Master's Thesis

Submission date: 4th of April 2023

Jazzical Or Clazz?

How To Incorporate The Form Of Classical Fugues Into Jazz and How To Compose an Original Jazz-Fugue?

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Written by David Jans. Published on the 4th of April, 2023.

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GLOSSARY

In this master's thesis, several terms get used that are derived from fugal theory. The ones used repetitively and, in my analyses, get explained in this 'glossary'. During the course of this thesis, these terms are written in *italic* style.

augmentation: "*augmentation* is the lengthening of the time values of the notes of a melody" (MUSIC THEORY ACADEMY, n.d.)

cantus firmus: "an existing melody used as the basis for a new polyphonic composition" (Collins Dictionary, n.d.)

comes: In [...] a fugue, the term *dux* has been used to mean the first entering or leading part. The *comes* is the second entering or following part" (On Music Dictionary, n.d.)

complementary rhythm: "When two or more voices have different rhythms that complement each other into a continuous ongoing rhythmic pattern, we speak of *complementary rhythms*" (bestmusicteacher.com, n.d.)

contrary motion: "melodic motion in which one part rises in pitch while the other descends" (DICTIONARY.COM, n.d.)

counterexposition: "a secondary *exposition* of a musical fugue with the *subject* and answer usually in reverse order" (Merriam-Webster, n.d.)

counterpoint: "the technique of setting, writing, or playing a melody or melodies in conjunction with another, according to fixed rules" (Collins Dictionary, n.d.)

countersubject: "in some fugues, a *counterpoint* to the *subject* that is repeated in subsequent entries (not necessarily every entry)" (Northern Arizona University, n.d.)

diminution: "*diminution* is the shortening of the time values of the notes of a melody" (MUSIC THEORY ACADEMY, n.d.)

double counterpoint: "a two-part musical *counterpoint* in which each part can be placed above or below the other" (Merriam-Webster, n.d.)

dux: “the scholastic name for the theme or *subject* of a fugue” (Online-Dictionary.com, n.d.)

episode: “a section of a fugue where the *subject* is absent” (earsense.org, n.d.)

exposition: “the initial section of a fugue, where each voice presents the *subject* in turn-either in its original or its answer form-is called the *exposition*” (University of California, n.d.)

homophony: “musical texture based primarily on chords, in contrast to *polyphony* which results from combinations of relatively independent melodies” (Britannica, n.d.)

imitation: “a polyphonic musical texture in which a melodic idea is freely or strictly echoed by successive voices” (WESTERN MICHIGAN UNIVERSITY, n.d.)

imitation in pairs: “When, in a four-part fugue, the second and third entrance are separated by an interlude, and when thereafter the fourth entrance follows immediately after the third, we can speak of *imitation in pairs*, because two entrances together are perceived as a group” (Hooning, 2014, p. 49)

interlude: “We speak [...] of an *interlude* when in a section the *subject* does not occur, and if that section is within a group of entrances of the *subject*” (Hooning, 2014, p. 43)

inversion: “a melody is inverted by flipping it 'upside-down', reversing the melody’s contour” (Wikipedia, n.d.)

invertible counterpoint: “*invertible counterpoint* is a way of composing two or more voices so that their registral positions can be reversed” (University of California, n.d.)

melodic contrast: “two voices have different melodies simultaneously” (Hooning, 2014, p. 7)

modal counterpoint: “modal counterpoint is the style of composition that was employed until the 'tonal' revolution pioneered by Bach; it is the basis for most Early Music” (Routledge, n.d.)

motif: “an idea that is used many times in a piece of writing or music” (Cambridge Dictionary, n.d.)

polyphony: “in music, the simultaneous combination of two or more [...] melodic lines” (Britannica, n.d.)

real answer: “in fugal writing, the answer is the presentation of the fugue *subject* by the second voice to enter. The answer is real if this presentation is an exact transposition of the statement by the opening voice [...]” (Hilse, 2006)

retrograde: “a melodic line that is the reverse of a previously or simultaneously stated line is said to be its *retrograde* [...]” (Wikipedia, n.d.)

retrograde-inversion: “the *inversion* of the *retrograde*” (Merriam-Webster, n.d.)

rhythmic contrast: two voices have different rhythms simultaneously

simple counterpoint: “in [...| *simple counterpoint* [...], voices cannot be exchanged (Hooning, 2014, p. 9)

stretto: “*stretto* refers to a section of a fugue where *subject* entries overlap, the second beginning before the first has completed” (earsense.org, n.d.)

subject (fugue): “the *subject* of a fugue is its main theme” (rothfarb.faculty.music, n.d.)

tonal answer: “in fugal writing, the answer is the presentation of the fugue *subject* by the second voice to enter. The answer is real if this presentation is an exact transposition of the statement by the opening voice, tonal if not exact” (Hilse, 2006)

tonal counterpoint: “in the [Baroque] [...] period, [...]we encounter [...] *tonal counterpoint*, as in that period the major and minor keys have become well established, and we, therefore, can speak of tonal music” (Hooning, 2014, p. 7)

ABSTRACT

As a Jazz and Classical Saxophone player, I sought to combine both worlds in my own compositions. As an admirer of Bach, I chose to combine the fugue as a form and compositional tool with Jazz to create an own original Jazz-fugue. This thesis seeks to find ways how to incorporate the form of Classical fugues into Jazz and how to compose an original Jazz-fugue.

Through analysis of existing literature on the history and theory of Classical fugues, knowledge has been gained to be able to understand what a fugue is, what its characteristics are and how to compose a Classical fugue. Through analysis of three different Jazz-fugues and the three Classical fugues they are related to, information has been gained on how to fuse a Classical fugue with Jazz.

Through different exercises and with the knowledge gained from the literature review and analysis, an original Jazz-fugue was created as a result of this master's thesis.

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INTRODUCTION

'Jazzical or Clazz?' will be, in general, research about combining both worlds in music: Classical and Jazz. More specifically, it will deal with the classical form 'fugue' and how to incorporate it into Jazz.

As I started my career as a Saxophone player in the Classical world first, the idea of combining Classical music and Jazz was stuck in my head for quite some time. At the age of nine, I started to learn the Saxophone at the local music school, not knowing that back then, due to the education system in my home country (Luxembourg) and the background of my teacher, I was going more and more towards the direction of becoming a Classical Saxophone player. Since I discovered and started to specialize as a Jazz Saxophonist at the age of 16, I was constantly juggling around both styles. Though my main focus was on Jazz and my Jazz studies in the Conservatory of Maastricht, I never stopped to develop my skills as a Classical player, having had lessons still till the summer of 2022. Although I had composed my own original Jazz tunes and created my own sound in my compositions, and my Classical studies helped me get jobs in the field of education and orchestras, I never really dived into combining both worlds. In the first thinking processes, I quickly realized that a combination is difficult to manage when speaking, specifically about Classical and Jazz Saxophone. Both are so different in sound and, therefore, in equipment concerning mouthpieces, reeds, etc., that I could not think of a way to combine them. It is evident that one cannot play both styles at once (sound-wise), and switching setup and sound during a tune had, in my opinion, not a musical sense. It is also a task that is very difficult to handle for one player. Writing for two players (for example, one Classical player and one Jazz player) was something that I was not attracted to as I was thriving more for a project as a soloist where I could combine both styles rather than composing something where two individuals show off their abilities in their particular field. The second thing that came into my head was, of course, the combination of Classical and Jazz composition-wise instead of precisely a combination of both styles as a Saxophone player. Knowing that this is not new and has been done by many composers, I was trying to find a way

to find my own place in that big field. When thinking about what specific types of Classical music I could combine with Jazz, I quickly thought about 'fugues'. Fugues are a Classical musical form I like because of their complexity and the logical development of a single motif.

Furthermore, the form of fugues was something that I was familiar with as I studied Organ for three years at the local music school in my hometown. Also, I did have some analysis lessons in high school where we did analyse fugues. Even though some time had passed since my last encounters with fugues, it was still a good starting point. In addition, I was very attracted to the Jazz-Fugues of Jacques Loussier, which were also an inspiration for the topic of this master's thesis. Moreover, while there are examples of Jazz-Fugues, they often are not very popular or new interpretations of Bach's works rather than new original compositions.

The reason I chose such a specific Classical form but wanted to leave the field of Jazz so open is because I felt that – as Classic and Jazz music are both very vast fields – I need to narrow the combination of both fields down but still leave myself the freedom to compose something original. Therefore, I fixed the Classical parameter but left the Jazz one free.

My goal is to compose and perform an original 'Jazz-Fugue' with my band. This band is an already existing quartet (Alto Saxophone, Piano, E-Bass, Drums), though my goal is to compose the fugue for a quintet setting with an added Guitar. This original 'fugue' will give my music a new personal touch that reflects my interests and origins as a Classical and Jazz Saxophone player. The research question will be: How to incorporate the form of Classical fugues into Jazz and how to compose an original Jazz-Fugue?

I expect an outcome of an original composition that will uniquely reflect my interests and origin and add something new to the Jazz community. Furthermore, I hope to broaden my skills and knowledge, which will influence my music in one way or another.

1. Research Questions

1.1 Main Research Question

How to incorporate the form of Classical fugues into Jazz and how to compose an original Jazz-fugue?

To be able to answer the main research question, I divided it into 3 sub-questions:

1.2 Sub-Question 1

What is a fugue and how to compose a fugue?

To be able to incorporate the form of Classical fugues into Jazz, I will first dive into the theory of fugues to better understand what a fugue is, which goes hand in hand with understanding how to compose a fugue. The literature review and analysing fugues of Bach will be an important part of answering this sub-question.

1.3 Sub-Question 2

How to incorporate the form of Classical fugues into Jazz?

This sub-question deals with the first part of the main research question. To answer this sub-question, I will analyse already existing Jazz-fugues that specifically turn fugues of Bach into Jazz to understand the exact differences between the original and the Jazz-fusion and to understand what makes them 'Jazz'.

1.4 Sub-Question 3

How to compose an original Jazz-fugue?

This sub-question deals with the second part of the main research question. To answer this sub-question, I will use the method of a case study. I will use all the information I got from answering the previous sub-questions to create my own version of a Jazz-fugue. First, I will practice some of the composition tools seen in the literature review before moving to the actual composition of a Jazz-Fugue.

METHODOLOGY

1. Literature Review

The literature review will be an essential part of the master's thesis. To be able to compose original Jazz-Fugues, it is crucial first to know how to write an original Classical fugue. Therefore, it is vital to study the history as also the theory of fugues. I will focus on two documents/books. First, the document by Martijn Hooning called 'Fugue' and, secondly, the book by Alfred Mann named 'The Study Of Fugue'.

1.1 Fugue by Martijn Hooning

The document 'Fugue' by Martijn Hooning focuses on the nowadays used fugal theory based on Bach's fugues. Analysing this document will help me to understand the overall fugal theory.

1.2 The Study of Fugue by Alfred Mann

The book 'The Study Of Fugue' by Alfred Mann focuses on the history of fugues and 4 of the most known theory books of fugal writing. This book will help me to dive even deeper into the world of fugues than Martijn Hooning's document does, to help me even more with the further process of the master's thesis.

1.3 Differences of the Theories of Hooning, Fux & Marpurg

After studying the fugal theory of Martijn Hooning and the theories of Johan Joseph Fux and Friedrich Wilhelm Marpurg in 'The Study Of Fugue', I will compare and look at the similarities and differences between the mentioned theories.

1.4 My own Fugal Theory

After having compared the 3 different theories of Hooning, Fux and Marpurg, I will fix my own terms of fugal theory that I will use in my analyses.

2. Process Documentation

After the literature review, the practical process begins. To understand the learned theory, it is crucial to analyse fugues and not to forget that it is essential to analyse already existing Jazz-fugues to be able to answer the second sub-question, 'how to incorporate the form of Classical fugues into Jazz?'. Afterwards, it is time for the actual composing part.

2.1 Analysing

To understand how to compose fugues and so-called Jazz-Fugues, I will analyse already existing Jazz-Fugues. I chose to study two arrangments of Jacques Loussier and one of Brad Mehldau. As those are three interpretations of Bach, I will analyse the original by Bach too to see how they actually incorporated a fugue into Jazz. The analysis of Bach's fugues will also help me to understand what a fugue is and to answer the sub-question one, 'what is a fugue?'.

2.2 Composing

Composing will be the last part of the process documentation. To practice the composition of fugues, I will write fugues after the theory of the 'Gradus ad Parnassum' and use also its theory to practice the composing tool of *double counterpoint*. Moreover, I work on imitations using my own fugal theory.

LITERATURE REVIEW

To be able to connect fugues with Jazz and to compose pieces that can be indeed called 'Jazz-Fugues', I first need to understand what a fugue is in theory and how it works. As this is a field where I still need to become experienced, it is a crucial part of this master's thesis. In the world of fugal theory, a lot can be found, making it difficult to choose what books or articles I should study. With the book 'The Study Of Fugue' by Alfred Mann, I found a book that seemed perfect for me. It explains and tells the history of the fugue, which helped me a lot in understanding the essence of the fugue.

Furthermore, in this book are four different passages from other important fugal theory books. This way, I got valuable compositional advice and a theoretical understanding of how to compose a fugue. With all that knowledge, I got to know a lot of tools to be able to write a fugue, which was an important starting point for me before combining it with Jazz.

However, as 'The Study Of Fugue' is tackling different books, also meaning different theories, it was sometimes not very transparent and not easy to follow. Also, the size of the book made it hard to get all the essence out of it. Therefore, I chose to study also a second document. Moreover, I decided not to study Alfred Mann's book further, as I felt it would be too time-consuming, facing the fact that the writing process of this master's thesis is time bounded. Furthermore, I felt that after studying two of the theory passages in this book, I would not get any further to answering my main subject question and felt that I was neglecting the practical part of this thesis.

The second document I chose is 'Fugue' by Martijn Hooning. With this document, I found something more compact but still with all the essential aspects. I also saw a lot of similarities with the things I studied in Mann's book. This way, I could make my own understanding and theory about how fugues work, which helped me while composing and analysing Bach's fugues.

Even though I started to study the book of Alfred Mann first, I chose, for comprehensive reasons, to first go on with Martijn Hooning's 'Fugue'. To understand 'The Study Of Fugue' by Mann, it is easier when knowing the 'modern' theory of fugue first before studying its history.

1. Fugue by Martijn Hooning

Martijn Hooning is a composer and music theorist from the Netherlands who teaches at the Amsterdam Conservatorium. On his website, he offers several documents about music theory in Dutch and English. One of them is a detailed document about fugal theory, mainly focusing on fugues by Bach from the Well-tempered Clavier.

1.1 Polyphony

Contrary to *homophony*, "*polyphony* is a texture consisting of two or more simultaneous, (more or less) independent lines" (Hooning, 2014, p. 6), whereas in *homophony*, there is one more 'important', prominent line. The others support this main line as an accompaniment, often rhythmically identical or similar, thus not independent. While in *homophony*, repetitions, sequences, and developments of a *motif* usually happen within a voice, in *polyphony*, it "often takes place between the voices: they imitate each other. [...] Apart from that, melodies in polyphonic compositions often tend to be less determined by the harmony than in homophonic music" (Hooning, 2014, p. 6). In addition, in polyphonic music, melodies often do not have a symmetric structure (contrary to *homophony*). Moreover, the different voices in polyphonic music often can have different roles (as the voices are independent). This results, for example, in *contrary motion* (one voice ascends while another descends simultaneously), *melodic contrast* (min. two different melodies simultaneously), and *rhythmic contrast* (min. two different rhythms simultaneously), which often results in *complementary rhythm* (different voices "[…] complement each other to a continuous rhythmic motion" (Hooning, 2014, p. 7))

Polyphony played a vital role in the Renaissance and the Baroque period. While in the Renaissance, we find the *modal counterpoint*, in the Baroque, it is the harmonic- or *tonal counterpoi*nt that we are encountering. This is because, in the Renaissance, it is modal harmony that is mainly used (church modes), while in the Baroque, minor and major had been established "and we, therefore, can speak of tonal music" (Hooning, 2014, p. 7).

1.2 Counterpoint

The term *counterpoint* and contrapuntal describes a voice that is added to another voice, often added to a more prominent voice like a *cantus firmus* or a *subject* of a fugue. Usually, the term is used in more horizontal music, where *polyphony* is used. “Interestingly, this use of the term *counterpoint* is, in fact, historically incorrect. Originally “*counterpoint*” described which notes (in fact: which vertical intervals) could be written in a second voice against a note in the main voice. The technique of writing certain intervals was described as punctus contra punctum ('note against note'); the term contrapunctus is a derivation from this Latin term. This means that *counterpoint* originally described the verticality in music (which intervals can be used in which situations?), and not the melody or melodies” (Hooning, 2014, p. 8).

Often *counterpoints* are designed so that they can be exchanged with the melody in the other voice. Then we talk about *invertible counterpoint*. The opposite is called *simple counterpoint*.

When actually exchanging the voices (as they are written in *invertible counterpoint*), we are speaking of *double counterpoint*. One achieves *double counterpoint* by moving the highest voice, for example, one octave down. Then it becomes the lower voice, and we speak about *double counterpoint* at the octave. The same can be done by moving it by a tenth or a twelfth (then we talk about *double counterpoint* at the tenth, respectively *double counterpoint* at the twelfth). If three voices are involved, then we call it triple counterpoint, and if four voices are involved (which rarely happens), it is called quadruple counterpoint.

fig.1: Gradus ad Parnassum by Johan Josef Fux (1725) (text: David Jans)

"*Double counterpoint* at the octave: the lower voice in the first system (the *cantus firmus)* reappears in the second system as the higher voice. To achieve this, the *counterpoint* is displaced an octave down; it reappears in the lower voice" (Hooning, 2014, p. 9):

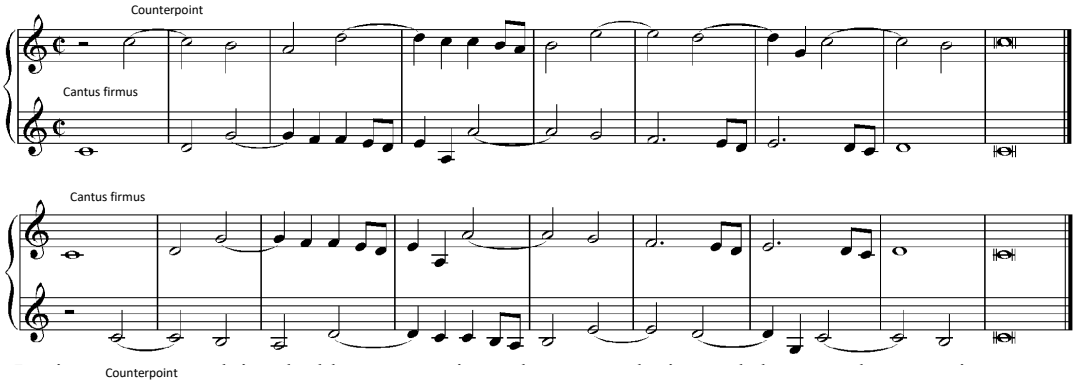


Figure 1: Double Counterpoint at the Octave

"Logically, when applying *double counterpoint* at the octave, the intervals between the two voices change according to this scheme" (Hooning, 2014, p. 9):

1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1

Figure 2: Double Counterpoint at the Octave Scheme

"This results in the exclusion of certain situations, for example

– we can not write parallel fourths between the two voices (because, when these parallel fourths are inverted they become parallel fifths)

– we have to treat a fifth between the voices as a dissonant (the inversion of the fifth is the fourth, which is in two-part counterpoint always *dissonant,* a "quarta dissonans")" (Hooning, 2014, p. 10).

fig.3: Gradus ad Parnassum by Johan Josef Fux (1725)

"*Double counterpoint* at the tenth: the lower voice in the first system (the *cantus firmus)* reappears in the second system as the lower voice. To achieve this, the *counterpoint* is displaced a tenth down; it reappears in the lower voice" (Hooning, 2014, p. 10):

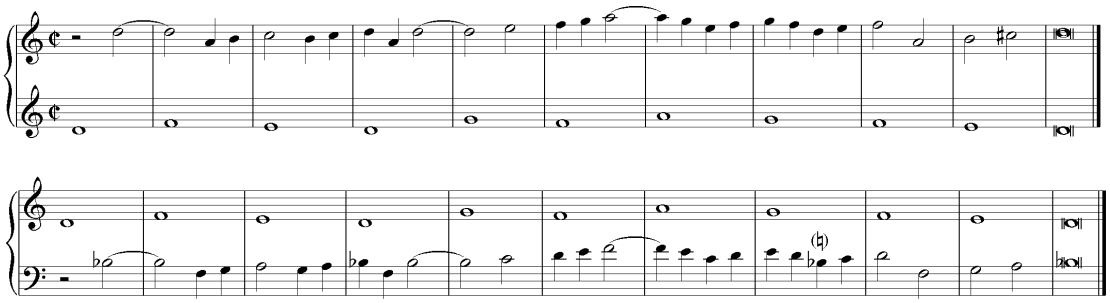


Figure 3: Double Counterpoint at the Tenth

"Logically, when applying *double counterpoint* at the tenth, the intervals between the two voices change according to this scheme" (Hooning, 2014, p. 10):

1	2	3	4	5	6	7	8	9	10
10	9	8	7	6	5	4	3	2	1

Figure 4: Double Counterpoint at the Tenth Scheme

"Here as well, some situations have to be avoided, for example

– we can not write parallel thirds, tenths, or sixths between the two voices (because, when these are inverted they become parallel octaves, seconds and fifths respectively)

– the fourth is a 'dangerous' interval, as it becomes a seventh when inverted" (Hooning, 2014, p. 10).

fig.5: Gradus ad Parnassum by Johan Josef Fux (1725)

"*Double counterpoint* at the twelfth: the lower voice in the first system (the *cantus firmus)* reappears in the second system as the higher voice. To achieve this, the *counterpoint* is displaced a twelfth down; it reappears in the lower voice" (Hooning, 2014, p. 10):

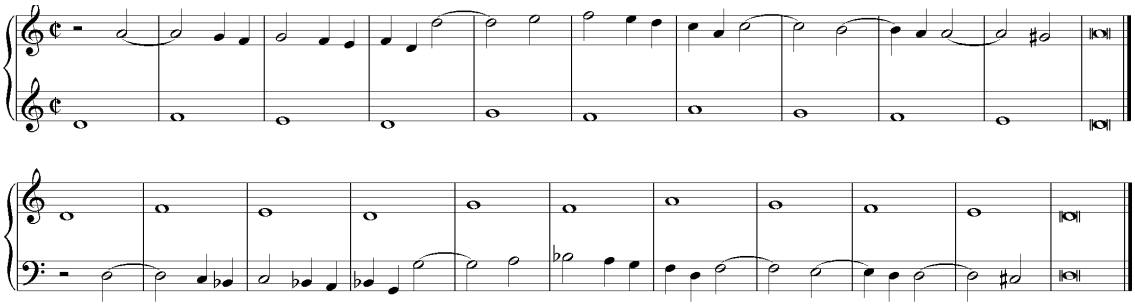


Figure 5: Double Counterpoint at the Twelfth

"Logically, when applying *double counterpoint at the twelfth*, the intervals between the two voices change according to this scheme" (Hooning, 2014, p. 10):

1	2	3	4	5	6	7	8	9	10	11	12
12	11	10	9	8	7	6	5	4	3	2	1

Figure 6: Double Counterpoint at the Twelfth Scheme

"Observe, for example, that a sixth becomes, when it is inverted, a dissonant interval (seventh). Therefore, sevenths *resolving* to a sixth are here not useable" (Hooning, 2014, p. 11).

1.3 Imitations

In polyphonic music, *imitations* are a prevalent thing. An *imitation* is when a *motif* appears again through different voices, in the same way, or in a slightly changed way. When the *imitation* is precisely the same as the 'original' except that it appears in a different voice, then we call it motus rectus or *imitation* in similar. If the *imitation* appears on a different note, then we distinguish it from the original by telling its interval difference. For example, if it appears a fifth higher, we call this *imitation*: *imitation* at the higher fifth.

If the notes are extended equally (usually by doubling the note value), we call it *augmentation*. We speak of *diminution* when the notes are reduced equally.

We speak of *inversion* when the same intervals replace all intervals in opposite directions. This is usually not used in a tonal context due to the irregular structure of whole- and halftone steps. Far more common is the *contrary motion*. In this method, the intervals are fitted to the key. For example, an ascending major third becomes a descending minor third then.

Retrograde means a *motif/imitation* that is played from back to front. This *retrograde* can then be again inverted, which we call: *retrograde-inversion*. However, those are rarely used as they often do not sound good. For example, a resolution of a dissonance played backwards creates a melodic line going into a dissonance instead of resolving it. *Retrogrades* are far more prominent in twelfth-tone music.

“Of course, the various techniques mentioned to this point can also be combined: an *augmentation* may appear in *inversion* or *contrary motion* in *diminution*. In addition, different operations can be applied in various voices simultaneously” (Hooning, 2014, p. 15).

1.4 Fugue in General

Hoonings's Definition:

"Fugues are polyphonic vocal or instrumental compositions, in which a *subject* (sometimes called: theme) appears successively in all voices in certain patterns. In other words: Fugues always contain *imitations*. Even the term fugue is derived from the idea of *imitation*: the Latin word "fuga" means flight; in a fugue, the voices 'flee from each other' " (Hooning, 2014, p. 27).

(As a rule (especially from Bach), fugues only have a single *subject* and, therefore, can be labelled monothematic)

It is nearly impossible to give a general description of the form of the fugue. Fugues are "rather a specific way of writing *imitations* than a definable musical form" (Hooning, 2014, p. 27). But especially in shorter fugues in the Well-Tempered Clavier, a similarity in the form is noticeable. They often consist of 3 parts: an initial section, a middle section, and a final section. The middle section is usually some sort of a development section, and the last section can be seen as a concluding section. Longer fugues can have this division too. But often, they then have more than one development section. If a fugue can not be divided into those three parts, one has to come up with own descriptions and divisions or has to use "rather neutral terms (for example: A-B-C sections, or similar)" (Hooning, 2014, p. 27).

A general 'rule' of a fugue is that the voices enter one by one in the first part, all presenting the *subject*. This part is called *exposition* and forms either the complete initial section or only the beginning of it.

During a fugue, the *subjects* usually undergo several polyphonic techniques (as seen before in the "*polyphony*" and "*imitation*" section), like *contrary motion*, *augmentation*, etc.

When designing a *subject*, one has to consider that it has to be suited for several polyphonic techniques, depending on what you want to use. You may want to use *stretto*, *augmentation*, or *diminution*; you may want to use *double counterpoint*, etc. Also, it has to be possible to let it appear in every voice. Moreover, having it sound good in major and minor may be suitable as you want it to modulate.

“For the *subjects* in Bach’s fugues, in the Well-tempered Clavier, and in other works, some general principles apply” (Hooning, 2014, p. 28):

- “the first tone of a *subject* is almost always the root or the fifth of the home key

- the s*ubject* can remain in the home key, or modulate to the dominant key, other modulations do not occur. When the fugue is in a minor key, a modulating *subject* modulates to the dominant minor key (for example: modulation to E minor as the piece is in A minor).

- the *subject* ends on one of the tones of the tonic triad; the third as the final tone is most common; *subjects* end less often on the root*,* and an ending on the fifth is relatively rare (except in modulating *subjects*, see next point). The final tone of the *subject* is most commonly on a (relatively) strong beat.

- modulating *subjects* mostly end on the root (sometimes: the third) of the dominant key (or, in other words, on the fifth of the home key).

- the ambitus (range) of most *subjects* is relatively small: as a rule, it is no more than a sixth or a seventh, often even less; an ambitus of an octave or more is relatively rare.

- most *subjects* are harmonically not very complex; many *subjects* do even little more than 'describing' or 'encircling' the tonic triad. In other words, often 1, 3, and 5 form the main tones of the *subject*; in some other *subjects*, we encounter simple cadences like I - IV - V - I, or for example a sequence of descending fifths. Some *subjects* are (partly) chromatic, but usually, such chromaticism is nevertheless applied within a diatonic framework of 1, 3, and 5.

- In the [Well-tempered Clavier] we can roughly distinguish two types of *subjects*: on the one hand 'pure linear' *subjects,* in which stepwise motion prevails, and on the other hand, *subjects* that are characterized by the use of *motifs* and/or sequences, or arpeggiated chords*;* such *subjects* mostly contain more leaps. When *subjects* contain leaps, we often find large-scale stepwise progression *[(see fig. 7)].* Most *subjects* are structured asymmetrically.

fig.7: Fugue in D# minor by Johan Sebastian Bach (Well-tempered Clavier) (Analysis by Martijn Hooning)

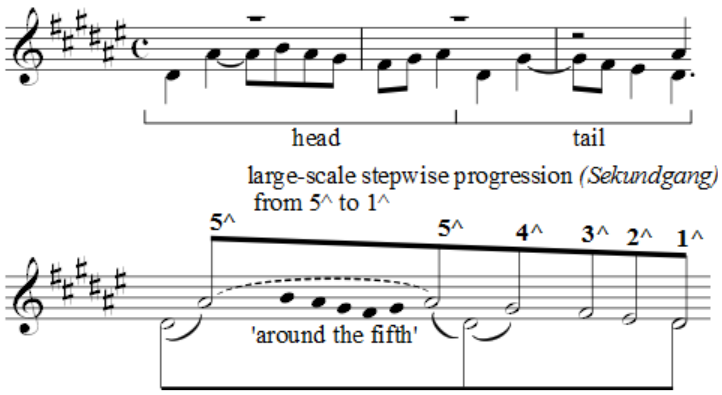


Figure 7: Large-Scale stepwise Progression

- At the end of the *subject* there is normally no (melodic) closure; the first melodic closure (in the voice that had the first entrance of the *subject*) usually is later (during, or at the end of the second entrance, and sometimes even later). In most fugues, it makes sense to distinguish between the 'technical' end of the *subject* (which is normally at the second entrance of the *subject*, or shortly before or after), and the 'musical' end of the (first) melody in the voice that had the first entrance" (Hooning, 2014, p. 28).

After the first entrance, "a second entrance follows in another voice, thus forming the first *imitation* of the *subject*" (Hooning, 2014, p. 30). This 'answer' is always an *imitation* at the higher fifth or an *imitation* at the lower fourth. Often Latin terms are used to label the first and second entrances. The first entrance is then called *dux* (=leader), and its answer is called *comes* (=companion). Throughout the whole fugue, all *subjects* that are at the same pitch than the first entrance (or an octave higher or lower) are then called *dux*, and all *subjects* that have the same pitch than the *comes* (or an octave higher or lower) are called *comes*, too.

In three-part fugues, usually, a second *dux* follows after the *comes*, and in four-part fugues, a second *comes* follows after a second *dux*. But *expositions* sometimes can be irregular, with the third entrance not being a *dux* or/and the fourth not being a *comes*.

In the *exposition*, the entrances are always in adjacent voices. In Bach's fugues, the *subject* always appears in all voices during the *exposition*. The *comes* can be a literal *imitation* of the

dux (at the higher fifth or lower fourth) or a slightly altered version. If it is a literal *imitation*, then we speak of a *real answer*. Otherwise, we speak of a *tonal answer*. A *tonal answer* is usually used when the end of the *dux* and the beginning of the *comes* form a dissonance. But there are specific 'rules' on knowing when to use a *real*- or a *tonal answer*:

If "the fifth of the (home) key is not present [at] the beginning of the *dux*, the *comes* will form a *real answer*" (Hooning, 2014, p. 31).

If "the fifth of the (home) key is present [at] the beginning of the *dux*, this fifth is answered at the higher fourth or lower fifth" (Hooning, 2014, p. 31). All other notes remain at the higher fifth or lower fourth. This form of answer is called *tonal answer*.

This is because the *dux* usually ends on the tonic chord. If the fifth got transposed by a fifth higher or a fourth lower, it would become the two of the key. Together with the tonic chord, it would create a second interval which is considered dissonance. In the *exposition*, dissonances should be avoided at entrances of a new voice.

Usually, the *comes* modulates, whereas the *dux* stays in the home key. The *comes* often starts at the tonic but then modulates to the fifth.

Fig 8: Fugue in C minor, by Johan Sebastian Bach (Well-tempered Clavier) (Analysis by Martijn Hooning with chord analysis of David Jans)

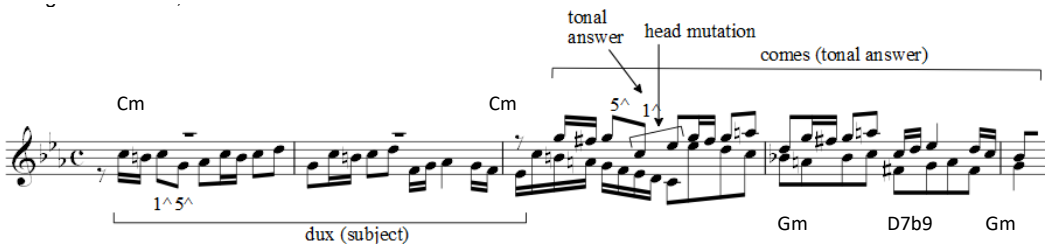


Figure 8: Tonal Answer

In figure 8, you see an example of a *tonal answer*. The fifth that appears at the beginning of the *dux* (4th note) gets the 1 (tonic) of the *comes*, as we are still in C minor at the beginning of the *comes*. That is why the interval 1^5^ becomes 5^1^ instead of 5^2^. The resulting interval change afterwards is called 'head mutation'. The fifth in the second bar of the *dux* is transposed like the rest (on the upper fifth) as it occurs later and lands on the G minor chord of the *comes*.

If a *dux* modulates (which rarely happens and, if so, to the dominant key), the *comes* will not be transposed unchanged as this would result in modulation to the secondary dominant. In the context of a fugue, this would be a modulation that occurs too soon, too far away from the home key, and that is why the *comes* is modulating back to the home key. To achieve this, the end of the *dux* gets transposed by a fourth instead of a fifth. This mutation of the *subject* that results is called 'tail mutation' (When a fifth occurs at the beginning of a modulating *subject*, 'head mutation' is still used).

1.5 Counterpoint and Countersubject in Fugues

In every fugue, "the voice with the first entrance continues after finishing the *dux*" (Hooning, 2014, p. 36), thus forming an accompaniment with the *comes*. If this accompaniment is not returning afterwards, then we speak of *counterpoint* (or free *counterpoint*). In case it reappears, we name it *countersubject*.

We only speak of a *countersubject* if it appears during the first *comes* as also during the second *dux*. If the answer of the first *dux* is tonal, the *countersubject* of the second *dux* has to be slightly changed compared to the first *comes* to fit the differences occurring at the beginning of the mentioned *subjects*.

Fig. 9: "Whenever a fugue has more than two voices, this leaves open the possibility to use more than a single *countersubject*. Then an *exposition* may look similar to this scheme:" (Hooning, 2014, p. 37)

(S=Soprano, A=Alto, T=Tenor, B=Bass):

S			dux (subject)	countersubject 1
A		comes (answer)	countersubject 1	countersubject 2
T	dux (subject)	countersubject 1	countersubject 2	free counterpoint
B				comes (answer)

Figure 9: Exposition with two Countersubjects Scheme

During a fugue, positions of *subject* and *countersubject* are often inversed.

The *counterpoint* or *countersubject* often creates *rhythmic* or *melodic contrast* with the *comes*. For example, smaller note values in one voice and bigger ones in the other voice form together *complementary rhythm*. A *melodic contrast* gets created when the voices move in *contrary motion*, or one voice moves stepwise while the other leaps. (for example, in: 'Fugue in C major, Well-tempered Clavier I' by Bach). It is also possible that the *subject* moves diatonically, and the *countersubject* moves with a lot of chromatism. (This happens, for example, in the 'Fugue from the Chromatic Fantasy and Fugue in D minor, BWV 903' by Bach).

Sometimes the *comes* does not start directly after the *dux* ends but a little later while the *counterpoint* is already happening in between. Sometimes it is not even considered part of the *counterpoint* but is just seen as a connecting *motif*.

It is also possible that the *comes* starts before the *dux* ends, and this is quite rare but happens, for example, in the 'Fugue in A major, Well-tempered Clavier II' by Bach.

1.6 Interludes

Between the first *comes* and the second *dux* is often an *interlude* to modulate back from the V to the I. Generally, sections without the *subject* during a group of entrances are labelled *interludes*, like during the *exposition*. After a group of entrances, they are called *episodes*.

If the *subject* starts on one and ends on 5 or 3, an *interlude* is needed between the first *comes* and the second *dux* as otherwise there would be dissonance.

