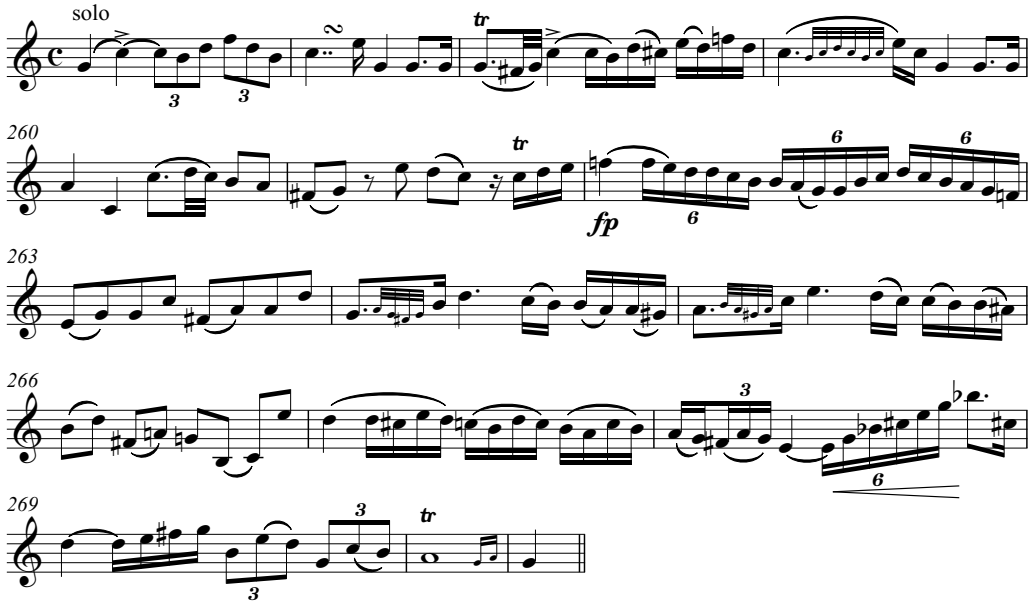
241



op. 100 no. 6 in B-flat

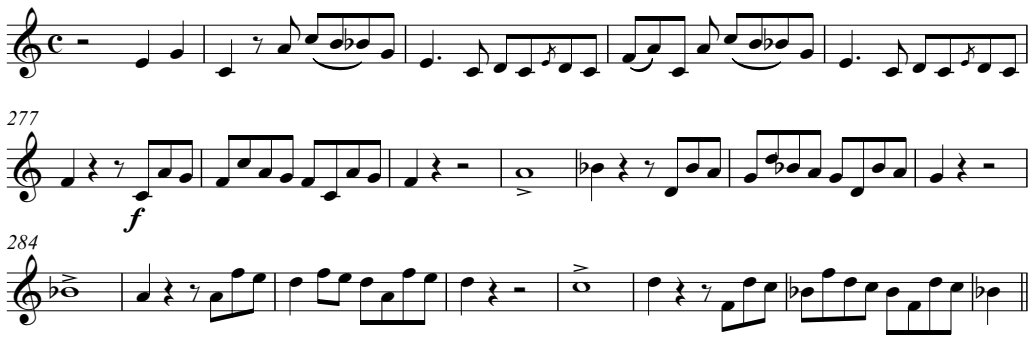
2. Andante poco Adagio (𝅗𝅥 = 60) **(in G minor/major; horn in E-flat)**

242



4. Allegro vivace (𝅗𝅥 = 120) **(in B-flat; horn in F)**

243

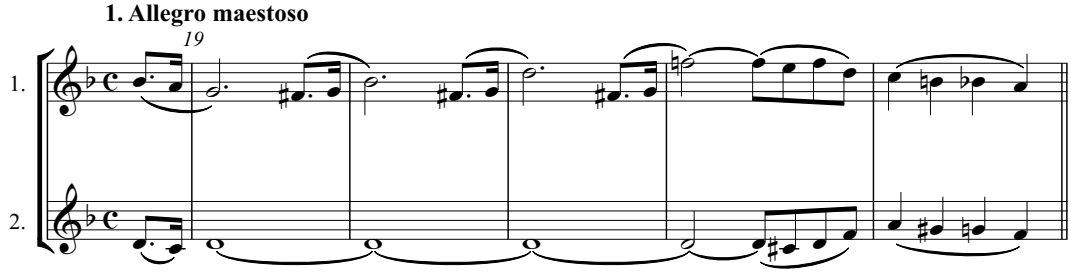


Clarinet Usage Examples

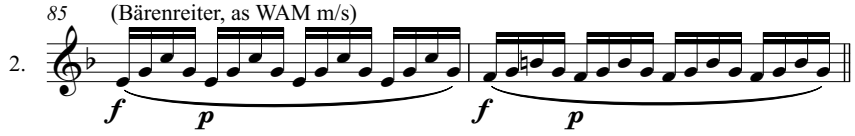
Mozart Serenade in E-flat K375 (6-part version) 1781

1. Allegro maestoso

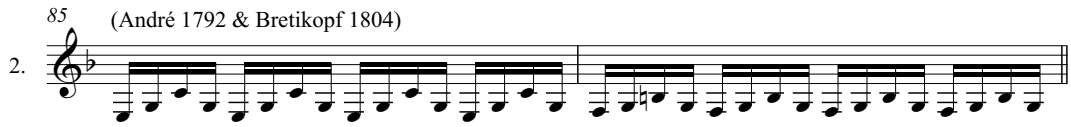
1



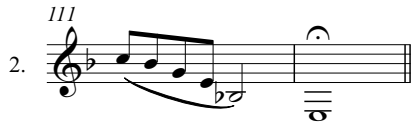
2a



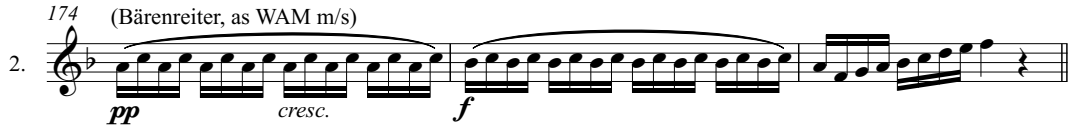
2b



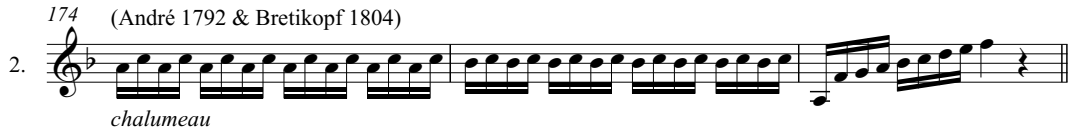
3



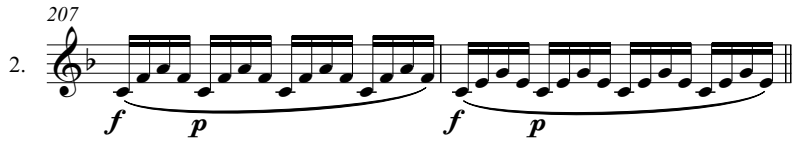
4a



4b

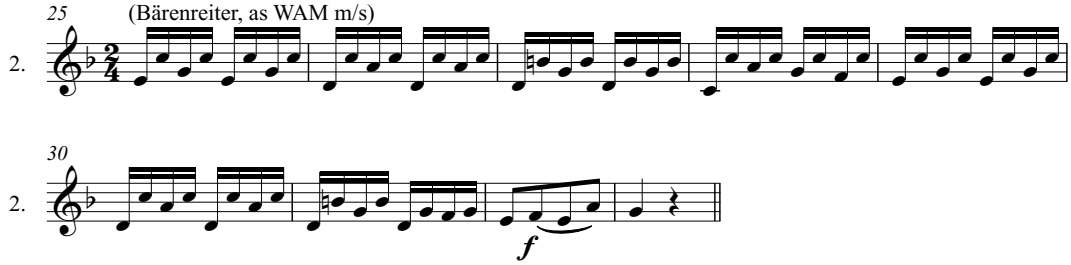


5

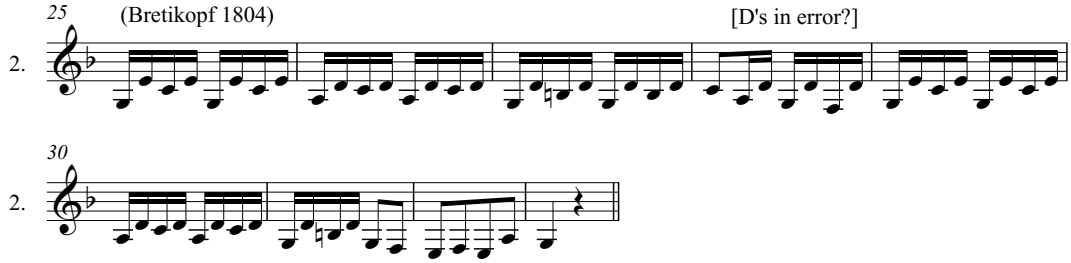


5. Allegro

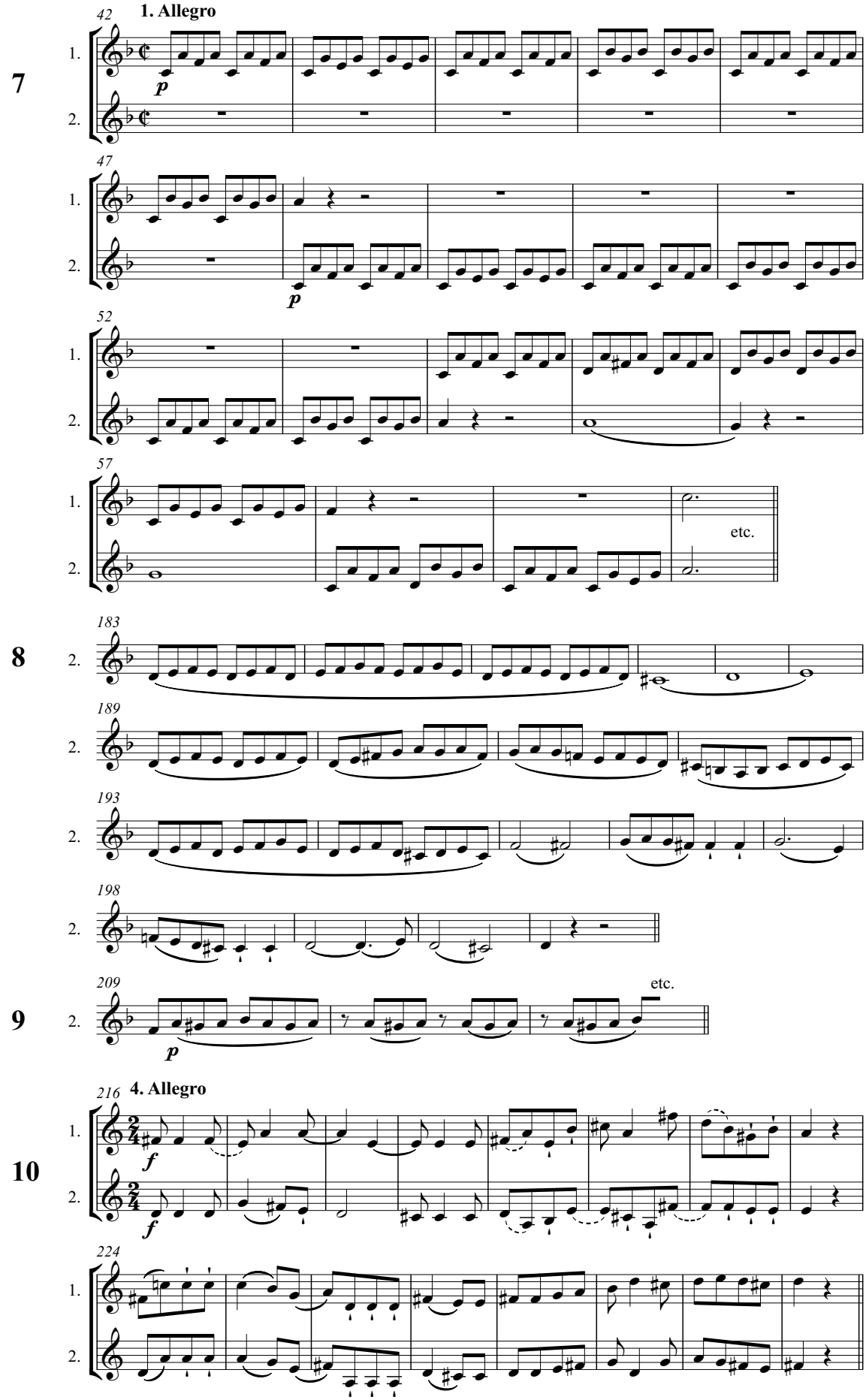
6a



6b



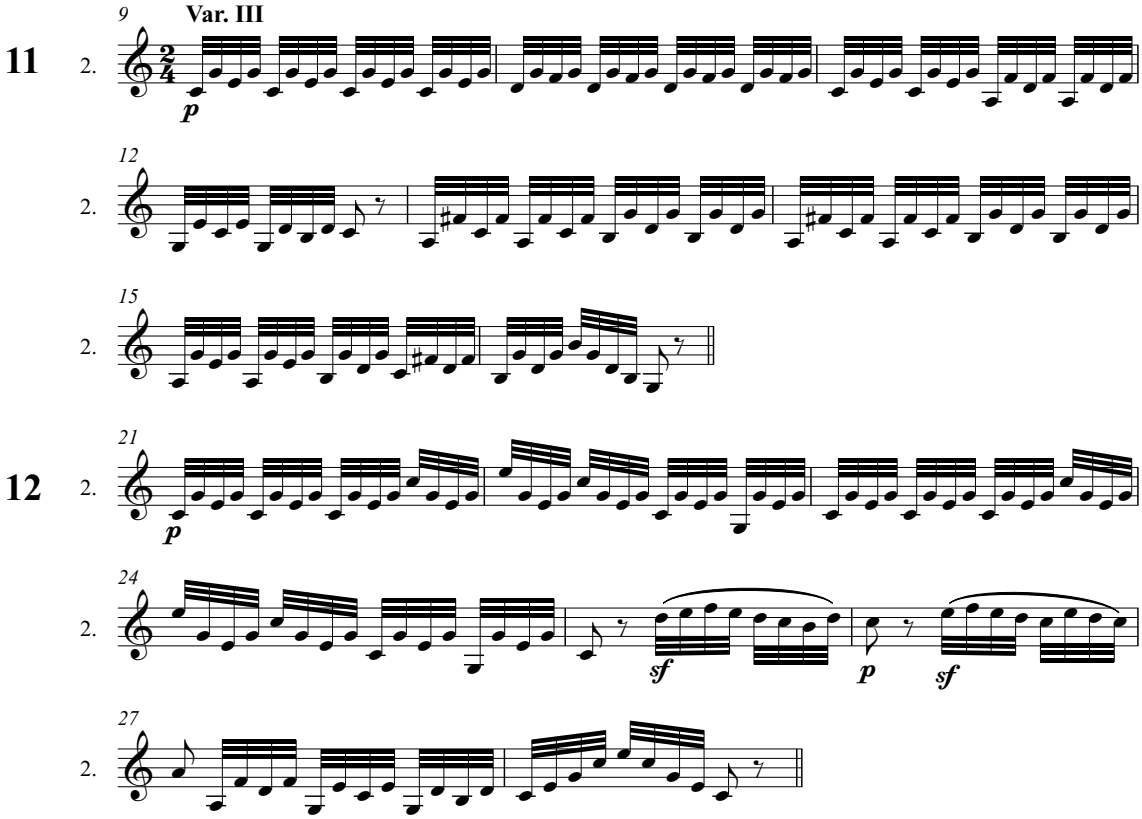
Mozart Serenade in C minor K388 178?