In minor, such *interludes* between first *comes* and second *dux* are more necessary as the *subject* often ends on one of the tones of the triad of the tonic. This means that the *comes* would end on the triad of the minor V chord. But to modulate back to the home key, this chord is often changed into a major dominant chord during a small *interlude*. "*Interludes* often consist of elaborations (Fortspinnung) of elements from the *subject* and/or the *countersubject*" (Hooning, 2014, p. 45).

If there is a connecting *motif* between the first *dux* and the first *comes*, this *motif* connection often reappears after the *comes*. Also, if an *interlude* does use new material, this material will still be used later in the fugue.

When in a four-part fugue, the second and third entrances are divided by an *interlude*, and therefore the first and second entrances follow each other directly, as also do the third and fourth parts; we speak about *imitation in pairs*.

Fig. 10: "In four-part fugues, we have of course 24 possibilities for the consecution of entrances of the *subject* through all voices. In the WTC [Well-tempered Clavier] however, Bach uses only nine, namely:

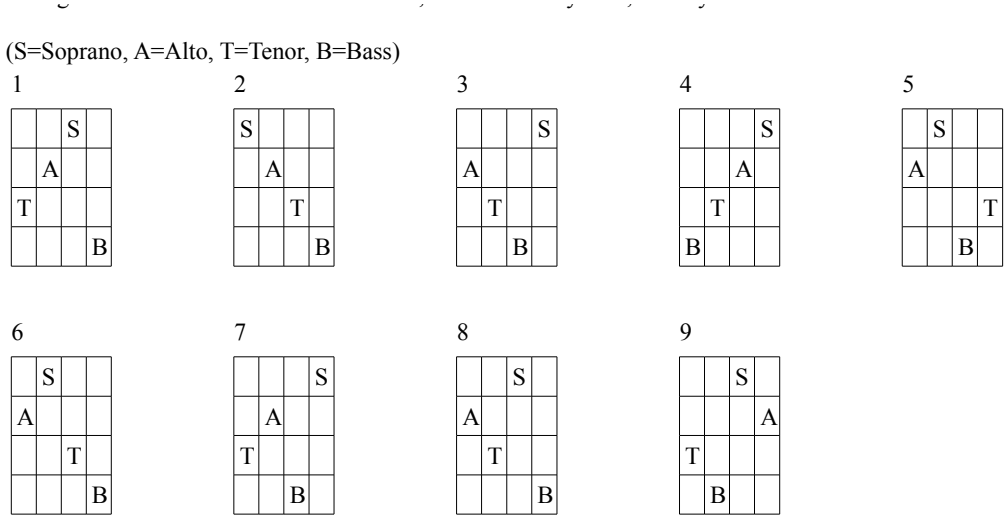


Figure 10: Bach's Consecutions of Entrances of the Subject Scheme

Usually, when a voice finishes the *subject,* it stays present during the whole *exposition*. Though there are exceptions like in the 'Fugue in G minor, Well-tempered Clavier I.'

Often, after all the entrances in the *exposition*, a 'conclusion' follows, ending with a cadence to the home key or dominant key (Or relatif major key if the tune is in minor).

The *subjects* often vary during the fugue. Sometimes this already happens during the *exposition*. Often the reason is to fit into a modulation or a new key. Then we call them adapted entrance. Also, often, a voice starts an entrance but does not finish it. In that case,

we speak of false entrance. Especially when having a *tonal answer* in the beginning, entrances can still be distinguished later in the fugue as *dux* or *comes*.

1.7 Counterexposition

If in the *exposition*, more entrances occur than the number of voices in the fugue, we speak of redundant entrances. Those entrances often happen at a different pitch than all entrances before. As a listener, it often seems like there are more voices than are actually there because of such a redundant entrance at a different pitch. If more redundant entrances occur after an *exposition*, often the relation of *dux* and *comes* of the voices gets reversed. Meaning that the voices that were a *dux* are now a *comes* and vice versa. This part after the *exposition* can be labelled as *counterexposition*. In a *counterexposition*, it is also usual to have those entrances at a new pitch. It is also common to have a changed order of voices in the *counterexposition* compared to the *exposition*. (for example: B-T-A-S in the *exposition* compared to A-T-B-S in the *counterexposition*; 'Fugue in E major, Well-tempered Clavier II')

Exposition and *counterexposition* form together the first large section of a fugue.

One can only speak of redundant entrances if they happen at the beginning of the fugue (*exposition* or *counterexposition*) and if they are in the home or dominant key. The same goes for the *counterexposition*. It can only stand right after the *exposition* (maybe with a small *episode* in between) and use only *subjects* in the home or dominant key.

1.8 Development Section and Episodes

The section after the *exposition* and the eventual *counterexposition* is difficult to define. A real 'form' does not really exist after the first section. Often an *episode* occurs (a part without the *subject*), but equally often also, the *subject* occurs again. To differ from the *exposition* and *counterexposition*, it usually appears in another key.

During a fugue, the *subject* undergoes several polyphonic techniques. In Bach's fugues, the "complexity of the *polyphony* increases step by step; often, the most complex situations and combinations are toward the end of the composition" (Hooning, 2014, p. 66).

If entrances overlap, meaning if a new entry of the *subject* starts before the other has begun, we speak of *stretto*. A *stretto* is often combined with other contrapuntal techniques like *augmentation*, *diminution*, and *contrary motion*. To use a *stretto*, one has to consider already when designing the *subject* that the *subject* must be created in a way that it is possible to have overlapping entrances. However, it is possible to alter the *subject* slightly to make it fit into a *stretto*. This is also what Bach often does. For example, he uses one or more incomplete entrances (false entrances), showing that it is enough to suggest the entries to form a *stretto.*

A *stretto* usually occurs after the *exposition*, which may already happen in a *counterexposition*. The earliest it can appear is during the last entrance of the *exposition*. However, Bach did a few fugues where already the first *dux* and the first *comes* overlap. This is, of course, down to the interpreter to say where the *subject* ends. If the interpreter suggests "that the entrances overlap right from the start, we can speak of a strettofugue" (Hooning, 2014, p. 67).

Episodes stand between two sections where the *subject* occurs. In the *episode*, the *subject* is absent. The *episode* stands as a connection to 'thematic sections'. It can be used to modulate to a new key or to get some variety with a section without the theme. Often motivic material from previous sections (also material from the *subject*) is used in an *episode*. Furthermore, sequences are a common feature.

It is not uncommon that after the *exposition,* the voice which entered last begins the *episode* with the *countersubject* (if the fugue has a *countersubject*).

There are also fugues that do not contain *episodes* at all, like, for example, in the 'Fugue in C major, Well-tempered Clavier I'. But this also depends on whether one considers cadential moments, not as *episodes* which makes sense as they are still connected to the precedent part.

1.8 Key design and Modulations in Fugues

Bach often uses mainly the home and the dominant key, and other keys often get only 'touched'. Usually, he does not stay for a long period in another key. Often the relative key is used. Sometimes, after a cadence to the relative key, an entrance occurs at the 1 of the new key and the 5 of the new key. This results in somewhat of a transposed *exposition*. Therefore, it is also possible to label those entrances *dux* and *comes*. Such an example is in the 'Fugue in G minor, Well-tempered Clavier I' (bar 12-16).

Only modulations to the degrees III, IV, V (minor), VI, and VII aeolian get used in minor keys. Sometimes also II becomes a tonic using a regular minor triad instead of the diminished triad. The degrees II, III, IV, V, and VI in major can become temporary tonic. Keys that are “too far away from the home key” (Hooning, 2014, p. 81) are never used in Bach’s fugues.

1.9 Fugues with multiple subjects

Some fugues can have more than one *subject*, which contradicts the idea of the fugue as a 'monothematic' theme. In that case, often in the *exposition*, only the first *subject* gets used, and the others get introduced later in the fugue. Sometimes they get introduced in the same way as the first *subject* so that we could speak of a second *exposition*, but often they just get introduced in a more 'free way' without sticking to the 'rules' of an *exposition*. At the end of the fugue, the different *subjects* often sound together. Fugues with two *subjects* are called double fugues, with three triple fugues and with four quadruple fugues. Those *subjects* are not to be confused with the *countersubject.*

Another sort of double fugue is when two *subjects* start right from the beginning.

2. The Study Of Fugue by Alfred Mann

Alfred Mann's book 'The Study Of Fugue' is divided into two parts. The first part is a "[...] comprehensive historical survey of writings on the fugue" (The Study Of Fugue, p. back page). It explores the works of principal writers on fugal theory from what can be called the beginning of fugal theory, around 1350, till 1958, which is the year the book got published by Alfred Mann.

The second part discusses "the four works that became the basis of all later texts". (The Study Of Fugue, p. back page): 'Gradus ad Parnassum' (Steps to Parnassus) by J.J. Fux, 'Abhandlung von der Fuge' (A Treatise on Fugue) by F.W. Marpurg, 'Gründliche Anweisung zur Komposition' (A Manual of the Fundamental Principles of Composition) by J.G. Albrechtsberger and 'Esemplare o sia saggio fondamentale prattico di contrapunto fugato' (A Fundamental and Practical Essay on Fugal Counterpoint) by Padre Martini.

Alfred Mann (April 28, 1917 – September 21, 2006) was a German (and later American) musicologist and professor who specialized in the history of Western musical theory.

2.1 Preface

The preface of the book gives some interesting quotes and thoughts about fugues.

Jean Philippe Rameau, musician, composer, and theorist (www.treccani.it, n.d.), claims that to be able to write a perfect fugue, it is not enough to know the rules but one needs good taste too. In detail, he says: "Fugue is an adornment of music governed by no other principles than those of good taste. The general rules given here can therefore never in themselves lead to the perfection of fugal art" (Rameau, The Study Of Fugue, p. iii).

Reading further, this also becomes clearer when looking at the works of Bach. His fugues are considered the beginning and end of the fugal form. While 'Pre-Bach' fugues that started around 400 years before Bach are not regarded as proper fugues, even though they shaped the way to Bach's works, it is only the fugues of Bach that are considered as the "final form"

(Mann, 1958, p. ix). However, “Bach has symbolized [...] the perfection and imperfection of fugal art” (Mann, 1958, p. ix). While his fugal writing has been “cherished as the supreme model”, it also got “denounced as contrary to the rules” (Mann, 1958, p. x).

Mann says that to understand those conflicts “between theory and practice” (Mann, 1958, p. x), it is crucial to understand the history of fugues. Important to know is that the term 'fugue' “held different meanings at different times” (Mann, 1958, p. x). Throughout history, “the concepts of theory and practice have changed” (Mann, 1958, p. x). Fugues were considered as “active practice rather than speculative theory” (Mann, 1958, p. x). Ebenezer Prout ounce said: “There is probably no branch of musical composition in which theory is more widely, one might almost say hopelessly, at variance with practice.” (Prout, 1891, S. ix)

While those differences between theory and practice may make it more difficult to understand how to compose a fugue, they make it at the same time also easier as one has more freedom and can create a more personal piece of art while still being able to create something that one can call a 'fugue'. However, it may make it more difficult to answer my research question about what a fugue is.

But in my opinion, not only in the world of fugal writing but also in general in music, rules help to master a particular style. Still, they are not there to be necessarily followed, they are there to guide you. Rules in music theory should be considered as guidelines to be able to master exactly this personal piece of art.

This emphasizes my idea and thought to learn the fugal theory to use as a basis for my compositions but not as a strict rule to stick with it, which would also be impossible when combining it with Jazz.

Those clashes of theory and practice are helpful for my compositions in a way that I have freedom as a composer while still being able to stick to the fugal art. But in the end, it makes it also difficult to define when a fugue can be called a fugue or, in my case, when a Jazz-Fugue can be called a Jazz-Fugue.

2.2 The Study of Fugue in Historical Outline

As mentioned before, the term 'fugue' had different meanings throughout history, which makes it even more challenging to understand what a fugue is and what it means. “ [...] From the earliest period of its use, the term fugue held the curious double meaning of texture and form or genre that has bedevilled musical theory ever since“ (Mann, 1958, p. 5).

In its earliest form, the term 'fuga' was used “as a title for the accompanied canon and the round” (Mann, 1958, p. 10). The canon and the round are forms of music that use the imitative tool. Imitative music was generally used in secular music first. Later a fusion of imitative music and sacred music was happening. What can be called a “reversal of history” (Mann, 1958, p. 10) is that imitative music stayed a “characteristic of church music when secular influences threatened its traditions anew” (Mann, 1958, p. 10). The term 'fuga' got its first complete definition in the “Diffinitorium musicae” by Johannes Tinctoris. This was the first musical dictionary in history. He defines the term as the technique common to “the identity of rhythmic and melodic writing in various parts of a composition” (Tinctoris, 1475). “With Tinctoris, the fugue is acknowledged as a principle of composition.” (Mann, 1958, p. 11)

So before becoming a form, the fugue was more considered a principle of composition. More specifically, this principle was an imitative principle.

Less than e decade after Tinctoris, Bartolomeo Ramos de Pareja is “the first to recommend the choice of perfect intervals, fourth, fifth and octave, for imitative entrances - the intervals which we have encountered as basic elements from the very beginning of polyphonic writing.” „But his most important remark lies in the suggestion that free writing be introduced in the imitative style whenever consistent imitation would result in difficulty. This principle of composition leads to the concept of fugue […]“ (Mann, 1958, p. 11).

The first polyphonic compositions were composed part by part. Multiple elements that form one work in the end. Therefore, the parts were not connected to each other. This procedure was declared obsolete by Pietro Aron. He praised the composers that considered “all parts together” (Aron, 1523, p. 12).

“One of the most decisive events in the entire evolution of fugal writing” was “ [Don Nicola] Vicentino’s theory of adapting the fugal technique to the modal system”, which is “known in our terminology as the *tonal answer*” (Mann, 1958, p. 18).

However, Gioseffo Zarlino is finally the first one to distinguish between fugue and *imitation*. He says that fugues are the entrances at perfect intervals (unison, fourth, fifths and octaves); all other entrances are called *imitations*. Also, he says that fugue means accurate *imitation* (which is only possible on perfect intervals), and *imitation* means not precise *imitation*. Therefore, the *tonal answer* is not considered a fugue by Zarlino.

At that time, often small distances were used between fugal entrances, something Vicentino also recommended. This resulted in many similar fugal compositions. Zarlino was the first one to relate the problem of “stereotyped patterns to the distance between imitative entrances” (Mann, 1958, p. 22). Therefore, he suggested having bigger distances between fugal entrances.

Having rests between entrances was also something Thomas Morley suggested, though he had a different reason for it. He said: “when a man keepeth long silence and then beginneth to speak, he will speak to the purpose” (Morley, 1597, p. 29), which means that rests are essential “to lend prominence to the return of a thematic passage" (Mann, 1958, p. 29).

Interestingly, Fray Tomás de Santa Maria wrote a book about the improvisational use of the fuga. His “work shows that fugal technique had gained considerable importance in instrument improvisation” (Mann, 1958, p. 26).

In 1588, Pietro Ponzio made an important remark when saying that the first theme of a fugue should be unaccompanied so that the theme is clearly perceptible. Something which we also see in Bach’s fugues and in the theory of Hooning.

During the Renaissance, the fugue went as a “technique of composition from the strict canonic to the free imitative manner and finally to the harmonically oriented fugal treatment of a theme” (Mann, 1958, p. 31).

Till the end of the Renaissance, the fugue was only used as the *exposition* of a polyphonic composition. (Though Vicentino suggested already to end also with the same fugue)

1610, Giovanni Coperaio deals with connecting *expositions* of different themes in his book 'How to Maintain a Fugue' and suggests having two themes (*subject* + *countersubject*).

A larger form gets suggested by Michael Praetorius with „short fugues“ and „good fantasies“ and „the first fugue […] restated at the end“ (Praetorius, 1619, S. 35), which relates to fugal *exposition*, development, and restatement. However, his suggestion refers to a canzona da sonare, which later becomes the sonata. Also, the fugal character in his canzone is “an element of procedure rather than of form” (Mann, 1958, p. 35).

Jan Adams Reinken suggested in 1670 a more complex fugal structure with a specific order for modulations (tonic, dominant, relative tonality, maybe others afterwards) and a double fugue with two different themes, with the second theme on the dominant. (characteristic of the classic sonata).

Other than Zarlino, Giovanni Maria Bononcini’s 'fuga regolare' does not necessarily follow strict *imitation*/answer of the theme where half- and whole-tone steps are strictly observed. A fugue can be called a regular fugue when the answer is within the octave of the key. “Thus the term “fuga regolare” is for the first time assigned to the tonal fugue - the fugue based on the *tonal answer*” (Mann, 1958, p. 43).

Angelo Berardi, however, distinguishes between many fugues: fuga regulare, reale, variable, ingegnosa, artificiale, and reditta. Fuga reale means curiously 'not regular'; it is the counterpart of the fuga regolare. Due to the distinction between reale and regolare, Zarlino’s distinction between fugue and *imitation* has lost its meaning. However, a lot of other composers tried to define these terms anew.

Henry Purcell gives imitation a new definition and describes it as a “diminutive sort of Fugeing” (Purcell, 1694, S. 46). Purcell also says that types of fugeing are used in sonatas meaning that for him, the term fugue is a „procedure according to which the composition is written“ (Mann, 1958, p. 47). However, Jean Philippe Rameau explains *imitation* as “the casual application of the imitative manner” and the term fugue as “the harmonically oriented imitative manner” (Mann, 1958, p. 50). Moreover, he says fugal structure “cannot be reduced to rules” (Rameau, Traité d'harmonie, 1722, p. 52). At that point in the Baroque period, “it was the tonal basis of fugue which had been determined - not its form.” (Mann, 1958, p. 52)

Wilhelm Marpurg finally defines a form for the fugue. He divides the fugue into exposition and development. He calls it the regular fugue, a term already used; however, it now serves as a formal fugue, not a tonal fugue anymore. This means that he “declares the fugal procedure itself a form” (Mann, 1958, p. 56). Later theorists, however, saw that it is the fugal manner that Bach’s fugues have in common and not the structure. Marpurg defines, compared to his predecessors, strict rules and refers to “rules of the old masters” (Marpurg, Abhandlung von der Fuge, 1754, p. 57) which are curiously never discussed in older theoretical works. He says: “It will always be best, however, to take the rule literally” (Marpurg, Abhandlung von der Fuge, 1754, p. 57). Also, in Marpurg’s text, we see a rule that forbids a certain progression for the first time, even though he says himself: “examples of this sort are found in the writings of the great masters” (Marpurg, Abhandlung von der Fuge, 1754, p. 57).

In general, many composers tried to define the fugue and had their own perspectives on that. Often, they disagree with each other, which makes it difficult for an outsider to understand how a fugue works or what it actually is. For example, Johann Mattheson suggested a passage that connects theme and answer, which gets rejected by Johann Georg Albrechtsberger later. He is also suggesting modulations to distant keys instead of only the modulations through the circle of fifths. Padre Martini even says, “we have no other system than Fux’s” (Martini, p. 59). However, Charles Sanford Terry says that “the fugue was a contrapuntal soulless exercise” until Bach had “expounded it by rule and example” (Terry, 1930, p. 69).

Rameau, of whom we saw already two quotes about not following rules (in fugal composition) strictly, said another interesting sentence about harmony: “It is true that perfect knowledge of harmony opens the roads we should take, but the choice of roads is left to our discretion” (Rameau, Traité d'harmonie, 1722, p. 52).

This again emphasizes my own thought about learning the 'rules' and history of fugues but not following them strictly. It is a beautiful metaphor for describing exactly this. This metaphor can be easily related to rules in composition in general.

To conclude this chapter, I quote Alfred Mann again, who says that the fugue is a manner of composition rather than a true form: “The concept of a 'regular' fugue form has never completely disappeared from fugal theory since Marpurg, although all theorists who followed

Marpurg in discussing Bach's fugal work were eventually faced with the fact that it is this manner, not a structural pattern, which Bach's fugues have in common" (Mann, 1958, p. 56).

While studying the history of the fugue this became also clear to me. The fugue can be seen as a form when one looks at Bach's fugues (which also have the title fugue). Though a very strict form is not recognizable. But the fugue, before Bach, as also after Bach, is often used as a compositional tool. This makes it sometimes also difficult when to call a composition or a part of a composition a 'fugue'.

2.3 The Study of Fugue in Classic Texts

2.3.1 Gradus ad Parnassum

The 'Gradus ad Parnassum' is a book by Johan Josef Fux written in Latin and published in 1725. It got later translated by Lorenz Christoph Mizler, a pupil of Bach, and "paraphrased in abstracts by Haydn and Beethoven" (Mann, 1958, p. 75), and so it "became the classical manual of composition" (Mann, 1958, p. 75). The original book, in modern translation, "served Richard Strauss and Paul Hindemith in their teaching" (Mann, 1958, p. 75).

"Fux published his work in two volumes" (Mann, 1958, p. 75). The first volume deals with the nature of intervals and scales, and one can say that it deals more with the mathematical side of music. The second volume deals with the study of *counterpoint* and fugue. Though his study of *counterpoint* is more well-known than his study of fugue, it is the study of the fugue that he "describes as the most important aspect of his work" (Mann, 1958, p. 76).

For his study of *counterpoint* and fugue, he uses only the six basic modes based on Palestrina's music. (Glarean's six authentic scales[1]).

[1] " […] By the 5th century four modes were adopted, called the authentic mode" (MUSIC THEORY ACADEMY) which were Dorian, Phrygian, Lydian and Mixolydian. "Henricus Glareanus, a Swiss monk produced a book called Dodecachordan in 1547 in which he highleted the subsequent addition of two more authentic modes (Aeolian and Ionian)" (MUSIC THEORY ACADEMY)

Interestingly, Fux wrote his book in an (invented) dialogue style where he is the student (called Josephus), and the teacher is Palestrina (called Aloysius). However, it is noticeable that some parts of the dialogue are inspired by his conversations with his own students.

Fux distinguishes between *imitation* and canon. He affirms that a canon has to take over the whole melody while an *imitation* does not have to: “Here it is enough if a few notes follow those of the opening part” (Fux, 1725, p. 79). This also means that the *imitation* does not have to follow the harmony of the original melody.

Fux defines the fugue as a sort of *imitation* but with regard to the mode. He says: “Fugue takes its name from the words fugere and fugare - to flee and to pursue - a derivation confirmed by a number of eminent authors. When one part flees, pursued by another, this is actually nothing but what has been explained as *imitation*. Therefore, another definition is needed that will distinguish fugue from *imitation*.

A fugue arises when a succession of notes in one part is taken over in another part, with due regard for the mode, and especially for the position of whole- and half-tone steps“ (Fux, 1725, p. 80). So Fux defines the fugue as something in-between canon and *imitation*, where a canon is a strict '*imitation*', and an *imitation* itself can be treated more freely. A fugue has to stay within the mode and the whole- and half-tone steps but does not need to follow the original melody one by one starting on the same tone.

Another distinction between *imitation* and fugue is that if in a fugue, “the first part uses the skip of a fifth, the following part must use the skip of a fourth, in order not to exceed the limits of the mode or octave and vice versa. This restriction does not apply to *imitation*, where it is in order to repeat the same steps or skips” (Fux, 1725, p. 81). This is what we call the *tonal answer* nowadays. “Finally, the voices of a fugue cannot start at intervals other than the unison, octave and fifth, whereas *imitation*, as has been said, may occur at any interval” (Fux, 1725, p. 81).

2.3.1.1 Fugues in two parts

First, Fux explains how to write a fugue in two parts in all six modes. His rules on writing a two-part fugue are the following: After the first entrance, the second entrance comes in at the fourth below or fifth above, while the voice with the first entrance plays a *counterpoint.* Then after the *subject* got played by the two voices, a small continuation of melodic figures follows. Afterwards, there will be a first cadence at the fifth of the mode. Then the theme gets resumed with the voice that started the piece but this time on a different note. That entrance should be marked by a full- or half-measure rest or a large skip without rest. The other part is again entering (with the theme) after the first part played the *subject* once though it is also possible that it starts already before the first part finishes the theme. Then the parts move freely for a short time before forming a second cadence at the third of the mode. Finally, the *subject* gets played a last time (it does not matter which voice is starting), followed directly in the next bar by the other part and ending in the final cadence.

As Fux is explaining and using only fugues on the six different modes, it should be avoided to use flats and sharps during the *subjects* but can be used in the free continuation. Sometimes it is even necessary to form cadences or to prevent the relation B and F (tritone).

Though Fux sets up several rules, he does not always follow those strictly in his own example. For example, he does not always start with the same part after the first cadence as at the beginning of the composition.

Sometimes he even starts the fugue on the fifth of the mode and goes then a fifth below or a fourth above during the answer. A possibility he never really points out himself.

What concerns the rhythms when imitating in a fugue, he “adopts the practice of the Renaissance masters which generously admits rhythmic changes in imitative entrances. Later theorists held more strictly to the rule of rhythmic imitation” (Albrechtsberger, The Study Of Fugue, p. 84).

2.3.1.2 Fugues in three parts

After Fux's explanation of the two-part fugue, he goes on with the three-part fugue. Fux says that “three-part composition is the most perfect of all” (Fux, 1725, p. 90) as it is possible to create complete triads, and a fourth voice just results in doubling. Of course, one has to consider the year the book was written, and at that time, chords with four different voices were not that common.

The beginning of the three-part fugue is the same as the two-part fugue. The third voice may or may not enter after a small continuation. “In order that the introduction of the third part will not seem indistinct or lacking a full harmonic sound, we must try to accomplish it by a perfect triad or by a tied dissonance (which is an even better solution)” (Fux, 1725, p. 91). Usually, the third voice starts on the same note as the first *subject*; however, it is not a rule.

While Fux suggested cadences in two-part writing, he says they should be avoided in three-part fugues. Specifically, he is talking about perfect cadences. He affirms that those cadences cannot really be called 'perfect' in two-part fugues, as it needs a third voice to have a full cadence. The cadences in two-part fugues “do not produce the effect of complete rest” (Fux, 1725, p. 93). However, in three-part fugues, a perfect cadence can be used during a thematic entrance because the theme distracts from the feeling of rest. But a perfect cadence is still allowed when a section is completed or at the end of a piece, of course.

Interestingly, the final cadence in the mode of E differs from all the others as it goes from 5 minor (A minor) to 1 major (E major). In all other cases, Fux goes from 5 major to a unison on the tonic.

Moreover, a rest should only be used before using the *subject* again.

2.3.1.3 Fugues in four parts

Fux has little to say about four-part fugues, which are handled similarly to three-part fugues. He sets one rule, which is that the entrance of the tenor follows the soprano, and the entrance of the bass follows the one of the alto.

When writing four-part fugues, one has to watch out to avoid crowding the parts too close together. “Just as a person walking through a dense crowd would be pushed from left, right,

and front and would hardly manage to make his way through, so it happens in a composition where one voice stands in the way of another and has no space in which to unfold" (Fux, 1725, p. 103). Therefore, different from three-part fugues, it is possible to let rest one voice. In Fux's example, the four parts rarely sound together except at the end, where they form a climax and a *stretto* before closing in a perfect cadence.

2.3.1.4 double counterpoint

After handling two-, three- and four-part fugues, Fux goes on with the study of *double counterpoint*.

In general, *double counterpoint* happens when parts get switched, so the upper part becomes the lower part and the other way around. It is used to produce different harmonic colours by inversion. Usually, this method is used when dealing with more than one *subject*. For example, one *subject* and one *countersubject* make sense because you need to use melodies reappearing in the fugue to switch two parts. To be easily distinguished, both parts should show different movements. For example, "this can be achieved through variety in note values" (Fux, 1725, p. 108). In addition, both parts should not start at the same time.

Furthermore, "they must not exceed the interval limits" (Fux, 1725, p. 108). This means that to achieve *double counterpoint* at the octave, the two parts cannot be more than an octave apart, of course. Otherwise, the parts would not get switched.

The most used *double counterpoints* are double counterpoint at the octave, at the tenth and at the twelfth. (As seen in the literature review of Hooning's document)

To achieve *double counterpoint* at the octave, the upper part must be transposed an octave down or the lower part an octave up. *Double counterpoint* at the tenth is, of course, achieved by moving the upper part a tenth down or the lower part a tenth up. However, it is also possible to place the lower voice a third up and the upper voice an octave down or vice versa to achieve the same effect. Though the result is different, the relation of the notes (see fig. 4) stays the same.

To obtain a three-part setting (when having two parts), *double counterpoint* at the tenth can be used by transcribing one voice to the lower or upper tenth and letting the two parts remain

unchanged. Figure 11 is an example of a two-part fugue with a *cantus firmus* in the lower part, which gets transformed into a three-part fugue in figure 12 by using *double counterpoint* at the tenth.

fig. 11: Gradus ad Parnassum by Johan Josef Fux (1725)

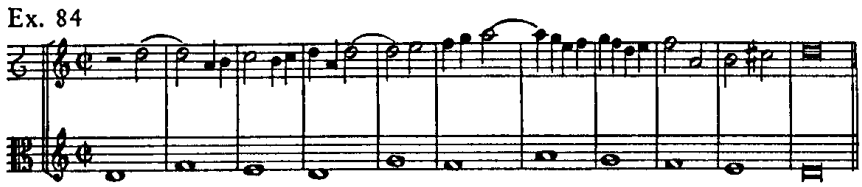


Figure 11: Two-part Fugue before use of Double Counterpoint at the Tenth I

fig. 12: Gradus ad Parnassum by Johan Josef Fux (1725)

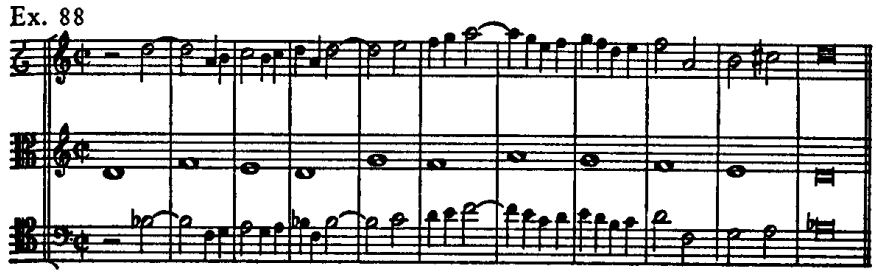


Figure 12: Three-part Fugue after use of Double Counterpoint at the Tenth I

Figure 13 is another two-part fugue with the *subject* in the upper register and its answer in the lower register. In figure 14, the two-part fugue got transformed into a three-part fugue, this time by transcribing the cantus firmus a tenth down.

fig. 13: Gradus ad Parnassum by Johan Josef Fux (1725)

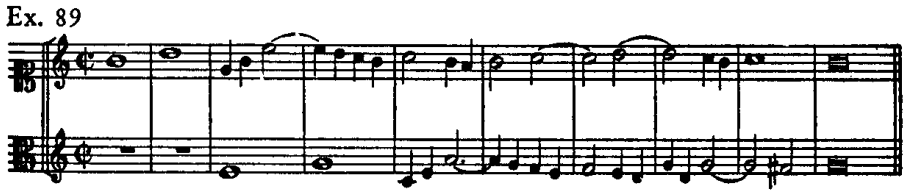


Figure 13: Two-part Fugue before using Double Counterpoint at the Tenth II

fig. 14: Gradus ad Parnassum by Johan Josef Fux (1725)

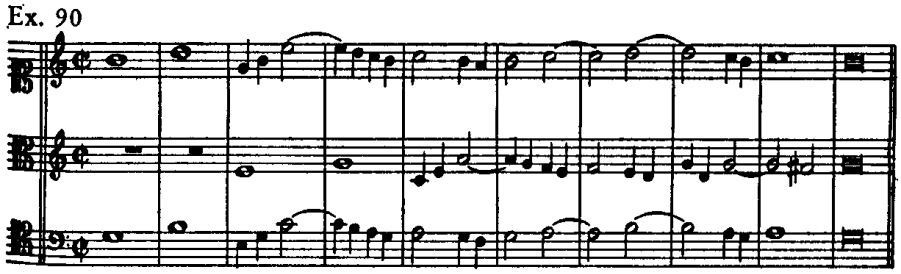


Figure 14: Three-part Fugue after using Double Counterpoint at the Tenth II

Though Fux is explaining the use of *double counterpoint*, he still explains some rules for fugues in this section. He says the parts should be arranged so they do not exceed the five lines. He suggests the range of the human voice as the norm. Furthermore, he notes that the *subject* may also appear in *inversion*. He distinguishes between strict and non-strict *inversion*. By strict, he means that the whole- and half-tone steps are strictly followed. Non-strict means that the whole- and half-tone relations maybe change. Moreover, the *subject* does not have to occur every time in total length.

Double counterpoint at the twelfth works similarly to *double counterpoint* at the tenth. This time it is done by transposing the upper part a twelfth down or the lower part a twelfth up. Another way is to transpose the upper part an octave down and the lower part a fifth up, respectively, the lower part an octave up and the upper part a fifth down.

Also, with *double counterpoint* at the twelfth, it is possible to form a three-part fugue out of two parts. This can be done by transposing one part by a twelfth and copying it a tenth up. In figure 16, the upper part of figure 15 got transposed a twelfth down, and that lower part got then transcribed a tenth up. While Fux does not mention it, this method could also be seen as a combination of *double counterpoint* at the twelfth and at the tenth.

fig. 15: Gradus ad Parnassum by Johan Josef Fux (1725)

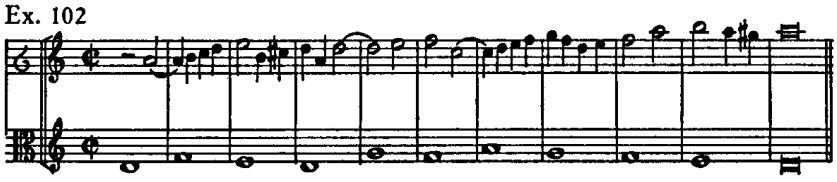


Figure 15: Two-part Fugue before using Double Counterpoint at the Twelfth

fig. 16: Gradus ad Parnassum by Johan Josef Fux (1725)

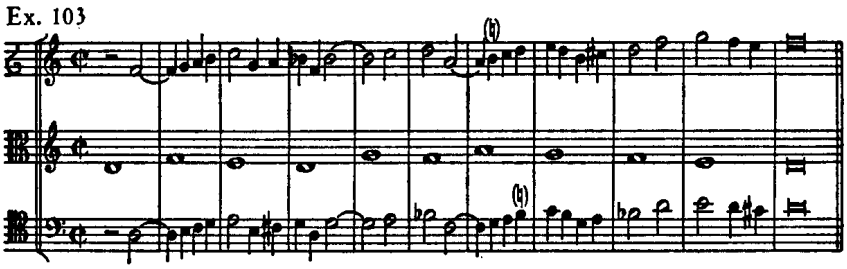


Figure 16: Three-part Fugue after using Double Counterpoint at the Twelfth

Fux affirms that to create a *double counterpoint* at the twelfth, the part that gets transposed should start and end at the fifth to "stay within the limits of the mode" (Fux, 1725, p. 125).

In the end, the 'Gradus ad Parnassum' concludes with a fugue with three themes. However, Fux does not say much about it except that he used *double counterpoint* at the octave for the second theme and d*ouble counterpoint* at the twelfth for the third theme.

2.3.2 Abhandlung von der Fuge

The book 'Abhandlung von der Fuge' by Friedrich Wilhelm Marpurg got published in 1753 and 1754. Marpurg was inspired by Bach's 'Art of Fugue', which got released less than a year after Bach's death in 1751 and had, in a second edition in 1752, even a preface of Marpurg where he admires and recognizes Bach's work. Therefore, Marpurg can be seen as "Interpreter of Bach" (Mann, 1958, p. 139). Marpurg even had the opportunity to discuss fugal techniques with Bach himself. After conversations with Bach, Marpurg wrote a letter to Johann Mattheson where he criticized contemporary works in which the composer "stuck continuously to his principal *subject*, without any change" (Marpurg, The Bach Reader, 1945, p. 140) and also where he "had not shown enough fire to reanimate the theme by *interludes*" (Marpurg, The Bach Reader, 1945, p. 140). In the words of Bach himself, Marpurg even refers to "dry and wooden" (Bach, 1945, p. 141) and "pedantic" (Bach, 1945, p. 141). Marpurg's

discussions with Bach can also be recognized in his rules: “The melodic line of a theme should be so arranged that it will admit a number of changes in its accompaniment” (Marpurg, The Bach Reader, 1945, p. 141) and “if no *episode* precedes the cadence, one may introduce an *episode* rather than a thematic entrance” (Marpurg, The Bach Reader, 1945, p. 141). Marpurg’s admiration of Bach’s work becomes very clear in one of his sentences: “To be an excellent musician and not to appreciate the virtues of the late Bach is a contradiction” (Marpurg, Abhandlung von der Fuge, 1754, p. 141). However, Marpurg tried to defend the contrapuntal writing at a time when fugues were considered “the child of ancient aberration” (Mann, 1958, p. 139).

Mann starts in his book 'The Study Of Fugue', in the chapter of the 'Abhandlung von der Fuge', with Marpurg’s chapter on *imitation* and fugue in general.

2.3.2.1 Imitations

Marpurg distinguishes between repetition, transposition and *imitation.* “The restatement of a *subject* by use of the same tones in the same part is called repetition, [...] the restatement of a *subject* by use of different tones in the same part is called transposition, [...] the restatement of a *subject* through repetition or transposition in different parts is called *imitation*” (Marpurg, Abhandlung von der Fuge, 1754, p. 142). Furthermore, Marpurg distinguishes between different types of motions: “direct or similar motion [...], in which the voices ascend or descend together by step or skip; Indirect or dissimilar motion, usually called *contrary motion* [...], in which the voices go against or away from each other; Oblique motion [...], in which one voice moves while the other remains stationary” (Marpurg, Abhandlung von der Fuge, 1754, p. 146). However, Marpurg also refers to these motions when talking about *imitations*, meaning when two melodic lines follow each other instead of playing together. Therefore, he defines the first two types anew, which can be combined with *imitation*: “*imitation* in similar [or direct] motion [...] is that kind of *imitation* in which one voice answers the other, using the same direction of interval progression; an *imitation* in dissimilar or inverted motion [...] is that kind of *imitation* in which ascending intervals in the preceding part become descending in the following part, or vice versa” (Marpurg, Abhandlung von der Fuge, 1754, p. 146). Moreover, Marpurg distinguishes between strict and free inverted *imitation*: “free *inversion* occurs when the following part imitates the intervals of the preceding part in

inversion but does not retain the arrangement of whole- and half-tone steps" (Marpurg, Abhandlung von der Fuge, 1754, pp. 146-147). Another type of *imitation* is *retrograde imitation*, and the *inversion* of the *retrograde* is called inverted *retrograde imitation*. Looking at Marpurg's examples ,one can conclude that *retrograde* and inverted *retrograde* can also be applied in a 'strict' or 'free' manner. In total, Marpurg distinguishes four kinds of motion that can be used during an *imitation*: direct motion, inverted motion, *retrograde* motion and inverted *retrograde* motion. Oblique motion is only possible when two voices are playing together.

An *imitation* may occur with different note values. When the value of the notes is longer, it is called *imitation* in *augmentation*. If the value is smaller, we call it *imitation* in *diminution*. If the note values are doubled, we call it also simple *augmentation*; if they are doubled twice, we call it double *augmentation* and so on. The same goes for *imitation* in *diminution*.

Imitation may also be interrupted by a rest which Marpurg refers to as interrupted *imitation*. "If one *imitation* begins on a strong beat and the other on a weak beat or vice versa, this is called *imitation* in contrary rhythm" (Marpurg, Abhandlung von der Fuge, 1754, p. 151). If the voices may be interchanged, Marpurg calls it *imitation* in *double counterpoint*.

All *imitations* that were discussed in this chapter may be either periodic or canonic. Periodic *imitation* is when the part that imitates uses only a fragment of the melody, and canonic *imitation* is when it uses the whole line.

2.3.2.2 Fugues in General

After discussing the different types of imitations, Marpurg talks about the fugue in general. He refers to Mattheson and defines the fugue as follows: "[...] a piece in which the voices answer each other" and explains the term itself further: "The term fugue [...] has been derived by some musical scholars from 'fugare', to chase - since one part chases the other, so to speak – and by others, from 'fugere', to flee – since one part flees from the other" (Marpurg, Abhandlung von der Fuge, 1754, p. 154). Furthermore, Marpurg affirms that a fugue cannot be divided into multiple parts. It "should be continuous from beginning to end" (Marpurg, Abhandlung von der Fuge, 1754, p. 154). Still he distinguishes between five elements in a fugue. The first one is the opening theme/statement which can have many names like

“phonagogos in Greek; *dux*, thema, subjectum, vox antecedens in Latin; sujet in French” (Marpurg always refers to the 'theme' or the 'opening theme' in his book and never to the '*subject*' or the '*dux*'). The second element is the answer of the opening statement: “*comes*, vox consequens in Latin; risposta or conseguenza in Italian; réponse in French” (Marpurg, Abhandlung von der Fuge, 1754, p. 155) (Marpurg always refers to it as the 'answer' and never as the '*comes*'). The third element is the exposition which contains the arrangement of the opening statement and the answer. (unlike in Hooning’s theory, where the *exposition* only refers to the opening section). The fourth element is the counterpart, a free melodic writing part put against the theme - an accompaniment to the theme, so to say. The last element is the episode which serves as the connection between the expositions.

Marpurg distinguishes between two types of fugues. The regular fugue, which is arranged according to the 'rules' and the irregular fugue which does not follow the rules. Moreover, there are two types of regular fugues. The 'strict fugue' which does deal with the *subject* throughout the whole piece, and the 'free fugue' “which does not deal with the theme throughout” (Marpurg, Abhandlung von der Fuge, 1754, p. 156). Strict fugues are most of Bach’s fugues and free fugues are most of Händel’s fugues.

Marpurg also refers to the existence of *stretto* and fugues with multiple *subjects*. While the opening *subject* is referred to as the 'theme', all further 'themes' are called *countersubjects*. Moreover, Marpurg points out that *double counterpoint* is necessary in a fugue with multiple themes; otherwise, it is impossible to place the theme and answers throughout different voices. Marpurg calls all fugues with multiple themes double fugues, no matter how many *subjects* they have.

Marpurg distinguishes six 'classes' of fugues depending on the *imitation* of the answer after the opening theme: “The first class of fugues contains those whose names are determined by the interval at which the answer follows the opening statement. Thus there are fugues at the unison, second, third, fourth, fifth, sixth, seventh, and octave. It should be noted that in all these cases, the intervals are reckoned upward. A fugue at the second, therefore, means invariably a fugue at the upper second” (Marpurg, Abhandlung von der Fuge, 1754, p. 158). This means that according to Marpurg, the answer to the opening theme does not have to be on the fifth. However, he distinguishes between the 'ordinary' and 'extraordinary' fugue. The

ordinary fugue is the fugue whose answer is at the fifth, or paradox in “extraordinary cases” (Marpurg, Abhandlung von der Fuge, 1754, p. 178) at the fourth or octave (Though generally called fugue at the fifth).

“The second class of fugues contains those which are named according to the kind of melodic motion in which the answer follows the opening statement. In this class are:

-fugues in similar motion – fuga recta or aequalis motus [which is the most used of the second class];

-fugues in dissimilar or inverted motion, usually called counterfugues – fuga contraria or per motum contrarium;

-fugues in *retrograde* and inverted *retrograde* motion – fuga retrograde and fuga retrograde per motum contrarium.

The third class of fugues contains those which receive their name through the change of note values with the answer following the opening statement. In this class are:

-fugues by *augmentation* – fuga per augmentationem;

-fugues by *diminution* – fuga per diminutionem.

The fourth class contains fugues by *imitation* in contrary rhythm – fuga per arsin et thesin.

The fifth class contains fugues with interrupted *imitation* - fuga per imitationem interruptam.

The sixth class contains those fugues in which all the mentioned devices may be combined – fuga mixta” (Marpurg, Abhandlung von der Fuge, 1754, p. 158).

One last distinction of fugues is by their note progressions within the *subject*.

-“fuga composita or recta – if the notes of the thems follow one another stepwise;

-fuga incomposita – if the notes of the theme progress by skip;

-fuga authentica – if the notes of the theme ascend;

-fuga plagalis – if the notes of theme descend” (Marpurg, Abhandlung von der Fuge, 1754, p. 161).

2.3.2.3 The opening theme

Marpurg affirms that the theme should be a simple, singable melody and suggests that it should be repeated many times throughout the fugue. In addition, the theme should not be too long. He says: “The more often a theme is repeated, the better the fugue. A short theme is easily understood and remembered and offers the listener a number of advantages” (Marpurg, Abhandlung von der Fuge, 1754, p. 162). Moreover, the theme should be within the interval of an octave to leave space for the other parts where the answer might occur.

No cadence should occur at the end of the theme, or if it is impossible to avoid it, it has to be hidden, for example, by playing the answer immediately on the cadence. A perfect cadence should only be played to conclude the fugue. Furthermore, the opening theme should always end on a strong beat.

2.3.2.4 The answer

The answer should be “repeated in similar manner” compared to the opening theme. “In short, the melodic line of the answer should be entirely like the melodic line of the opening statement”. But sometimes, some changes might be necessary to stay within the tonality. (called *tonal answer* and/or head mutation by Hooning). If the opening theme starts on the one, the answer should begin on the fifth, but if the opening theme starts on the fifth, the answer should begin on the fourth (*tonal answer*).

If the opening theme stays in the home key, the answer should be transposed to the dominant. If the opening theme modulates from the home key to the dominant one, the answer should modulate back. Therefore, some melodic changes might be necessary. (called tail mutation by Hooning). Also, some rules are applied concerning the end of the opening theme. If the opening statement ends on the fifth degree of the key, the answer should end on the first degree of the key. If the opening theme ends on the third degree of the dominant, the answer should end on the third degree of the home key.

It is possible to start the opening theme on the dominant first. Then, the answer should be played on the tonic, therefore at the fourth compared to the beginning. It is even possible that the theme and answer start simultaneously. Therefore, Marpurg also sees Bach's so-called inventions as a sort of fugue.

If there is a third part, it “may enter either at the regular time, or after a short episode, or it may enter even before the second part has finished the theme” (Marpurg, Abhandlung von der Fuge, 1754, p. 177).

2.3.2.5 episodes and expositions with one theme

In fugues with one theme, after the first exposition, an *episode* may occur that leads to a cadence in the original key or the dominant. The cadence might also appear immediately after the first exposition.

After the cadence, the theme should reappear in a voice where the theme did not appear immediately before. If no *episode* precedes the cadence, one might first introduce an *episode* after the cadence before the theme reappears. Generally, *episodes* should be related to the theme.

In the expositions following the first exposition, the theme does not have to appear through all voices. The distances between the theme and answer might also change compared to the first exposition. Moreover, the theme might appear shortened. In addition, before a voice enters with a theme, a rest should be placed. The *episodes* should always form a cadence to preferably a related key. In general, the theme should appear through many modulations, but coming back to the home key in the end, ending with a perfect cadence.

2.3.2.6 double fugues

If a fugue has more than one subject, then the “themes should be distinguished one from another both rhythmically and melodically” (Marpurg, Abhandlung von der Fuge, 1754, p. 191). Moreover, it is better “if the number of voices exceeds the number of themes by one” (Marpurg, Abhandlung von der Fuge, 1754, p. 191). Also, the different themes should not end together. Marpurg points out that the *subject* and *countersubject* will not have to be combined all the time.

3. Differences of the Theories of Hooning, Fux & Marpurg

In the 'Literature Review', I analysed mostly three theorists. Those are Martijn Hooning, Johan Joseph Fux and Friedrich Wilhelm Marpurg. All three have a similar fugal theory, though there are some differences.

In general, the theory of Hooning seems by far more complete. However, Fux's 'Gradus ad Parnassum' and Marpurg's 'Abhandlung von der Fuge' are both just an excerpt in Alfred Mann's 'The Study Of Fugue'. As I did not read the whole books themselves, I cannot judge this completely. Still, I will and can only refer to the excerpts that I studied myself. Furthermore, one should not forget that the books by Fux and Marpurg were written at a totally different time compared to Hooning's document.

While Fux uses both the term '*subject*' and the term 'theme' for the main melody of a fugue, Marpurg and Hooning also distinguish between the first and second entrance of a fugue. Marpurg calls them 'opening theme' and its 'answer' while Hooning labels them '*dux*' and '*comes*'. But Hooning also uses the term *subject* to describe the overall fugal theme. Marpurg does not use this term at all.

Hooning tries to find an overall fugal form and suggests dividing a fugue into an initial section, a development section and a concluding section. Though, he mentions that it is not always possible to divide a fugue into three parts. Moreover, he clarifies that it is not possible to define a clear form, especially after the *exposition.* Also, Marpurg tries to define a form and as mentioned in the 'Historical Outline' part of Alfred Mann's 'The Study Of Fugue', he is the first one to do so. He makes a difference between the *exposition* (in his terms, the 'first exposition') and the part that is following afterwards though he does not label these sections. Fux does explain the fugue rather as a compositional tool than a fixed form.

While Fux does not talk about *imitations,* Marpurg and Hooning talk about them in detail in a separate chapter. Both distinguish between several types of *imitations*. They both distinguish between *augmentation* and *diminution.* Some terms of both theorists seem to mean the same thing, but often there is one big difference. While Hoonig's terms usually refer to a 'strict' *imitation*, meaning following strictly the whole- and half-tone steps, Marpurg's terms mean a

'strict' or 'free' *imitation*, whereas 'free' means not following strictly the whole- and half-tone steps. While Hooning's '*imitation* in similar' is a copy of a *motif* in another voice, Marpurg's *imitation* in similar motion refers to a 'strict' or 'free' copy of a *motif* in another voice. This can also mean a transposition of a *motif* in another voice, which Hooning labels as an *imitation* by mentioning the interval distance, for example, '*imitation* at the fifth'. The same difference applies between Marpurg's *retrograde imitation* and Hooning's *retrograde,* and Marpurg's inverted *retrograde imitation* and Hooning's *retrograde-inversion.* Hooning always talks about 'strict' *imitations,* while Marpurg means 'strict' or 'free' interpretations. Hooning only talks about 'free' *imitation* when referring to the *inversion.* Though if not 'strict', he labels it as a *contrary motion*. The *inversion* is also the only type of *imitation* Fux is talking about, where he also distinguishes between 'strict' and 'free'. The *imitation* in contrary rhythm, explained by Marpurg, is not handled by Hooning.

While Hooning defines the first section of the fugue, in which the theme is presented through all voices as the *exposition*, Marpurg calls every part in which the theme occurs an *exposition*. The parts that do not treat the *subject* are labelled as *episodes* by Marpurg and Hooning, though Hooning suggests a further term called *interlude* which is a part in which the theme does not occur but stands within a group of entrances. All those terms are not treated by Fux.

Moreover, Marpurg mentions the possibility of starting a fugue on the fifth and then having the answer on the tonic. Fux shows it in his examples, too, though he does not explain it further. Hooning does not mention it at all.

4. My own Fugal Theory

In general, all of the three books and documents of Fux, Marpurg and Hooning will serve me when analysing fugues and composing own fugues respectively Jazz-Fugues. But due to some differences in their theories, especially regarding terms, I need to clarifiy some things.

Fux's 'Gradus ad Parnassum' served more as a compositional guide rather than as a theory book. Moreover, as his theory is based on the 6 authentic modes, it does not serve the fugues of Bach that I am going to analyse. Fux's chapters will help me in getting closer to being able to compose a fugue and will serve me in chapter 3, 'Composition' of this master's thesis, but when it comes to defining which terms I will use for my further process, Marpurg and Hooning are more worth a look.

In general, I will use Hooning's theory as the model as it is the most complete while it is also the most recent one. Everything that Hooning does not mention but is treated by Fux and/or Marpurg I see as an addition of Hooning. This means that I will also use the terms *dux* and *comes* for labelling the themes. Moreover, I will use the term *interlude* as an addition to the *episodes*. Also, I will only call the first part, where the *subject* moves through all voices once, the *exposition*. All other parts, including the theme, will not be labelled by a specific term.

However, when it comes to labelling, the *imitations*, I will use an own made-up list, combining the theory of Marpurg and Hooning. I will use Hooning's list and extend it by the non-strict versions of *imitation* in similar, *retrograde* and *retrograde-inversion,* and I will extend it by the term *imitation* in contrary rhythm.

4.1 My Own List of Types of Imitations

An '*imitation*' is “a polyphonic musical texture in which a melodic idea is freely or strictly echoed by successive voices” (WESTERN MICHIGAN UNIVERSITY, n.d.).

'*Imitation* in similar' is a literal copy of a melody or *motif* in another voice:

'*Imitation* in similar motion' is a slightly changed copy of a melody or *motif* in terms of whole- and half-tone steps in another voice:

'*Imitation* at the [interval distance compared to the 'original' *motif*] is an exact transposition of a melody or *motif* in another voice (for example: *Imitation* at the fifth):

'*Inversion*' is when turning a melody or *motif* upside-down so that the 'new' melody appears in *contrary motion* compared to the 'original' while maintaining the whole- and half-tone relations:

'Free inversion' is when turning a melody or *motif* upside-down so that the 'new' melody appears in *contrary motion* compared to the 'original', but not considering the whole- and half-tone relations between the notes:

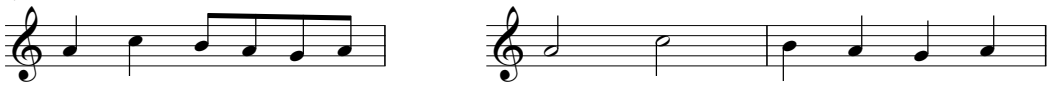
'*Retrograde*' is when playing a melody or *motif* from back to front with regard to the whole- and half-tone steps:

'Free *retrograde*' is when playing a melody or *motif* from back to front without following the whole- and half-tone steps strictly:

'Retrograde-inversion' is the *inversion* of the *retrograde*:

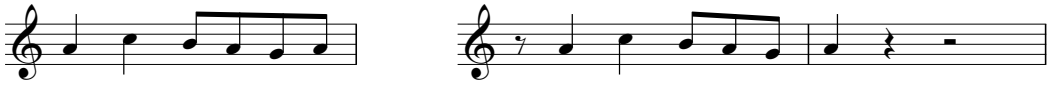
'Free *retrograde-inversion'* is the free *inversion* of the *retrograde*:

'*Augmentation*' is when multiplying the note values of a melody or *motif* (by 2; 3;…):



'*Diminution*' is when dividing the note values of a melody or *motif* (by 2; 3;…):

'*Imitation* in contrary rhythm' is when the 'original' melody or *motif* begins on a strong beat and its repetition or *imitation* begins on a weak beat or vice versa:



PROCESS DOCUMENTATION

1. Analysis of Fugues of Johan Sebastian Bach

I chose to analyse three specific fugues of Bach. As I knew which Jazz-fugues I was going to analyse - which are all interpretations of fugues of Bach - I decided to analyse the original fugues too, to be able to compare the Jazz-fugues with their classical counterpart.

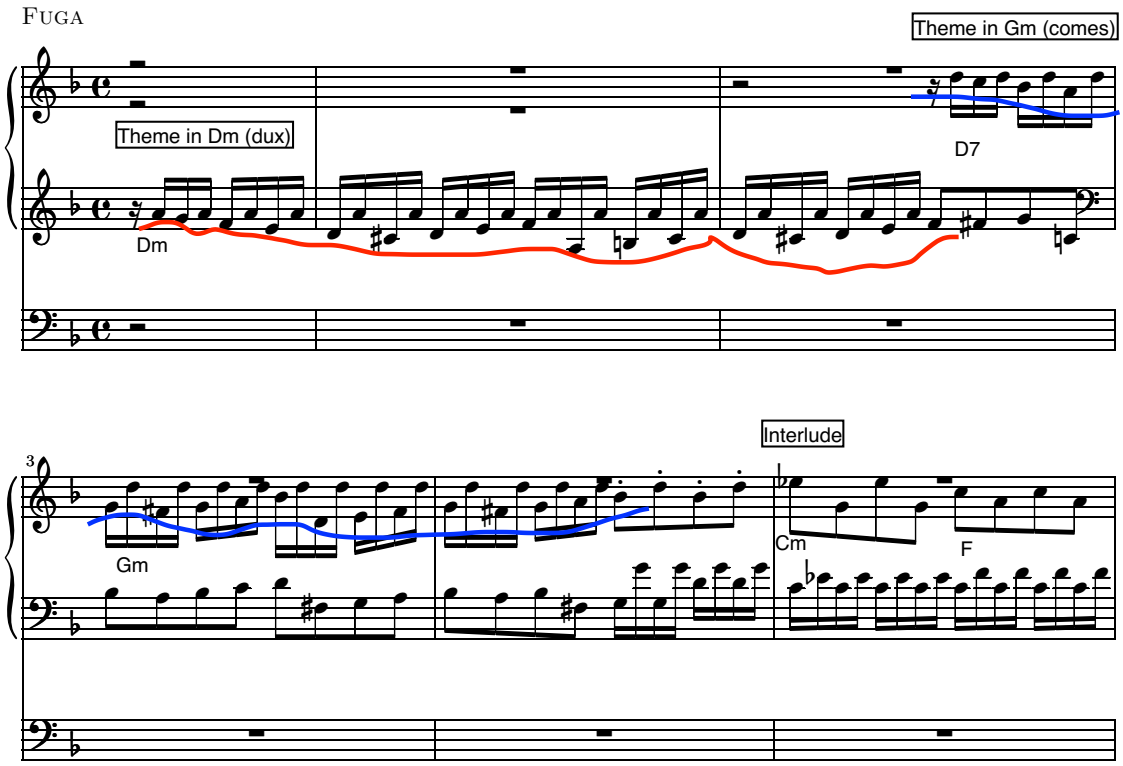
1.1 Fuga en D Mineur, BWV 565 by Johan Sebastian Bach

For the complete sheet music with chord and form analysis, see Appendix 1.

This fugue is the second part of 'Toccata et Fuga en d mineur BWV[2] 565' by J.S. Bach. When analysing this fugue, it quickly became apparent that it and differs from the theory of Hooning.

Due to the tempo, the *subject* is a rather short *subject* in D minor with a relatively big ambitus of an octave. The *comes* starts on the fourth, which makes sense as the fifth is present at the beginning of the *dux*. This should result in a *tonal answer* because otherwise, the beginning of the *comes* would form a dissonance with the end of the *dux* (E against F). However, this *comes* is a complete transposition to the 4th G minor. Though this is unusual, this makes total sense because if the fifth of the tonic at the beginning of the *subject* would be transposed a fourth up and all the other notes would be transposed a fifth up (which is usually done – see p.26 of this master's thesis), then the first three notes of the *comes* would be D. This repeated D would result in a less pleasant melody and would be more challenging to play. Therefore, Bach probably chose to have the answer played a fourth up instead of a fifth up. This also means that this *comes* is actually a *real answer* (on the fourth) and not a *tonal answer* as one might think at first.

[2] **BWV**: "Bach Werke-Verzeichnis: indicating the serial number in the catalogue of the works of J. S. Bach made by Wolfgang Schmieder (1901–1990), published in 1950" (DICTIONARY.COM)



In the following, I will label all *subjects* in D minor *dux*, and all entrances in G minor *comes*. In the sheet music (Appendix 1), I underlined the *dux* with the colour red, and the *comes* with the colour blue. All other entrances are underlined with the colour green.

After the second entrance, there is a section without the theme before the third voice enters. It feels already like the beginning of the development section after the *exposition*, but it is not, as yet, not all the voices entered. As this new section is still happening, technically, during the *exposition* and stands therefore within a group of entrances, it should be labelled *interlude*. After the third entrance (*dux*), there is again an *interlude* section before the fourth voice enters (*comes*), which only happens in bar 22. This second *interlude* plays clearly motivic material from the *subject* in the first voice. Worth mentioning is that the third entrance does not even contain the complete *subject* but only the beginning of it.

After the fourth entrance, an *episode* aims to modulate to F major, which is the relative major and comes on the third beat of bar 27. If I follow the 'rules' and define the *exposition* by the section from the first entrance till the fourth entrance of the fourth (and last) voice, then I would mark this F major as the beginning of the development section, which makes sense as

due to the modulation it also feels like a new segment. Moreover, this new section gets marked by having the theme played again, but due to the new tonality, it appears now in major (and a different pitch).

In the development section, Bach uses new material different from the *subject*, like scales downwards in bar 30, playing around two chords in bar 32 or arpeggios in bar 36.

Using this arpeggio idea, Bach modulates back to D minor and marks that with a new theme entrance (*dux*) in bar 40. However, the theme is played only partially. Afterwards, he uses the arpeggio motif again, but this time in D minor. After further development with the use of scales, a modulation to C minor happens, again, marked by a new entrance. This entrance, played by the fourth voice, is supported by a pedal on the fifth of C minor, G, played by the third voice. This entrance is directly followed by another entrance played by the third voice. This time the first voice is playing the pedal on the fifth (There is no second voice at that moment). After a quick motivic development of the theme, the *comes* reappears in the third voice, again supported by a pedal on the fifth, this time in the bass (fourth voice).

After a freer development with new material, a more related to the theme, motivic development gets played by the third voice in bar 75 before the *dux* appears again in the second voice, again supported by a pedal on the fifth.

After a short motivic development of the theme, the *subject* appears again as a *dux*, this time played by the fourth voice. But unexpectedly, without any accompaniment. Then there is once more an *episode* which contains anew the arpeggio idea beginning in bar 85 and motivic development of the *subject* beginning in bar 90, played by the fourth voice.

A final section where the *subject* is played through all voices, eventually as a *stretto*, is not happening. The third voice plays a last *dux*, supported again by a pedal, but this time on the tonic which suggests that the fugue is ending. Nevertheless, instead of a cadence that ends on the tonic, it goes to the bVI (deceptive cadence).

After the fermate on the bVI, there comes another section which I would label as Coda. This clearly sounds like a big written-out cadence with fast runs and ritenutos and no motivic material anymore.

To conclude, this fugue is less characteristic than other fugues from Bach. The answer is entirely on the fourth and not, as usual, on the fifth. In the end, the theme is not played through all voices simultaneously but only played once. Then comes an extensive cadence/Coda with no motifs of the theme at all. In general, many new motifs are developed during the course of this fugue, like the arpeggios, among others. One may see that new material as new *subjects*. However, they often stand as sections on their own as they were not part of the rest of the fugue. Also, most of the fugue is only played by three or even two voices, though it is a four-part fugue.

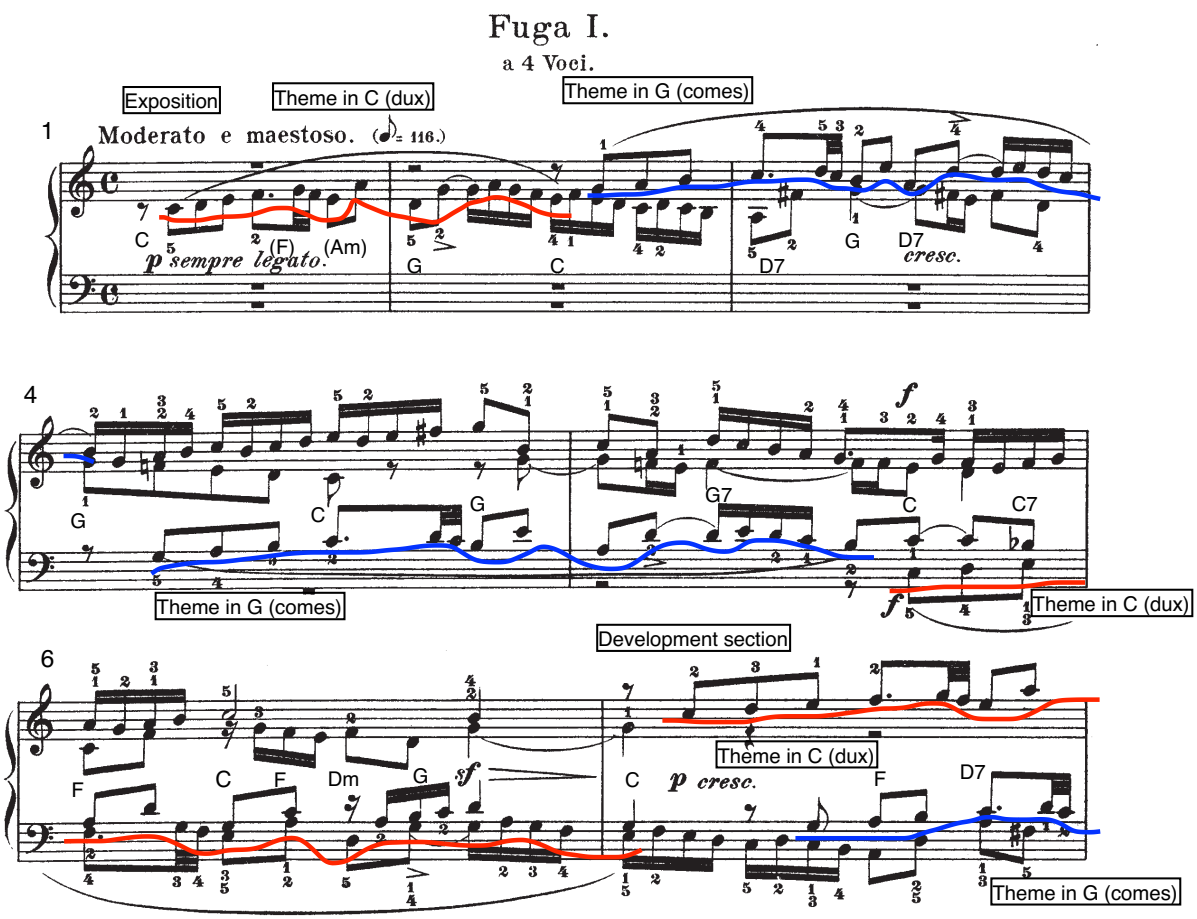
This fugue proves that, in the end, it is up to the composer how to shape a fugue composition. While, in general, a fugue always starts with a *subject* that goes through different voices and reappears several times during the course of a fugue while undergoing several compositional techniques like modulations, motivic development, etc., the rest is incumbent on the creativity of the composer.

1.2 Fuga en C Majeur, BWV 846 by Johan Sebastian Bach

For the complete sheet music with chord and form analysis, see Appendix 2.

'Preludio e Fuga en c majeur BWV 846' are the first two pieces of music one encounters in Bach's book, the 'Well-tempered Clavier'. The fugue is the second part of this piece.

The *subject* is, according to the theory of Hooning, a very typical one. It is short, has a relatively small ambitus of a six and is very diatonic. Moreover, it starts on the tonic and ends on the third, as most fugues of Bach do, according to Hooning. The *comes* repeats the *subject* on the fifth with a *real answer*. While the answer starts on the tonic chord, it modulates to the fifth later. Less typical is that the third voice also plays a *comes*, followed by a *dux* in the fourth voice. This means that Bach is here not following the standard scheme of an *exposition*, which is *dux*, *comes*, *dux*, *comes*, but does structure it as follows: *dux*, *comes*, *comes*, *dux*. According to the 'rule' that the *exposition* ends after the *subject* got presented in all voices, the development section starts in bar 7. There is no *episode* in between.



In the following, I will label all *subjects* in C major *dux*, and all entrances in G major *comes*. In the sheet music (Appendix 2), I underlined the *dux* with the colour red, and the *comes* with the colour blue. All other entrances are underlined with the colour green.

The development section directly starts with a *dux* in the first voice, followed by a *comes* in the third voice so that both themes are played simultaneously. Although the *dux* by itself is in C major and the *comes* in G major, both, combined with the fourth voice, form a modulation from C major to D minor. This D minor is only shortly touched as the tune moves again to G major, with another *comes* in the second voice. As soon as this entrance is finished, the Bass comes in with another *comes*, followed by an entrance in D major by the second voice. Both are played simultaneously and create a modulation to E dominant, respectively A minor. This section features another theme entrance in E dominant this time.

From A minor, the fugue modulates back to C major in bar 14. There the densest part is happening as three themes play simultaneously, starting with the second voice entering with a *dux* directly followed by a *comes* in the third voice. Both end at the same time as the third

voice does not play the theme completely, but before both end, the fourth voice enters with another *comes*. This *comes* gets joined by only the beginning of another *comes* in the first voice. When the first voice ends the *comes*, it does start directly with another entrance, this time with a *dux*. In this section (bars 14-16), harmonically, everything is moving around the tonal centre C and modulating to A minor towards the end. In bar 17, there is a new entrance starting in A while the *dux* from before is still playing. While this entrance starts in A, it changes after the first half so that the *subject* is not played in its original form but is still recognisable. This also happens similarly two bars later with another entrance starting in A but moving away from the original *subject*. Simultaneously a theme in E minor is played, the first time that the *subject* is not played in major. Another two entrances directly follow this passage. This time a *comes*, and an entrance starting on B, so that it forms an entrance on B Locrian, though here the harmonic context is clearly G major. So differently speaking, this *subject* starts on the third instead of the tonic of the chord.

After a short *interlude*, another two entrances come in, one as a *dux* and one in F major, forming a harmonic context of F major, ending in a perfect cadence (IV, V, I).

To conclude, this fugue differs mostly in two ways from the fugue in d minor, BWV 565, analysed before. Firstly, it does not present any new material that could be considered as a new theme. Moreover, the passages between the *subjects* are way shorter. There are no *episodes* in this fugue and only a few short *interludes*. It seems like Bach tried to just use the theme as much as he could.

1.3 Fuga en G Mineur, BWV 885 by Johan Sebastian Bach

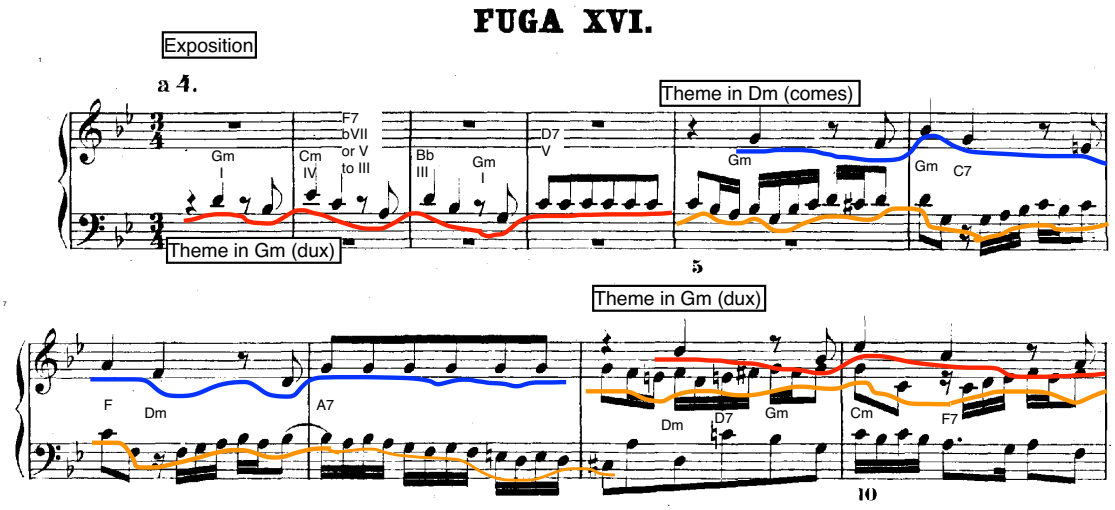
For the complete sheet music with chord and form analysis, see Appendix 3.

'Fuga en g mineur, BWV 885' is one of the less famous fugues of Bach. When searching for a fugue in G minor of Bach, one often encounters the fugue BWV 578, one of the most famous fugues of Bach or BWV 861 from the Well-tempered Clavier. I chose to analyse BWV 885 as Brad Mehldau made an interpretation, I chose to analyse later in this master's thesis.

The fugue no.16 in G minor, BWV 885, differs mainly in two points from the before analysed fugues. First, it has a *countersubject.* Secondly, it is written in ¾. Therefore, the tune starts on the second beat. The listener instead expects that the piece starts on the one, however. One may notice later that the first beat is at a different spot than expected initially, but I felt that the song would indeed start on the one. I felt that the target point of the *dux* was the 'C' and the 'D'. Bach probably felt the highest note of the three not motif (Bb, Eb, C) was the strongest, but this is only an assumption. In the end, it does not matter much for the further analysis of this fugue.

As the *subject* starts on the fifth, its answer is a *tonal answer*. Only the first note is answered by a fourth, while the rest remains a transposition to the fifth above. The four voices enter one after the other, always with the theme, till every voice plays simultaneously. When one voice finishes the *subject*, it goes on with the *countersubject* building the accompaniment to the new voice that is entering with the theme, except the fourth voice, which does not play the *countersubject* after its entrance but still plays motivic material of it. One reason for this is probably as no new voice is entering, and no voice is playing the theme at this moment.

The *countersubject* played during a *comes* slightly differs from the one played during a *dux*, because it has to fit the *tonal answer*.



In the following, I will label all *subjects* on G minor *dux*, and all entrances on D minor *comes*. In the sheet music (Appendix 3), I underlined the *dux* with the colour red, the *comes* with the

colour blue and the *countersubject* with the colour orange. All other entrances are underlined with the colour green.