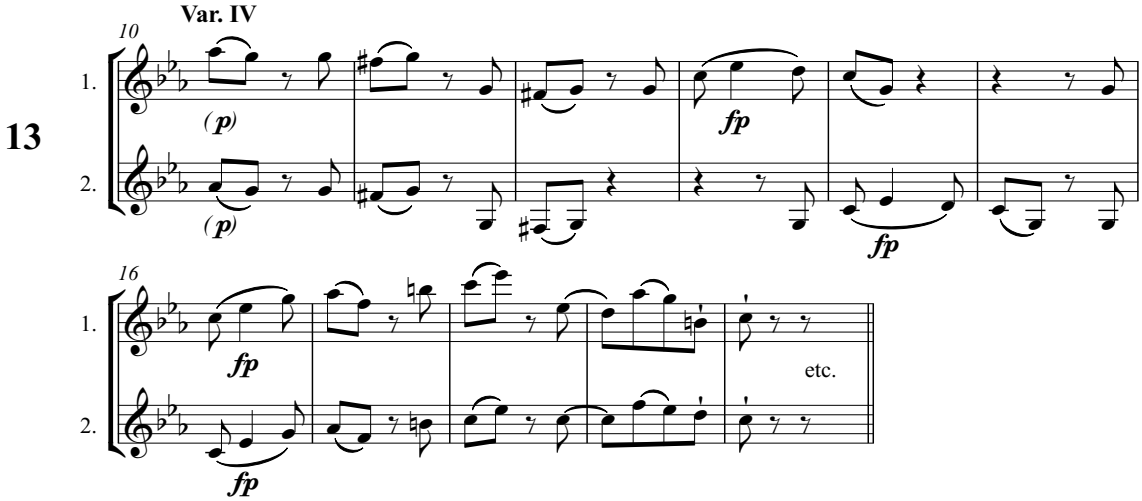
Mozart Serenade in B-flat K361 1781

6. Tema con variazioni

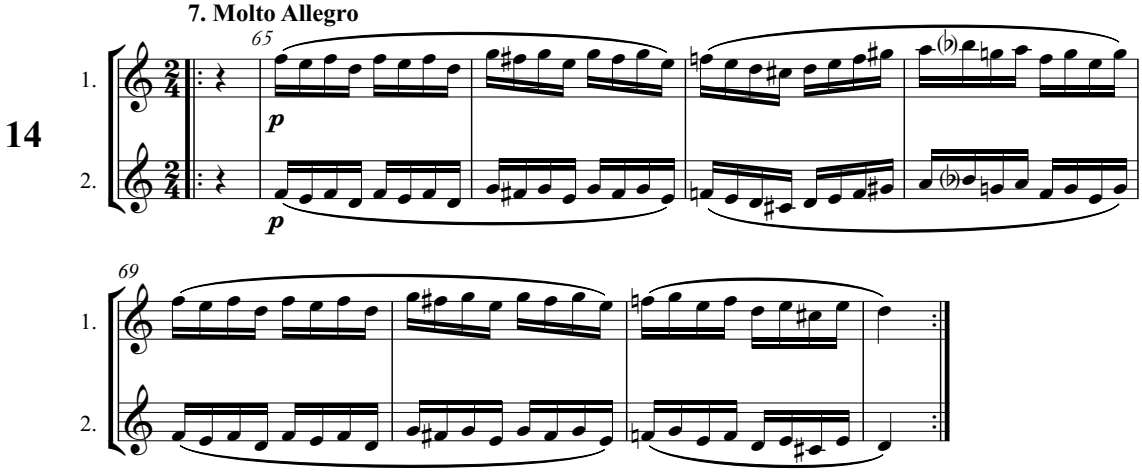
Var. III



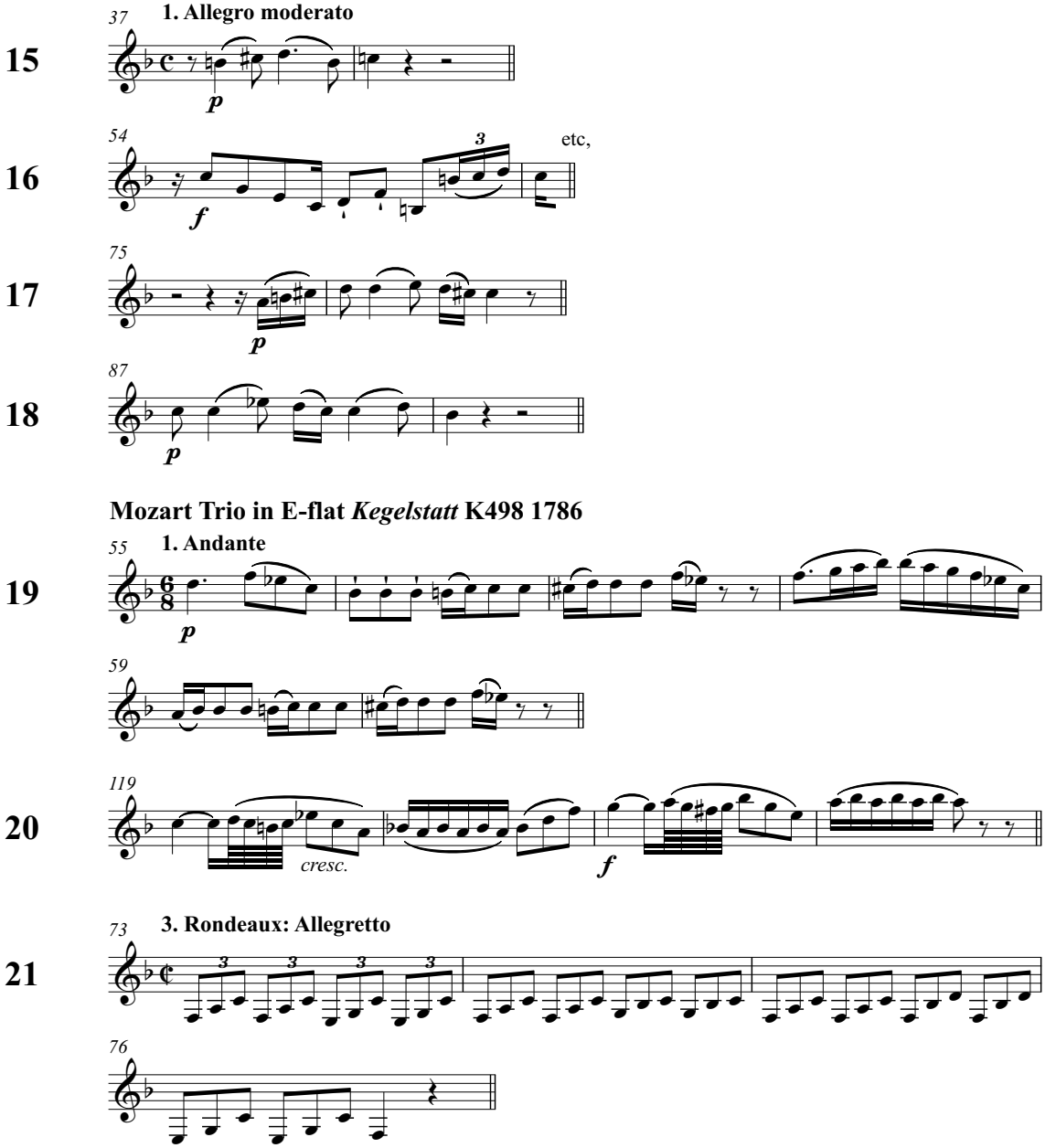
Var. IV



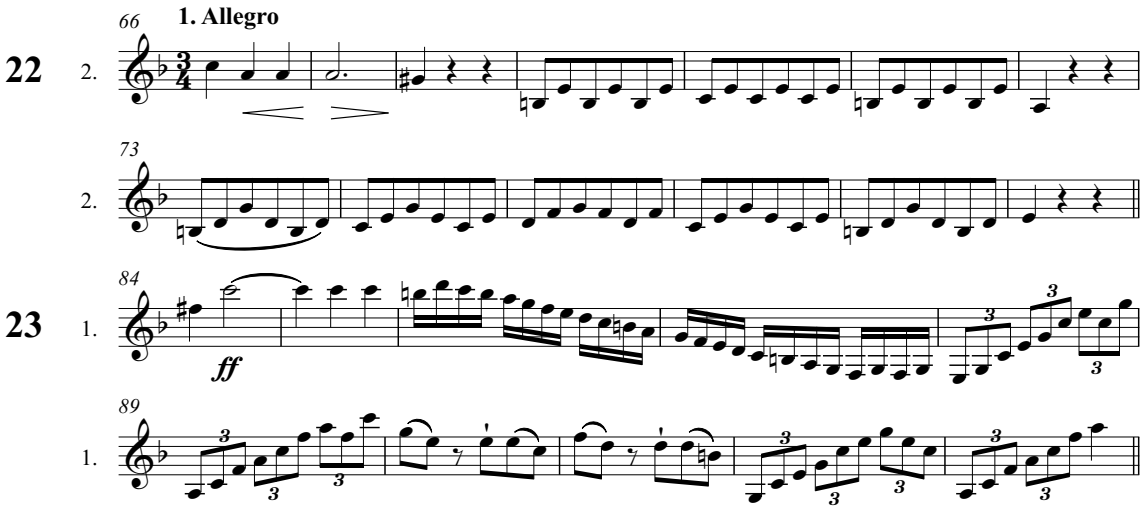
7. Molto Allegro



Mozart Quintet for Piano & Winds K452 1784

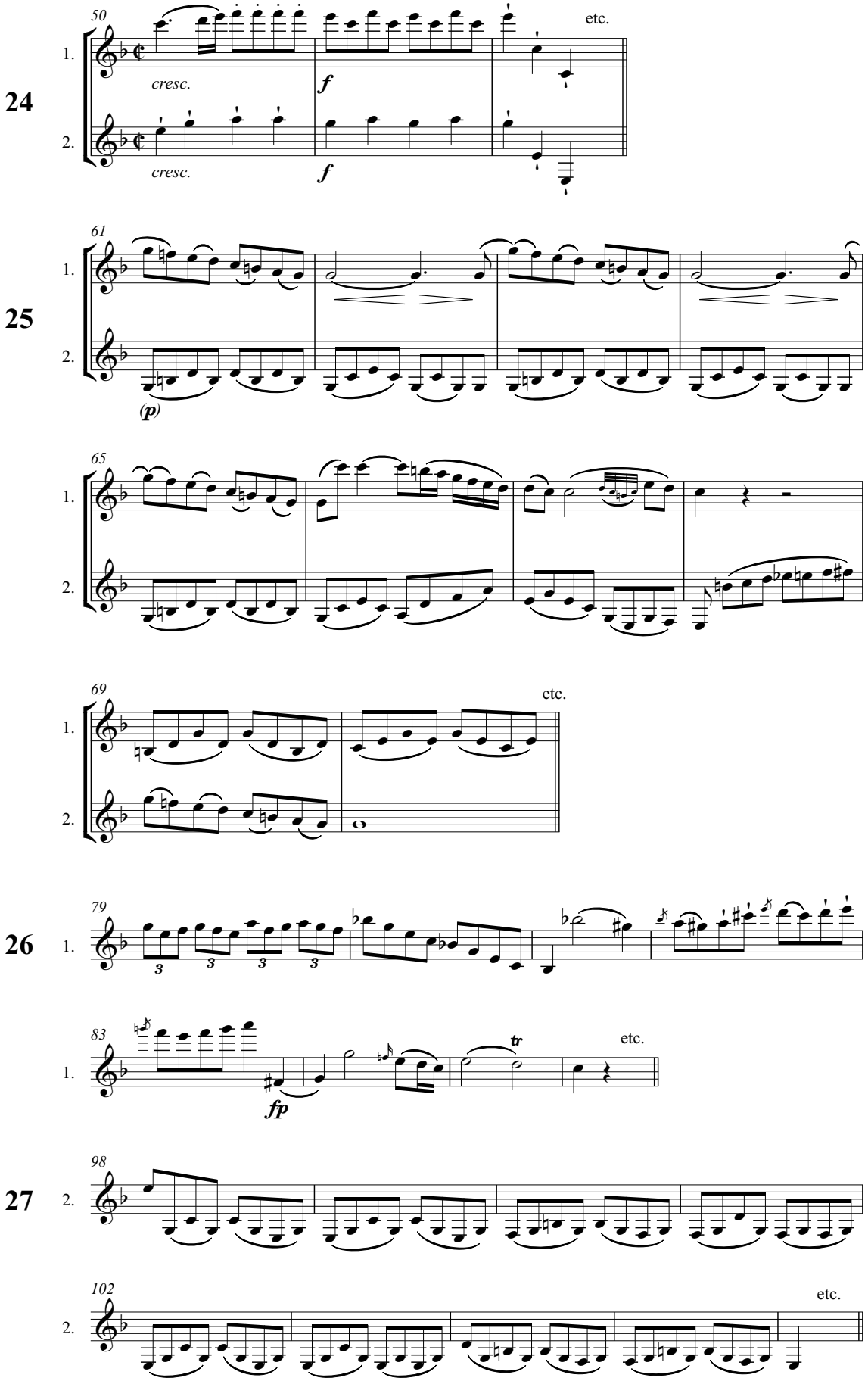


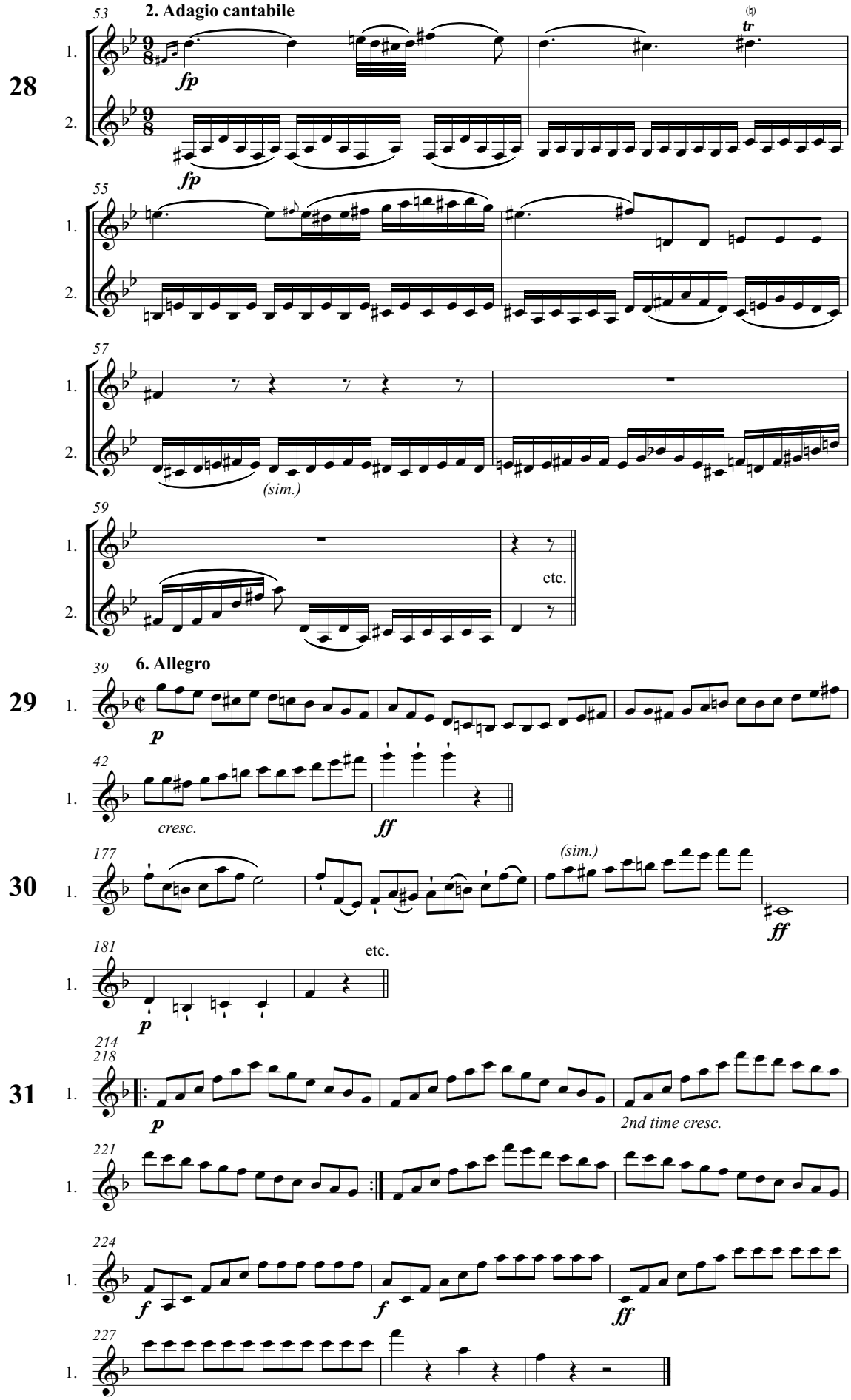
Beethoven Sextet in E-flat op. 71 1796?/1810