In bar 18, the development section starts, as all voices entered with the theme by then. This happens already in bar 17, but the resolution in the harmony only happens in bar 18, which feels more like the beginning of a new section.

In bar 20, the third voice plays the theme again, and finally, the fourth voice plays the exact *countersubject* though the first few notes are missing. This happens several times during this piece. After the third voice finishes the theme, it continues with the *countersubject* as in the *exposition*, but this time it does not go on with it. Instead, there is an *episode* till bar 28.

In bar 29, the *subject* enters in D minor, but for the first time, it is not a *tonal answer*. Therefore, I do not label it as a *comes* though it is played on the fifth of the home key. The *countersubject* played by the first voice is for the first time at a different interval difference compared to the theme resulting in different harmonies that sound even more related to Pop and Jazz, like add nine chords.

In bar 32, the theme is for the first time played in major. Also, the *countersubject* is entering again at a different interval compared to the theme.

In bar 36, there is another entrance in major. This time it starts like a *comes*, as it starts on the fourth of F major (the key it is played in). Also, here the *countersubject* is again played at a different interval.

Afterwards, there is an *episode* with no theme material till bar 45. There for the first time, two *subjects* are played simultaneously. Looking only at the pure *subjects*, one is played in Amb5 and the other in F but combined, they form F major. Additionally, there is also the *countersubject* in the fourth voice. After a short *interlude* in bar 51, a similar combination happens with again twice the theme and one *countersubject*. This time both themes are a six apart compared to a third in bar 45. After an *interlude* with no *subject* but the *countersubject*, the densest part happens regarding the number of *subjects*. This time two *subjects* and two *countersubjects* are simultaneously creating the tonal centre Ab. Both *subjects*, as both *countersubjects*, are a third apart from each other.

After a last *episode* with some motivic material, a last group of entrances appears in bar 67. First, a *dux* and a *countersubject* in the third and second voice. Then they are joined by another *dux* and another *countersubject* in voices one and four. Both the *dux* of the third voice and the *countersubject* of the second voice have a changed, extended endings, so that it appears that two *subjects* and two *countersubjects* are played simultaneously in bars 70 and 71. Then the fugue seems to end with a perfect cadence in bars 74 and 75. Nevertheless, the fugue continues with mainly material from the *countersubject* and rhythmic quoting from the *subject* before it finally ends in bar 84. This last part could be seen as a 'coda'.

For this fugue, I came up with the idea to dive deeper into the harmony used during the *subjects* and found that the theme gets, besides transpositions, much reharmonisation.

Though the whole fugue is related to G minor and can be analysed as such, I chose to analyse the harmony always compared to their transposition. For example, the second entrance is played in D minor, the fifth of the home key, so I analysed the chords in relation to D minor and not to G minor. In that way, it is easier to compare the harmonies used as they can be compared in relation to the theme.

I did not write down the last progression as there are two themes that are not played simultaneously, and therefore, the progression is, of course, naturally different and cannot be compared to the others.

In brackets are the chords and their roman number related to G minor, the progression is based on.

Chord progression *subject*:									
1st time:	Im	IVm	V to	III	Im	V	Im		Gm I
2nd time:	IVm	IVm	V to	III	Im	V	Im		Dm Vm
3rd time:	Vm	IVm	V to	III	Im	V	Im		Gm I
4th time:	IVm	IVm	V to	III	Im	V	Im		Dm Vm
5th time:	Im	IVm	V to	III	Im	V	Im		Gm Vm
6th time:	Im	IVm	V to	III	VI	V	Im		Dm Vm
7th time:	IIIm	IV	IIm	V	I	V	I		Bb III
8th time:	IV	IV	IIm	I	I	V	I		F bVII

9th time:	II	III	VI	II	V	I	V to	V	Bb III
10th time:	Im	IVm	V to	III	VI	V	V	Im	Cm IV
11th time:	IIIm	VI	IV	V	III	IV			Eb VI

Most of the chord progressions are very similar. The first four entrances are played directly one after the other. Therefore, always the following entrance starts on the last chord of the entrance before. That is why the first chords differ from each other. For example, the second time starts on the IV of D minor, which is G minor. G minor is also the I of the first time and its last chord. The fifth entry is again precisely like the first one. The sixth entry is the first progression where reharmonisation happens, though only slightly. The fifth chord, which means the seventh beat of the theme, is not a I chord but the related VI chord. It is only a little reharmonisation within the key. Similar is also the tenth entrance, with the only difference being that the V chord, in the end, gets extended and resolves one bar later. The seventh and eighth times, the *subject* is in major, which is why the second, fifth and seventh chords are major instead of minor compared to the first entrance.

The eighth entrance starts on the last chord of the seventh entrance. That is why its first chord is on the IV and not on the one. The first chord of the seventh entrance could also be seen as I instead of IIIm. Such polyphonic compositions always leave room for interpretation as no clear chords (homophony) are played. The third chord of both themes in major has to be reharmonised if one wants to stay in the tonal centre (which Bach probably did want to). For example, during the seventh entrance, the V of III would be G major, which is far away from Bb major. Moreover, both the seventh and eighth times are combined with a *countersubject* with a different interval relation than before, creating a different tonal context. For example, one can find major seventh and add nine tensions in those progressions.

The ninth entrance is very tricky to analyse as, for me, it is not clear what the tonal centre is. For me, it sounds the closest to Bb major. Another option would be to label it as F dominant as the progression resolves in F major in bar 49 but before the Eb is permanently used. I chose to analyse it in Bb major finally. If related to Bb major, the result is, of course, already different compared to the first progression as the theme starts on the two and four of the Bb major chord and not as usual on the fifth of the tonic. The most exciting part of the ninth progression,

if analysing it in Bb, is that the progression modulates to the V in the end and does not end on the I.

The 11th progression is close to the seventh and eighth as it is also in a major key. The chords are similar though most are 'replaced' by another fitting key-chord. For example, the I got replaced by the IIIm and the IV by the VI. Here, looking at Jazz theory, the upper structure chords get used. Interesting, though, is the end. Instead of the V, here we have the IV, but not related to Eb anymore due to the use of the Db. In fact, the progression modulated from Eb to Ab.

To conclude, the 'Fuga en g mineur, BWV 885' stands in between the before analysed fugues 'Fuga en d mineur BWV 565' and 'Fuga en c majeur BWV 846'. It does not have completely new sections with new material like in the fugue in D minor and is more like the one in C major, but still includes more *episodes* and *interludes* than BWV 846. The biggest difference is as mentioned before, the time signature and the use of a *countersubject*.

2. Analysis of already existing Jazz-Fugues

2.1 Fugue en ré mineur, BWV 565 by Jean-Jacques Loussier

For the complete Lead sheet with chord and form analysis, see Appendix 4.

Loussier took Bach's 'Toccata et Fuga en d mineur BWV 565' for this work and mixed it with Jazz elements. When listening to this tune, it becomes clear that it is still very close to the original of Bach. It is also quite clear what makes it 'Jazz'. Already the band setting, so the combination of the Piano with Double Bass and Drums gives the tune a new face. Moreover, the use of swing feel gives it an apparent relation to Jazz. Nevertheless, the use of block chords in the Piano also moves it away from Classic as also from polyphony, which is usually one of the crucial parts of (classical) fugues.

To analyse this tune, I used the book 'play bach' by Loussier himself. This book offers a wholly written out arrangement of the fugue, close to the official recording. Though comparing it to the recording, I realised that it differs from what Loussier played. Some passages are even played entirely differently. In those passages, I assume that Loussier is improvising in the recording. I think this 'transcription' should rather be a lead sheet to follow. It could have served even Loussier as a lead sheet. This is also how I treated this sheet. (The whole arrangement can be found in Appendix 4)

Note that Loussier's lead sheet (Appendix 4) is written in a twice as fast feel; therefore, the number of bars is doubled compared to the sheet of Bach's original fugue (Appendix 1).

The fugue starts precisely like the original by Bach, with the *subject* in D minor, but already in the half of the *subject*, Double Bass and Drums enter. When they enter, also the melody played by the Piano changes. The main melody remains, but it is now played using block chords[3].

[3] **Block chords**: "In the jazz language, block chords refers to an arranging technique in which a melody is harmonized in 5 parts" (LaDisa)

The first bar with the whole trio is in rhythmic unison. Afterwards, the Drums play a regular swing beat and the Bass a walking bass. The Piano starts to swing the melody except at the beginning of the *comes*.

From the ninth bar on, an *interlude* would start in the original fugue. Instead of a written-out melody, Loussier uses this part to improvise. The chords stay the same. The improvisation goes until bar 19. There, the theme comes back like in the original, but Loussier plays it swing. From bar 23 on, Loussier changes from swing to straight eights and plays it like the original. It sounds like a change from Jazz to Classic. The Bass plays the same thing as the left hand of the Piano, and the Drums join in rhythmic unison. In Bar 31, they switch again to the swing feel, while the theme is again played using block chords. This use of switch between Classic and Jazz is used several times in the tune. So in bar 34, when they play again precisely like the original by Bach. This time the Piano only plays the right hand while the Bass plays the left hand. The Drums support this by just marking beats one and three. In bar 38, the next improvisation section starts, this time in double time. This section goes on until the theme comes back (bar 44). Once again, at the exact same moment as in the original. This *subject* is still in swing feel, though not in double-time anymore. The Bass supports the theme by playing the essential notes of the melody like a Walking Bass. In bar 48, there is another change to the Classical feel. Here the Piano plays the two upper voices, and the Bass plays the lowest voice of the original, supported by the Drums, which play in rhythmic unison. In bar 55, the melody played by the left-hand stays straight, supported by the Bass, while the Drums play swing with brushes.

Furthermore, the Piano plays accents on the right hand instead of the original comping. In bar 59, the Bass again takes the left hand's role compared to the original fugue. While the Piano plays the original phrase in bar 64, the Bass plays a rhythmic Bass pattern while the Drums play a swing pattern on the ride with brushes on the snare (not as in the lead sheet where the Drums support the Bass). Bar 68 is similar, but the Drums join the Bass this time, which plays a slightly different rhythmic pattern.

In bar 77, the theme comes back, again with a swing feel, using block chords supported by the Bass. In bar 83, when the arpeggio 'idea' is played, Drums and Bass are playing a rhythmic pattern in rhythmic unison again. Furthermore, the Bass plays a pedal on A till bar 91. At that

point also, the pattern changes. In bar 95, the rhythmic pattern changes again, leading to swing and walking Bass in bar 97.

Bar 103 is once more precisely like the original but with added Bass notes. From bar 104 on, the Bass joins the second voice of the Piano, and the Drums play again in rhythmic unison with the Bass. In bar 109, the theme appears in the Bass in C minor, as in the original, though, instead of a G pedal, the Piano is improvising over a double-time swing feel until 113. There, the melody is anew played as written by Bach, with the Double Bass playing the same thing as the Bass pedal of the organ in the original (The melody is not played in swing like in the lead sheet).

In Bar 117, the Bass stays the same as in the original, while the Piano plays the same melody but with the use of block chords and in swing. In bar 122 the theme comes back played again in swing and with block chords. (in the original tune, the theme is only played in the left hand). From bar 127 on, the trio plays again similar to the original, with Bass and Drums dropping out in bar 130. In bar 142, a new improvisation section is happening in double-time feel. When in bar 168 the theme comes back, it is again played like we did encounter already a few times, in swing with the use of block chords, while the Bass is supporting the melody. So Loussier does not strive for a surprising change as Bach did by only letting the Bass play the *subject*. In bar 179, when the arpeggio motif returns, a pedal note is added compared to the original fugue. Also afterwards the parts are slightly changed. The Bass does not play any in-between notes, and the Piano plays the accompaniment rhythmically differently and swang from bar 189 on. Bar 193 is again like the original while the Bass joins the left hand and the Drums keep swinging.

When the last theme enters in bar 197, the Bass and Drums play the pedal in a rhythmic pattern. The piano starts in swing feel (block chords) and moves then to the original feel in straight eights (not as in the lead sheet, only quarter notes). The Coda starts in bar 203, which is played similarly to the original by only the Piano first. In bar 209, the Bass plays a free cadence over a fermata. Until the end, Loussier stays close to the original while the Bass is most of the time joining the Piano's left hand. During the Coda, the Drums only play certain accents on crashes and snare. As in the original, there is no steady time anymore.

To conclude, Loussier only uses a few elements to turn Bach's fugue into Jazz. Those elements are improvisation sections, swing feel, block chords and band setting. Moreover, Loussier does not play the whole tune in a Jazz/swing feel but plays around with the Jazz and Classical elements. Sometimes he turns the fugue into a swing tune, at other times, he plays close to the original, keeping the Classical feel. In other moments, he combines both styles by playing the melody like the original in straight eights while the Drums play in swing. The role of the Drums is to play basic swing patterns or to support the Bass by playing in rhythmic unison. The role of the Bass is to play walking bass or to play one of the original voices written by Bach. Usually, this is the voice of the left hand or the Bass pedal of the organ. Sometimes the Bass plays in unison with the left hand of the Piano.

2.3 After Bach: Ostinato by Brad Mehldau

For the transcription/Lead sheet of the beginning of this piece, see Appendix 6.

Brad Mehldau chose for his album 'After Bach' tunes of Bach, played them in their original form and then played an own interpretation of them. One piece he chose was the fugue no. 16 in G minor from the Well-tempered Clavier II, BWV 885, one of the fugues analysed before in this master's thesis. His own interpretation of that fugue is called 'After Bach: Ostinato'.

I chose to analyse this piece as it is another Jazz interpretation of a fugue. However, this one differs from the ones from Loussier. First, it is a solo Piano piece, so the Piano is not supported by a rhythm section; Bass and Drums. Moreover, when listening to the piece, it becomes clear that Mehldau did not stick so strictly to the original as Loussier did. To understand better what Mehldau is doing, I started to transcribe his piece (Appendix 6).

Mehldau uses the repeated eight-note motif from bar 4 as an ostinato[4], though he changes the note from C to G. As he starts in G minor, this means that he chooses the tonic for his ostinato. While playing this ostinato, Mehldau plays the theme once in G minor harmonised, though he interprets the *subject* very freely in terms of rhythm. I tried to find time signatures that made sense to me. Nevertheless, it sounds like Mehldau did not think about time signatures but just played freely in the moment without a precise tempo or time signature. From bar 8 on, he moves totally away from G minor. He plays motivic material from the *subject* but harmonises his melodies randomly. The chords are not related to any key.

Moreover, he builds tension by playing dissonances and releases those in bar 15 by playing a Cmaj7 chord. Afterwards, he continues with motivic material from the *countersubject*. First, he plays towards C major and moves then a half step down with the chord. Then he repeats the motif a whole tone lower but going towards E minor. Again, he moves the chord a half step down, this time to Eb7 (due to the ostinato, Ebm would not have been possible).

After bar 19, I did not continue to transcribe the piece further. After diving into the analysis of the beginning, I realised that this tune of Mehldau may be something other than a Jazz-Fugue. The tune's motifs, melodies and overall inspiration come from a fugue. This tune can also be related to Jazz, primarily because of the chords used. However, there are no elements left to consider this piece a fugue. When listening to the piece, it is even unclear what the *subject* is precisely.

Furthermore, there is only a top voice supported mainly by chords and no motivic development through different, independent voices. Mehldau's way of interpreting is definitely exciting but moves away from being a fugue or Jazz-fugue. Therefore, it did not make sense to analyse it further as it does not answer the research question of this master's thesis. This one is: How to incorporate the form of a classical fugue into Jazz and how to compose an original Jazz-fugue? Brad Mehldau's 'After Bach: Ostinato' does not have a recognisable fugue form and cannot be clearly considered a Jazz-fugue.

[4] "**Ostinato *(plural – ostinati or ostinatos)*** is an Italian word meaning obstinate or persistent and is used in music to describe a musical phrase or rhythm that is repeated persistently" (Dunnett)

3. Composition

3.1 Composing own Fugues based on Gradus ad Parnassum Theory

Before trying to compose a Jazz-fugue, I wanted to first get into the composition process of a 'regular' fugue. While studying 'The Study Of Fugue' and the 'Gradus ad Parnassum', I chose to follow the theory of Fux and to try to compose fugues in the way he was suggesting. As he did write this book in a dialogue style of a teacher and his student, it was easy to follow it, and it felt like taking lessons in fugal composition. My goal was to compose a few fugues over several weeks. I focused more on trying to compose short fugues on a regular basis than focusing too much on one. Therefore, my goal was not to reach perfection. The result is thirteen short fugues.

Own two-part fugues

I started with the two-part fugues first and followed the instructions of Fux. So I did compose a two-part fugue for all six modes.

Fuga No. 1 in D (Appendix 7):

I tried to follow all the rules that I had learned till then. (Meaning the rules that I learned from Fux). I tried to make the mode clear in the theme. The second voice comes in at the fifth after the first voice finished the theme. Then there is a cadence at the fifth after a little continuation. Though Fux suggests it differently, I took the freedom to not start the first entrance of the *subject* after the first cadence with the voice I started with. After having again the theme in two different voices, there is a cadence at the third. Then the last two entrances follow. The distances between the entrances get shorter every time.

I realized that one has to change the rhythm so that both voices can match when playing the theme simultaneously.

To make the cadences as clear as possible, I used accidentals to mark the new tonality.

I am quite happy with this first result. I think that the overall character of the fugue and the Dorian mode is noticeable, and it is a good example of Fux's two-part fugues.

Fuga No. 2 in E (Appendix 8):

I found it more difficult to write a fugue in the Phrygian mode. Also, for me, the result is less pleasant than my fugue No. 1 in D, but overall I did manage to follow the instructions and theory of Johan Josef Fux.

Fuga No. 3 in F (Appendix 9):

For the fugue in F, I tried to make the theme a bit longer than the ones before on purpose. Finding a good longer theme was a difficult task as it has to match in the end when both voices should enter close after the other. Though this fugue generally works, I am not quite happy with the result. In my opinion, I could have found a *subject* that would fit better when having it played simultaneously in the end.

Fuga No. 4 in G (Appendix 10):

When composing in G, I found the most difficult to form the second cadence. As Fux said, I tried to avoid more than one accidental to not move too far away from the original mode. So, I used only the F# thinking about going into B minor as B major would be too far away, and B diminished would not be allowed because of the tritone. In the book, the student also uses the C#, but I consider this more as a passing tone as afterwards, before the cadence, he uses the regular C again. Unfortunately, I did not come up with a pleasant solution.

Fuga No. 5 in A (Appendix 11):

I started like Fux on the fifth of the mode for practice. As the theme starts on the fifth, I started its answer on the fourth. Though I did not encounter that rule in Fux's book, I knew it from lessons I had in highschool (and learned it later in Hooning's theory: *tonal* answer). I did not use a D# to go to E (in the cadence) as the student did, as I thought it would not be necessary, and it feels also with a D natural like a cadence, also if not that strong.

Fuga No. 6 in C (Appendix 12):

This fugue sounds more pleasant than the ones in E, F, G and A. This is because our ears are used more to major and minor sounds rather than certain modes.

Own three-part fugues:

Fuga No. 7 in D (Appendix 13):

Following the given examples of Fux, there is more freedom as you do not have or even are not allowed to have cadences. It's more about imitating, so every now and then, the theme comes back, but the piece never really stops. Still, the additional third voice did not make it easier to compose this fugue.

Fuga No. 8 in E (Appendix 14):

Like in the two-part fugue in E, I found it difficult to write in that mode. It was difficult not to fall into C major.

I ended the piece with an E major chord as Fux was doing it in his example.

Fuga No. 9 in F (Appendix 15):

This fugue is inviting to use the Bb all the time and to make it F major. I found that the use of B natural was not always the best choice, but nevertheless, I tried to stick to the mode and use only the Bb for the final cadence in the end.

Fuga No. 10 in G (Appendix 16):

This fugue sounds at some parts more minor than major. I did not manage to give it a clear Mixolydian character.

Fuga No. 11 in A (Appendix 17):

Overall, this fugue works as it should.

Fuga No. 12 in C (Appendix 18):

Like in the two-part fugue in C, I feel like this fugue just feels more pleasant, probably only because it is in Ionian. At the end of the piece, I experimented with the theme in the third

voice, which enters in second place but plays the *subject* on a weak beat (*imitation* in contrary-rhythm). This generally works, but it moves the attention to the third voice and makes one not realize that it is the second voice that is starting with the *subject* in the end.

Own four-part fugues:

After again looking over the fugues I have done so far, I realized too major problems. One was that I was struggling to write in the modes given. It was a difficult task to write a polyphonic piece by not moving into a tonal song (except for the cadences). As I was trying to move away from tonal music, I was too much neglecting the musicality and singability of the pieces. The second problem was that I was not aware of parallel fourths and fifths. Though I knew that this rule exists in Classical music, it was not addressed by Fux, and I, therefore, did not see it as a forbidden rule. I even thought it would make sense as parallel thirds or sixes would make the music move into tonal music. After looking again at the examples of Fux, I realized that his student and himself are actually never writing parallel fourths and fifths in the two-part fugues. Though these intervals are indeed used a lot, they are never written in parallels but are always avoided with contrary motion. In the three-part fugues, however, one can find these parallels in the examples though they are not so noticeable as they resolve in a three-part chord. The third of the chord makes that the parallel fifths or fourths sound still nice. I noticed also that in my fugues, the parallels were most of the time a problem in the two-part fugues and less in the three-part fugues. Moreover, my themes were sometimes designed in a way that it was difficult to avoid parallel fourths and fifths when letting two or more themes enter directly one after the other.

Being aware of this, I tried to avoid those problems when composing four-part fugues. Especially when having only two voices played at a time, I watched out to not write parallel fourths or fifths.

Fuga No. 13 in D (Appendix 19):

This fugue is, so far, the best one, in my opinion. The fourth voice helps to give the fugue more 'body'. I did manage to avoid bad-sounding parallels but still managed to use dissonances that resolve again. Also, I managed to create a flowing piece where the listener is unsure where it will go next. Still, I managed to never really leave the field of D minor Dorian.

After fuga No. 13, I decided to stop to compose fugues in the style of Fux. As I was composing these fugues while and after I was studying the 'Gradus ad Parnassum' passage of 'The Study Of Fugue', I did not want to go on with the book while I was still busy with composing these fugues. I wanted to first finish this composing exercise before going on with a different theory/passage in 'The Study Of Fugue'. Though it would have made sense to compose also the four-part fugues in all six modes, I decided that it would be better to go on with the book and, therefore, focus on the next theory and not be stuck with the theory of Fux too long. Note that at this point, I was still planning to read the whole 'The Study Of Fugue'.

3.2 Exercises with Double Counterpoint based on Gradus ad Parnassum Theory

Note that chronologically, the idea and execution of the following exercises (*double counterpoint + imitations*) came and happened after studying 'The Study Of Fugue' and the document of Hooning 'Fugue'.

As *Double Counterpoint* was something totally new to me when studying the theory of fugues, and I see its use as a very effective tool of composing - especially when composing fugues as composing in an imitative matter is crucial to it - I decided to do some exercises and experimenting with *double counterpoint* to better understand and to be able to apply this technique.

3.2.1 Exercise Nr. 1

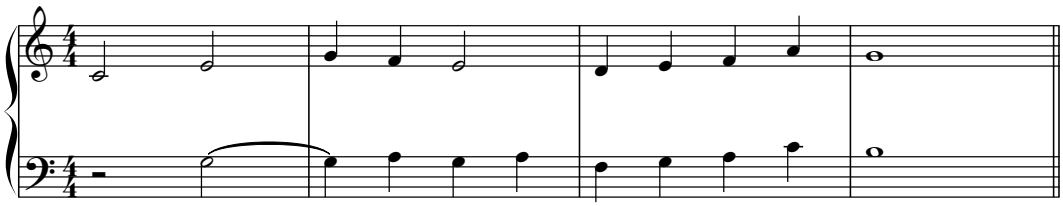
I tried to compose a theme with a second voice where it would then be possible to apply the three common types of *double counterpoint* on both of the voices.

On my first try (*subject* and *countersubject* I), I did manage to use *double counterpoint* at the octave, but when I tried to apply *double counterpoint* at the tenth, I quickly saw that I should

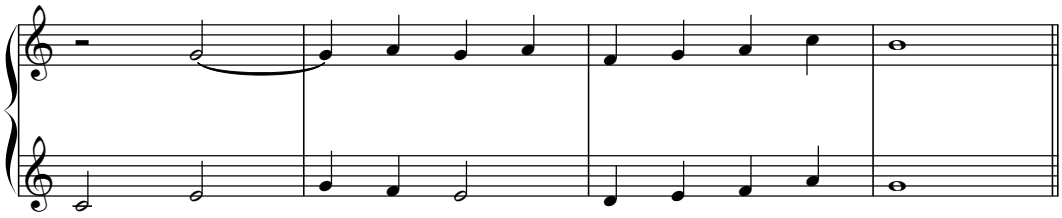
review the theory of Martijn Hooning and Johan Josef Fux and study the change of the relations between the notes when applying *double counterpoint.*

As I did use a lot of parallel thirds, they turned into parallel fifths after using *double counterpoint* at the tenth. Even though the use of parallel fifths in Jazz is not seen as controversial as in Classical music, it still does not sound nice, especially when only having two voices. Moreover, due to the use of parallels in the last two bars, the two voices cannot be easily distinguished anymore and sound less independent and, therefore, less characteristic in terms of being a fugue.

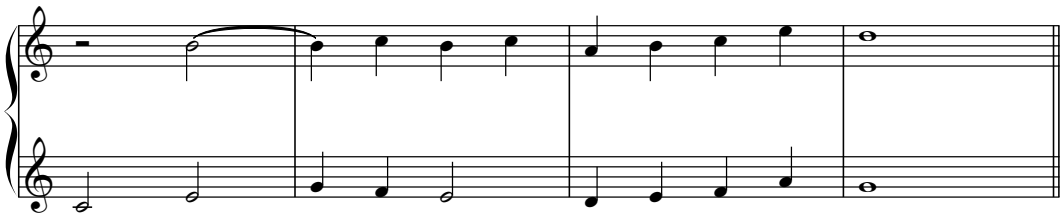
Subject and *countersubject* I:



Subject and *countersubject* I after the use of *double counterpoint* at the octave:



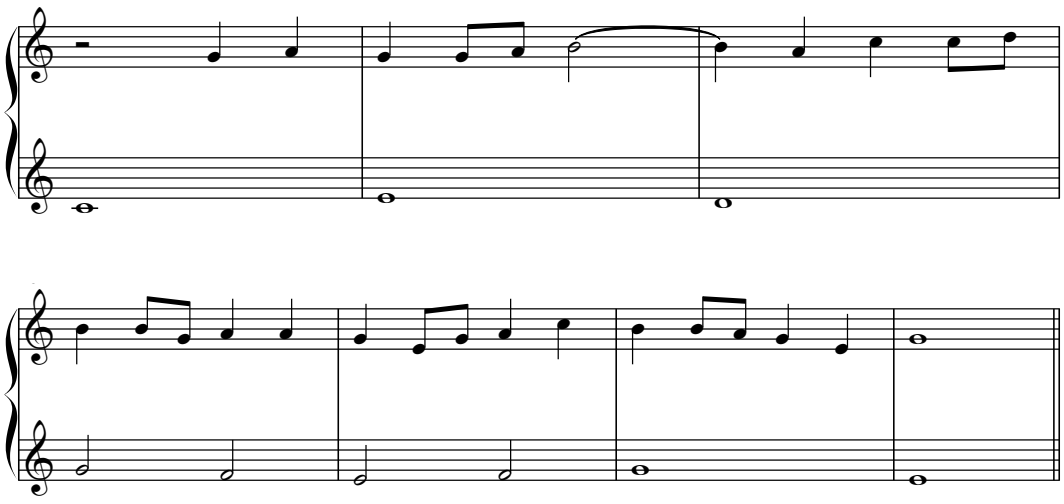
Subject and *countersubject* I after the use of *double counterpoint* at the tenth:



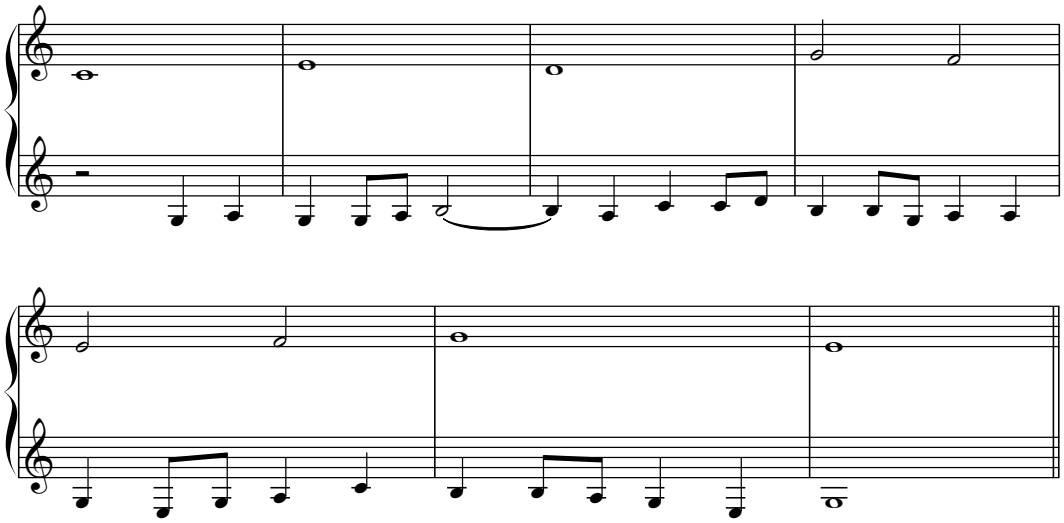
On my second try, I managed better to create two independent lines by choosing an easier (invented) *cantus firmus,* especially in terms of rhythm. Also, I did manage to create two lines that also sound good when applying *double counterpoint* at the octave, tenth and twelfth. Nevertheless, after the use of *double counterpoint* at the tenth, a lot of notes are played in octaves. This is normal, though. The most pleasant is thirds and sixes. When having a lot of thirds, then one will get sixes respectively tenths when using *double counterpoint* at the octave, respectively *double counterpoint* at the twelfth. This results, however, in octaves after the use of *double counterpoint* at the tenth. To get thirds, for instance, the original has to have intervals of an octave. However, they would result in fifths after the use of *double counterpoint* at the twelfth.

To conclude, there is no way to get a pleasant result for all the uses of *double counterpoint.* In general, *double counterpoint* at the tenth will always result in octaves or fifths if the original *subject* and *countersubject* are using thirds or sixes. To get a more pleasant sound of thirds or sixes, the original has to have a less pleasant sound of octaves or fifths. Therefore, in my opinion, *double counterpoint* at the tenth is often less of a good choice.

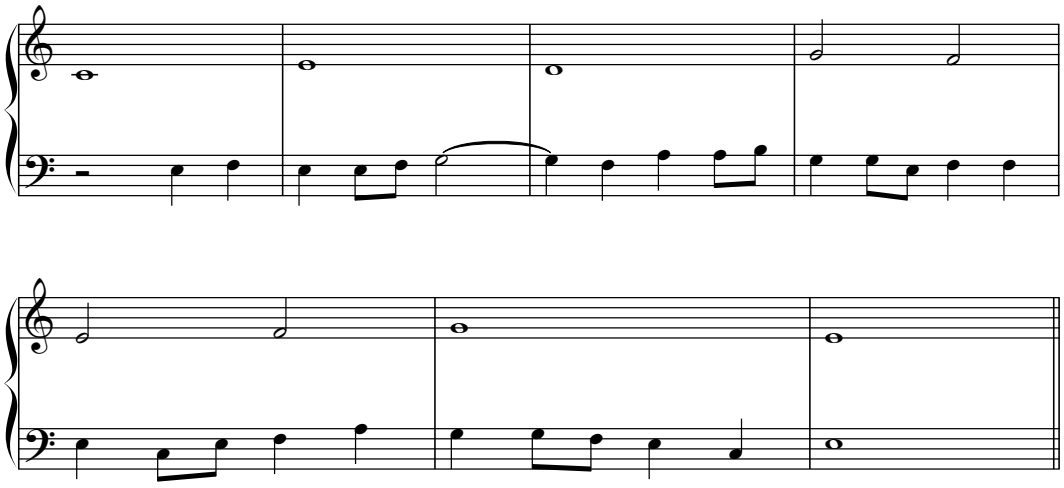
Subject and *countersubject* II:



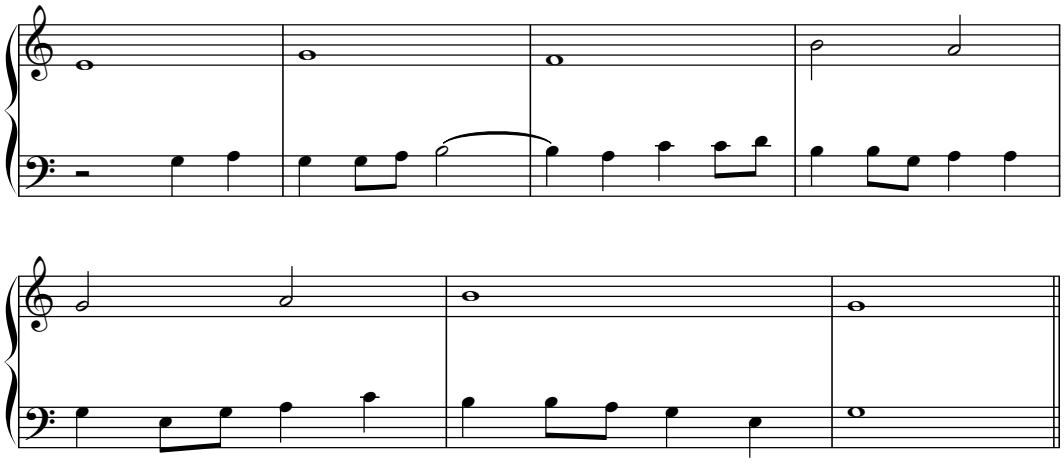
Subject and *countersubject* II after the use of *double counterpoint* at the octave:



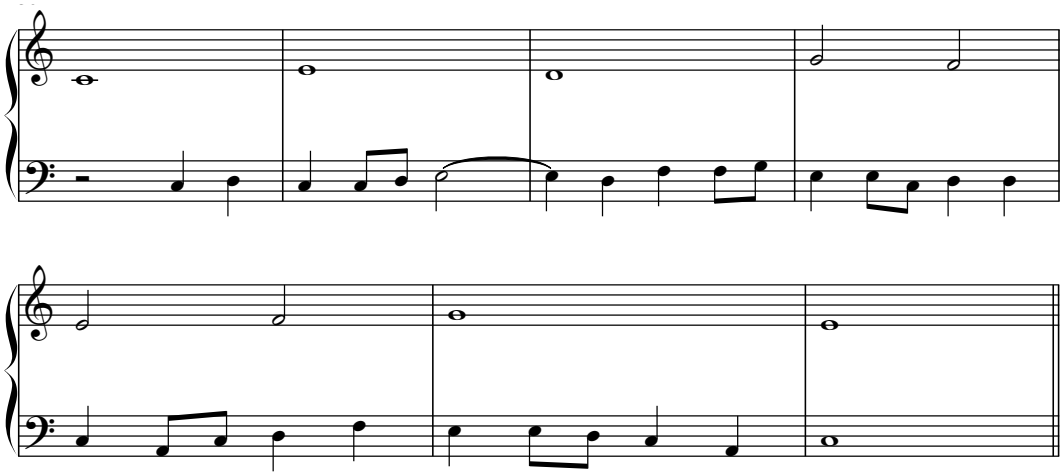
Subject and *countersubject* II after the use of *double counterpoint* at the tenth:



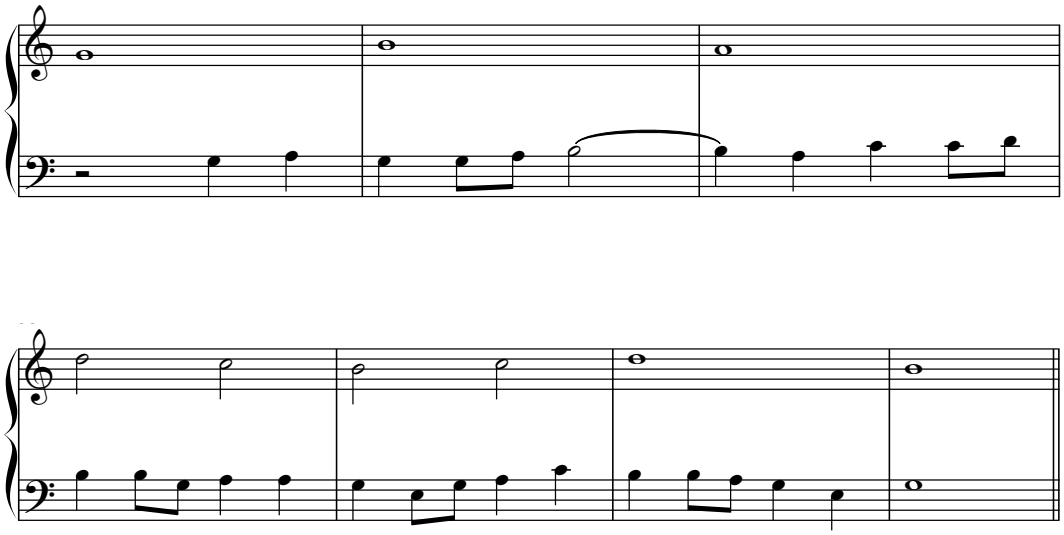
Subject and *countersubject* II after the use of *double counterpoint* at the tenth:



Subject and *countersubject* II after the use of *double counterpoint* at the twelfth:



Subject and *countersubject* II after the use of *double counterpoint* at the twelfth:

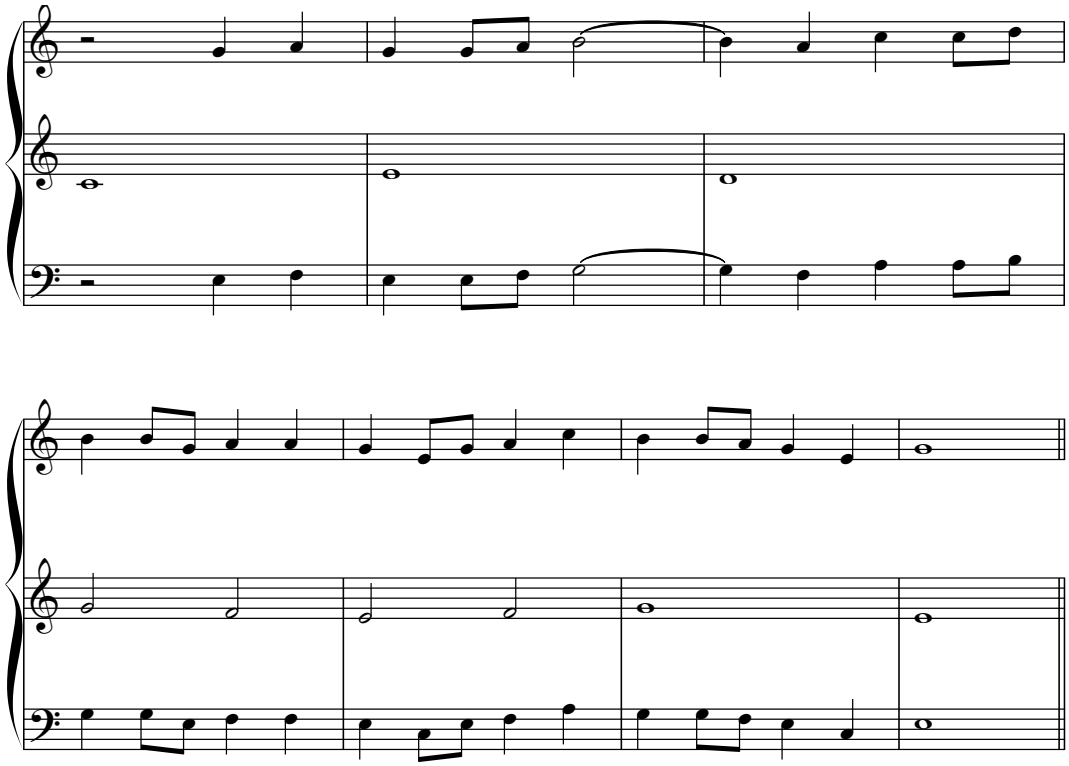


3.3.1 Exercise Nr. 2

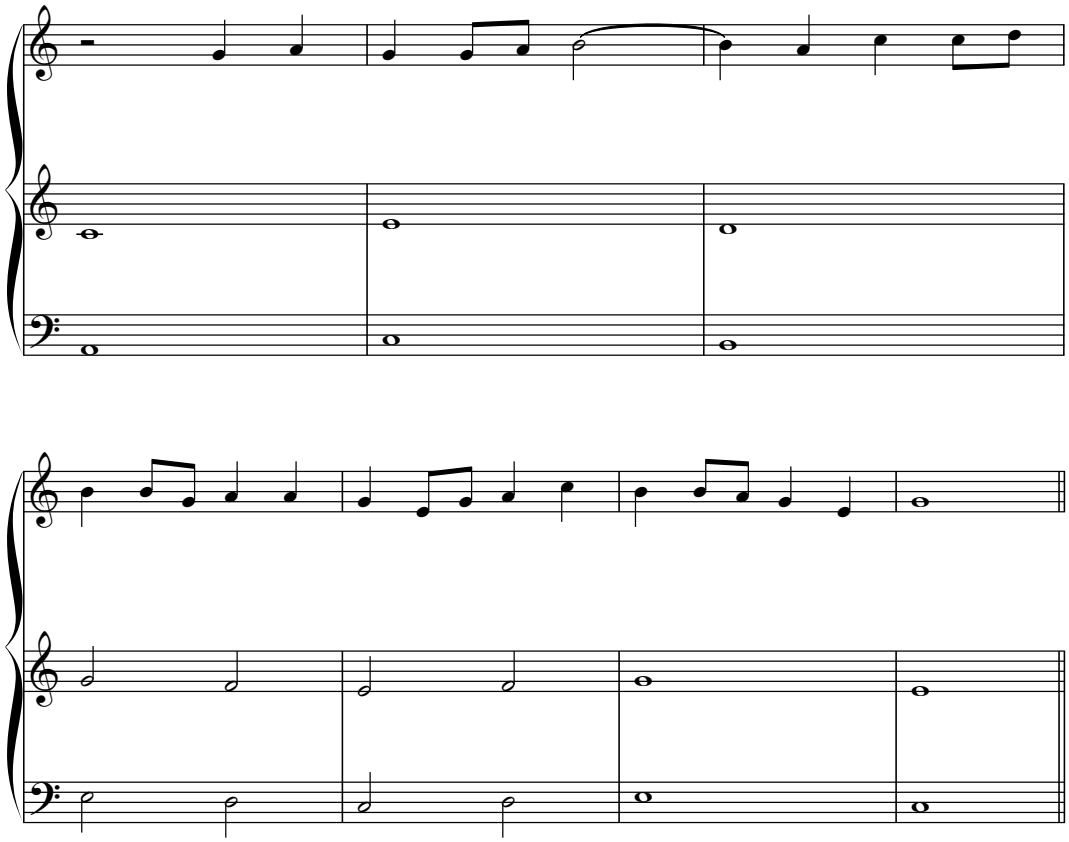
As a second exercise, I used the method of Fux to create a three-part setting with the use of *double counterpoint*.

One way is to transcribe/copy one of the parts a tenth down or up. I did try it out on both parts. No matter what voice I copied, the result is pleasant. Opposite to the regular use of *double counterpoint* at the tenth, this method seems to be more useful to me.

Subject and *countersubject* II after the use of *double counterpoint* at the tenth:

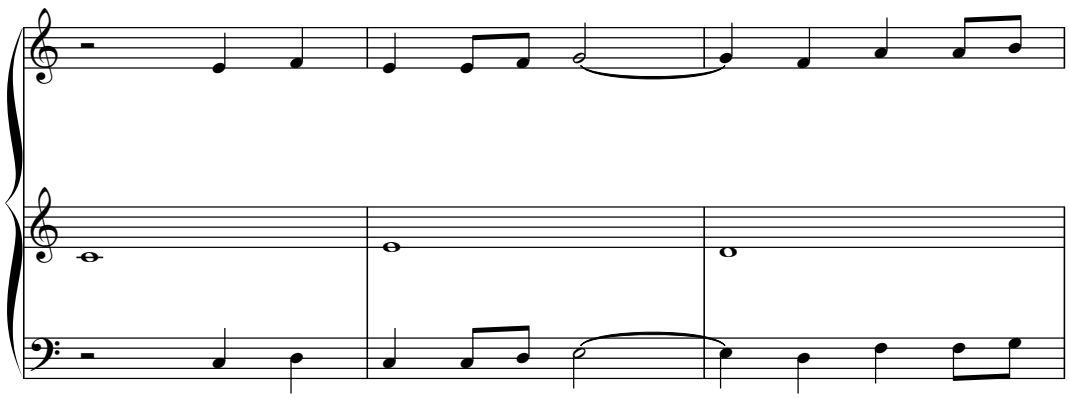


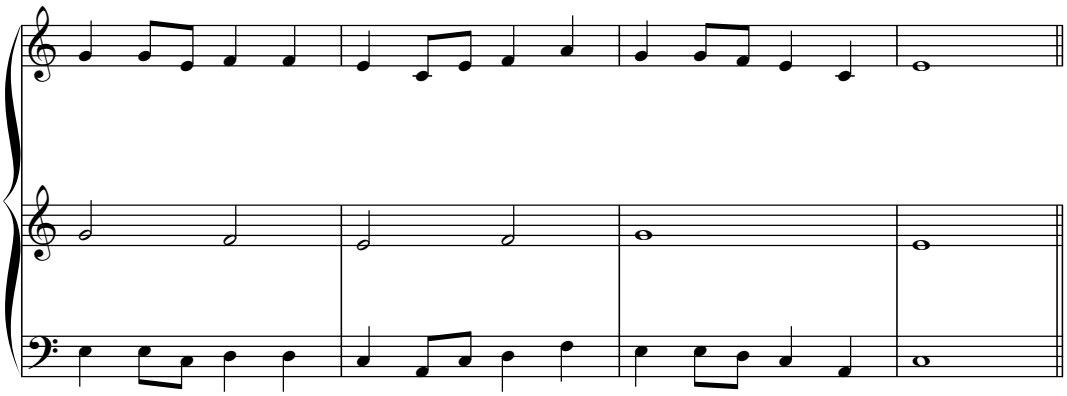
Subject and *countersubject* II after the use of *double counterpoint* at the tenth:



Another way is to transpose one part a twelfth down and then transcribe it a tenth up.

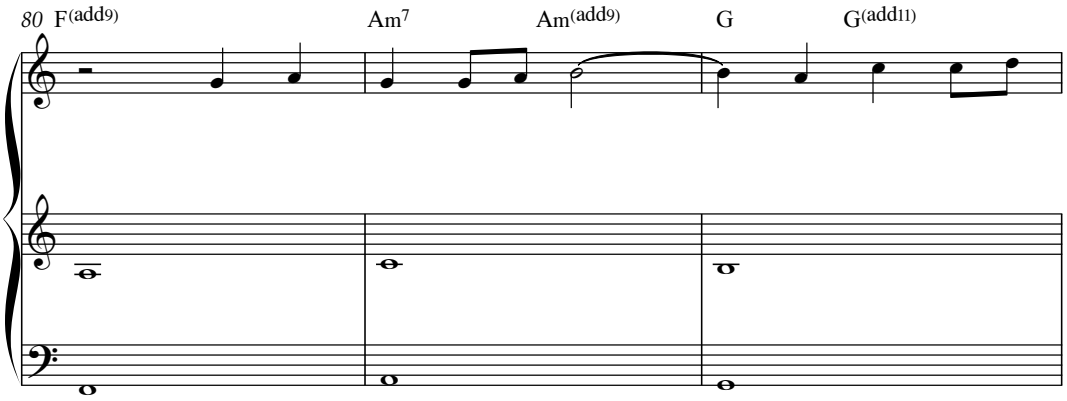
Subject and *countersubject* II after the use of *double counterpoint* at the twelfth:

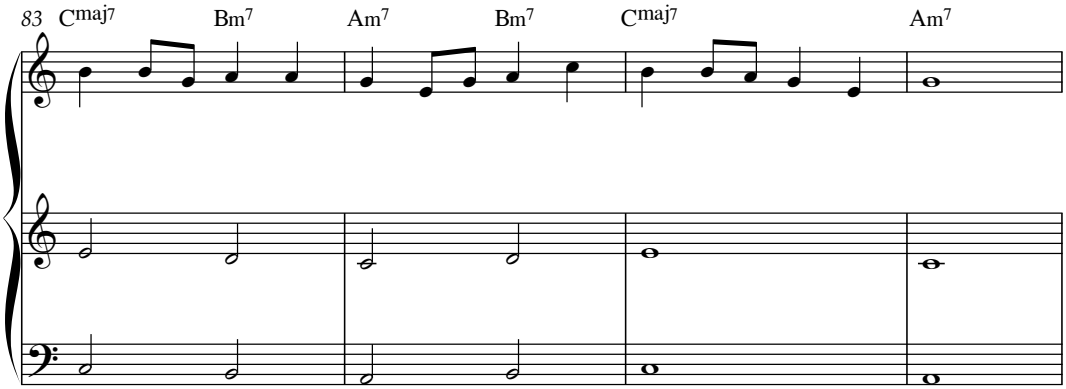




Though this worked quite well when applying this method on the answer/*countersubject*, the result is very different when applying it on the *cantus firmus*. The result is dissonances like intervals of a nine or a major seventh. Therefore, Fux applied the rule, that this method may only be used on a part which begins and ends on the fifth. While this is true for my *countersubject*, the method should not be used on my *subject*. Nevertheless, I did try it out which resulted in an interesting combination of *subject* and *countersubject*. While this may not fit for Classical music, it is imaginable in a Jazz context. I therefore also indicated the chords that resulted after the use of *double counterpoint* at the twelfth.

Subject and *countersubject* II after the use of *double counterpoint* at the twelfth:





3.3 Exercises with Imitations based on my own Fugal Theory

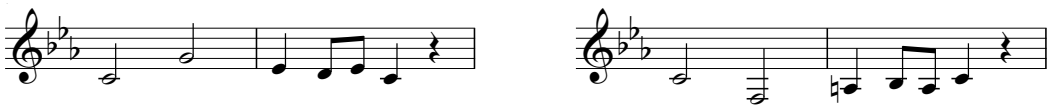
As *imitations* are a very important part of fugues, I chose to do some exercises based on the different types of *imitation* of my own fugal theory seen at point 4.1 of the Literature Review. I did invent a short minor and major theme and applied the different types of *imitations* to them. I did skip '*imitation* in similar' because except that the *imitation* has to occur in a different voice, there is no change compared to the original melody or *motif*.

3.3.1 Exercise Nr. 1

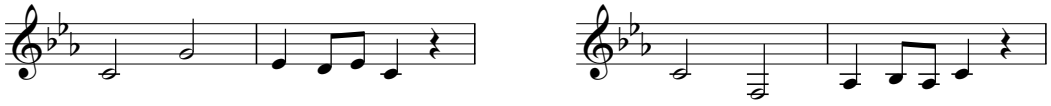
'*Imitation* in similar motion':

'*Imitation* at the higher fifth':

'*Inversion*':



'Free *inversion*':

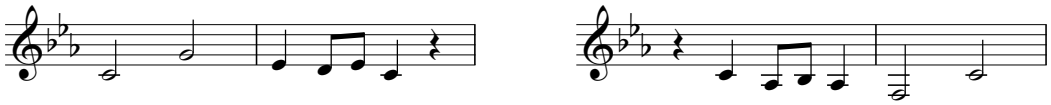


'*Retrograde*':

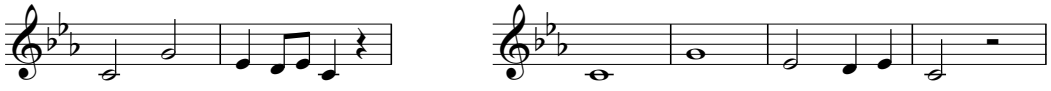
'Free *retrograde*':

'*Retrograde-inversion*':

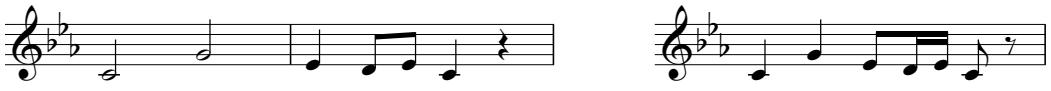
'Free *retrograde-inversion*':



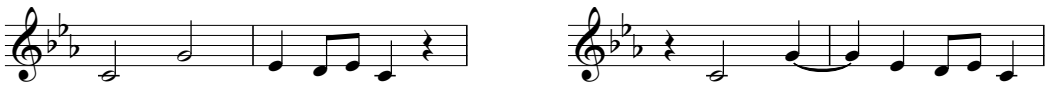
'*Augmentation*':



'*Diminution*':



'*Imitation* in contrary-rhythm':



3.3.2 Exercise Nr. 2

'*Imitation* in similar motion':

'*Imitation* at the higher fifth':

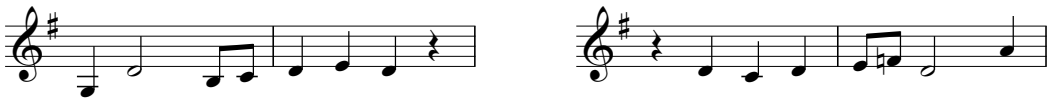
'*Inversion*':

'Free *inversion*':

'*Retrograde*':

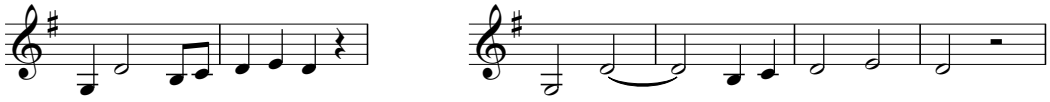
'Free *retrograde*':

'*Retrograde-inversion*':

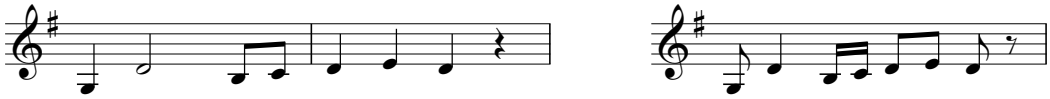


'Free *retrograde-inversion*':

'*Augmentation*':



'*Diminution*':



'*Imitation* in contrary-rhythm':

The 'free' *imitations*, namely: '*imitation* in similar motion', 'free *inversion*', 'free *retrograde*' and 'free *retrograde-inversion*' of both exercises, are free interpretations of myself as there are many ways of how a free *imitation* can look. It depends on the context, for example, the tonality, if it is occurring during a modulation or how many voices are playing simultaneously.

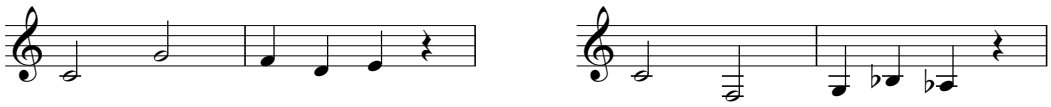
For the two '*imitations* in similar motion', I chose to design them as they were the *tonal answer* to the theme.

For both 'free *inversions*' and 'free *retrograde-inversions*', I chose to fit the free *imitation* to the actual tonality by removing the accidentals compared to their strict counterpart. Interestingly is that the '*inversion*' of the first exercise (in C minor) sounds like F major, while the 'free *inversion*' is strongly related to F minor. The same goes for the *inversions* of exercise 2, where the *inversion* sounds in C minor and the 'free *inversion*' in C major while the original melody is in G major. It seems like the *inversion* of a minor melody transforms that melody into a major melody on the fourth degree, while the *inversion* of a major melody is a minor melody on the fourth degree.

The reason for this is because I-V gets I-IV in the *inversion*, which sounds more like a V-I at the fourth. Moreover, due to the half-and whole-tone relations, accidentals have to be used, which will shape the sound of the fourth degree (in the relative key). But, an *inversion* does only sound like a fourth degree if the original theme starts with the interval I-V. But, if the melody starts with the movement V-I for example, this will result in V-II in the *inversion*, which sounds more like a I-V on the fifth degree. This means that if the original theme starts with the movement V-I, it will result in an *inversion* that sounds like a fifth degree (in the relative key).

To better understand this, I chose to create multiple themes - always starting on I or V and ending on one of the tones of the triad as most *subjects* of a fugue are (according to Martijn Hooning seen at point 1.4 of the Literature Review) designed in that way- and looking at their *inversions* to see if there is the possibility to find a rule. I chose to start with every possible interval (within the key) at the beginning. The whole exercise can be found in the Appendix section under Appendix 7.

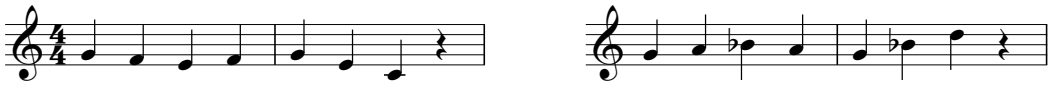
I came to the conclusion that if a major *subject* starts on the root, its *inversion* will sound like a melody on the fourth degree in minor (aeolian):



If a minor (aeolian) *subject* starts on the root, its *inversion* will sound like a melody on the fourth degree in major:

If a minor (harmonic) *subject* starts on the root, its *inversion* will sound like a melody on the fourth degree in major with b6:

If a major *subject* starts on the fifth, its *inversion* will sound like a melody on the fifth degree in minor (aeolian):



If a minor (aeolian) *subject* starts on the fifth, its *inversion* will sound like melody on the fifth degree in major:

If a minor (harmonic) *subject* starts on the fifth, its *inversion* will sound like a melody on the fifth degree in major with b6:

While this discovery may not help me a lot in terms of combining Fugues with Jazz, it can still be interesting to be aware of it when composing. For example, after designing the *subject*, I can check if the *inversion* sounds more like a fourth or a fifth degree (or other, depending on the starting note of the *subject*) and can then use it when modulating to one of those keys. Moreover, I can try to find other chords that could fit the *inversion*. I will follow these steps in the following chapter, 'Composing an original Jazz Fugues'.

3.4 Composing an original Jazz Fugue

For the complete sheet music with form analysis, see Appendix 21.

First, before starting to compose, I set some parameters, which made the start also easier.

I took the theory of Hooning as an inspiration to design the *subject*. I decided to write in a minor key and to have the *subject* start on the root. This *subject* should remain in the home key and end on the third of the tonic triad. Moreover, the *subject* should have a small ambitus. Furthermore, I decided to write this fugue in an odd meter. Though this does not relate the piece directly to Jazz, it still gives it a modern touch and moves it a bit away from the fugues from Bach and makes it, therefore, more original. In addition, I decided to also compose a *countersubject*.

I came up with a *subject* in C minor. It is outlining the home key in a clear way, has an ambitus of a six and uses only small intervals with a minor triad as the biggest. Therefore, it is singable and easily recognizable. The *subject* ends on beat one of bar 4. Then there is a short *interlude* to modulate to the fifth.

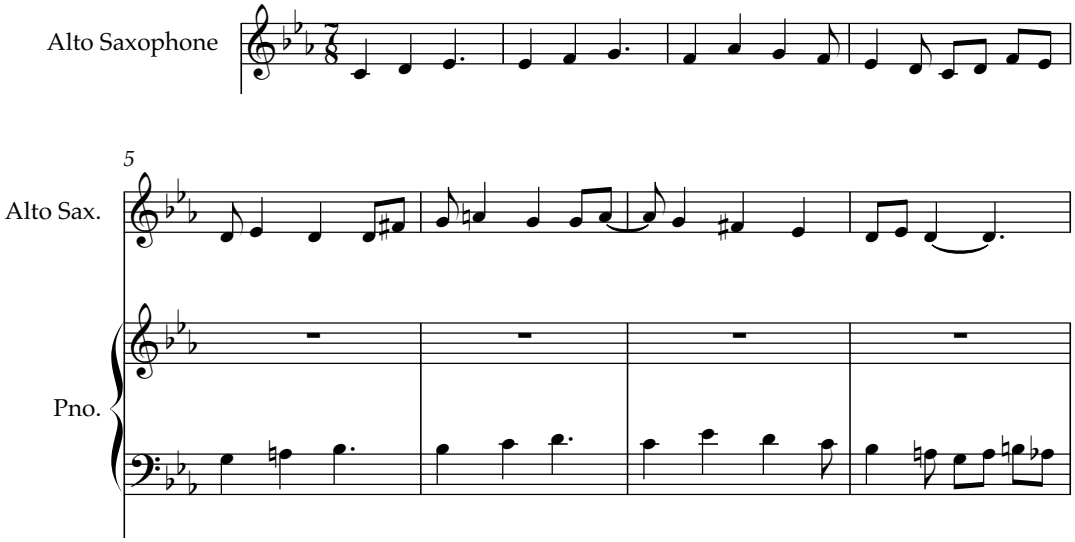
While designing the *subject*, I thought ahead and looked for a theme that could be played as a canon, meaning that two voices could play the theme simultaneously by having a second voice entering one bar later with the theme. My first scratch of the *subject* had in the second bar the notes F G Ab. Now, imagining that in the second bar, a second voice would join with the theme, this would result in parallel fourths. Therefore, I changed the notes to Eb, F and G. This results in triads, as it happens in bar 77, for instance.

When designing the *countersubject,* I watched out that it was rhythmically different and used the method of *complementary rhythm.* Bar 8 serves, as bar 4, to modulate. This time the piece modulates back to C minor so that the third voice can come in with the *dux*. Though the Piano can have multiple roles, I chose to have it first have the role of a single voice. I wanted to have a clear connection to a classical fugue in the *exposition,* and therefore, I chose to have no instrument play chords but only single lines. The same goes for the Guitar, which enters in fourth place. Though the Piano could play two separate lines, I chose to let it only play one line as I felt that five different, independent voices would be too much and would result in a

too-crowded piece. Nevertheless, there is still the option to double voices which I did, for instance, with the left hand of the Piano and the Bass in bar 18. The Drums take the role of the timekeeper. I chose to have the Drums playing a 7/8 groove to keep the piece flowing and groovy. Though I let it first play the first rhythmic figure on the Ride cymbal before coming in with the groove when the Bass is entering.

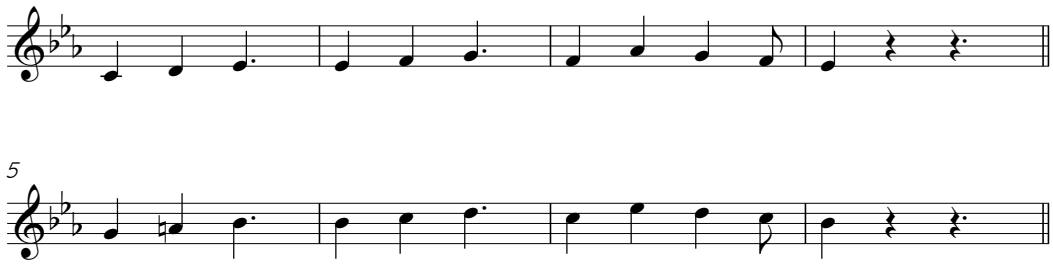
The order in which *dux* and *comes* are played during the *exposition* is alternating, meaning *dux, comes, dux, comes.* The order of the instruments entering is, Saxophone, Piano, Bass, Guitar. There is no particular reason for this order. When one instrument finished the *subject,* it goes on with the *countersubject* (during the *exposition*)*,* except for the Guitar, which just quotes the *countersubject* at the beginning of the development section by playing only the first part but starting on the tonic of the key instead of the fifth.

Subject and *countersubject*:



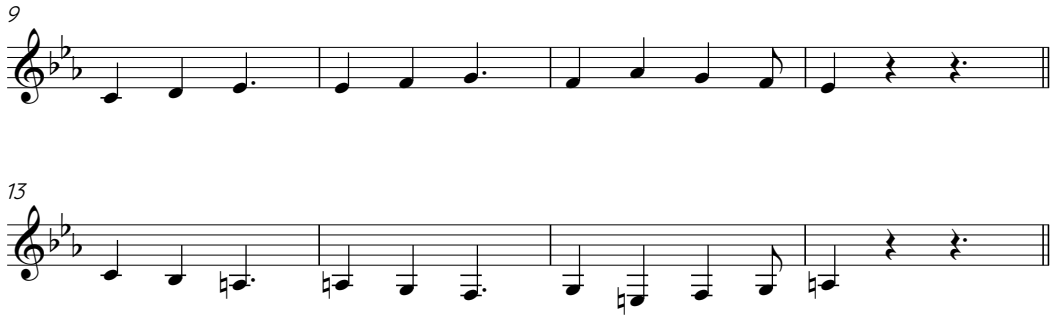
Before going on with the development section of the fugue, I chose to write down the different possibilities of *imitations*. While I chose to also come up with the 'free' *imitations* when doing the exercises at point 3.3 of this master's thesis, here I chose not to write them down but only the 'strict' ones. When doing the exercises, it made sense to me to better understand the different types, but for the composing part, it does not make any sense as it depends on the context, how a 'free' *imitation* may look.

'*Imitation* at the higher fifth':

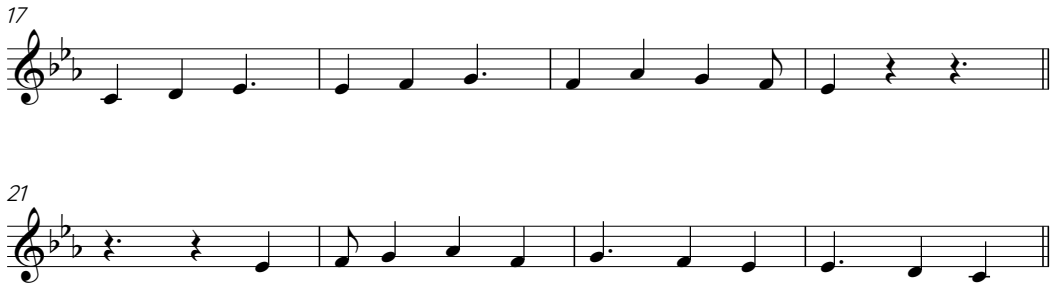


'*Inversion*':

Here my own discovered rule applies that when a minor aeolian *subject* starting on the root gets inverted, it will sound in IV major. Here the *inversion* sounds in F major while the original sounds in C minor.

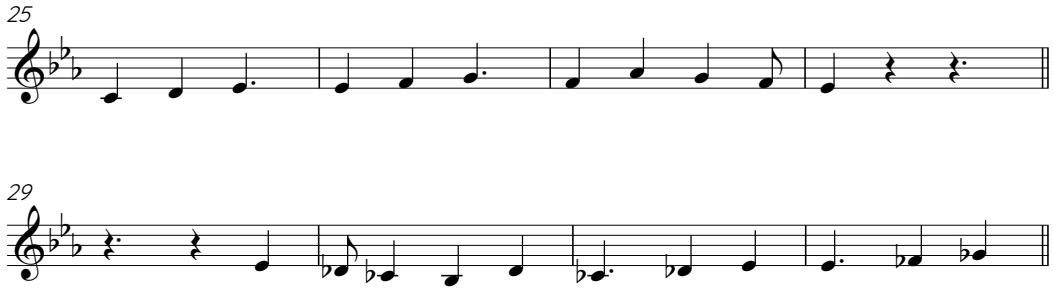


'*Retrograde*':

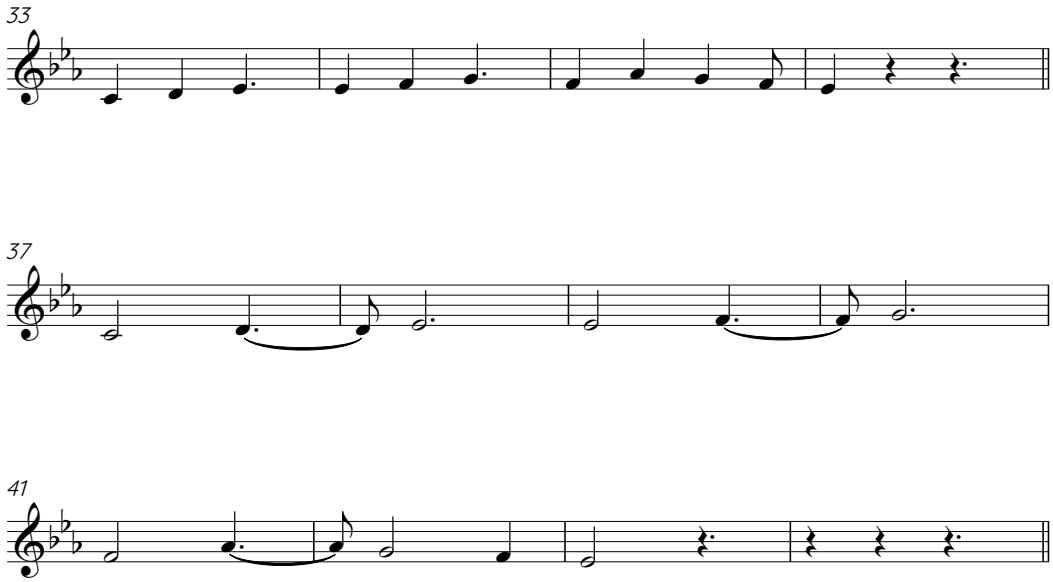


'*Retrograde-inversion*':

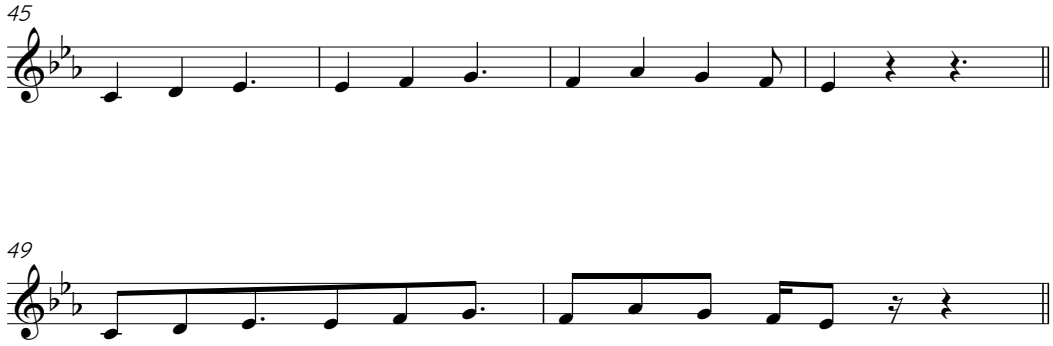
While the *inversion* sounds in F major, the *retrograde-inversion* sounds interestingly in B major.



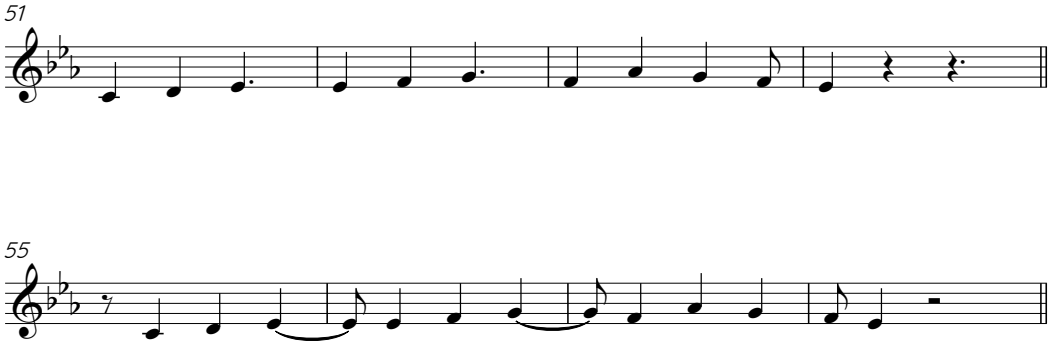
'*Augmentation*':



'*Diminution*':



'*Imitation* in contrary-rhythm':

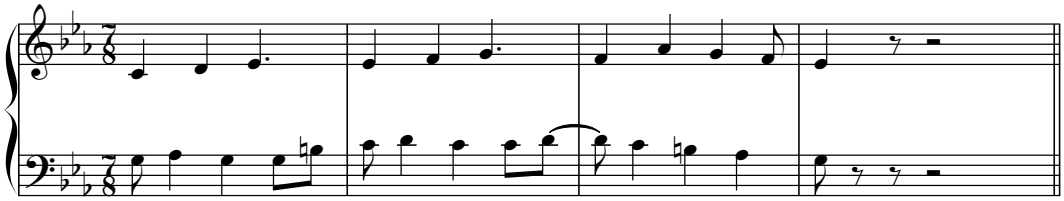


Interesting is also the change of sub-division. Not only when applying the *imitation* in contrary-rhythm but also when applying the *inversions*, *augmentation* and *diminution*.