Beethoven arr. Czerny Septet in E-flat op. 20 arr. 1805

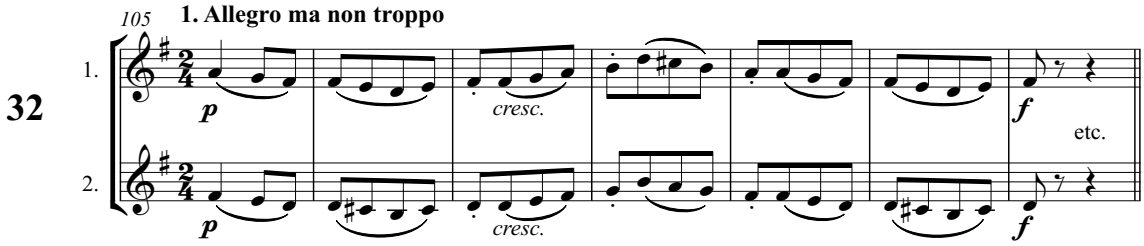
1. Allegro



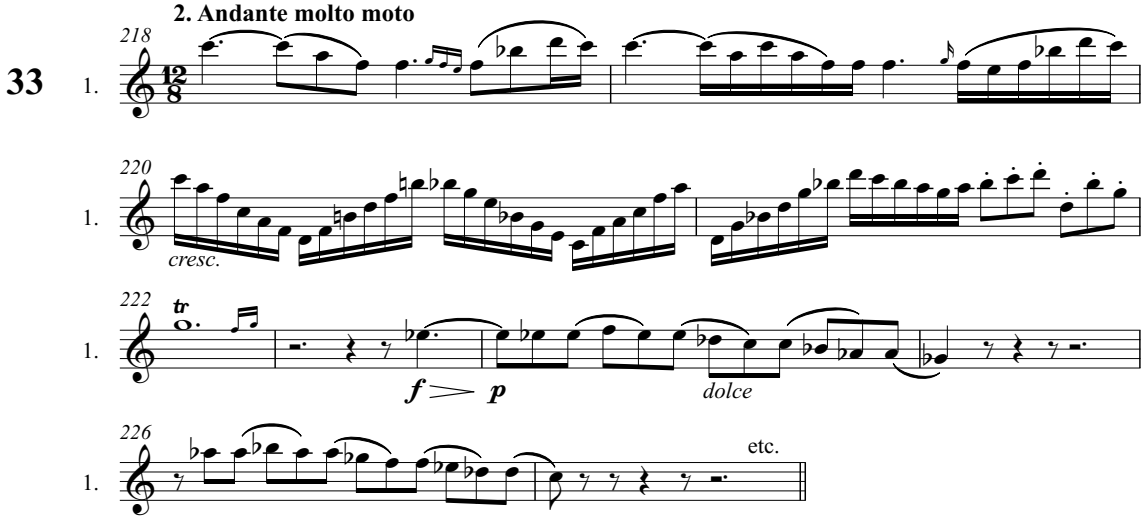

2. Adagio cantabile
53
28
1.
2.
fp
tr
55
57
(sim.)
59
etc.
6. Allegro
39
29
p
42
cresc.
ff
177
30
(sim.)
ff
181
etc.
p
214
218
31
p
2nd time cresc.
221
224
f
f
ff
227

Beethoven Symphony No. 6 in F *Pastoral* op. 68 1808

1. Allegro ma non troppo

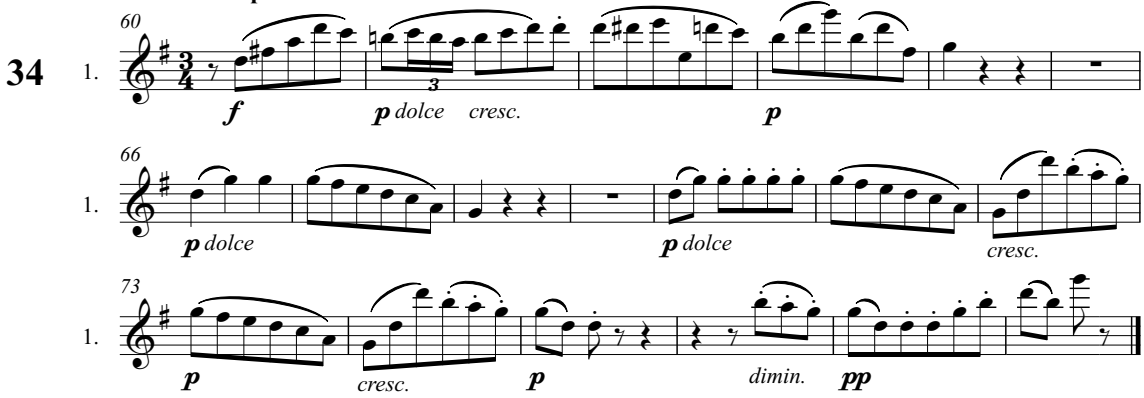


2. Andante molto moto



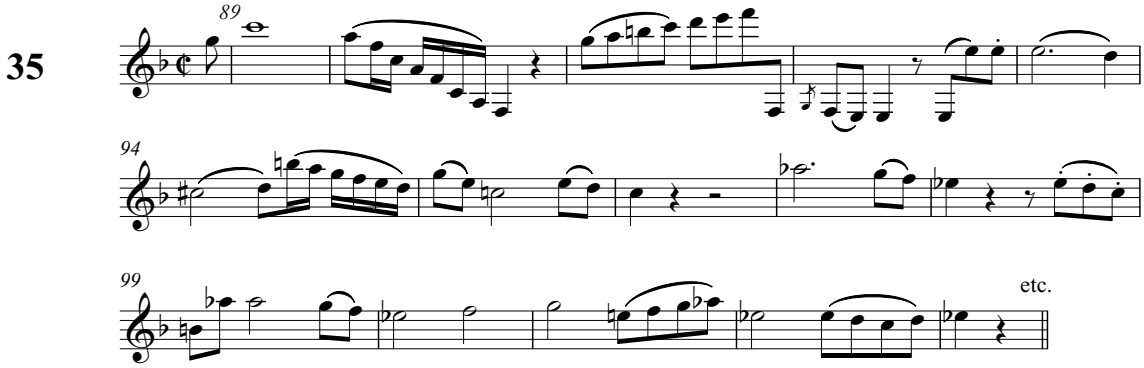
Beethoven Symphony No. 8 in F op. 93 1812

3. Tempo di Menuetto

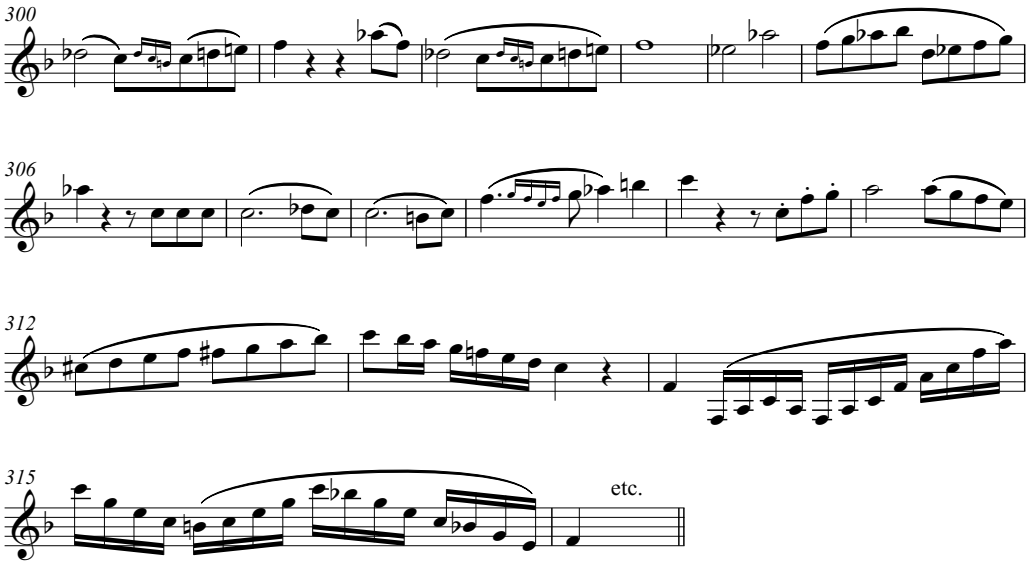


Krommer Clarinet Concerto No. 1 in E-flat op. 36 *c.*1803

1. Allegro

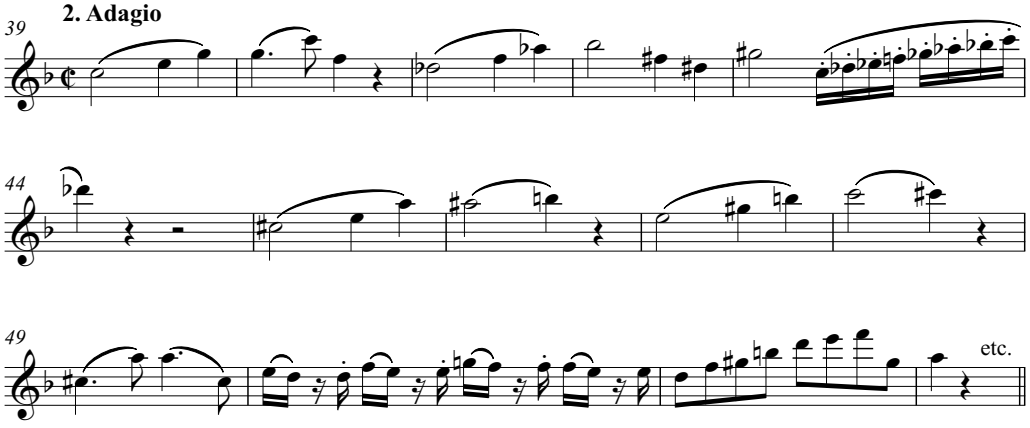


36



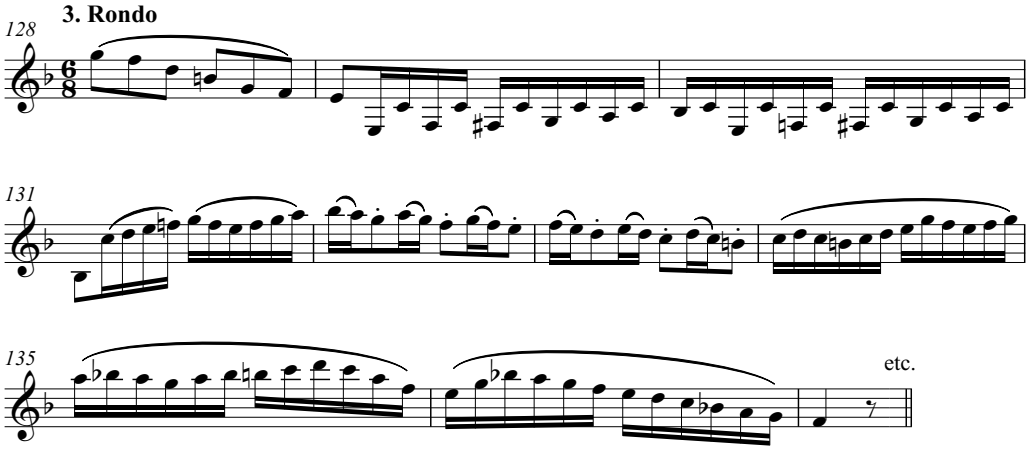
37

2. Adagio



38

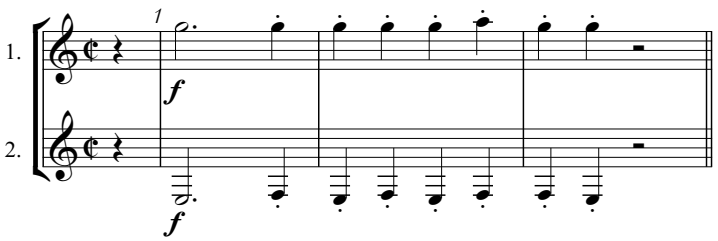
3. Rondo



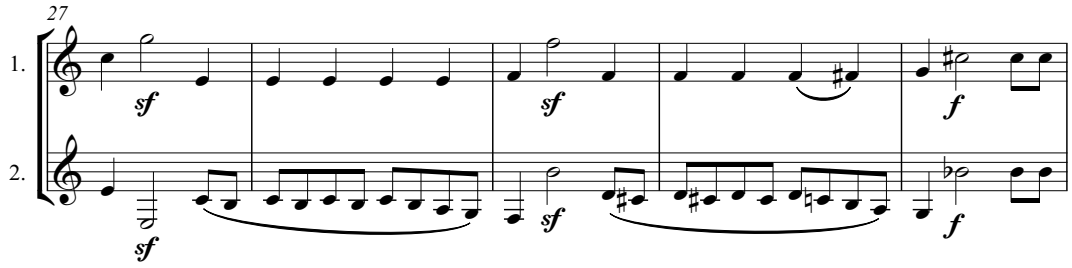
Krommer Partita in B-flat op. 45 no. 1 *c.*1803

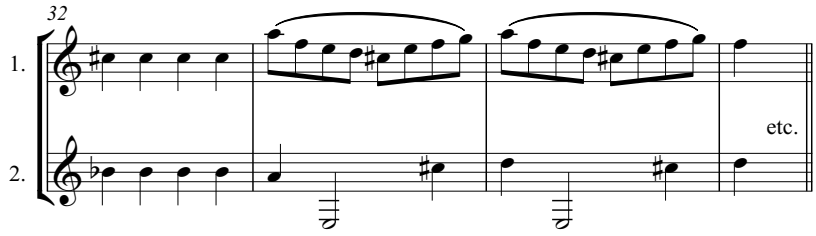
1. Allegro vivace

39

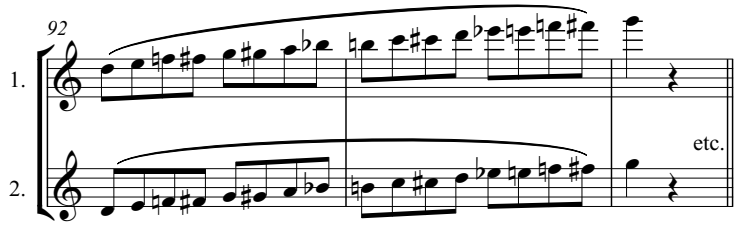


40





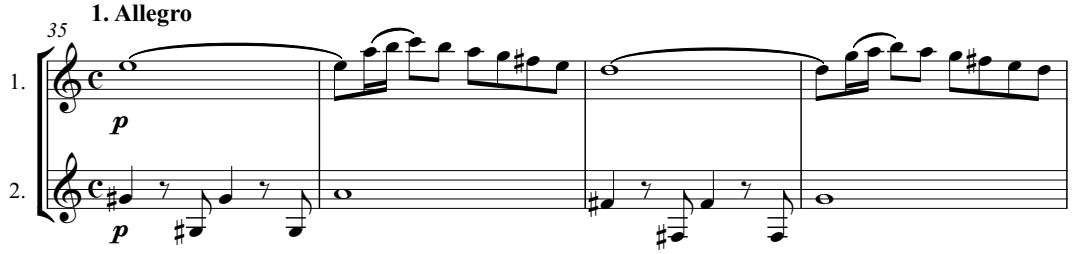
41

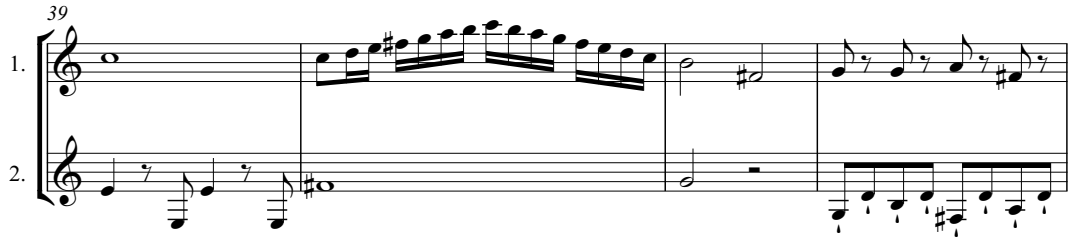


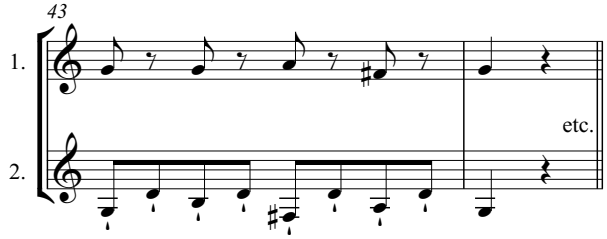
Krommer Partita in B-flat op. 45 no. 3 *c.*1803