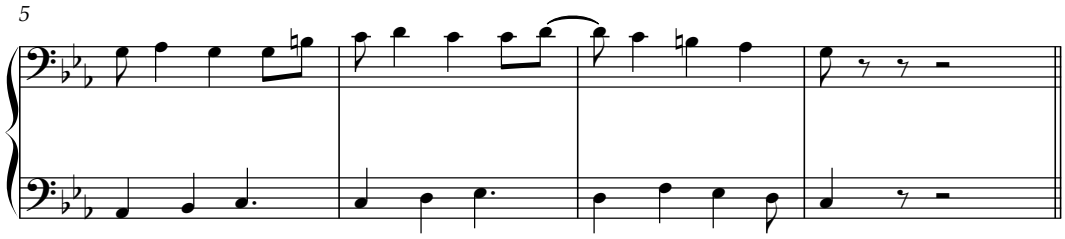
Furthermore, I wrote down the possibilities of *double counterpoint* before going on with the fugue. I did not write down the possibilities with *double counterpoint* at the octave as this would happen automatically when applying the *subject* and *countersubject* through the different instruments and their ranges.

Therefore, I first wrote down the possibilities of *double counterpoint at* the tenth.

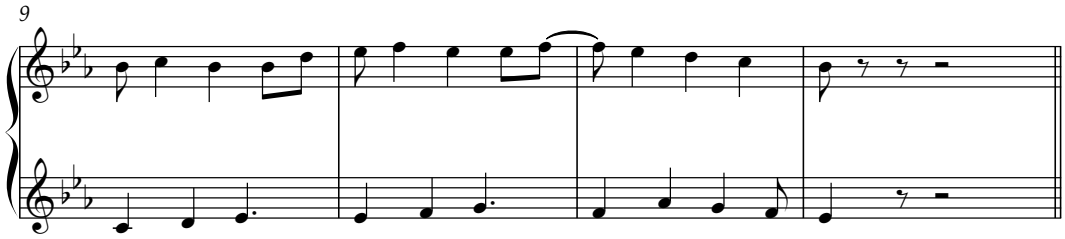
Original *subject* and *countersubject*:



Ex. 1: Double counterpoint at the tenth by moving the *subject* a tenth down:



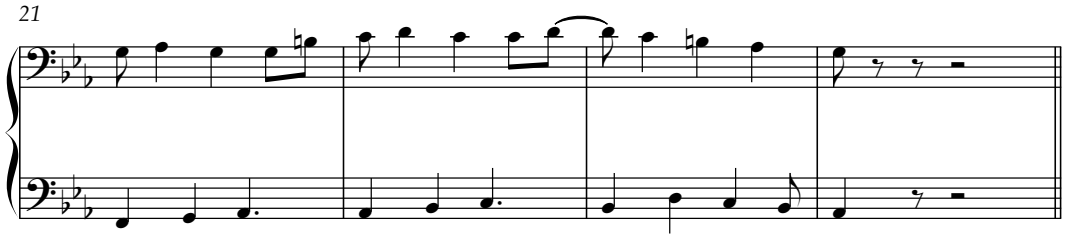
Ex. 2: Double counterpoint at the tenth by moving the *countersubject* a tenth up:



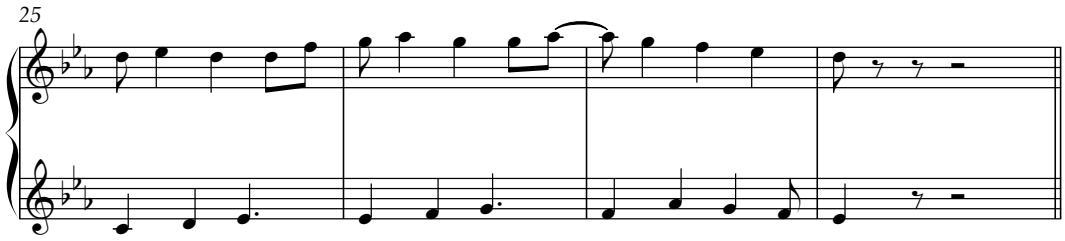
Though I mentioned in point 3.2 that *double counterpoint* at the tenth often leads into octaves and fifths, it is not quite true for this *subject* and *countersubject*. Though, it still sounds like it is missing some harmonic context and still ends on a rather unpleasant interval of a fifth. But in combination with a third voice, the use of *double counterpoint* at the tenth might work well. Example 2 sounds more related to Eb major than to C minor. They might fit well when modulating the piece to the relative major.

Afterwards, I wrote down the possibilities of *double counterpoint* at the twelfth.

Ex. 3: Double counterpoint at the twelfth by moving the *subject* a twelfth down:



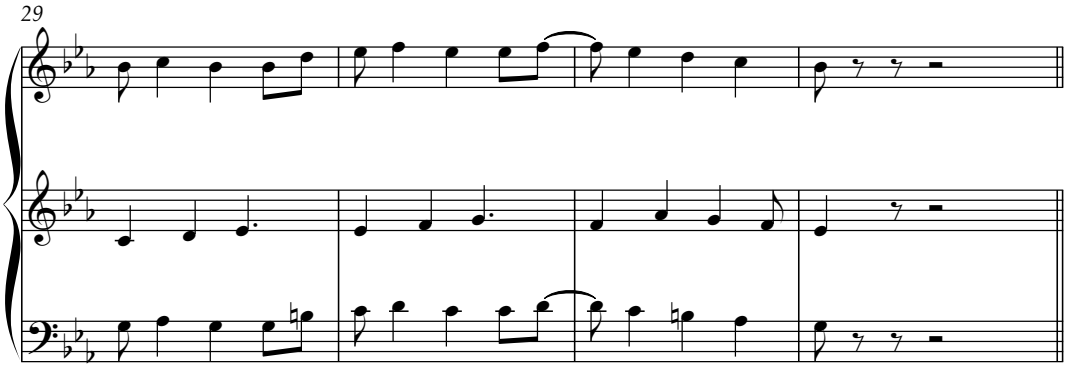
Ex. 4: Double counterpoint at the twelfth by moving the *countersubject* a twelfth up:



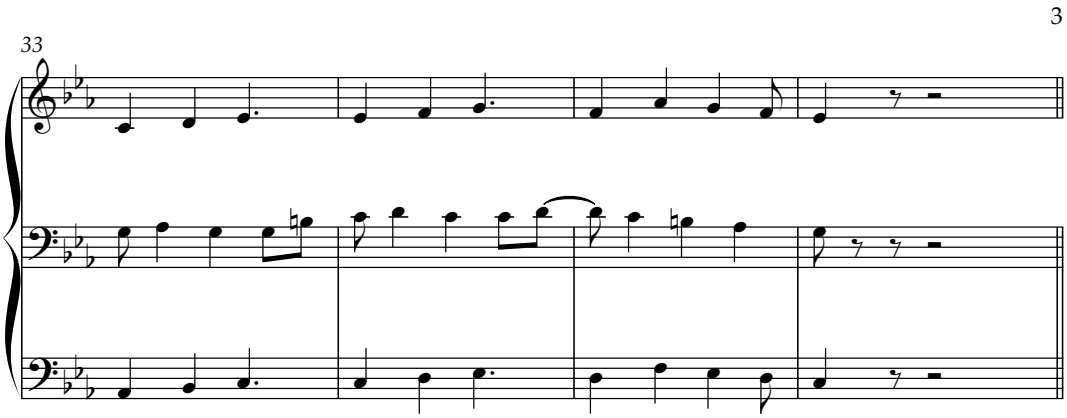
Both examples 3 and 4 work except for the very last note as it is in both cases a minor second.

Finally, I was looking at the possibilities of creating a three-part setting with the use of *double counterpoint* and the method of Johan Josef Fux.

Ex. 5: Getting a three-part setting by using *double counterpoint* at the tenth by transcribing the *countersubject* a tenth up:

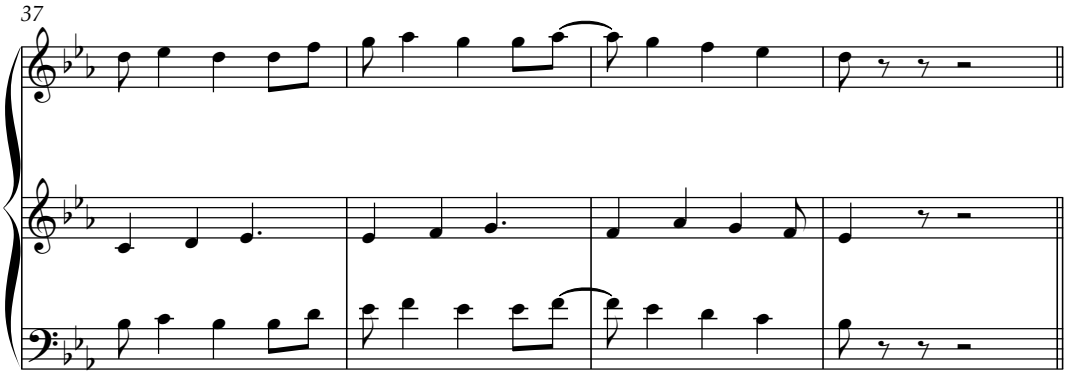


Ex. 6: Getting a three-part setting by using *double counterpoint* at the tenth by transcribing the *subject* a tenth down:

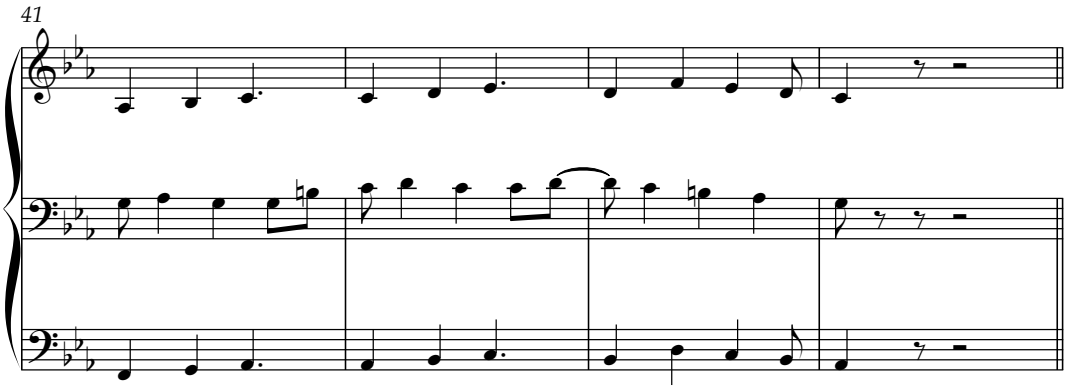


Both examples 5 and 6 work very well and might be a better solution than the 'regular' *double counterpoint* at the tenth (examples 1 and 2). While example 5 starts in C minor and modulates to Eb major, example 6 just stays in C minor.

Ex. 7: Getting a three-part setting by using *double counterpoint* at the twelfth by transposing the *countersubject* a twelfth up and then transcribing a tenth down:



Ex. 8: Getting a three-part setting by using *double counterpoint* at the twelfth by transposing the *subject* a twelfth down and then transcribing a tenth up:



Example 7 sounds okay, though the last chord does not sound pleasant due to the minor seventh interval between Eb and D. However, if adding a fourth voice ending on G, one can relate it to Eb major seventh.

Finally, as a composer, I have the choice to change specific notes so that the *subject* and *countersubject* fit better together after using double counterpoint. For me, it is more important to have voices that sound good together and contain the *subject* in a slightly altered way (imitation in similar) than always going for the strict imitations and having a less pleasant sound.

To mark the beginning of the development section in bar 18, I chose to modulate to a different key. In bar 17, I change the C minor chord to a C dominant b9 Chord to go to F minor. After having the *subject* played by the Alto Sax, there is an *interlude/episode* which contains a sequence of chords that always go a fifth down but then modulate back to C minor. This C minor gets marked by an entrance of the *subject* in the Bass supported by the Piano's left hand. The Alto plays the *countersubject* that appears for the first time in its complete form since the *exposition* is over.

In bar 28, I tried to use double counterpoint, and I chose to have one of the three-part settings I found before. Moreover, I wanted to have the Piano play chords to have a bigger and denser sound before moving on to the solo section, but I could not come up with a way to do so. I realised the *subject* and *countersubject* in combination with double counterpoint at the tenth were not letting any room to have vertical voicing (homophony). Therefore, I chose to have

the Piano playing the melody too, but voiced, so that it still plays chords but makes use of block-chords and plays the melody rather than as initially thought by just laying down chords as an accompaniment.

In bar 31, the solo section begins. First, the Alto Saxophone has a solo. The Bass plays a written-out Bassline. In the first eight bars, it takes motives from the theme. Then it plays the theme twice wholly. The chords are derived from the *exposition*, making them C minor and G minor. I chose to have only these chords as they are an often-used characteristic of fugues. The Guitar has backgrounds on cue. Those are, in fact, the *countersubject.* The Piano is not playing at all during the solos. Initially, I wanted it to play an improvised chord accompaniment. However, while doing a Demo of the tune in a DAW (Logic Pro X), I realised it did not match the Bassline in combination with the background. Nevertheless, the Bass and Guitar give enough harmonic information to make the chord accompaniment optional.

Moreover, it opens up the piece by starting the solo in Trio (Sax, Bass, Drums). After the Saxophone solo, there is a short *interlude* to the next solo section for the Guitar. The *interlude* is a basic one-to-five chord pattern, but here the five (G dominant in bar 49) serves as a tritone substitute and goes, therefore, to F# minor, which is a tritone away from the home key. I personally like that modulation as it is unexpected and goes far away from C minor (contrary to Classical fugues).

After the Guitar solo, the sequence of fifths going down comes back precisely like in bar 22, modulating back to C minor. In bar 70, I tried to combine a few of the *imitations*. I looked for variations that work together, resulting in a *retrograde* played by the Guitar, a free *inversion* played by the Piano and an a*ugmentation* by the Alto Sax on top of that. The Bass is playing a fitting line underneath that is doubled by the Piano's left hand. While the Guitar and Piano finished their variation of the *subject*, the *augmentation* played by the Saxophone still goes on as it is twice the length. Therefore, all the other instruments play rhythmic motifs of the *subject* but with different subdivisions creating *complementary rhythm*.

In bar 76, the ending begins, marked by two things. First, all the instruments drop out except for the Bass, which starts with the *subject* anew. Secondly, the Drums stop playing the groove but only play on cymbals, like at the beginning of the song. Then for the first time, a second *subject* enters while the other is still playing (*stretto*). But to make it fit better, I had to change

the second one a bit in its second bar from Eb, F, G to F, F, G. Otherwise, the Eb would have clashed with the F in the Bass. After both *subjects* were played, the same thing got repeated but in a different order of instruments. In addition, both *subjects* got transcribed a tenth up, resulting in four *subjects* that happen partly simultaneously (Also, the left hand on the Piano got slightly changed in bar 82). This marks the final resulting in a unison played by all instruments (using motivic material of the beginning of the *subject*) and ending on a fermata.

CONCLUSION

'How to incorporate the form of Classical fugues into Jazz and how to compose an original Jazz-fugue?'

To answer the main research question, I divided it into three sub-questions: 'What is a fugue, and how to compose a fugue?' To answer this first sub-question, the literature review was crucial. Studying different theories and the history of fugues gave me essential information on what can be called a fugue and how to compose one independently. I learned that a fugue could be seen as a compositional tool or a form, though a strict form cannot be defined.

In general, a fugue is a polyphonic piece (or as a compositional tool, it could also be part of a piece) where a theme gets presented by one voice/instrument without any accompaniment and answered by another voice/instrument, usually on the fifth afterwards. The theme gets presented in all the voices first, one after the other. After that, the theme, also called *subject*, undergoes several compositional treatments like *imitations* and modulations and occurs multiple times in one way or another during the course of the fugue.

To compose a fugue, I learned that it is vital to do some preparation beforehand. A *subject* must be well thought through to be able to use techniques like *imitations*, *double counterpoint* or *stretto*. Therefore, the *subject* should be relatively simple. In that way, it is also better recognizable by the listener. A good practice is, therefore, to compose a *subject* first, and to examine the use of the techniques on it afterwards. Obviously, one needs to be able to master these techniques to be able to apply them.

The second sub-question was the first part of the main research question, 'How to incorporate the form of Classical fugues into Jazz?' One way is to use a non-classical setup, like Piano, Double-Bass and Drums, for instance. Especially the use of the Drums will move the fugue away from the Classical style. Moreover, the use of swing is a way to incorporate the form of a fugue into Jazz. To keep the characteristic of the fugue as a polyphonic piece, it is challenging to add chords and harmonies (*homophony*). However, using block chords is a way to evade the problem. Another possibility is the use of improvisation sections. This is the most effective way, as it is one of the most significant parts of Jazz and is rarely done in Classical pieces. These improvisation sections can still be combined with elements from the fugue itself. For example,

the use of motivic material of the *subject* and/or the *countersubject* in the accompaniment is a way to have still a Classical connection even in the improvisation sections. Of course, all the different possibilities may be combined.

The last sub-question was the last part of the main research question: 'How to compose an original Jazz-Fugue?' To be able to do that, it is essential first to know the characteristics of the Classical fugue and its composition techniques. If the goal is, like mine was, to compose a Jazz-fugue that is still recognizable as a fugue, it is crucial to know how to design a fugal *subject* and how to develop it through the different voices. To conclude, it is enough to be able to answer the first two sub-questions to be able to answer sub-question number three. Because to incorporate the form of Classical fugues into Jazz and to compose an original Jazz-Fugue, it is enough to be able to compose a Classical fugue and to fuse it with Jazz. Of course, though not tackled in this master's thesis, it is also vital to know certain Jazz-composition techniques to fuse an (original) Classical fugue with Jazz.

DISCUSSION

In general, I could answer the research questions and reached my goal of composing an original Jazz-Fugue. Nevertheless, there are some things that I could have done differently and better.

I was busy with the theory of fugues for way longer than expected. I imagined focusing more on the practical part instead. But I realised that the topic 'fugue' is vast, with much to discover. This made it difficult to organise the planning of the master's thesis. I do not regret having started the way I did and having focused on the literature review first, as I think the study of fugue is crucial for reaching the goal of this document. I even planned to read the whole 'The Study Of Fugue' but faced the problem of neglecting the study's practical part. Would this master's thesis not be time-bounded, I probably would have first finished Alfred Mann's book while doing in-between the exercises I did. Probably I would have come up with further practices when reading further. But considering the deadline of this reflection report, it would have maybe been enough only to read Hooning's document and to skip Alfred Mann's 'The Study Of Fugue'. That way, I would have still learned a lot about fugues, but I could have done more on the practical side, like analysing and composing more Jazz-Fugues, and maybe using different ways of incorporating Jazz, seen in the analysis.

To conclude, though the goal has been reached, more research can be added to this reflection report. I plan to do further research by finishing Alfred Mann's book and analysing more already existing Jazz-Fugues. I will use all the information gained to compose further Jazz-Fugues and to improve in that field. Moreover, I want to take the next step and start playing my gathered compositions live. I will start to rehearse my original Jazz-Fugue, which came out as a result of this master's thesis, with my own band. I seek to play it for my graduation exam on the 15th of June, 2023.

REFERENCE LIST

Praetorius, M. (1619). Syntagma musicum. In A. Mann, *The Study of Fugue.*

Albrechtsberger, J. G. (1790). Gründliche Anweisung zur Komposition. In A. Mann, *The Study of Fugue.*

Hooning, M. (2014). *martijnhooning.nl.* Retrieved from http://martijnhooning.nl/analyse/fuga/fuga-tekst-en-red.pdf

MUSIC THEORY ACADEMY. (n.d.). Retrieved from https://www.musictheoryacademy.com/composing-music/augmentation-and-diminution/

On Music Dictionary. (n.d.). Retrieved from https://dictionary.onmusic.org/terms/1256-dux_comes

bestmusicteacher.com. (n.d.). Retrieved from https://www.bestmusicteacher.com/music-theory/terms.php?term=Complementary%20Rhythm

DICTIONARY.COM. (n.d.). Retrieved from https://www.dictionary.com/browse/contrary-motion

Merriam-Webster. (n.d.). Retrieved from https://www.merriam-webster.com/dictionary/counterexposition

Northern Arizona University. (n.d.). Retrieved from https://jan.ucc.nau.edu/~krr2/fugue.html

Merriam-Webster. (n.d.). Retrieved from https://www.merriam-webster.com/dictionary/double%20counterpoint

Online-Dictionary.com. (n.d.). Retrieved from https://www.online-dictionary.com/what-are/the-definitions-of/dux

earsense.org. (n.d.). Retrieved from https://www.earsense.org/Earsense/WTC/Vocabulary/episode.html

University of California. (n.d.). Retrieved from https://rothfarb.faculty.music.ucsb.edu/courses/103/fugue-exposition.html

Britannica. (n.d.). Retrieved from https://www.britannica.com/art/homophony-music

WESTERN MICHIGAN UNIVERSITY. (n.d.). Retrieved from https://wmich.edu/musicgradexamprep/RenaissanceTerms.html

Wikipedia. (n.d.). Retrieved from https://en.wikipedia.org/wiki/Inversion_(music)#Melodies

University of California. (n.d.). Retrieved from https://rothfarb.faculty.music.ucsb.edu/courses/103/invertible-cpt.html

Routledge. (n.d.). Retrieved from https://www.routledge.com/The-Craft-of-Modal-Counterpoint/Benjamin/p/book/9780415971720

Cambridge Dictionary. (n.d.). Retrieved from https://dictionary.cambridge.org/de/worterbuch/englisch/motif

Britannica. (n.d.). Retrieved from https://www.britannica.com/art/polyphony-music

Hilse, W. (2006, April). *American Guild of ORGANISTS*. Retrieved from https://www.agohq.org/wp-content/uploads/2019/11/The-Fugal-Answer.pdf

Wikipedia. (n.d.). Retrieved from https://en.wikipedia.org/wiki/Retrograde_(music)

Merriam-Webster. (n.d.). Retrieved from https://www.merriam-webster.com/dictionary/retrograde%20inversion

earsense.org. (n.d.). Retrieved from https://www.earsense.org/Earsense/WTC/Vocabulary/stretto.html

rothfarb.faculty.music. (n.d.). Retrieved from https://rothfarb.faculty.music.ucsb.edu/courses/103/subject-answer.html

www.treccani.it. (n.d.). Retrieved from https://www.treccani.it/enciclopedia/jean-philippe-rameau/

Rameau, J. P. (n.d.). In *The Study Of Fugue.* Dover republications.

Mann, A. (1958). *The Study Of Fugue.* Newark, New Jersey.

The Study Of Fugue. (n.d.). Dover republication.

Morley, T. (1597). Plain and Easy Introduction to Practical Music. In A. Mann, *The Study of Fugue.*

Aron, P. (1523). Toscanello in musica. In A. Mann, *The Study Of Fugue.*

Purcell, H. (1694). In A. Mann, *The Study of Fugue.*

Rameau, J. P. (1722). Traité d'harmonie. In A. Mann, *The Study of Fugue.*

Martini, P. (n.d.). Esemplare o sia saggio fondamentale prattico di contrappunto. In A. Mann, *The Study of Fugue.*

Terry, C. S. (1930). Bach, the Historical Approach. In A. Mann, *The Study of Fugue.*

Marpurg, F. W. (1754). Abhandlung von der Fuge. In A. Mann, *The Study of Fugue.*

Fux, J. J. (1725). Gradus ad Parnassum. In A. Mann, *The Study Of Fugue.*

Albrechtsberger, J. G. (n.d.). In A. Mann, *The Study Of Fugue.*

Marpurg, F. W. (1945). The Bach Reader. In A. Mann, *The Study Of Fugue.*

Bach, J. S. (1945). The Bach Reader. In A. Mann, *The Study Of Fugue.*

MUSIC THEORY ACADEMY. (n.d.). Retrieved from https://www.musictheoryacademy.com/understanding-music/modes/

Prout, E. (1891). In A. Mann, *The Study Of Fugue.*

Collins Dictionary. (n.d.). Retrieved from https://www.collinsdictionary.com/dictionary/english/cantus-firmus

Tinctoris, J. (1475). Diffinitorium musicae. In A. Mann, *The Study Of Fugue.*

DICTIONARY.COM. (n.d.). Retrieved from https://www.dictionary.com/browse/bwv

Dunnett, B. (n.d.). *MUSIC THEORY ACADEMY.* Retrieved from https://www.musictheoryacademy.com/understanding-music/ostinato/

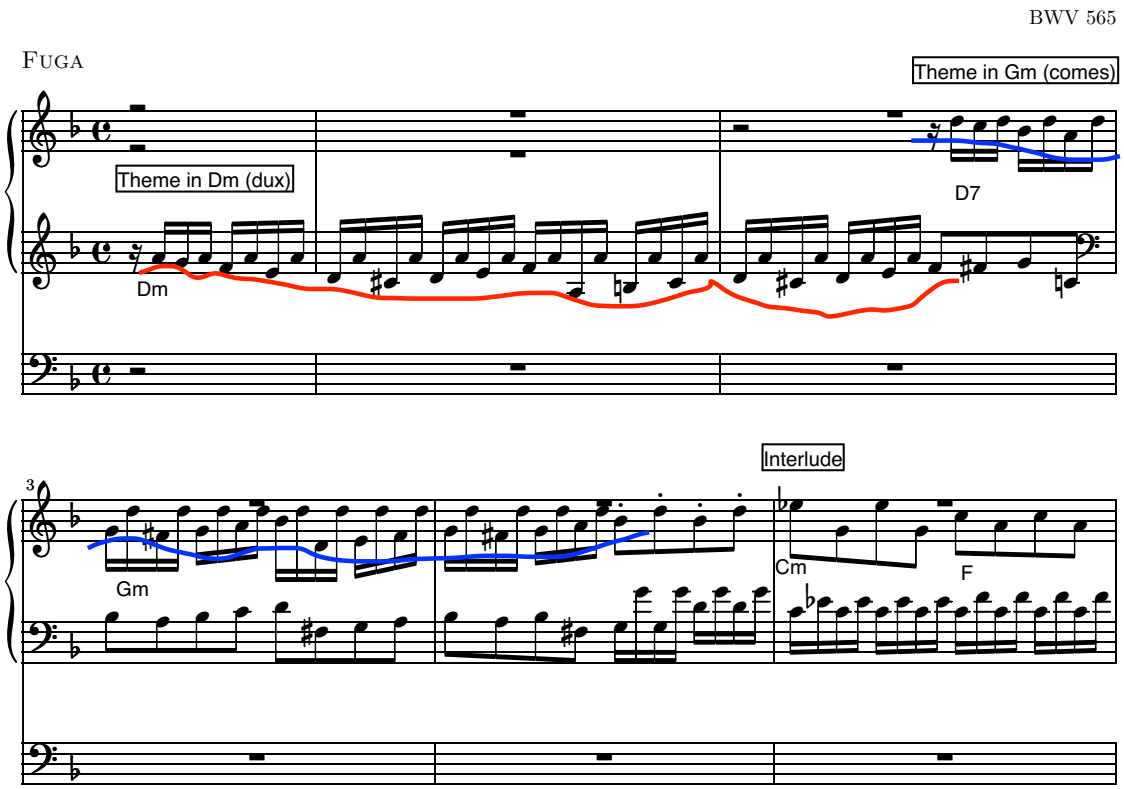
(n.d.).

APPENDIX

1. Appendix 1: Fuga en D mineur BWV 565 by J.S. Bach

All chord symbols, framed text, and coloured lines were added by myself.

Red: *dux,* Blue: *comes*, Green: all other entrances



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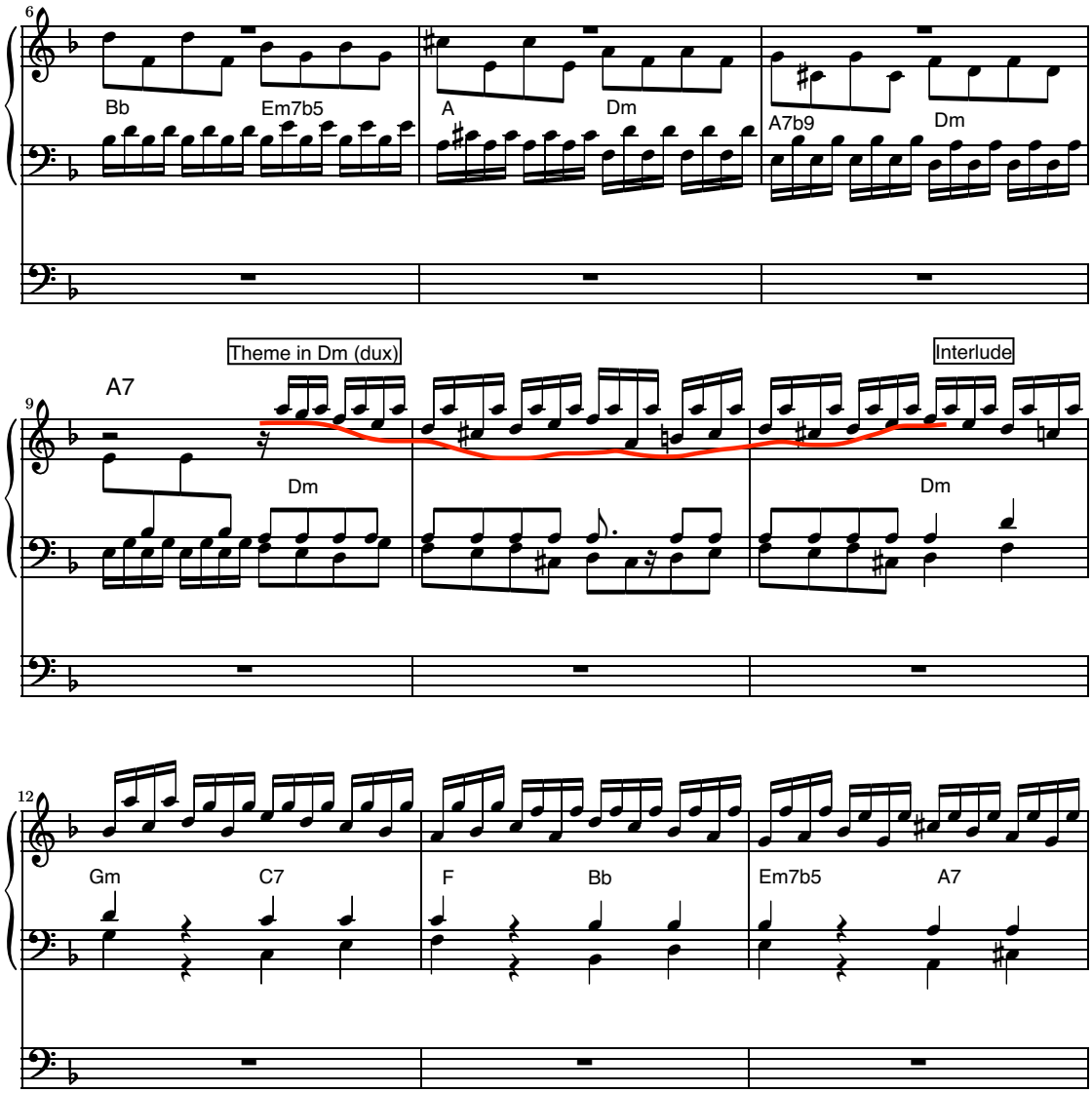
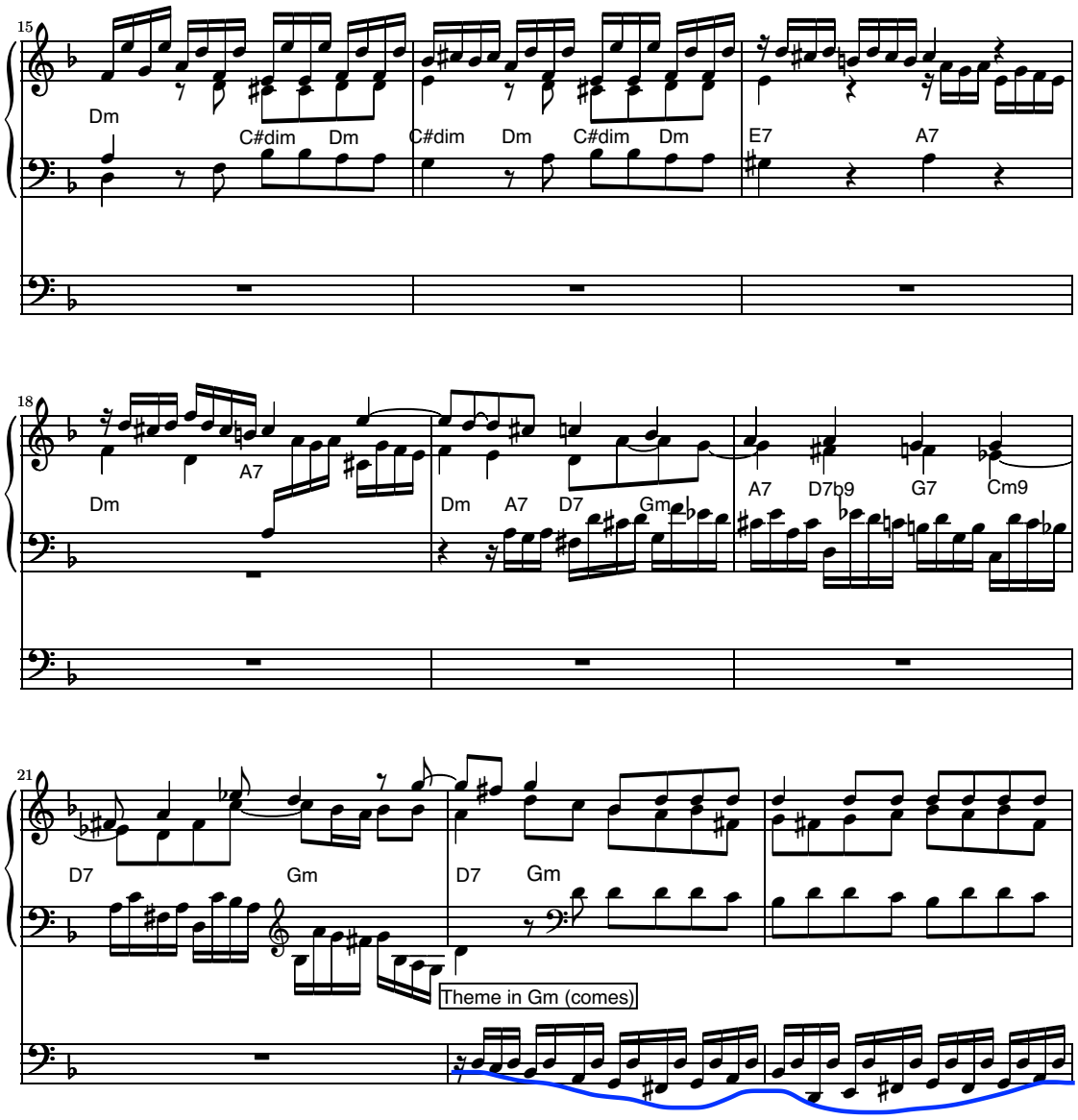

6
Bb
Em7b5
A
Dm
A7b9
Dm
Theme in Dm (dux)
Interlude
A7
9
Dm
Dm
12
Gm
C7
F
Bb
Em7b5
A7



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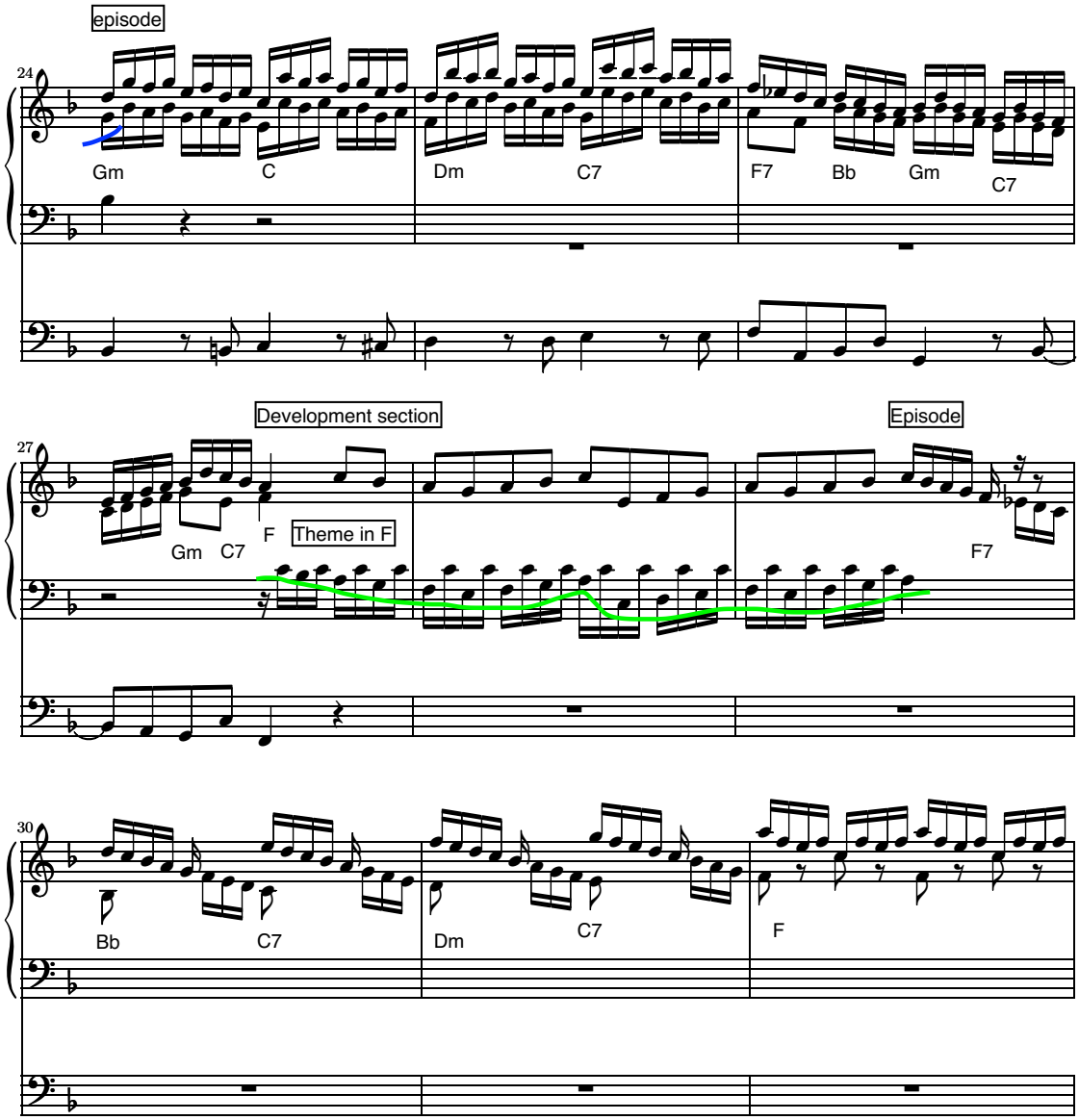
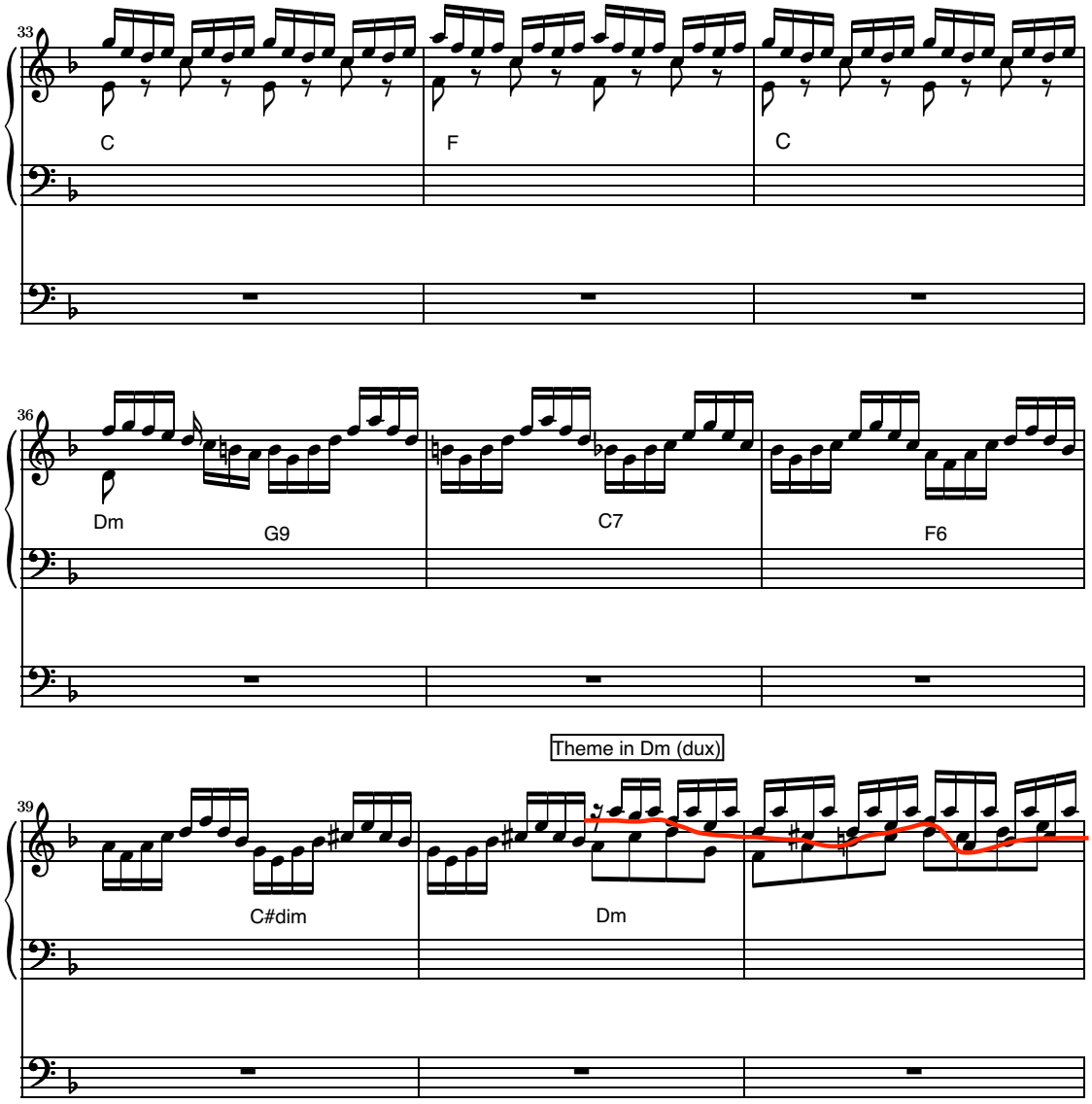
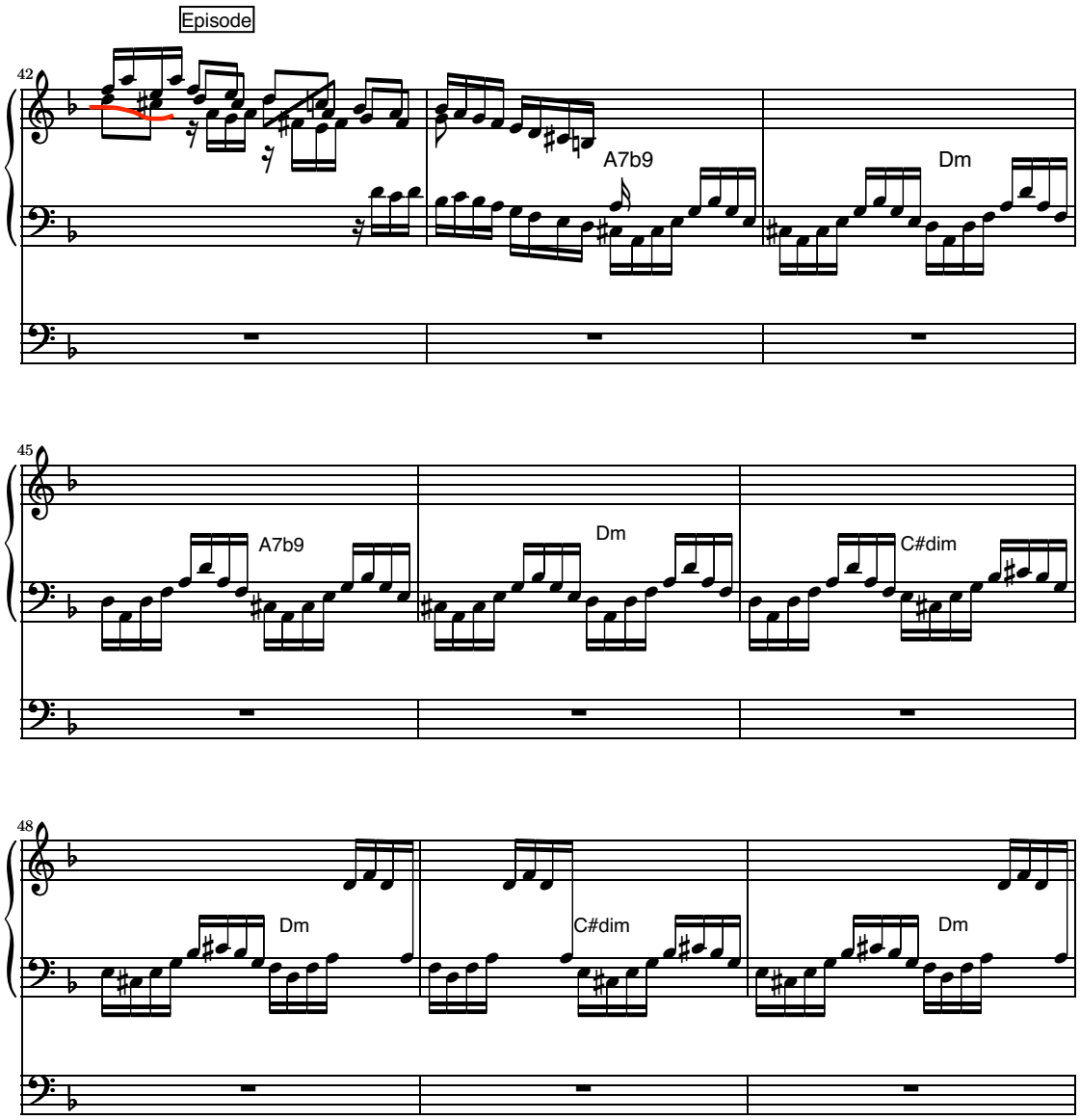
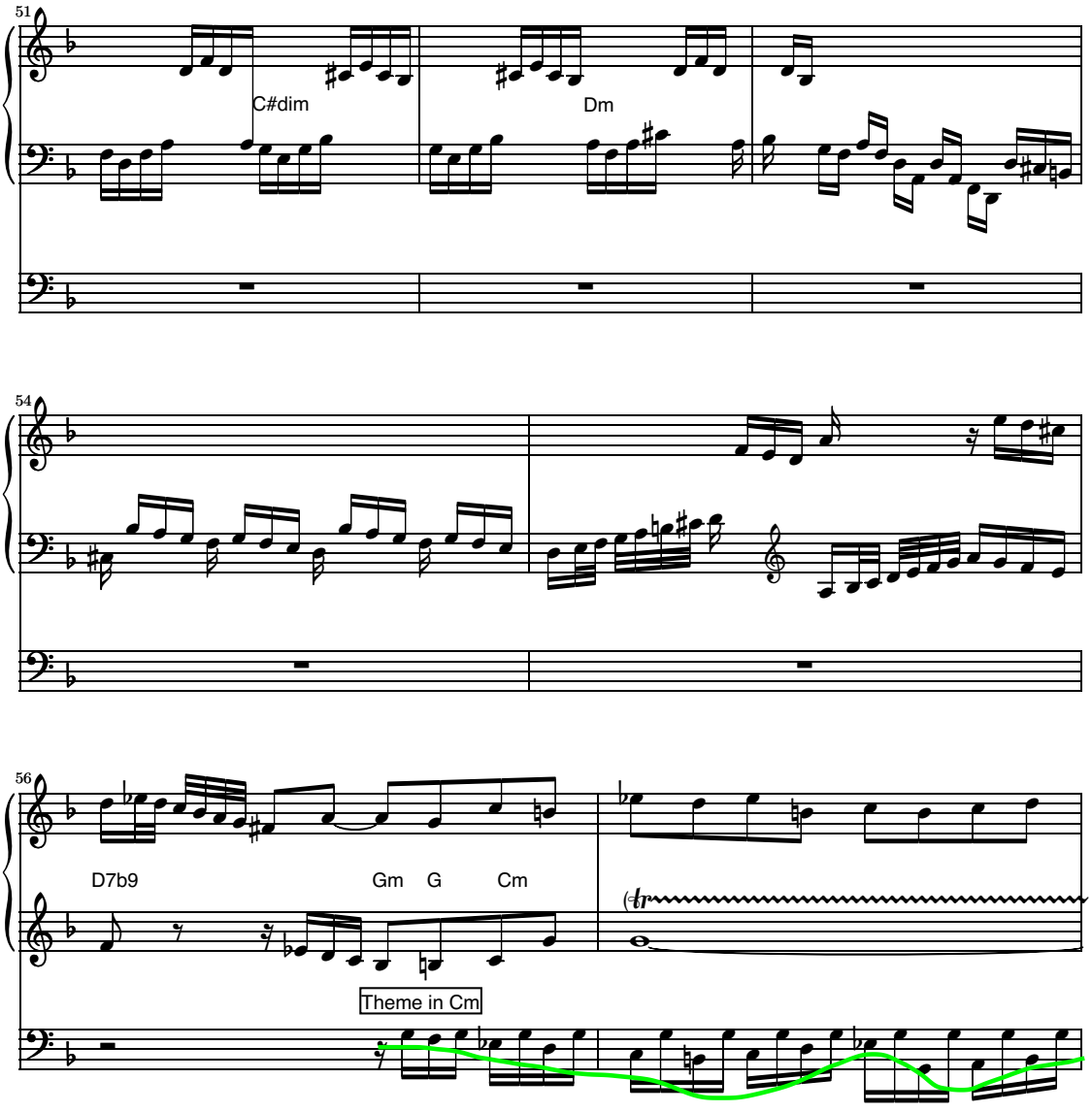
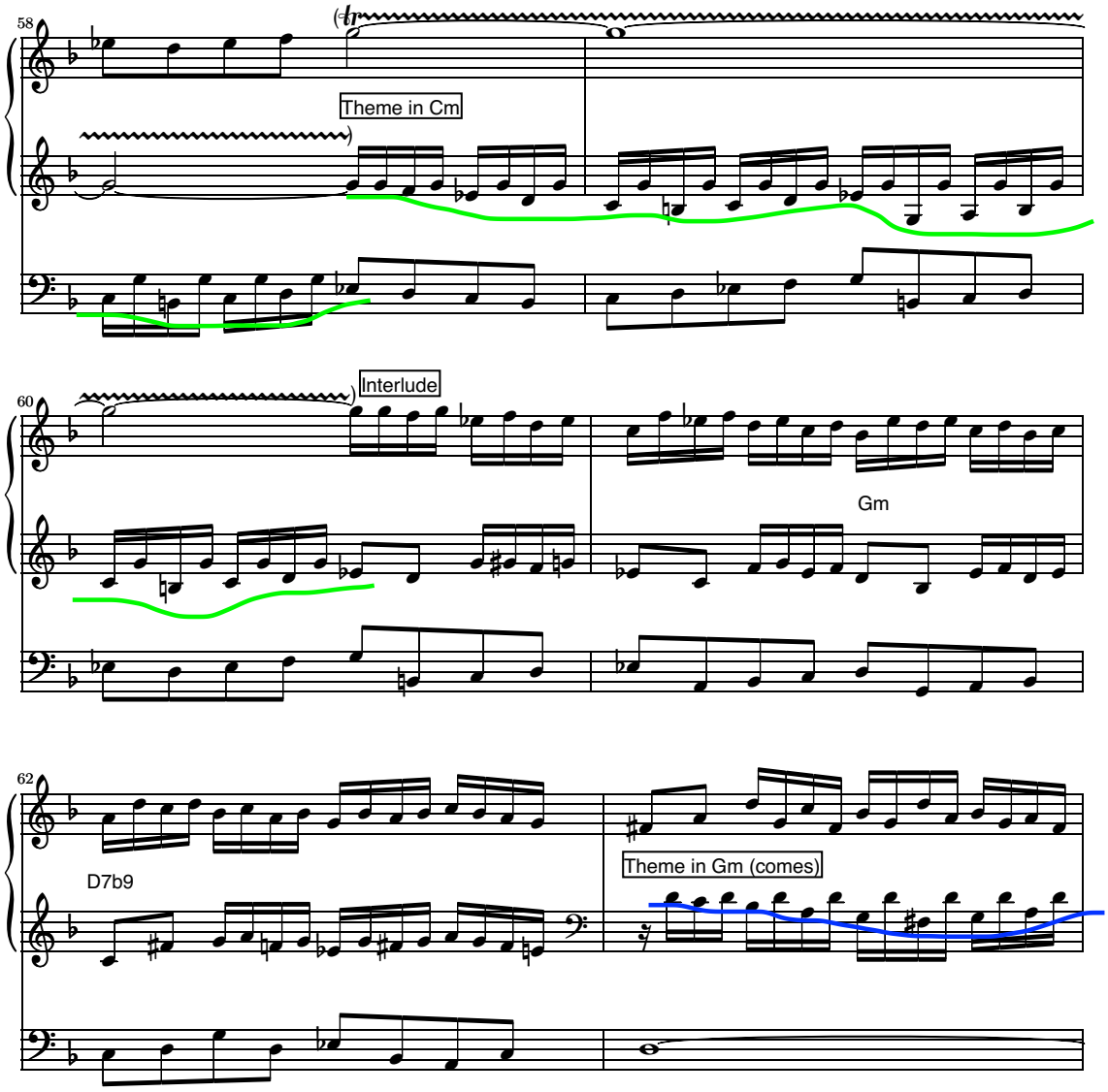
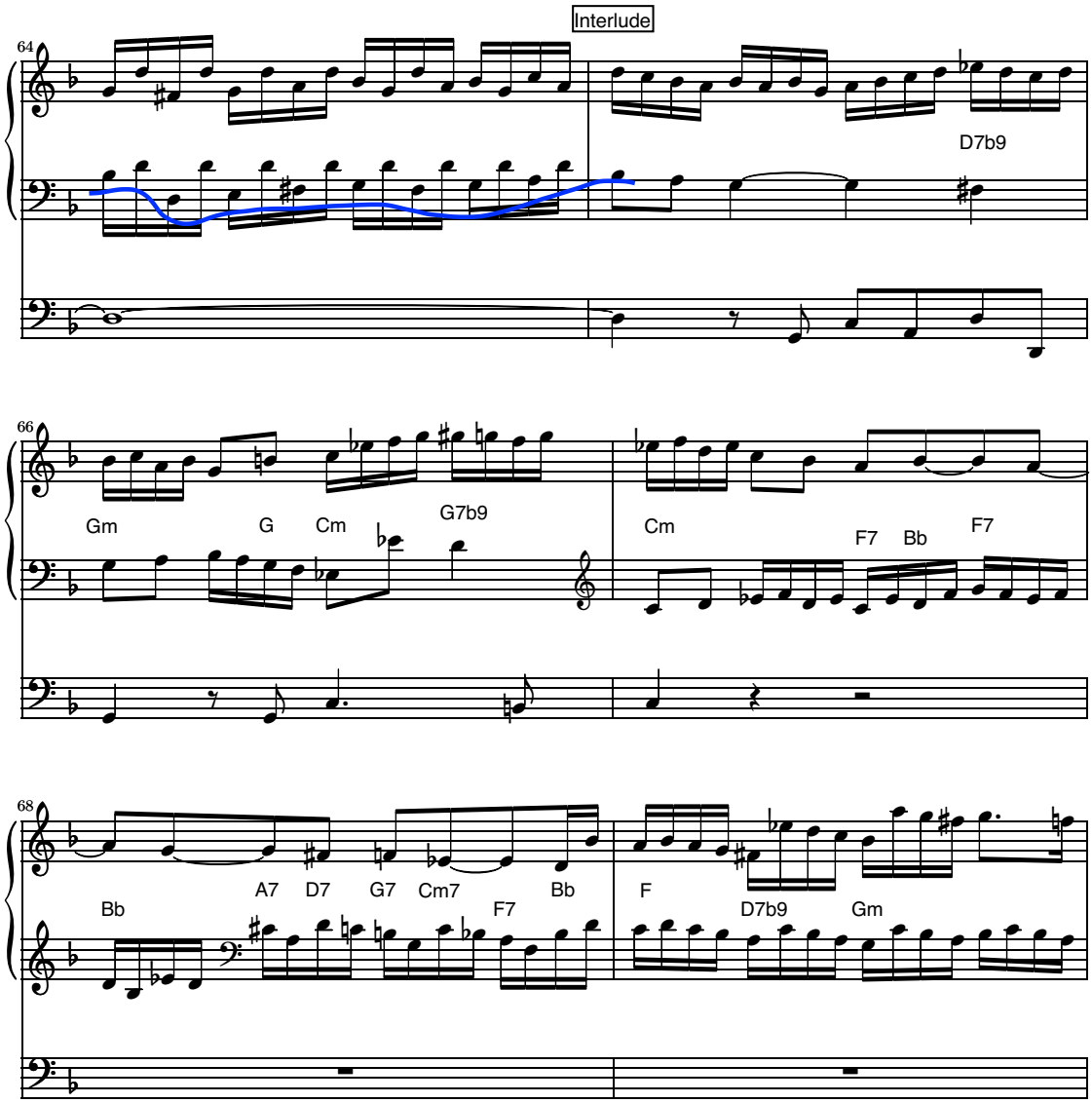

episode
24
Gm
C
Dm
C7
F7
Bb
Gm
C7
Development section
Episode
27
Gm
C7
F
Theme in F
F7
30
Bb
C7
Dm
C7
F