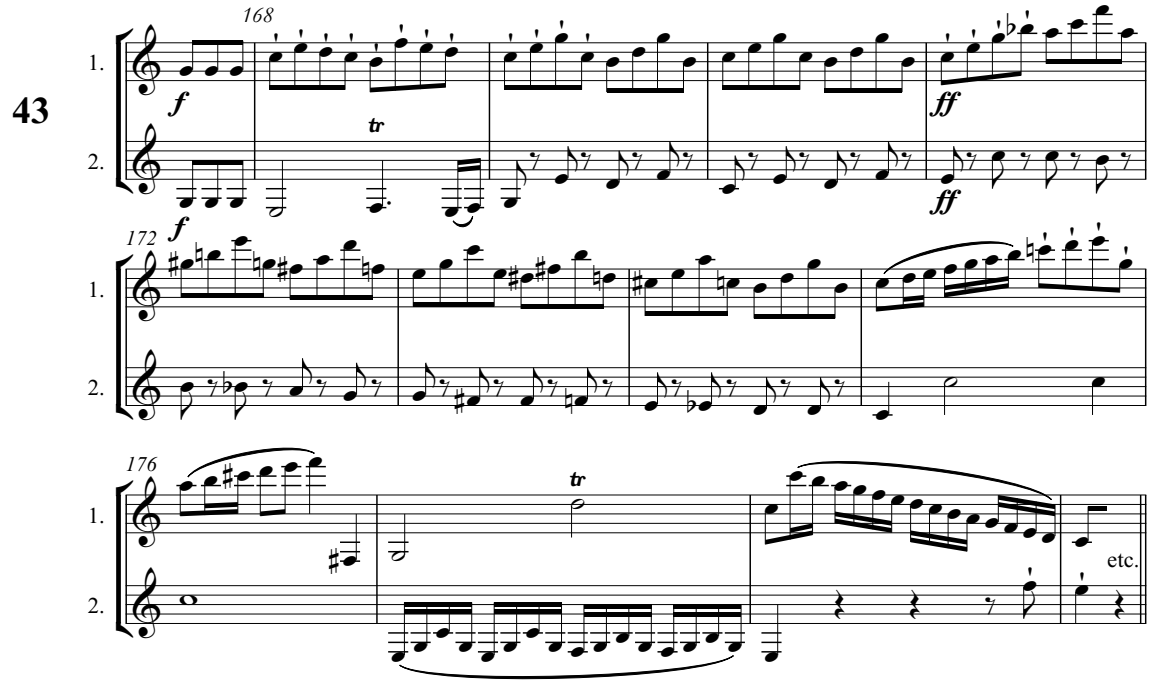
1. Allegro

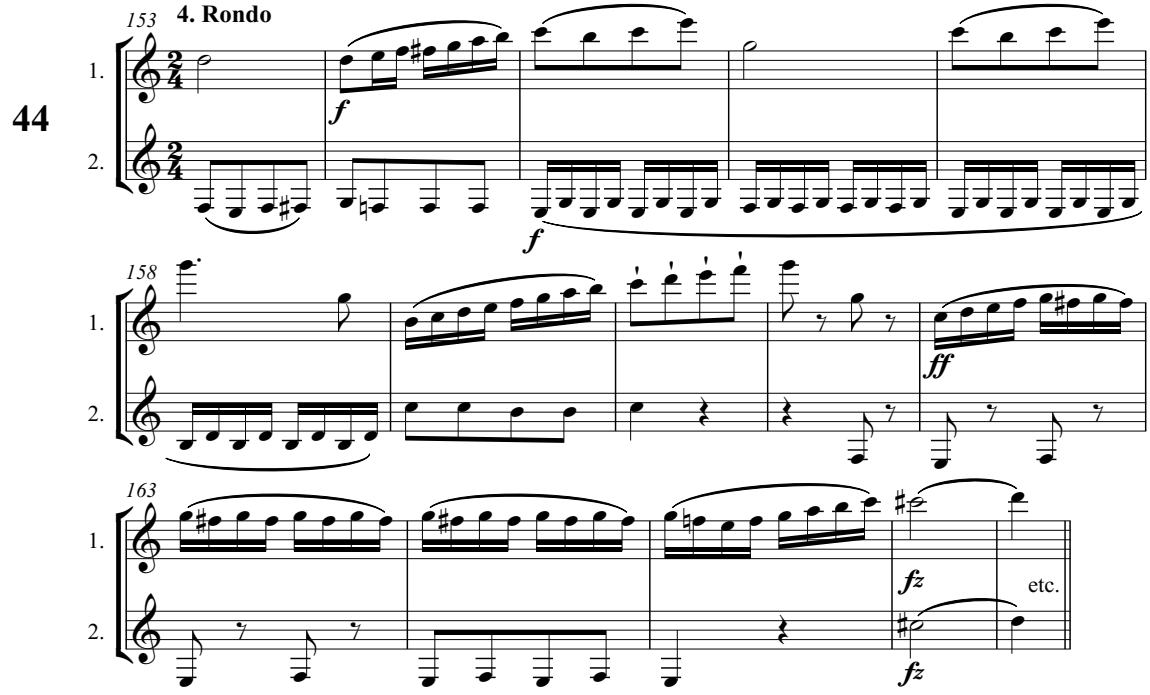
42



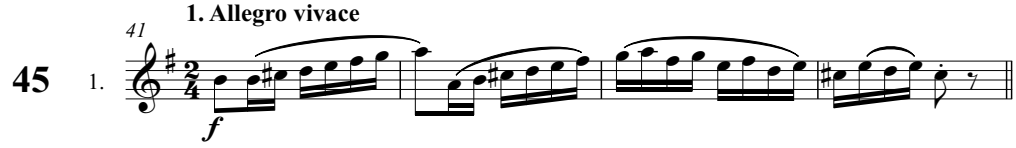


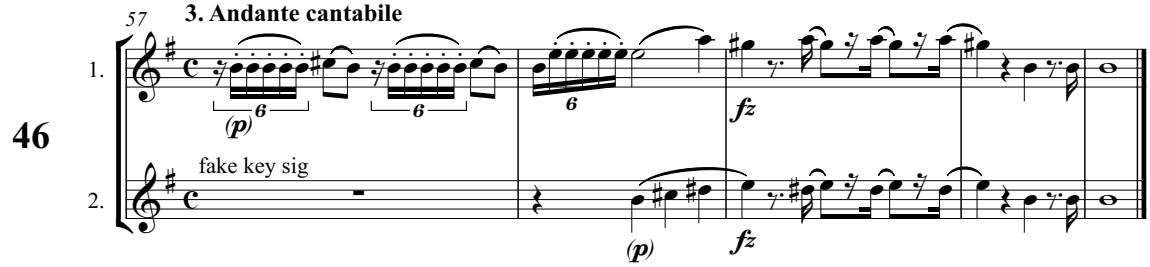






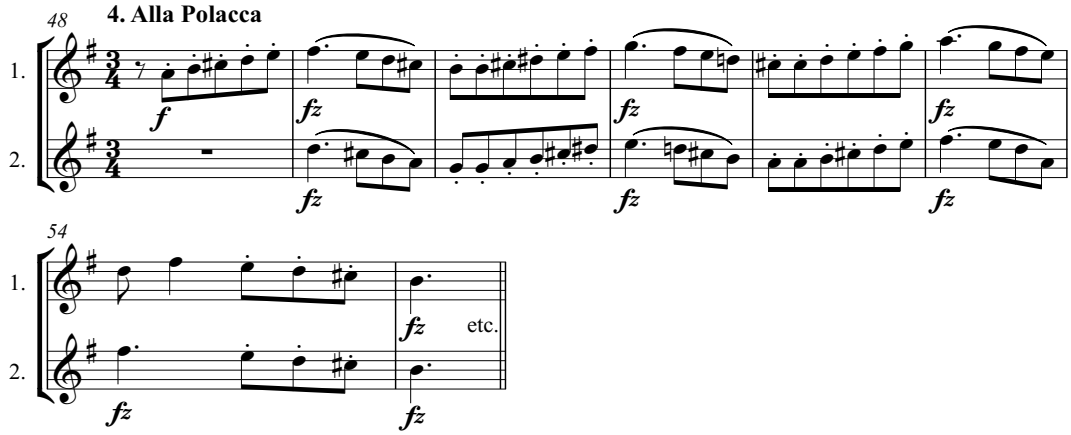
Krommer Harmonie in F op. 57 *c.*1807





4. Alla Polacca

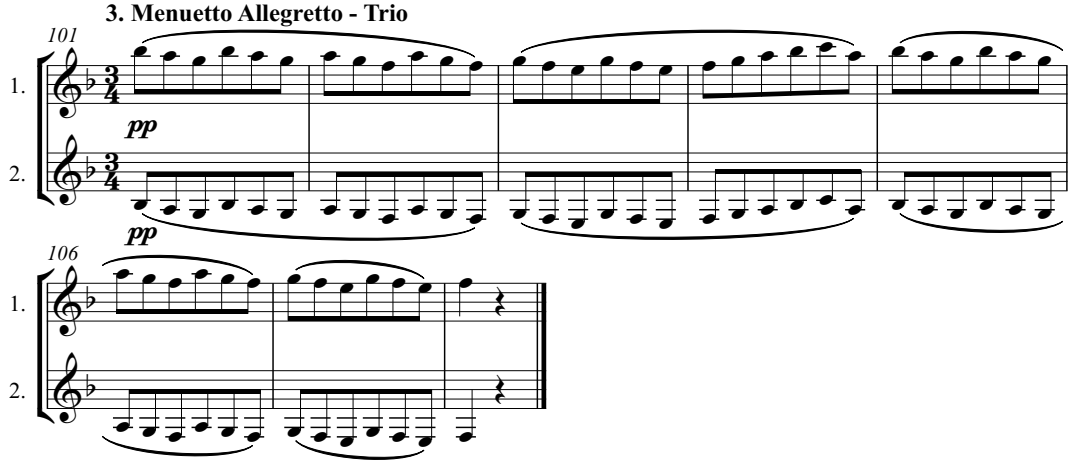
47



Krommer Harmonie in E-flat op. 69 *c.*1807

3. Menuetto Allegretto - Trio

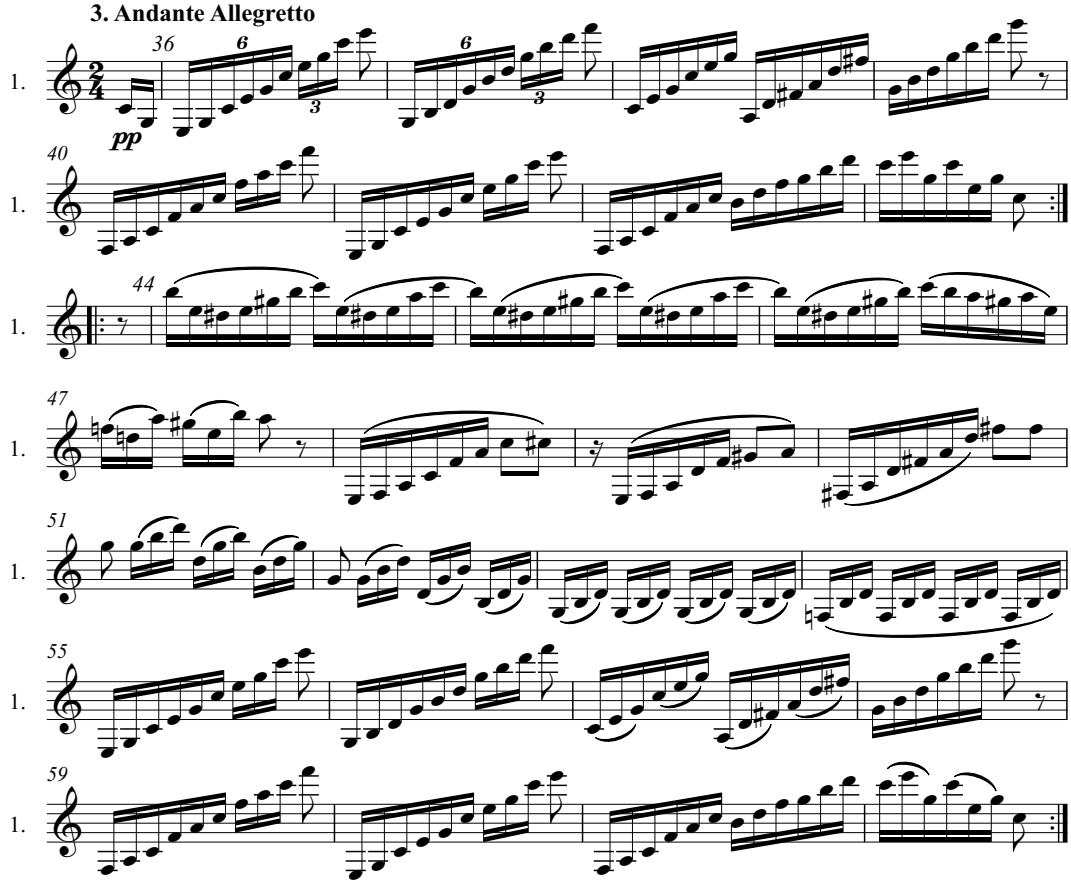
48



Krommer Harmonie in E-flat op. 71 *c.*1807

3. Andante Allegretto

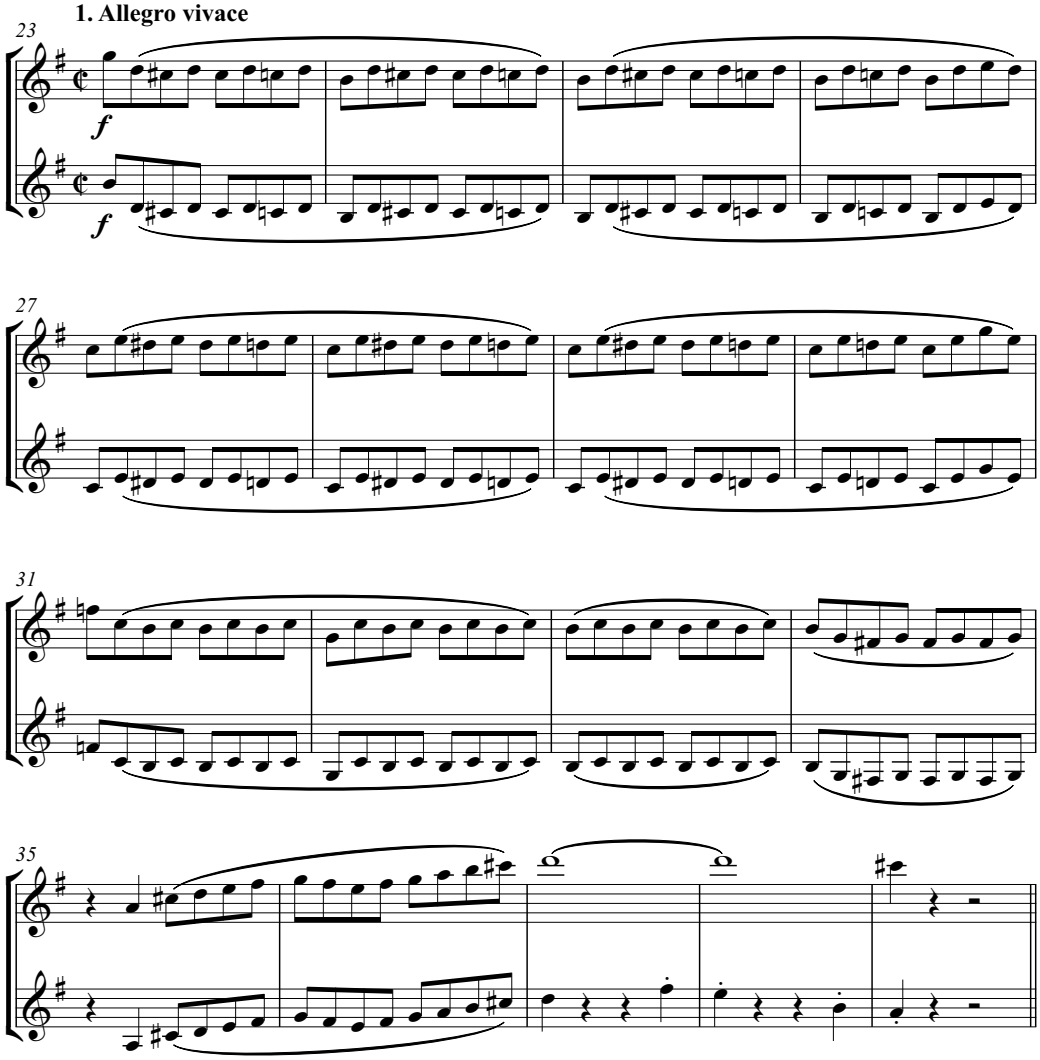
49



Krommer Harmonie in F op. 73 *c.*1810

1. Allegro vivace

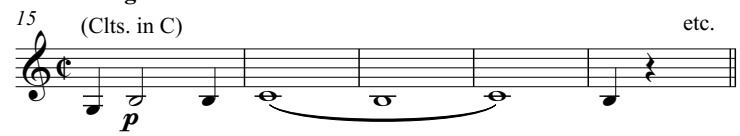
50



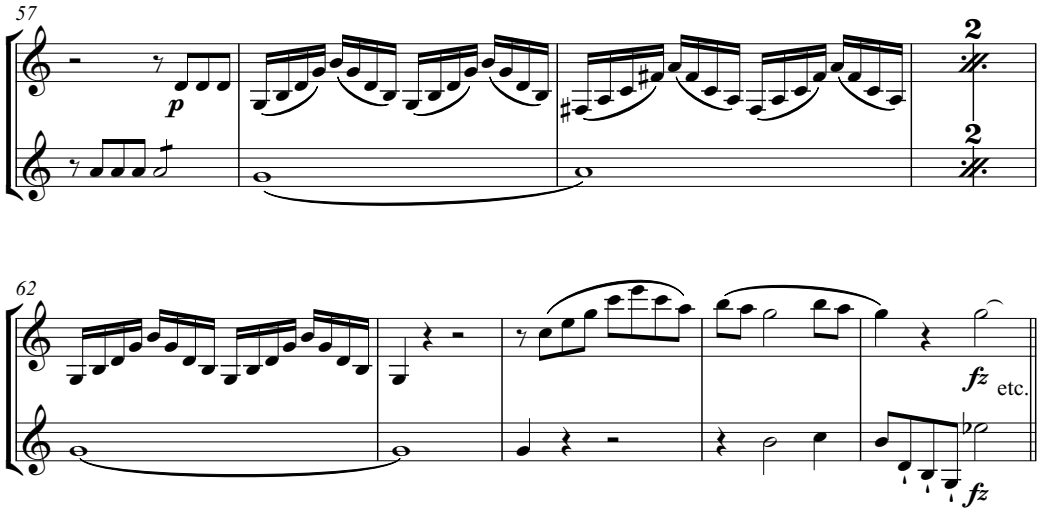
Krommer Harmonie in C op. 76 *c.*1810

1. Allegro con brio

51



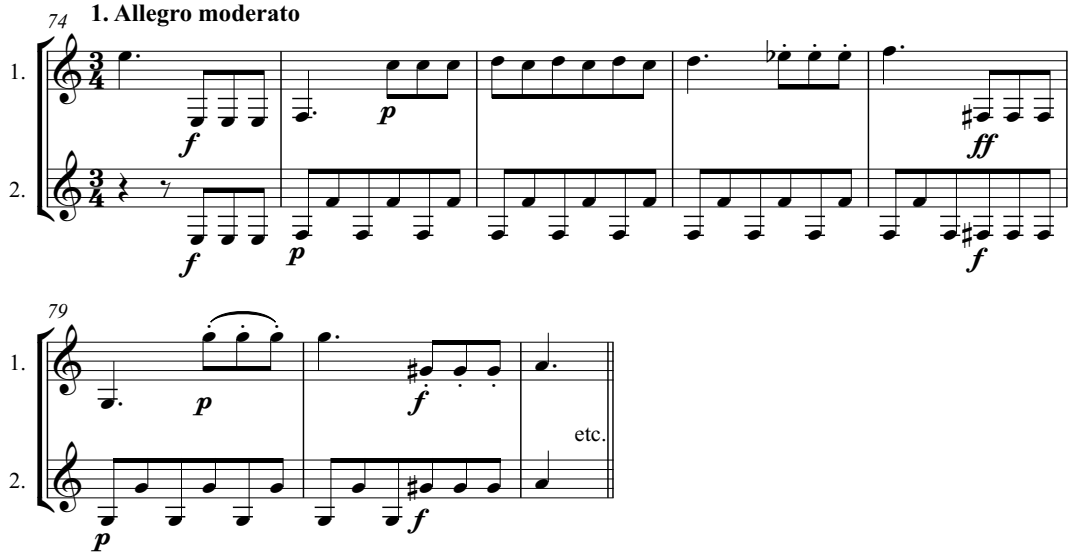
52



Krommer Harmonie in B-flat op. 78 *c.*1810

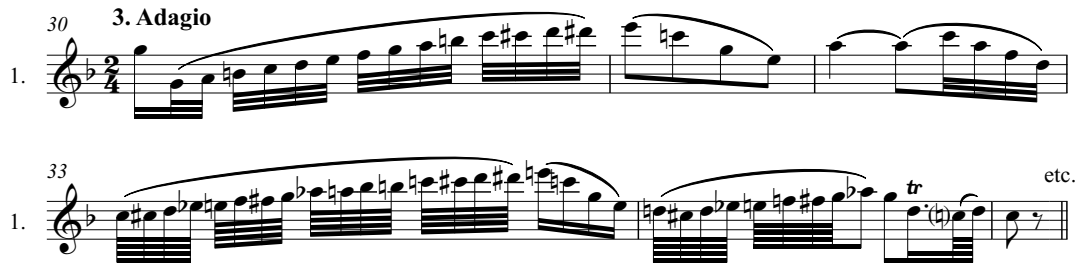
53

1. Allegro moderato



54

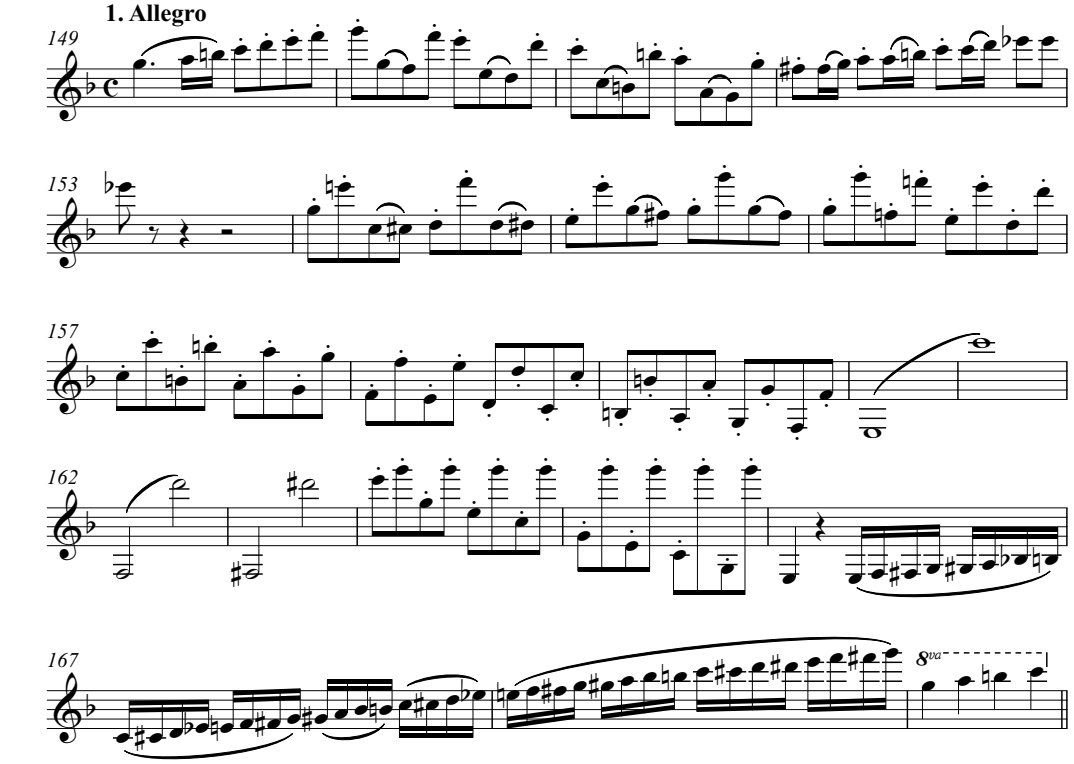
3. Adagio

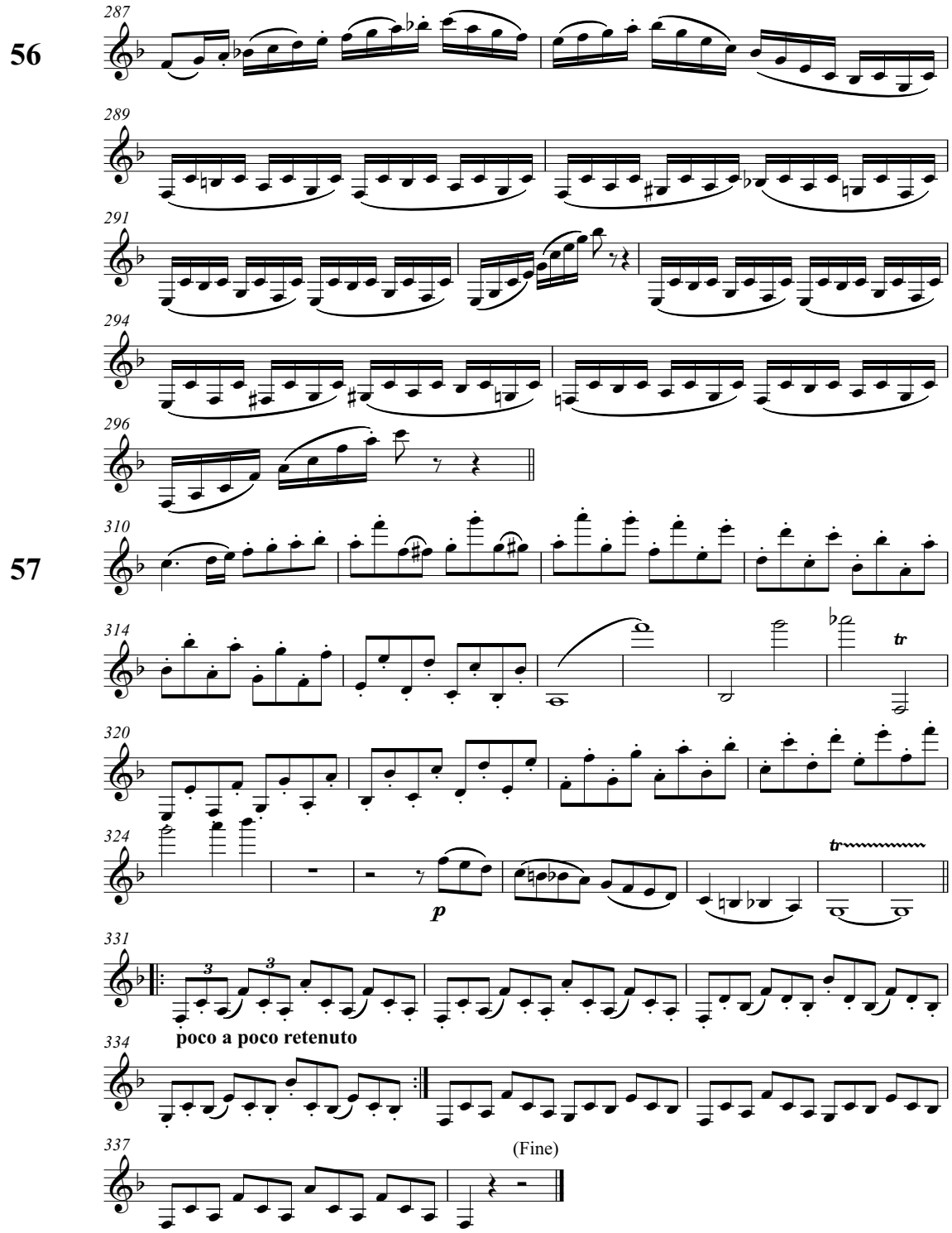


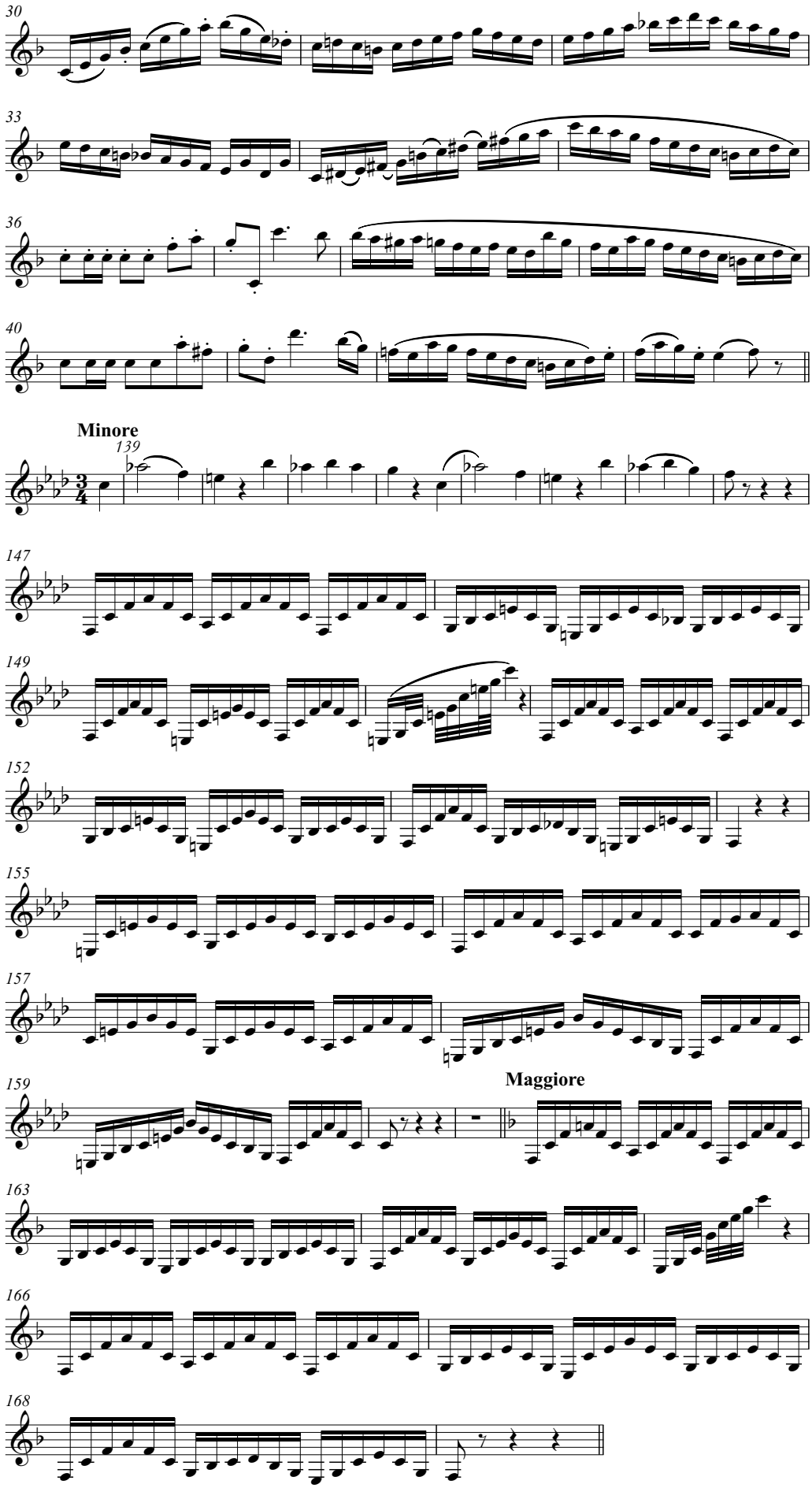
Tausch Concerto in E-flat [c.1800?] from m/s Mus.ms. 30077 in Berlin Staatsbibliothek

55

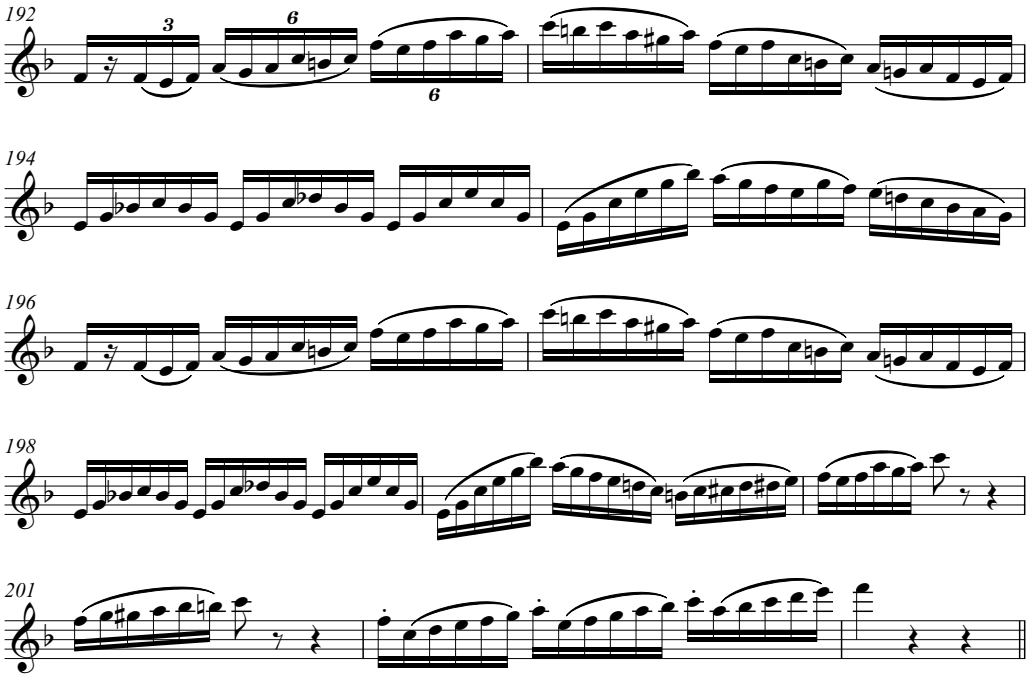
1. Allegro




56
287
289
291
294
296
57
310
314
320
324
p
tr
331
3
3
poco a poco retenuto
334
337
(Fine)
58
16
3. Polonaise
p
22
27

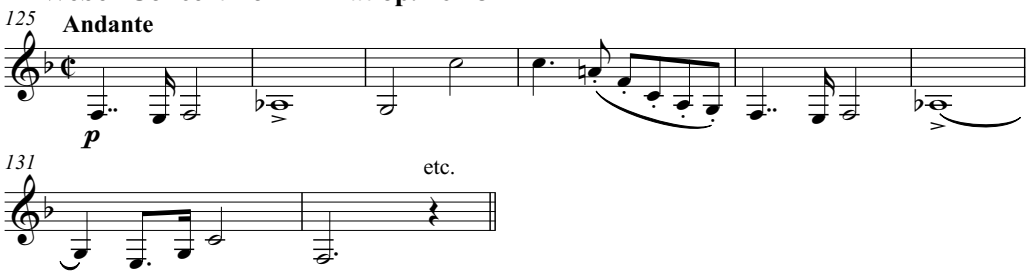

30
33
36
40
Minore
139
59
147
149
152
155
157
Maggiore
159
163
166
168

60

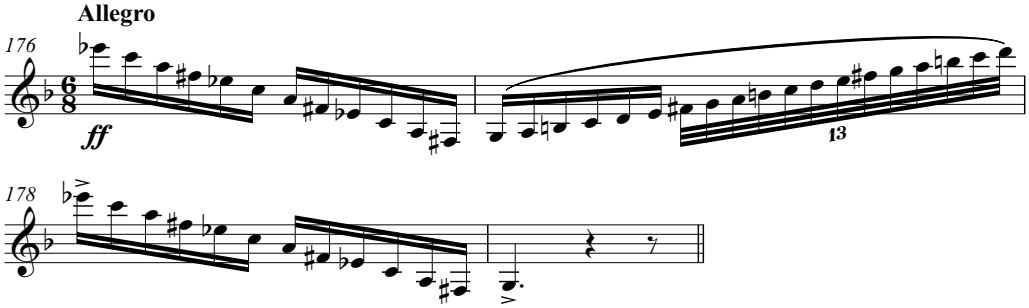


Weber Concertino in E-flat op. 26 1811

61

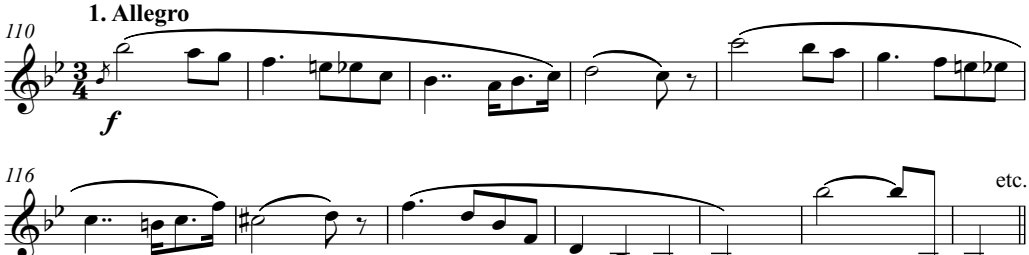


62

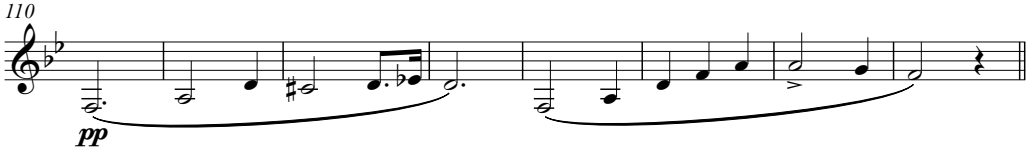


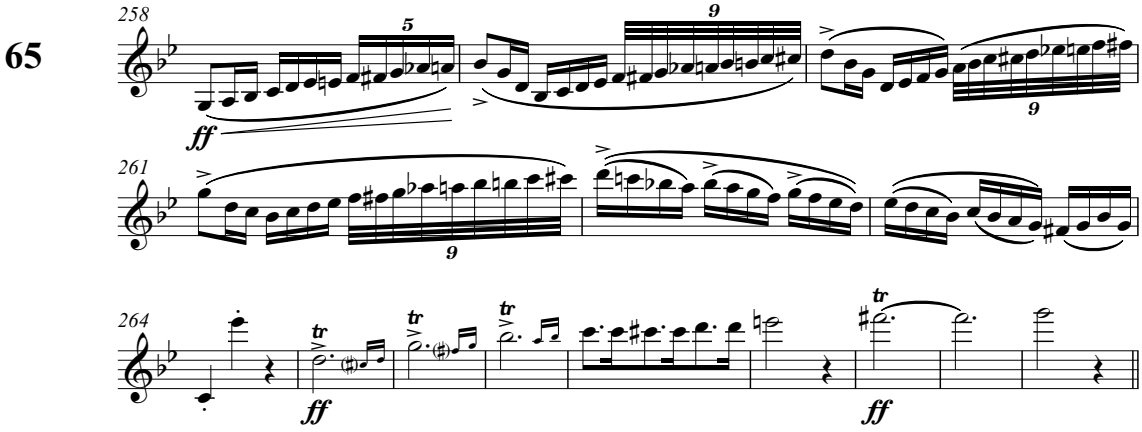
Weber Concerto no. 1 in F minor op. 73 1811 (Weston version of m/s)

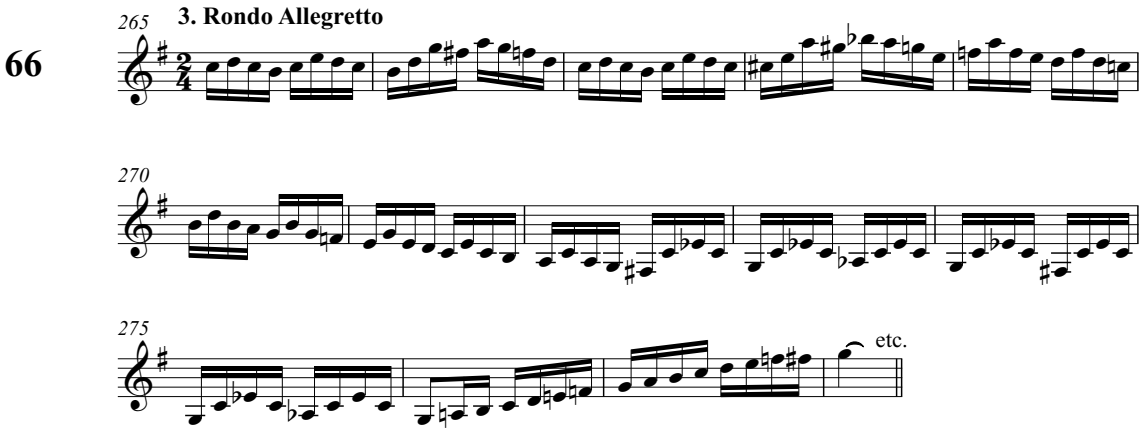
63



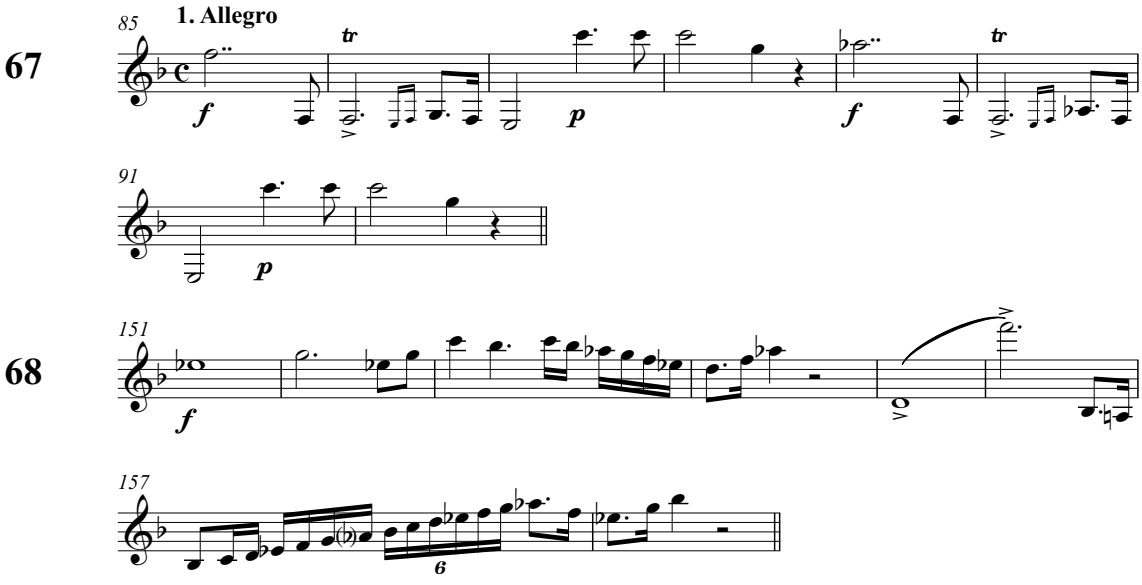
64





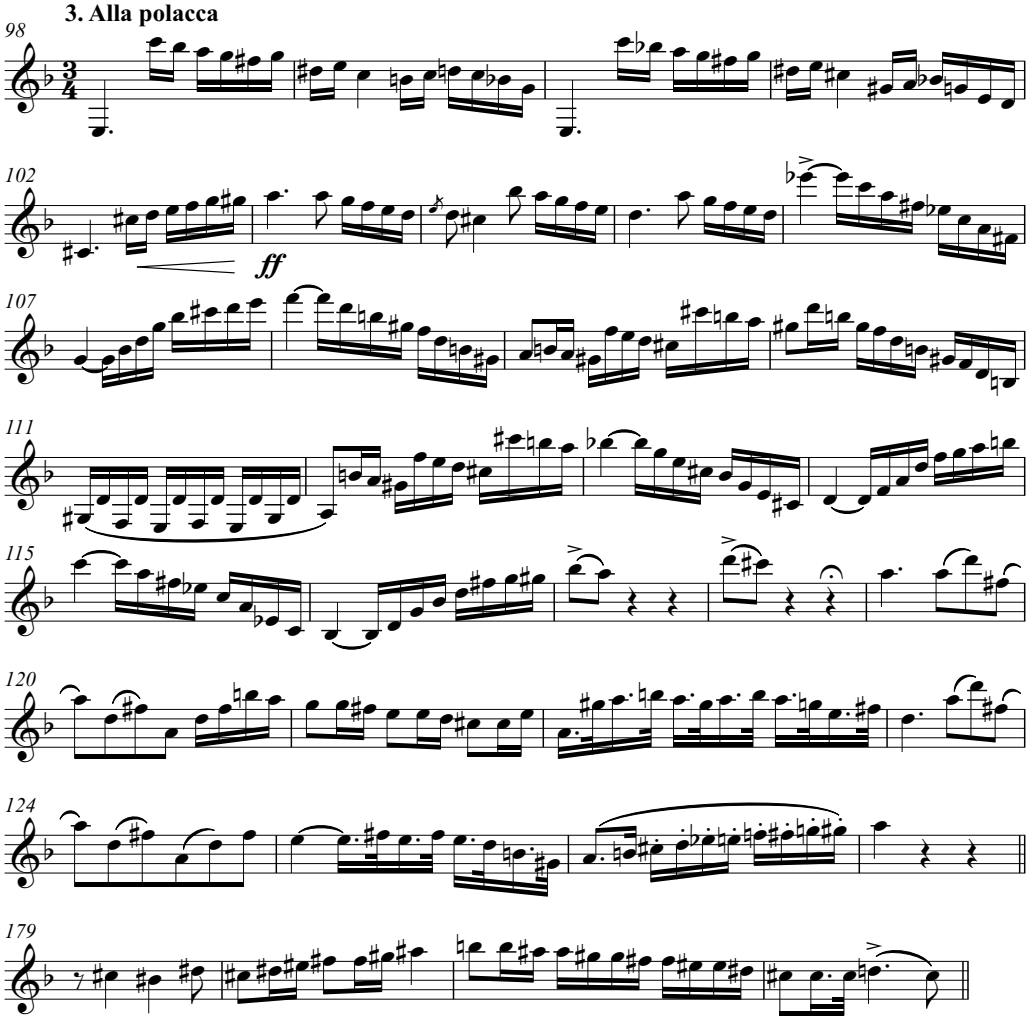


Weber Concerto no. 2 in E-flat op. 74 1811 (Weston version of m/s)



3. Alla polacca

70

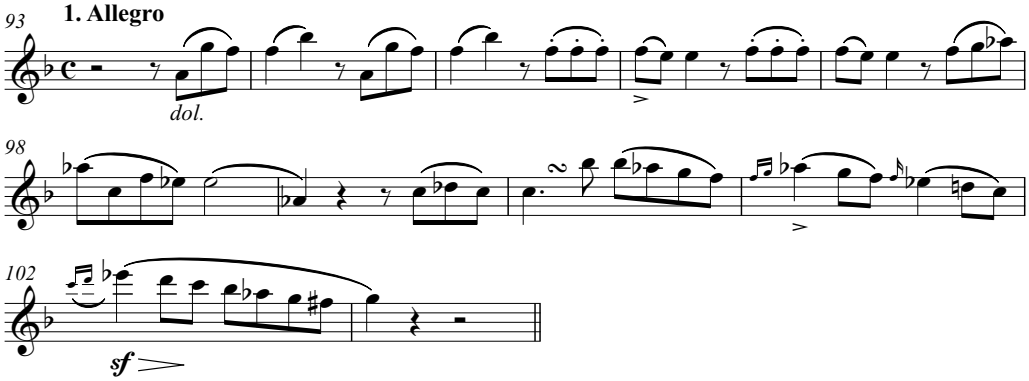


71

Crusell Concerto no. 1 in E-flat op. 1 1811 (from 1st edition)

1. Allegro

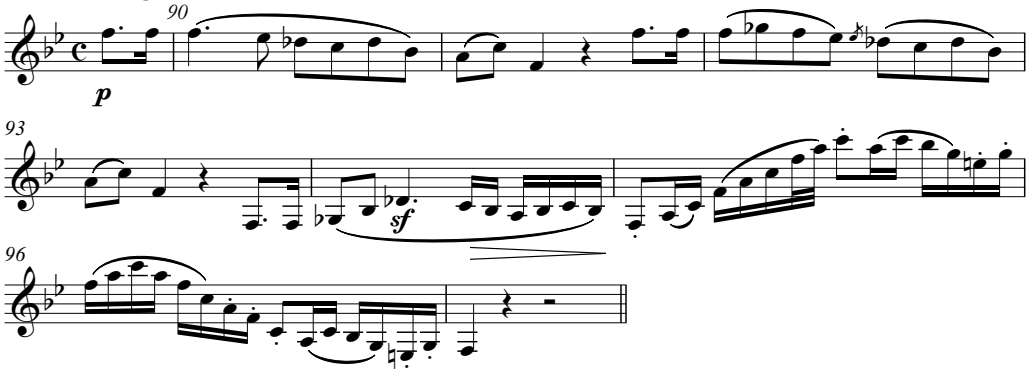
72

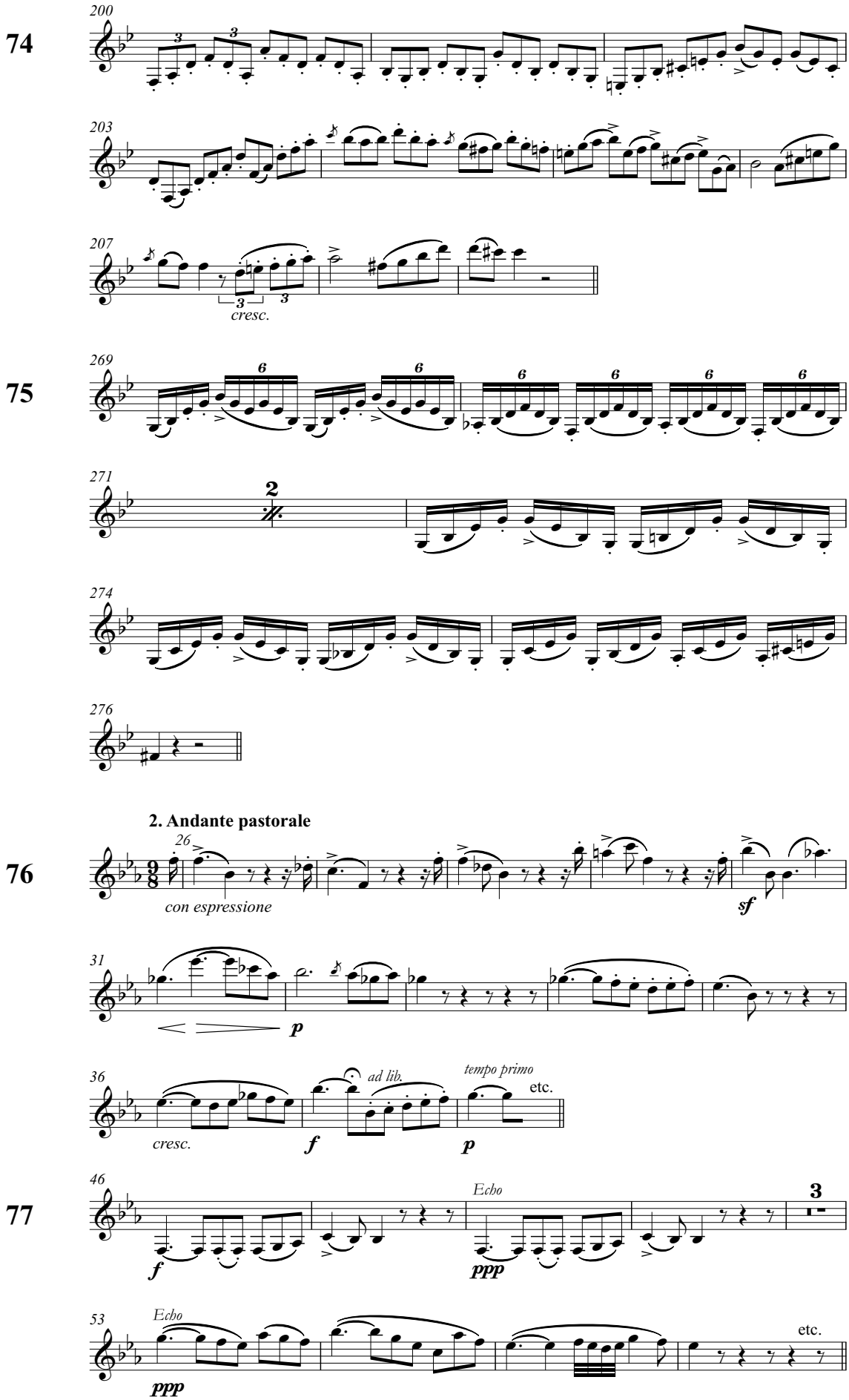


Crusell Concerto no. 2 in F minor op.5 *c.*1818 (from UE Urtext edition)

1. Allegro

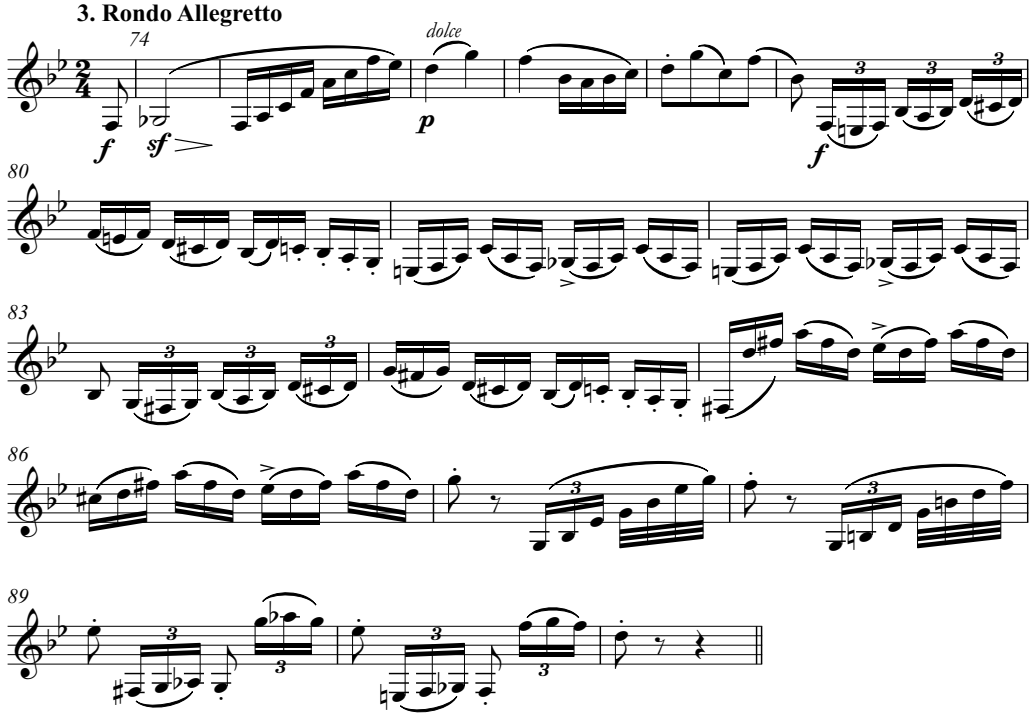
73



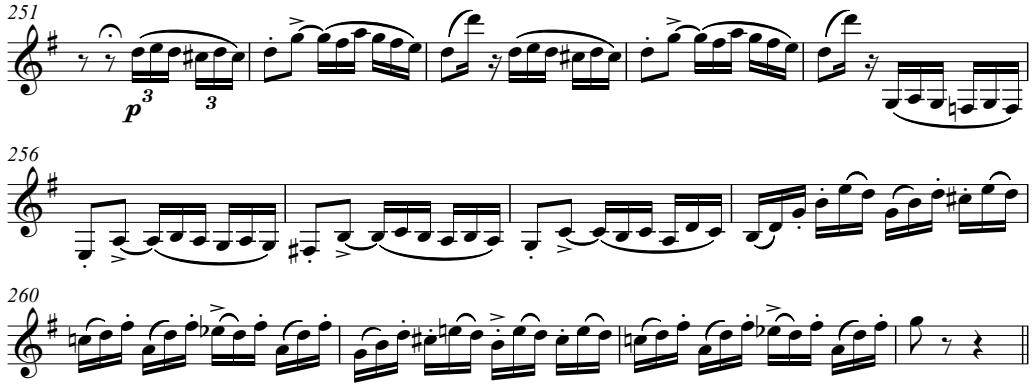

74
200
203
207
cresc.
75
269
271
274
276
2. Andante pastorale
76
26
con espressione
sf
31
p
36
cresc.
f
ad lib.
tempo primo
p
etc.
77
46
f
Echo
ppp
3
53
Echo
ppp
etc.

3. Rondo Allegretto

78



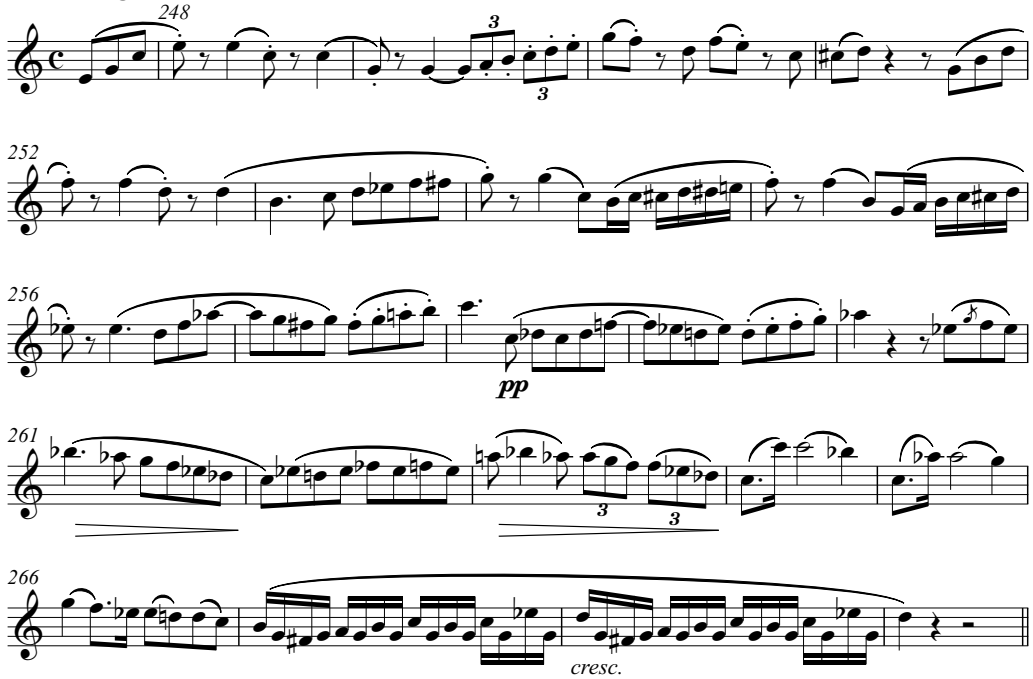
79



Crusell Concerto no. 3 in B-flat op. 11 publ. 1829

1. Allegro risoluto

80



Bibliography

Scores:

Beethoven, Ludwig van, *Septet op. 20*, arr. Carl Czerny (1805), ed. Robert Percival (2013) from manuscript score held by Staatsbibliothek zu Berlin - PK, Artaria Sammlung, PPN821277154

Beethoven, Ludwig van, *Sextett Es-Dur op. 71, Marsch WoO 29*, ed. Egon Voss (Munich: Henle, 2011)

Beethoven, Ludwig van, *Sonate Pathétique* [op. 13] (Vienna: Eder, n.d. [1800], plate number 128), online facsimile retrieved from imslp.org

Beethoven, Ludwig van, *Sonate Pathétique op. 13*, arr. anonymous as *Harmonie pour Deux Hautbois* […] *arrangée de Sonate pathetique* (Vienna: Chemsiche Druckerei, 1810, plate number 1488), ed. Robert Percival (2015) from parts held by Hohenloe-Zentralarchiv, Neuenstein, Oe 251.

Beethoven, Ludwig van, *Sonate Pathétique op. 13 for [wind nonet]*, arr. anonymous, ed. Martin Harlow (Bologna: Ut Orpheus, 2006)

Beethoven, Ludwig van, *Grande Sonate [in E-flat]*, *op. 7* (Vienna: Artaria, n.d. [1797]), online facsimile retrieved from imslp.org

Beethoven, Ludwig van, 'Sonate [in E-flat], op. 7', in *Beethoven Klaviersonaten Band 1*, ed. B. A. Wallner (Munich: Henle, 1980)

Beethoven, Ludwig van, 'String Quartet in F, op. 18 no. 1', in *Beethoven Complete String Quartets*, (Leipzig: Breitkopf & Härtel, n.d., reprinted New York: Dover, 1970)

Beethoven, Ludwig van, *String Quartet in F, op. 18 no. 1*, ed. Jonathan Del Mar (Kassel: Bärenreiter, 2007)

Beethoven, Ludwig van, *String Quartet in F, op. 18 no. 1 (Amenda Version, Hess 32)*, ed. Paul Mies (Munich: Henle, 1962)

Beethoven, Ludwig van, *Symphony No. 7*, arr. anonymous (Vienna: S.A. Steiner und Comp., 1816, plate number 2563), ed. Robert Percival (2017) from parts held by Archiv David Whitwell, Budesakademie, Trossingen

Beethoven, Ludwig van, *Symphony No. 7 in A, op. 92*, ed. Jonathan Del Mar (Kassel: Bärenreiter, 2000)

Haydn, Josef, *The Creation*, arr. Georg Druschetzky, ed. Roger Hellyer (Ampleforth: Emerson Edition, 2002)

Haydn, Josef, *Symphony 'No. 92 Oxford',* arr. Josef Triebensee, ed. Bastiaan Blomhert (The Hague, 1988)

Krommer, Franz, *Sinfonie a Grand Orchestre [in F] op. 12* (Offenbach: André, n.d. [*c*1805], plate number 1105), online facsimile retrieved from Bayerische Staatsbibliothek, Munich

Krommer, Franz, *Symphony, Op. 12*, arr. Josef Triebensee, ed. Nessa Glen (London: Sarastro, 2000)

Mozart, W. A., *La Clemenza di Tito*, arr. Josef Triebensee, ed. H. Voxman (London: Musica Rara, 1977)

Mozart, W. A., *Don Giovanni*, arr. Josef Triebensee, ed. H. Voxman (London: Musica Rara, 1976)

Mozart, W. A., *Marriage of Figaro [Le nozze di Figaro]*, arr. Johann Nepomuk Wendt, ed. R. Block, and H. Voxman (London: Musica Rara 1975)

Mozart, W. A., *Serenade in E-flat a 6*, as *Serenate […] Oeuvre 27me*, *K375* (Offenbach: André, n.d. [1792], plate number 530) copy held by British Library, London, shelf ref: h.405.y

Mozart, W. A., *Serenade in E-flat* (six-part version), as *Pièce d'Harmonie […] Liv. 3 No. 6* (Leipzig: Breitkopf & Härtel, n.d. [1804], plate number 202) online facsimile retrieved from Bayerische Staatsbibliothek, Munich

Mozart, W. A., *Serenade in E-flat a 6, K375*, ed. Daniel N. Leeson, and Neal Zaslaw (Kassel: Bärenreiter, 1979)

Mozart, W. A., *Symphony in E-flat major 'no. 39' K543*, ed. H. C. Robbins Landon (Kassel: Bärenreiter, 1958)

Mozart, W. A., *Symphony nr. 39, movement 1, arranged for 2 oboes, 2 clarinets […]*, arr. Josef Triebensee, [ed. n.n.] (Amsterdam: Compusic, n.d. [*c*1990])

Mozart, W. A., *Symphony in G minor 'no. 40' K550*, (both versions) ed. H. C. Robbins Landon (Kassel: Bärenreiter, 1986)

Mozart, W. A., *Pieces d'Harmonie* (arrangement of the Horn Quintet K407 and String Trio K563), arr. anonymous (Leipzig: Breitkopf & Härtel, n.d. [*c*1805], plate number 285), ed. Robert Percival (2015)

Mozart, W. A., *Grande Serenade tirée des oeuvres de Mozart* (arrangement of String Quintet in E-flat K614), arr. [Johann Christoph?] Stumpf, ed. Hanno Fendt (Warngau: Accolade, 2003)

Weber, Carl Maria von, *Concertino Opus 45 for Horn and Orchestra, Piano Reduction*, ed. Domink Rahmer (Munich: Henle, 2018)

Historical Sources:

Almenraeder, Carl, *Die Kunst des Fagottblasens, oder Vollständige theoretisch praktische Fagottschule* (Mainz: B. Schötts Söhne, n.d. [1842], plate number 6783)

Anon., *Gamme de Clarinette* (Mainz: Schott, [1794], plate number 482) online facsimile retrieved from Bayerische Staatsbibliothek, Mus.Schott.Ha 656

Dauprat, Louis Francois, *Méthode de Cor-Alto et Cor-Basse* (original edition) (Paris: Zetter, c.1824) 3 vols, online facsimile retrieved from imslp.org

Dauprat, Louis Francois, *Method for Cor Alto and Cor Basse: Complete English translation of the first edition published by Zetter, ca. 1824*, ed. [and trans.] Viola Roth (Bloomington, IN: Birdalone Music, 1994)

Domnich, Heinrich, *Méthode de Premier et de Second Cor* (Paris: Le Roy, 1808) online facsimile retrieved from imslp.org

Duvernoy, Frédéric, *Méthode pour le Cor* (Paris: Le Roy, 1802) online facsimile retrieved from imslp.org

Francoeur, Louis-Joseph, *Diapason Générale de Tous les Instruments à vent* (Paris: Le Marchand, c.1772) online facsimile retrieved from imslp.org

Lefèvre, Jean Xavier, *Méthode de Clarinette* (Paris: Le Roy, 1802) online facsimile retrieved from imslp.org

Roeser, Valentin. *Essai d'instruction à l'usage […] pour la clarinette et le cor* (Paris: Mercier, 1764) online facsimile retrieved from imslp.org

Winch, Christopher, attrib., *The Compleat Tutor for the French Horn Containing the Best and Easiest Instructions for Learners to Obtain a Proficiency* (London: John Simpson, 1746) online facsimile obtained from imslp.org

Texts:

Agrell, Donna Christine, 'Repertoire for a Swedish Bassoon Virtuoso: Approaching Early Nineteenth-Century Works Composed for Frans Preumayr with an Original Grenser and Wiesner Bassoon', PhD dissertation, Leiden University, 2015

Anderson, Emily (ed.), *The Letters of Beethoven* (London: Macmillan, 1961), 3 vols

Baron, John H., *Intimate music: a history of the idea of chamber music* (New York: Pendragon, 1998)

Bate, Philip, *The Oboe* (London: Ernest Benn, 3rd edition, 1975)

Bauer, Wilhelm A., Otto Erich Deutsch, and Joseph Heinz Eibl (eds), *Mozart: Briefe und Aufzeichnungen* (Kassel: Barenreiter, 1962–2005), 8 volumes

Berio, Luciano, 'Translating Music', in *Remembering the Future* (The Charles Eliot Norton Lectures 1993), (Harvard University Press, 2006)

Blomhert, Bastiaan, 'The Harmoniemusik of "Die Entführung aus dem Serail" by Wolfgang Amadeus Mozart: Study About its Authenticity and Critical Edition', PhD dissertation, University of Utrecht, 1987

Busoni, Ferruccio, 'The Value of Arrangement' (Berlin, 1910), in *The Essence of Music and Other Papers* transl. Rosamond Ley (London: Rockliff, 1956)

Cooper, Barry, *Beethoven* (Google ebook, Oxford: OUP, 2008)

Del Mar, Norman, *Anatomy of the Orchestra* (London: Faber & Faber, 1981)

Domínguez Moreno, Áurea, 'Bassoon Playing in Perspective: Character and Performance Practice from 1800 to 1850', PhD dissertation, University of Helsinki, 2013

Edge, Dexter, 'Mozart's Viennese Orchestras', in *Early Music*, Vol. 20, No. 1, Performing Mozart's Music II (Feb., 1992), 63–65, 67–69, 71–88

Einstein, Alfred, *Mozart, His Character, His Work* (Google ebook, Oxford: OUP, 1962)

Forbes, Watson, 'Beethoven's op.14 no.1', in *Musical Times*, vol.86 no.1226 (Apr. 1945), 108–11

Frame, Damian A., 'The Harmoniemusik of Georg Druschetzky (1745–1819)', PhD dissertation, Queens University, Belfast, 1992

Gasche, David, 'La Musique de Circonstance pour Harmonimusik a Vienne (1760–1820)', PhD dissertation, University of Vienna, 2009

Gillaspie, Jon A., Marshall Stoneham, and David Lindsey Clark, *The Wind Ensemble Catalog* (Westport, CT: Greenwood, 1998)

Harlow, Martin, 'The Transcriptions for Wind Harmonie of Wenzel Sedlak (1776–1851)', Masters dissertation, University of Sheffield, 1996

Haynes, Bruce, *A History of Performing Pitch*, (Lanham, Md: Scarecrow Press, 2002)

Heartz, Daniel, Erich Hertzmann, Alfred Mann, and Cecil Bernard Oldman, *Thomas Attwood's Studies on Theory and Composition with Mozart,* NMA X/30/1

(Kassel: Barenreiter, 1965) Digital Edition (2012) retrieved from dme.mozarteum.at/DME/nma/nmapub_srch.php

Heckl, Peter, *W. A. Mozarts Instrumentalkompositionen in Bearbeitungen für Harmoniemusik vor 1840* (Hildesheim: Georg Olms, 2014) 2 vols

Hellyer, Roger, '"Harmoniemusik": music for small wind band in the late eighteenth and early nineteenth centuries', DPhil dissertation, Oxford, 1973

Hellyer, Roger, 'The Transcriptions for "Harmonie" of "Die Entführung aus dem Serail"', in *Proceedings of the Royal Musical Association* vol. 102 (1975–1976), 53–66

Hellyer, Roger, 'Mozart's "Gran Partita" and the summer of 1781', in *Eighteenth-Century Music* 8/1, (2011), 93–105

Hiebert, Thomas, 'The horn in the Baroque and Classical periods', in *The Cambridge Companion to Brass Instruments*, ed. Trevor Herbert, and John Wallace (Cambridge Core ebook, Cambridge: CUP, 1997)

Hiebert, Thomas, 'A Case for Horn in D BASSO in the Early Eighteenth Century and its effect on Horn-and-Trumpet Combinations', in *Perspectives in Brass Scholarship: Proceedings of the International Historic Brass Symposium*, ed. Stewart Carter (New York: Pendragon, 1997)

Hoeprich, Eric, *The Clarinet* (New Haven: Yale University Press, 2008)

Hoeprich, Eric, '"Regarding the Clarinet": Allgemeine musikalische Zeitung, 1808', in *Early Music* Vol. 37, no. 1 (Feb. 2009), 89–99

Humphries, John, *The Early Horn, a Practical Guide* (Cambridge: CUP, 2000)

Jerold, Beverly, *The Complexities of Early Instrumentation* (Turnhout: Brepols, 2015)

Keefe, Simon P., *Mozart in Vienna: The Final Decade* (Cambridge: CUP, 2017)

Kim, David Hyun-Su, 'The Brahmsian hairpin', in *19th-Century Music*, *36*(1), 46–57

Knyt, Erinn E., '"How I Compose": Ferruccio Busoni's Views about Invention, Quotation, and the Compositional Process', in *Journal of Musicology*, Vol. 27, No. 2 (Spring 2010), 224–264

Kopp, James B., *The Bassoon* (New Haven: Yale University Press, 2012)

Lawson, Colin, 'The authentic clarinet: tone and tonality', in *Musical Times* vol.124, no.1684 (Jun. 1983), 357–8

Lawson, Colin, *The Early Clarinet, a Practical Guide* (Cambridge: CUP, 2000)

Lawson, Colin, ed., *The Cambridge Companion to the Clarinet* (Cambridge Core ebook, Cambridge: CUP, 2011)

Levin, Robert D., *Who Wrote the Mozart Four-Wind Concertante?* (Stuyvesant: Pendragon, 1988)

Lipori, Daniel, 'Georg Wenzel Ritter (1748–1808) and the Mannheim bassoon school', DMA dissertation, University of Arizona, 1997

Mooney, James R., 'Frameworks and affordances: Understanding the tools of music-making', in *Journal of Music, Technology and Education*, 3(2/3) (2010), 141–154

Moorhead, J.K., John Kirkby, eds, *Conversations of Goethe with Johann Peter Eckermann*, trans. John Oxenford (London: Dent, 1930) online facsimile retrieved from Google Books 14 Feb. 2018

Morley-Pegge, Reginald, *The French Horn* (London: Benn, 1960)

Murray, Sterling E., *The Career of an Eighteenth-Century Kapellmeister: The Life and Music of Antonio Rosetti* (Rochester, NY: University of Rochester Press, 2014)

Pay, Antony, 'Phrasing in Contention' in *Early Music*, vol. 24, no. 2 (May, 1996), 290–321

Piddocke, Melanie, *Beethoven and the Clarinet* (n.p. Lambert Academical Publishing, 2011)

Piddocke, Melanie, 'Theodor Lotz: A Biographical and Organological Study', PhD dissertation, University of Edinburgh, 2011

Poli, Roberto, *The Secret Life of Musical Notation: Defying Interpretive Traditions* (Milwaukee, WI: Amadeus, 2010)

Radice, Mark A., *Chamber Music: An Essential History* (Ann Arbor: University of Michigan Press, 2012)

Rice, Albert R., *The Clarinet in the Classical Period* (Oxford: OUP, 2003)

Rice, Albert R., 'Clarinet Fingering Charts, 1732–1816', in *Galpin Society Journal,* Vol. 37 (March 1984), 16–41

Rees, David, *How to Sharpen Pencils* (Brooklyn, NY: Melville House, 2013)

Rosen, Charles, *The Classical Style* (London: Faber, 1972)

Ross, Marie, 'A Guide to Arranging Late 18th and Early 19th Century Harmoniemusik in an Historical Style', DMA thesis, University of Texas, 2015

Schwager, Myron, 'A Fresh Look at Beethoven's Arrangements', in *Music and Letters* vol. 54 no. 2 (Apr. 1973), 142–160

Schwager, Myron, 'Some Observations on Beethoven as an Arranger', in *Musical Quarterly*, vol. 60 no. 1, (Jan. 1974), 80–93

Scott, Anneke, 'Brahms and the orchestral horn: a study in inauthentic performance?', in *Historic Brass Society Journal 23* (2003), 110–133

Scott, Anneke, *The Natural Horn, vol. 1* (London: Plumstead Peculiar Press, 2019) (proof copy)

Stoneham, Marshall, Jon A. Gillaspie, and David Lindsey Clark, *The Wind Ensemble Sourcebook and Biographical Guide* (Westport, CT: Greenwood, 1997)

Stowell, Robin, ed., *Performing Beethoven* (Cambridge Studies in Performance Practice; 4) (Cambridge: CUP, 1994)

Szendy, Peter, *Listen: A History of Our Ears*; (orig. *Ecoute: une histoire de nos oreilles*) trans. Charlotte Mandell (New York: Fordham University, 2008)

Thayer, Alexander Wheelock, *The Life of Ludwig van Beethoven (Vol. 1–3)*, rev. and ed. Elliot Forbes (Princeton, NJ: Princeton University Press, 1967) retrieved from Google ebooks 9 Aug. 2021

Thormählen, Wiebke, 'Playing with Art: Musical Arrangements as Educational Tools in van Swieten's Vienna', in *Journal of Musicology*, Vol. 27, No. 3 (Summer 2010), 342–376

Tyson, Alan, 'The Authors of the op. 104 String Quintet', in *Beethoven Studies*, 1 (London: OUP, 1973), 158–173

Waterhouse, William, *Bassoon* (London, Kahn & Averill, 2003)

White, Paul J., 'Early Bassoon Fingering Charts', in *Galpin Society Journal*, vol. 43 (Mar. 1990), 68–111

Whitwell, David, *The History and Literature of the Wind Band and Wind Ensemble* (13 volumes), (2nd edition, Austin, Tex.; Whitwell Publishing, 2012)

Worthington, Emily, '"The Uttermost Perfection of All Wind Instruments": Franz Tausch (1762–1817) as virtuoso clarinettist and director of the Conservatorium der Bläseinstrumente in Berlin', in *Music & Letters*, Vol. 101, No. 2 (2020), 238–269

Web resources:

Ericson, John, *Horn Articles Online* (homepage: http://www.public.asu.edu/~jqerics/articles_online.htm) retrieved 9 Aug. 2021

Stockigt, Jim, *Arias with Obbligato Bassoon: the Bassoon in Vocal Works, c1690–1850* (homepage: http://www.jimstockigtinfo.com/arias_with_obbligato_bassoon/index.php, 2010) retrieved 9 Aug. 2021

Works examined in the course of analysing historical uses of horn, clarinet, and bassoon

Baermann, Heinrich

Quintet no. 3 in E-flat for clarinet and strings, op. 23, ed. H. Voxman (Wiesbaden: Musica Rara/Breitkopf & Härtel, 1981)

Beethoven, Ludwig van

Parthia in E-flat for winds, op. 103, Rondo in E-flat, WoO 25, ed. Egon Voss (Munich: Henle, 2015)

Quintet in E-flat for piano and winds, op. 16 (Vienna: Mollo, n.d. [1801]) online facsimile retrieved from imslp.org

Sextet in E-flat for 2 horns and strings, op. 81b (Bonn: Simrock, n.d. [c1810]) online facsimile retrieved from beethoven.de

Symphony no.3 in E-flat, op. 55, orchestral horn parts (Leipzig: Breitkopf & Härtel, n.d.)

Symphony no.7 in A, op. 92, orchestral horn parts (Leipzig: Breitkopf & Härtel, n.d.)

Sonata in F for piano and horn, op. 17 (Vienna: Mollo, n.d.) online facsimile retrieved from beethoven.de

Berlioz, Hector

La Mort de Cléopatre (1829), orchestral horn parts (Leipzig: Breitkopf & Härtel, n.d.)

Castil-Blaze, François Henri Joseph

Sextet no. 1 in E-flat (London: Musica Rara, 1971)

Crusell, Bernhard Henrik

Concert Trio in F for clarinet, horn and bassoon, 19th Century m/s score, ed. Robert Percival (2016)

Concertino pour bassoon avec Orchestre, ed. Fabian Dahlström (Helsinki: Musiikki Fazer, 1984)

Concerto no. 1 in E-flat for clarinet, op. 1 (Leipzig: Peters, n.d. [1811/12]) online facsimile retrieved from imslp.org

Concerto no. 2 in F minor for clarinet, op. 5, ed. Pamela Weston (Vienna: Universal, 1991)

Concerto no. 3 in B-flat for clarinet, op. 11, ed. Yichuan Shen (Creative Commons Attribution) online facsimile retrieved from imslp.org

Sinfonia Concertante in B-flat for clarinet, horn and bassoon, op. 3 (Leipzig: Peters, n.d.) and facsimile of auto. m/s score from S-Skma, ed. Robert Percival (2005)

Danzi, Franz

Sonata in E for horn and piano, op. 44 (Leipzig: Breitkopf & Härtel, n.d. [*c*1814]) online facsimile retrieved from imslp.org

Haydn, Joseph

Symphony no. 103 in E-flat, 'Drum Roll', ed. H. C. Robbins Landon (Salzburg: Haydn–Mozart Presse, 1967)

Jacobi, Carl

Introduction & Polonaise for bassoon and piano, op. 9 (Mainz: Schott, n.d.)

Quartet in B-flat for bassoon and strings, op. 4, (Bonn: Simrock, n.d.), ed. Robert Percival (2009)

Krommer, Franz

Concerto in E-flat for clarinet, op. 36, ed. Melinda Berlász (Zurich: Kunzelmann, 1975)

Partitas/Suites/Harmonie:

op. 45 no. 1 in B-flat (Paris: Dufaut & Dubois, n.d. [*c*1826])

op. 45 no. 2 in E-flat (Paris: Dufaut & Dubois, n.d. [*c*1823])

op. 45 no. 3 in B-flat (Paris: Dufaut & Dubois, n.d. [*c*1826])

op. 57 in F, ed. Roger Hellyer (London: Musica Rara, 1971)

op. 67 in B-flat, ed. Roger Hellyer (London: Musica Rara, 1971)

op. 69 in E-flat, ed. Roger Hellyer (London: Musica Rara, 1970)

op. 71 in E-flat (Paris: Dufaut & Dubois, n.d. [*c*1826])

op. 73 in F (Paris: Dufaut & Dubois, n.d. [*c*1826])

op. 76 in C (Northridge, CA: WINDS, *c*1981)

op. 77 in F (Paris: Dufaut & Dubois, n.d. [*c*1826])

op. 78 in B-flat (Paris: Dufaut & Dubois, n.d. [*c*1826])

op. 79 in E-flat, ed. Roger Hellyer (London: Musica Rara, 1971)

op. 83 in F (Paris: Dufaut & Dubois, n.d. [*c*1826])

Partita in E-flat [in 6 parts] 'with the Dudelsack', ed. Hanno Fendt (Warngau: Accolade, 2003)

Quartet in B-flat for bassoon, 2 violas and 'cello, op. 46 no. 1 (Offenbach: André, n.d.), ed. Robert Percival (2015)

de Krufft, Nicolas

Sonate in E for horn and piano (Leipzig: Breitkopf & Härtel, n.d.) online facsimile retrieved from imslp.org

Mozart, W. A.

Concerto in B-flat for bassoon, K191, ed. Franz Giegling (Kassel: Bärenreiter, 1981)

Trio in E-flat, for clarinet, viola and piano, 'Kegelstatt', K498, ed. Wolfgang Plath, and Wolfgang Rehm (Kassel: Bärenreiter, 1966)

Quintet in E-flat for horn and strings, K407, ed. Ernst Fritz Schmid (Kassel: Bärenreiter, 1958)

Quintet in E-flat for piano and winds, K452, ed. Hellmut Federhofer (Kassel: Bärenreiter, 1957)

Serenade in E-flat a 8, K375, ed. Daniel N. Leeson, and Neal Zaslaw (Kassel: Bärenreiter, 1979)

Serenade in C minor, K388, ed. Daniel N. Leeson, and Neal Zaslaw (Kassel: Bärenreiter, 1979)

Serenade in B-flat, K361 'Gran Partita', ed. Daniel N. Leeson, and Neal Zaslaw (Kassel: Bärenreiter, 1979)

Pleyel, Ignaz

Harmonie no. 1 in E-flat a 6 (Vienna: Chemische Druckerie, 1801)

Sextet [Harmonie] no. 2 in E-flat a 6, ed. Himie Voxman (London: Musica Rara, 1974)

Reicha, Anton

Wind Quintets op. 88 nos. 1–6 (parts drawn from Paris: Boieldieu jeune; Bonn: Simrock; Mainz: Schott's Söhne, all *c*1818) online facsimile retrieved from imslp.org

Wind Quintets op. 91 nos. 1–6 (Paris: Richault, *c*1823) online facsimile retrieved from imslp.org

Wind Quintets op. 99 nos. 1–6 (Paris: Richault, *c*1825) online facsimile retrieved from imslp.org

Wind Quintets op. 100 nos. 1–6 (Paris: Richault, *c*1850) online facsimile retrieved from imslp.org

Ries, Ferdinand

Sonata in F for horn and piano, op. 34 (Hamburg: Böhme, n.d [*c*1811]) online facsimile retrieved from imslp.org

Spohr, Louis

Concerto no. 1 in C minor for clarinet, op. 26 (Leipzig: Peters, n.d.)

Concerto no. 2 in E flat for clarinet, op. 57 (Leipzig: Peters, n.d.)

Octet in E for clarinet, 2 horns and strings, op. 32 (Vienna: Haslinger, n.d. [*c*1820]) online facsimile retrieved from imslp.org

Tausch, Franz

Andante & Polonaise in B-flat (m/s solo part) online facsimile retrieved from Berlin Staatsbibliothek, Mus.ms 30077

Concerto in E-flat for clarinet (m/s solo part) online facsimile retrieved from Berlin Staatsbibliothek, Mus.ms 30077

Triebensee, Josef

Partita in B-flat (in 8 parts) (m/s parts) online facsimile retrieved from landesarchiv-bw.de/nutzungsbedingungen, Hohenlohe-Zentralarchiv Neuenstein Oe 250 Nr 228 a

Partita in E-flat (in 8 parts) (m/s parts) online facsimile retrieved from landesarchiv-bw.de/nutzungsbedingungen, Hohenlohe-Zentralarchiv Neuenstein Oe 250 Nr 228 b

Partita in E-flat (in 8 parts) (m/s parts) online facsimile retrieved from landesarchiv-bw.de/nutzungsbedingungen, Hohenlohe-Zentralarchiv Neuenstein Oe 250 Nr 228 c, ed. Robert Percival

Weber, Carl Maria von

Andante e Rondo Ungarese, op. 35, ed. William Waterhouse (Vienna: Universal, 1992)

Concertino in E-flat for Clarinet, op. 26, ed. Norbert Gertsch (Munich: Henle, 2001), *Urtext* clarinet part

Concertino in E minor for Horn, op. 45 (autograph m/s score, n.d., in photocopy), ed. Robert Percival (2009)

Concerto in F for bassoon, op. 75, ed. William Waterhouse (Vienna: Universal, 1990)

Concerto no. 1 in F minor for clarinet, op. 73, ed. Pamela Weston (Corby: Fentone, 1987), composer's unedited clarinet part

Concerto no. 2 in E-flat for clarinet, op. 74, ed. Pamela Weston (Corby: Fentone, 1988), composer's unedited clarinet part