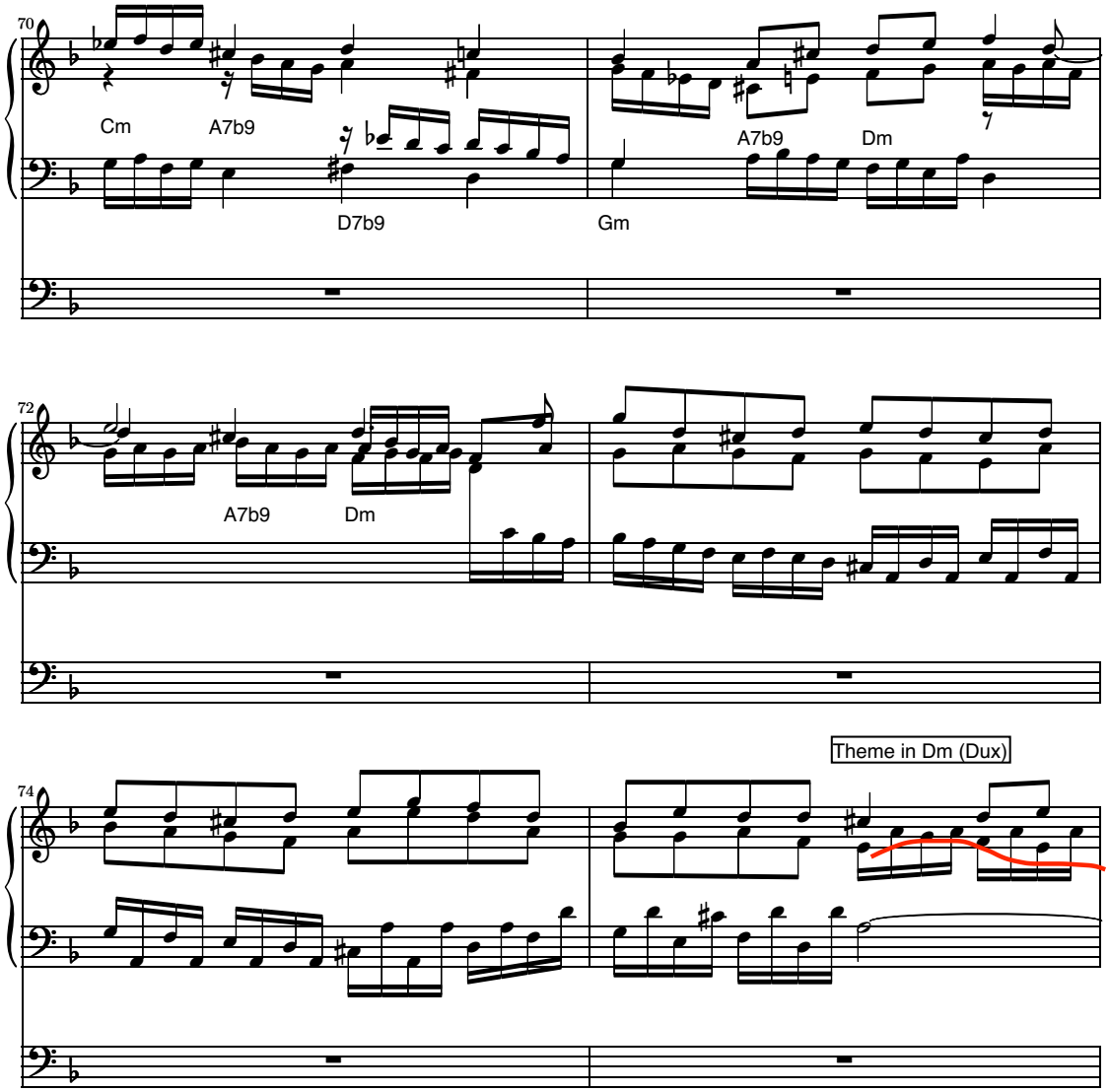

33
C
F
C
36
Dm
G9
C7
F6
Theme in Dm (dux)
39
C#dim
Dm

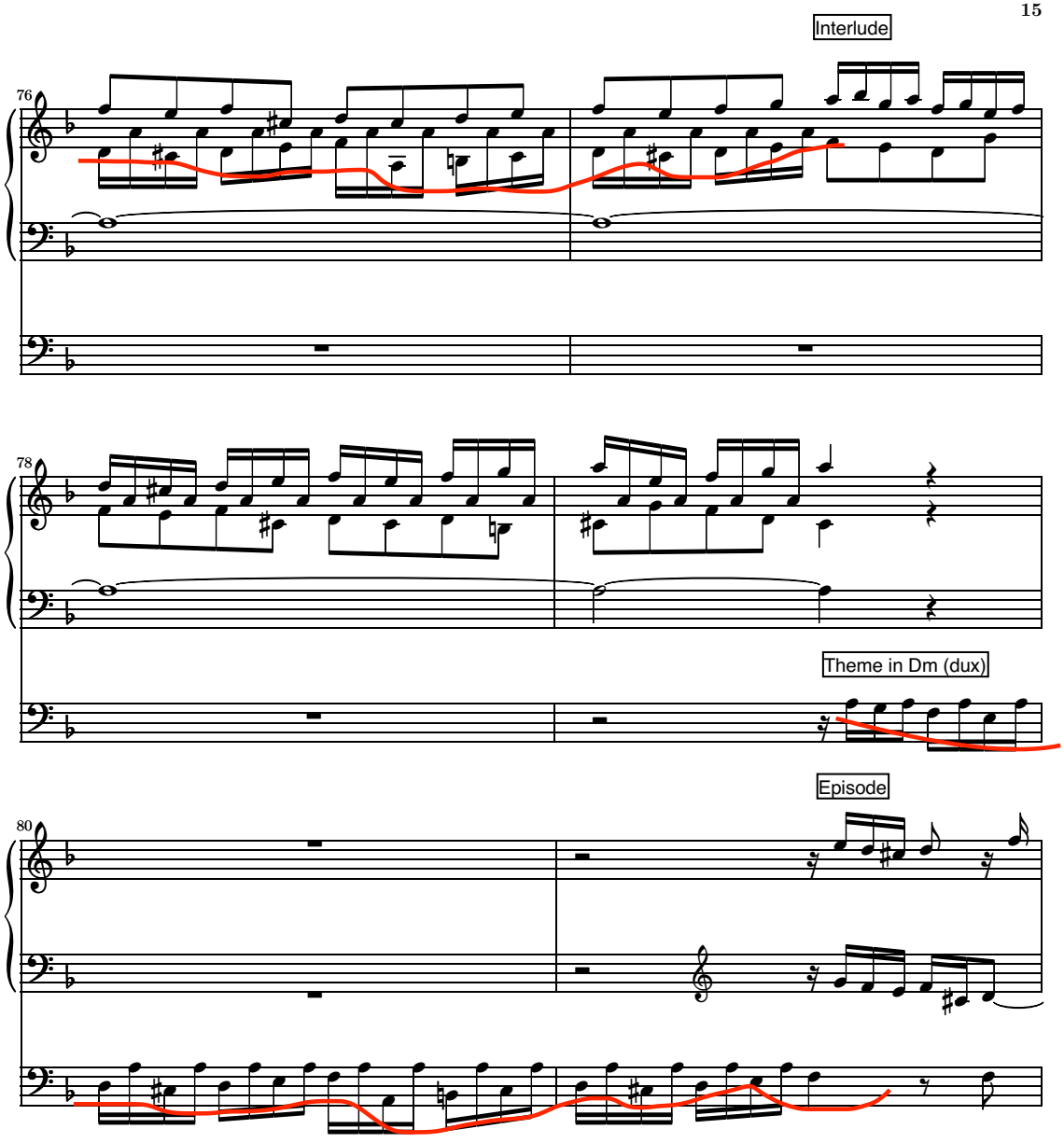

Episode
42
A7b9
Dm
45
A7b9
Dm
C#dim
48
Dm
C#dim
Dm

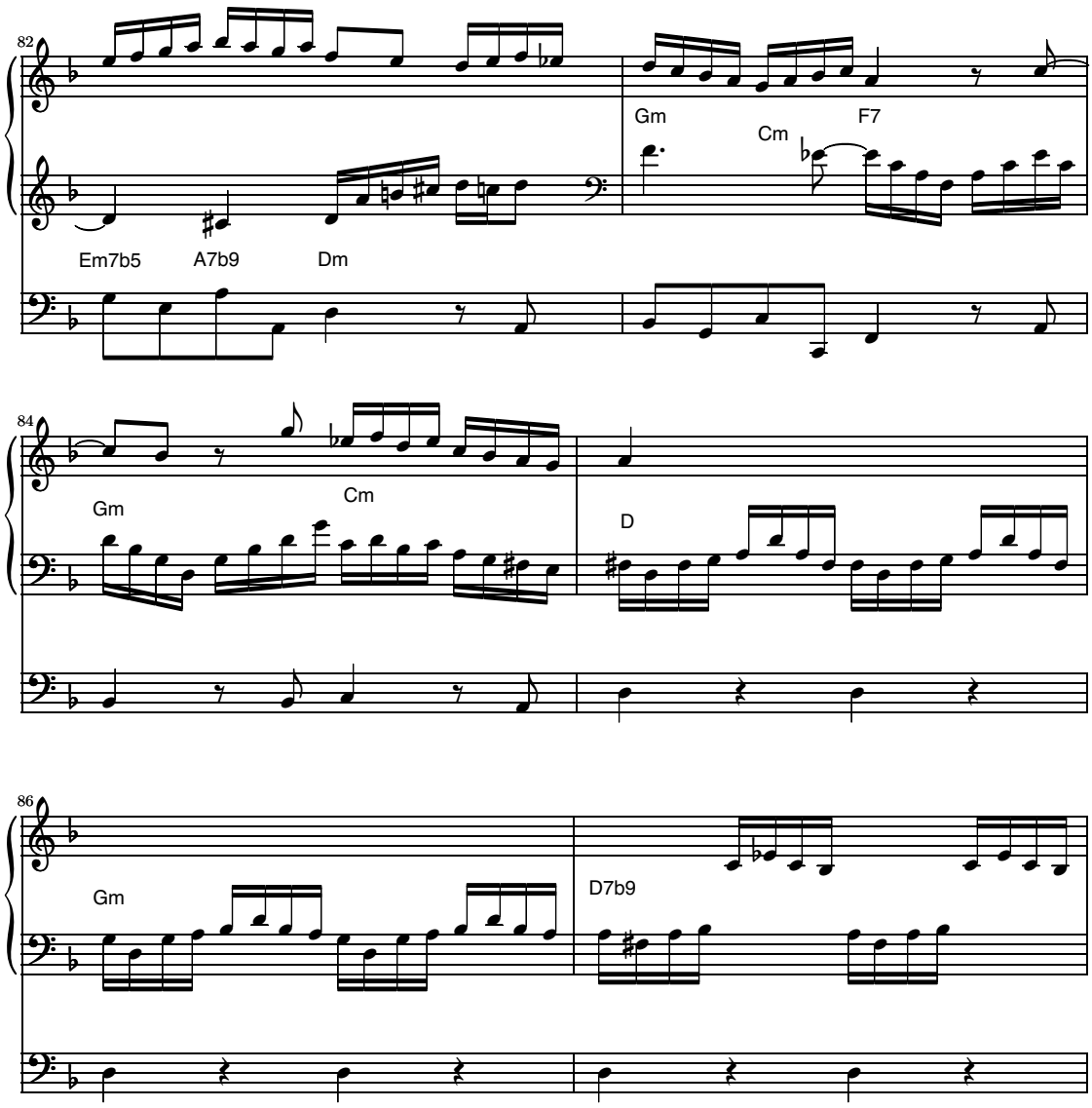

51
C#dim
Dm
54
56
D7b9
Gm
G
Cm
Theme in Cm

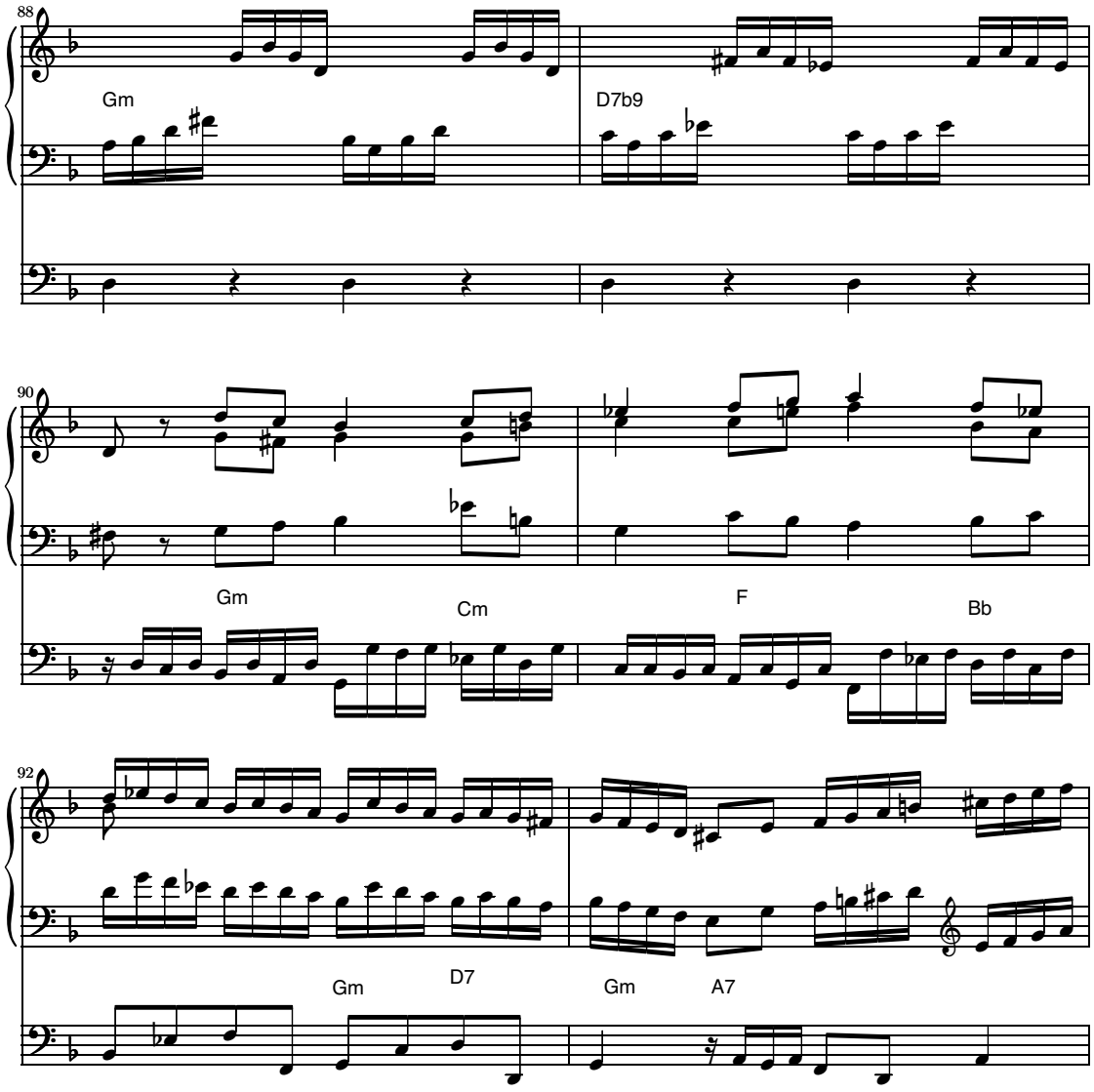

58
Theme in Cm
60
Interlude
Gm
62
D7b9
Theme in Gm (comes)

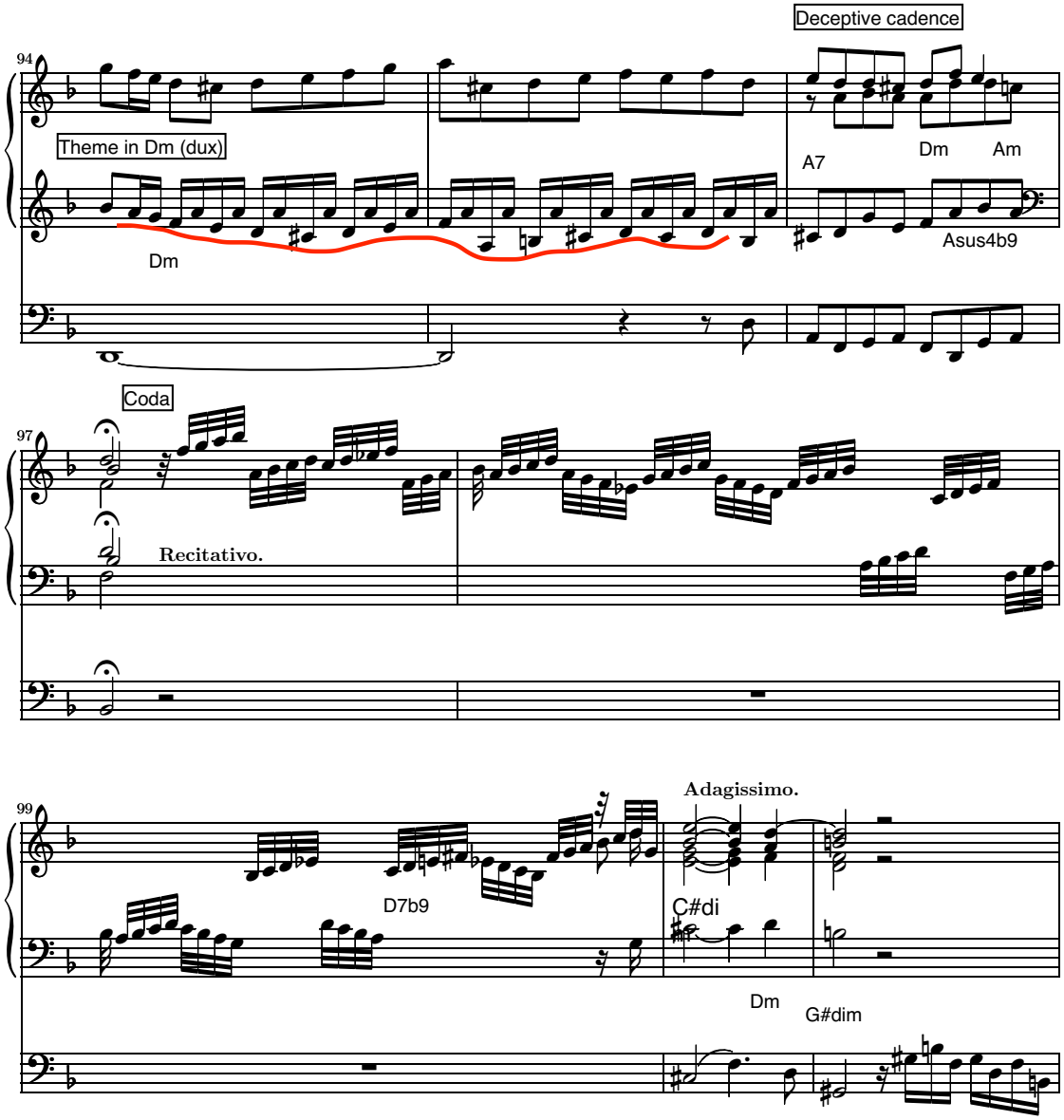

Interlude
64
D7b9
66
Gm
G
Cm
G7b9
Cm
F7
Bb
F7
68
Bb
A7
D7
G7
Cm7
F7
Bb
F
D7b9
Gm

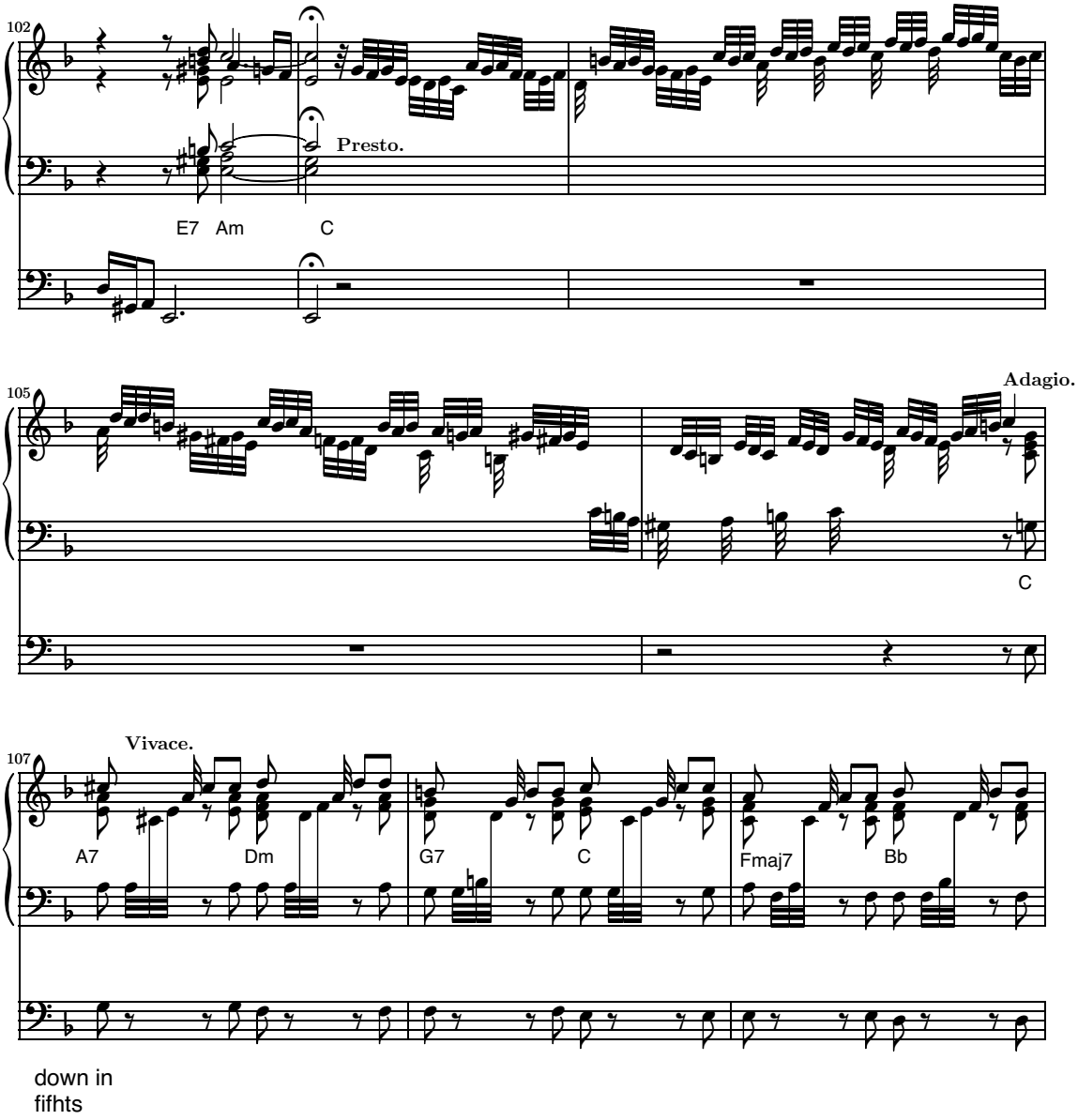

70
Cm
A7b9
D7b9
Gm
A7b9
Dm
72
A7b9
Dm
74
Theme in Dm (Dux)

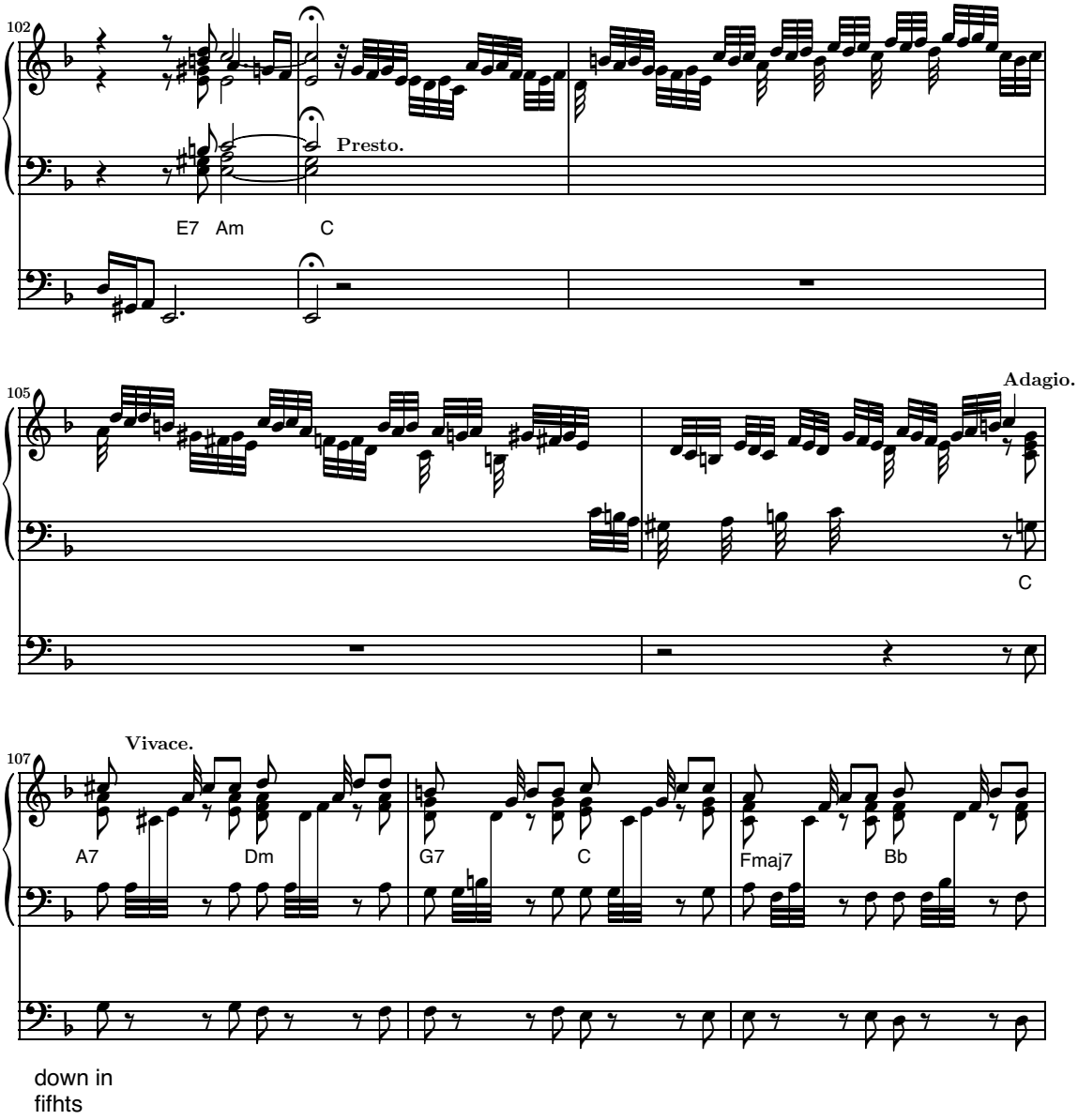

Interlude
76
78
Theme in Dm (dux)
Episode
80


82
Em7b5
A7b9
Dm
Gm
Cm
F7
84
Gm
Cm
D
86
Gm
D7b9


88
Gm
D7b9
90
Gm
Cm
F
Bb
92
Gm
D7
Gm
A7


Deceptive cadence
94
Theme in Dm (dux)
Dm
A7
Dm
Am
Asus4b9
Coda
97
Recitativo.
Adagissimo.
99
D7b9
C#di
Dm
G#dim

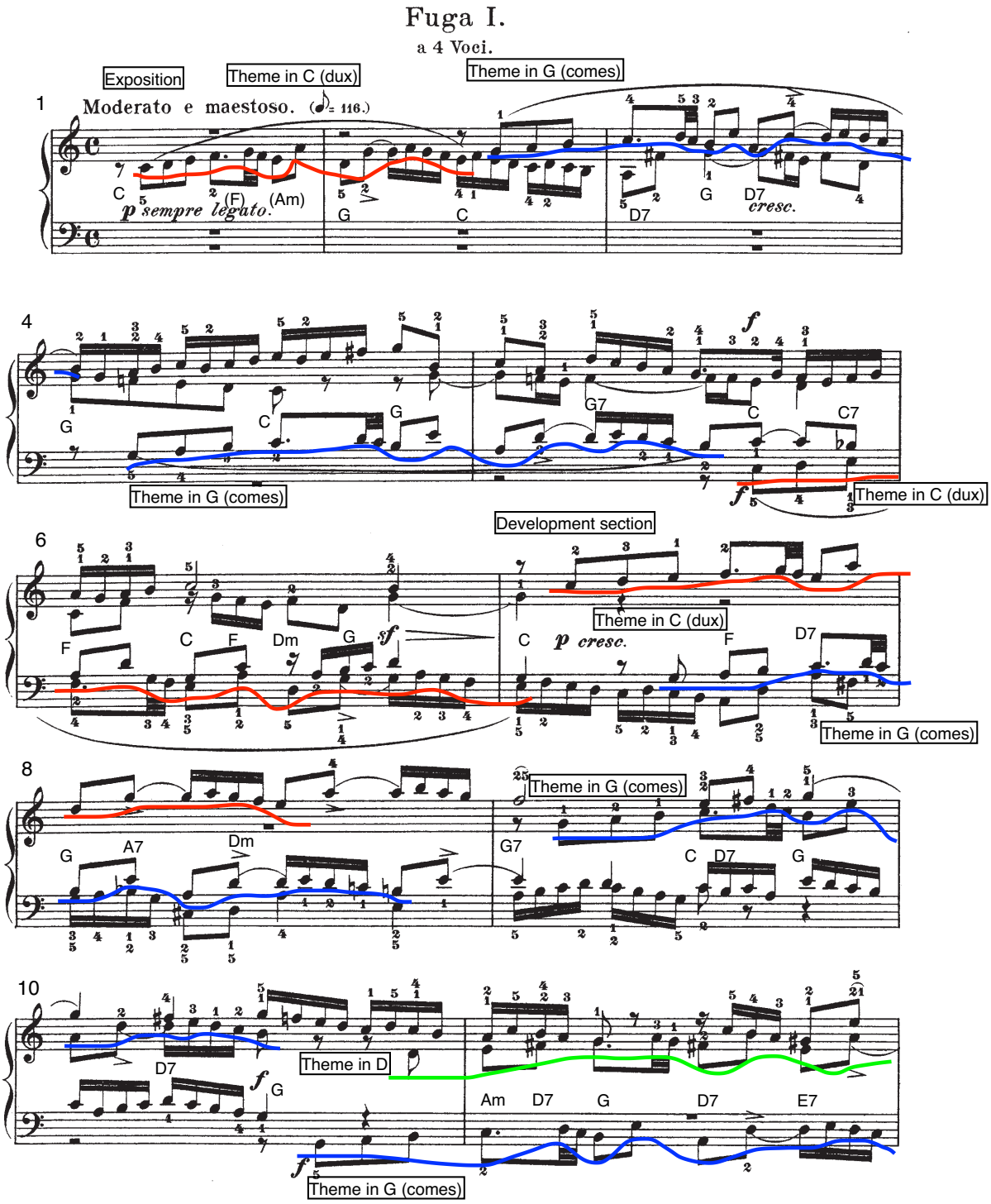


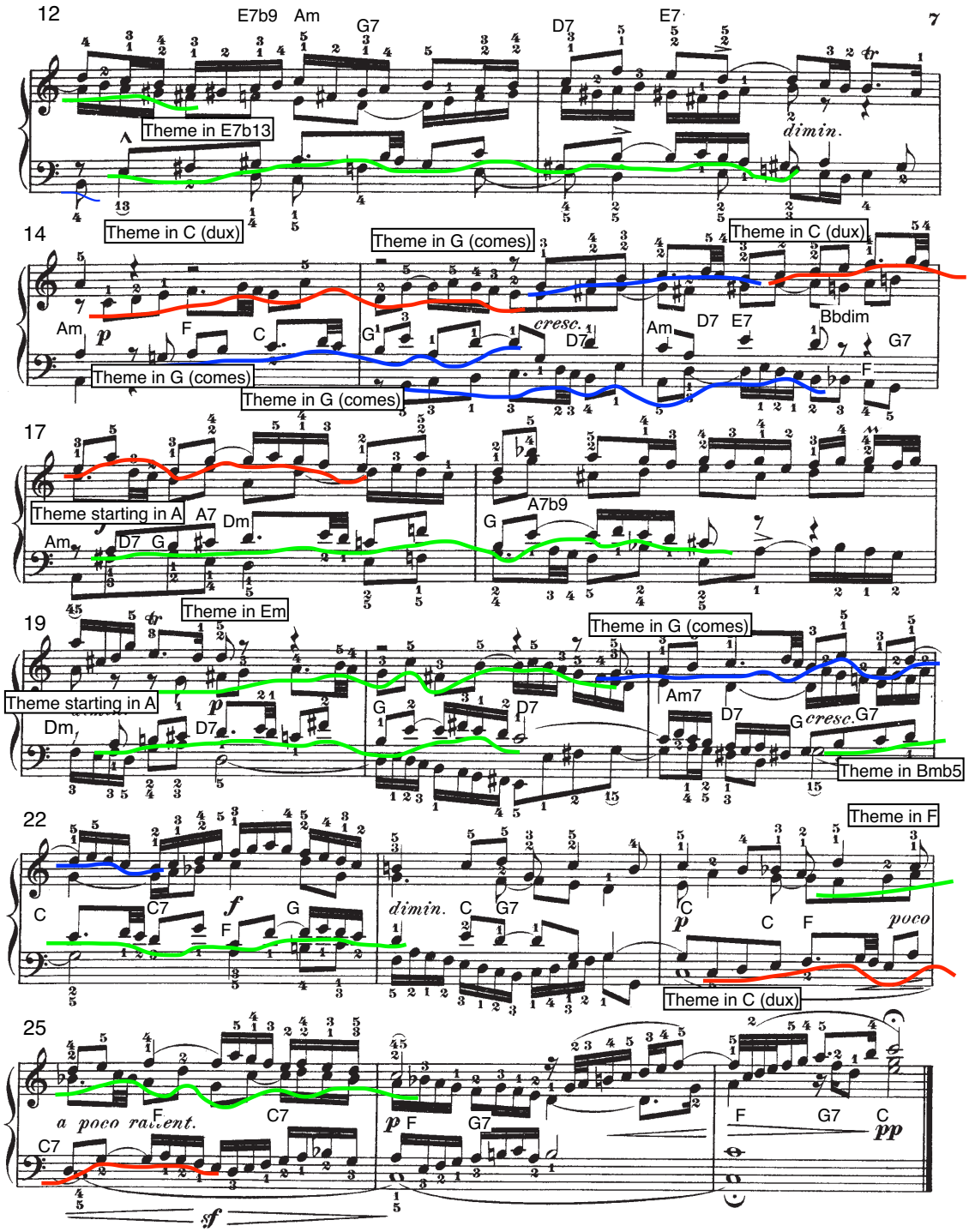


2. Appendix 2: Fuga en C majeur, BWV 846 by J.S. Bach

All chord symbols, framed text, and coloured lines were added by myself.

Red: *dux,* Blue: *comes*, Green: all other entrances

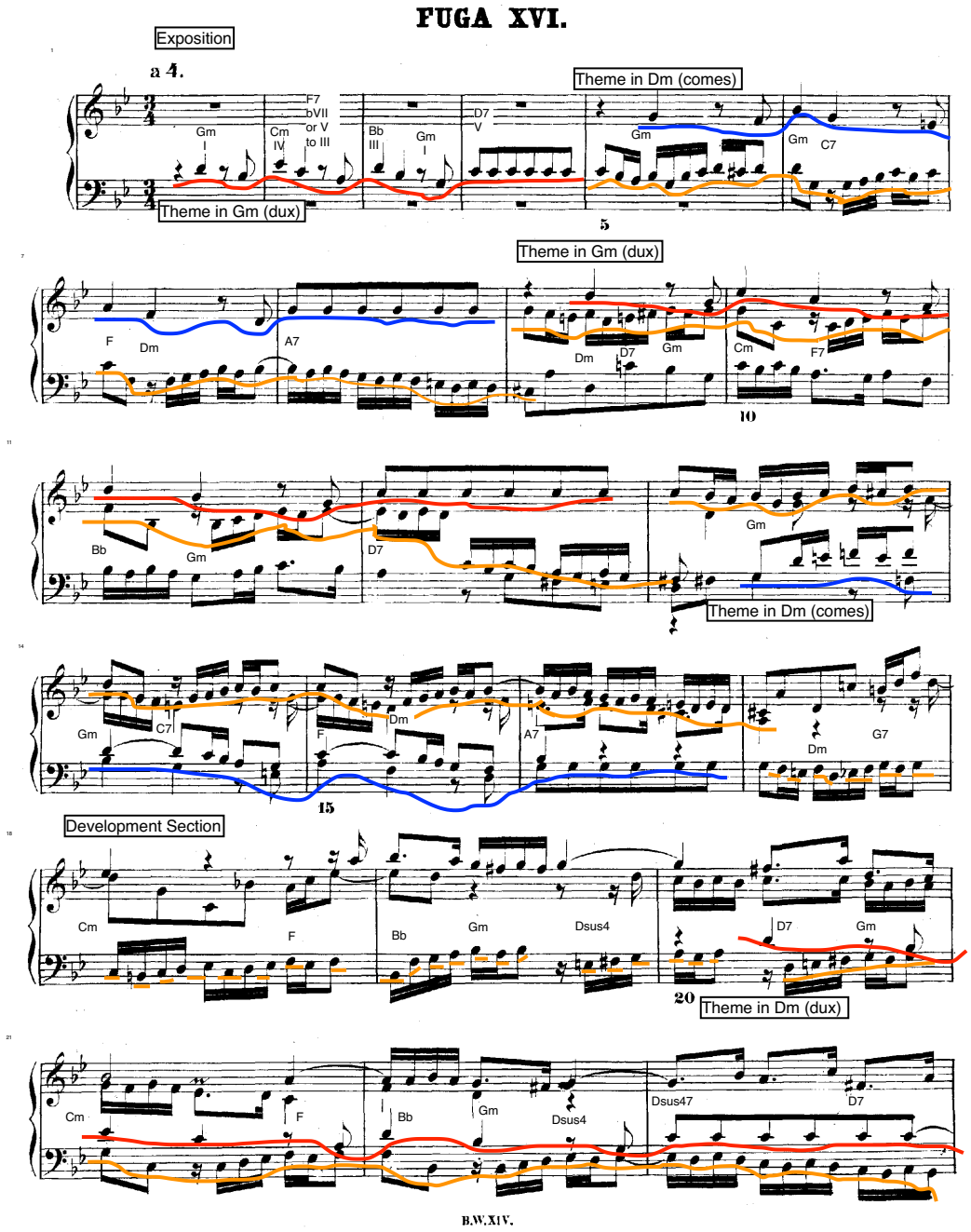


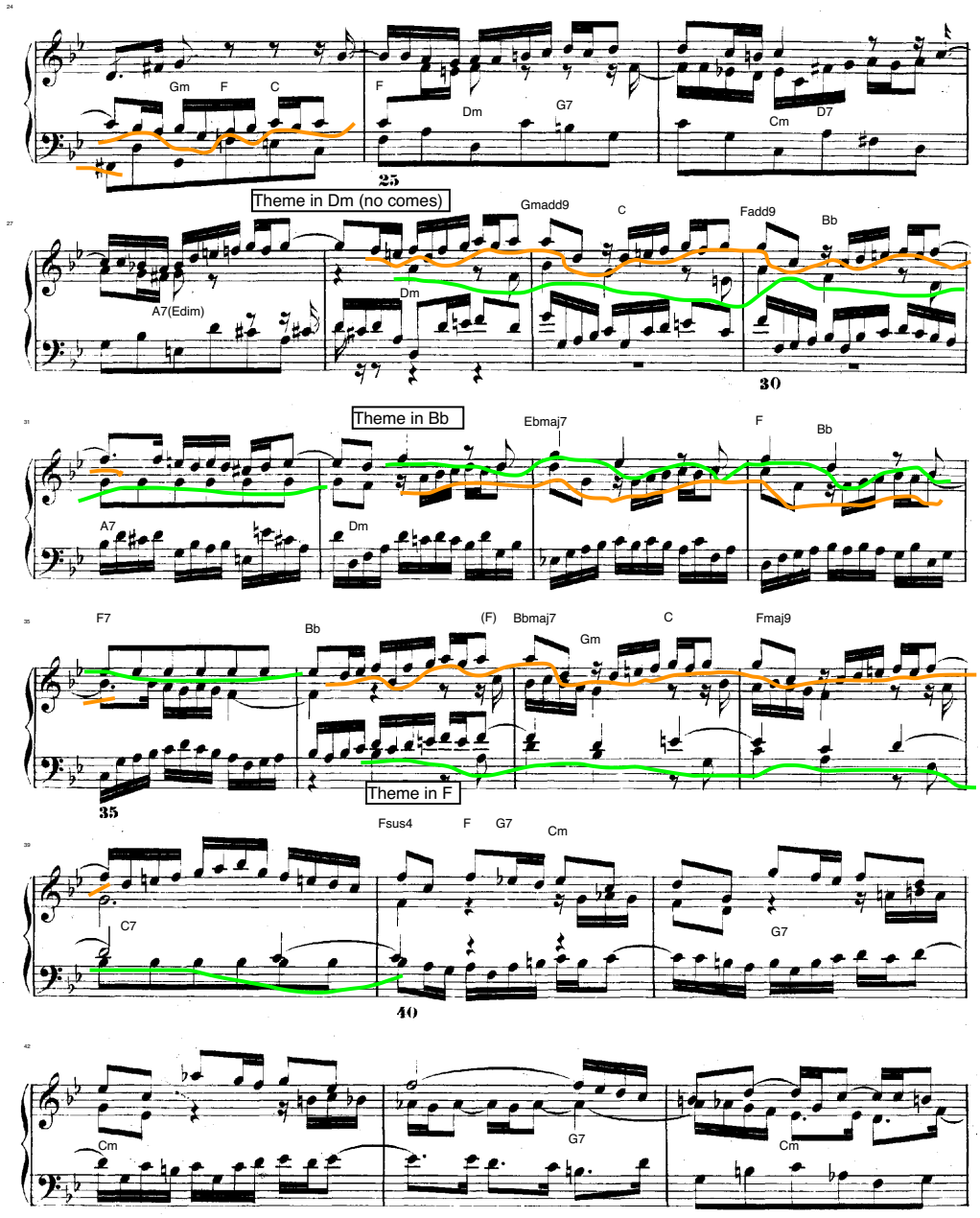

12
E7b9
Am
G7
D7
E7
7
Theme in E7b13
dimin.
Theme in C (dux)
14
Theme in G (comes)
Theme in C (dux)
Am
F
C
G
cresc.
D7
Am
D7
E7
Bbdim
G7
F
Theme in G (comes)
Theme in G (comes)
17
Theme starting in A
A7
Dm
Am
D7
G
A7b9
G
Theme in Em
19
Theme in G (comes)
Theme starting in A
Dm
D7
G
D7
Am7
D7
G
cresc.
G7
Theme in Bmb5
22
Theme in F
C
C7
F
G
dimin.
C
G7
C
C
F
poco
Theme in C (dux)
25
a poco rallent.
F
C7
C7
F
G7
F
G7
C
pp
sf

3. Appendix 3: Fuga en G mineur, BWV 885 by J.S. Bach

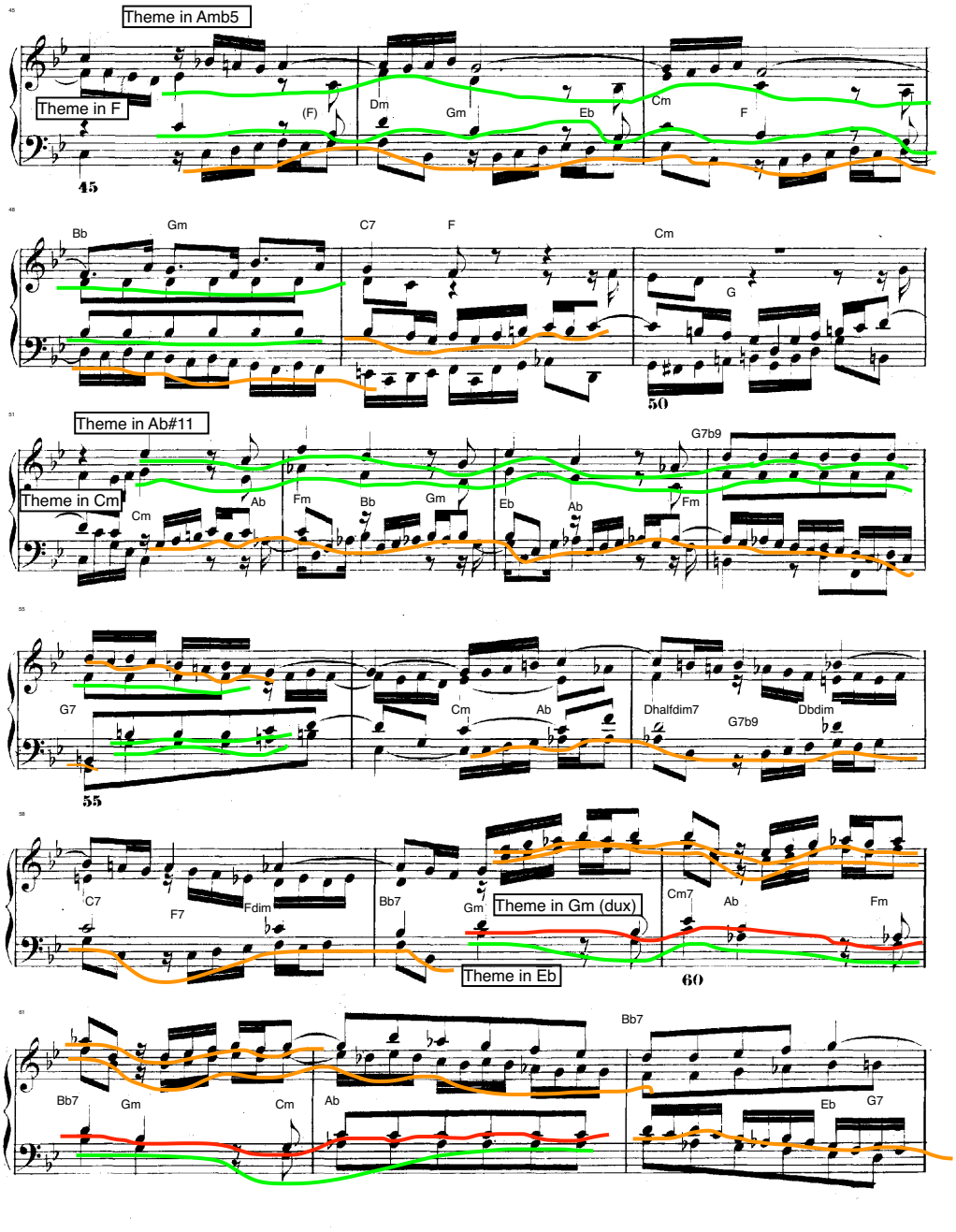
All chord symbols, framed text, and coloured lines were added by myself.

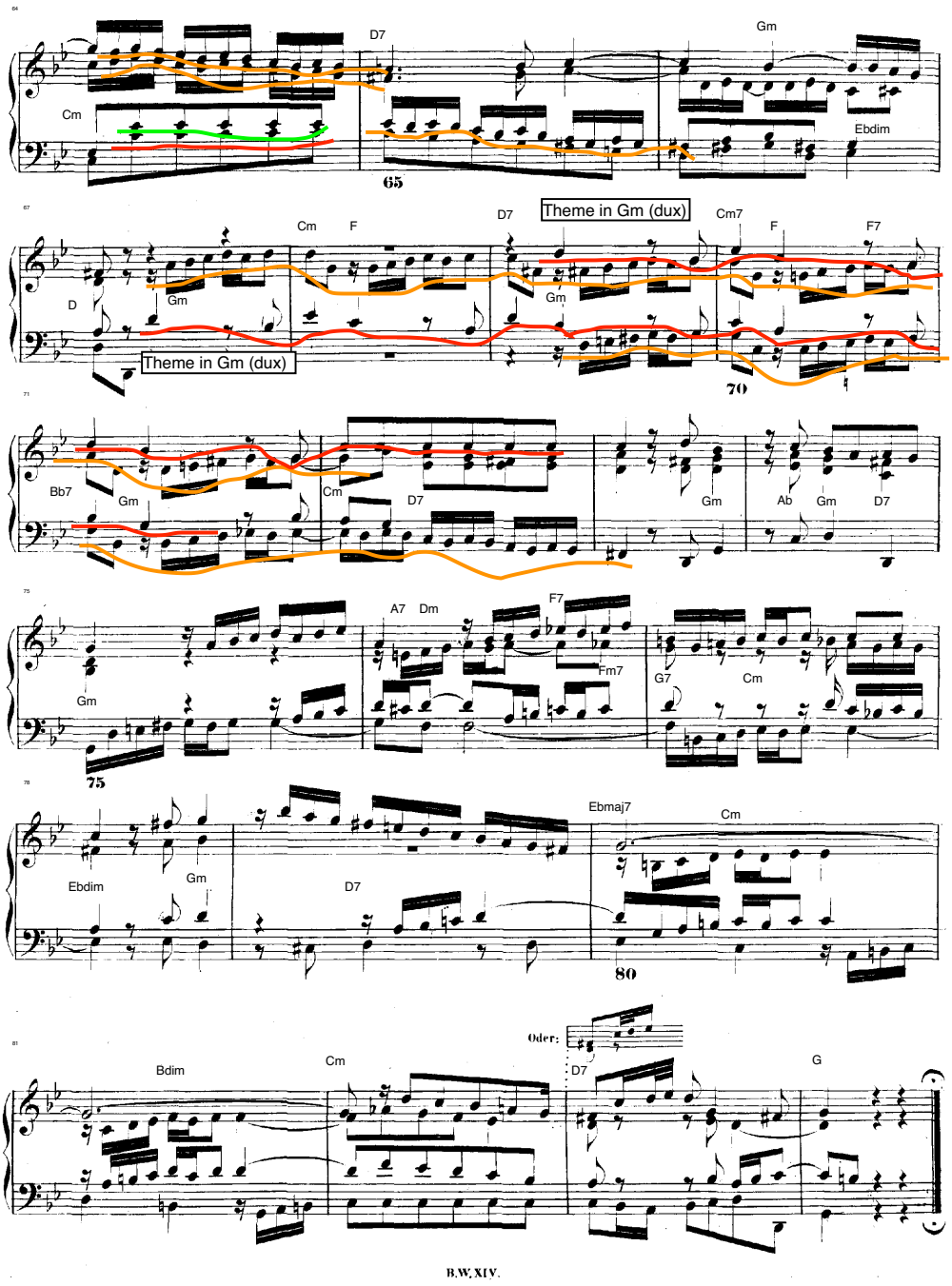
Red: *dux,* Blue: *comes*, Orange: *countersubject*, Green: all other entrances




Gm F C
F Dm G7
Cm D7
25
Theme in Dm (no comes)
A7(Edim) Dm Gmadd9 C Fadd9 Bb
30
Theme in Bb
A7 Dm Ebmaj7 F Bb
F7 Bb (F) Bbmaj7 Gm C Fmaj9
35
Theme in F
C7 Fsus4 F G7 Cm G7
40
Cm G7 Cm

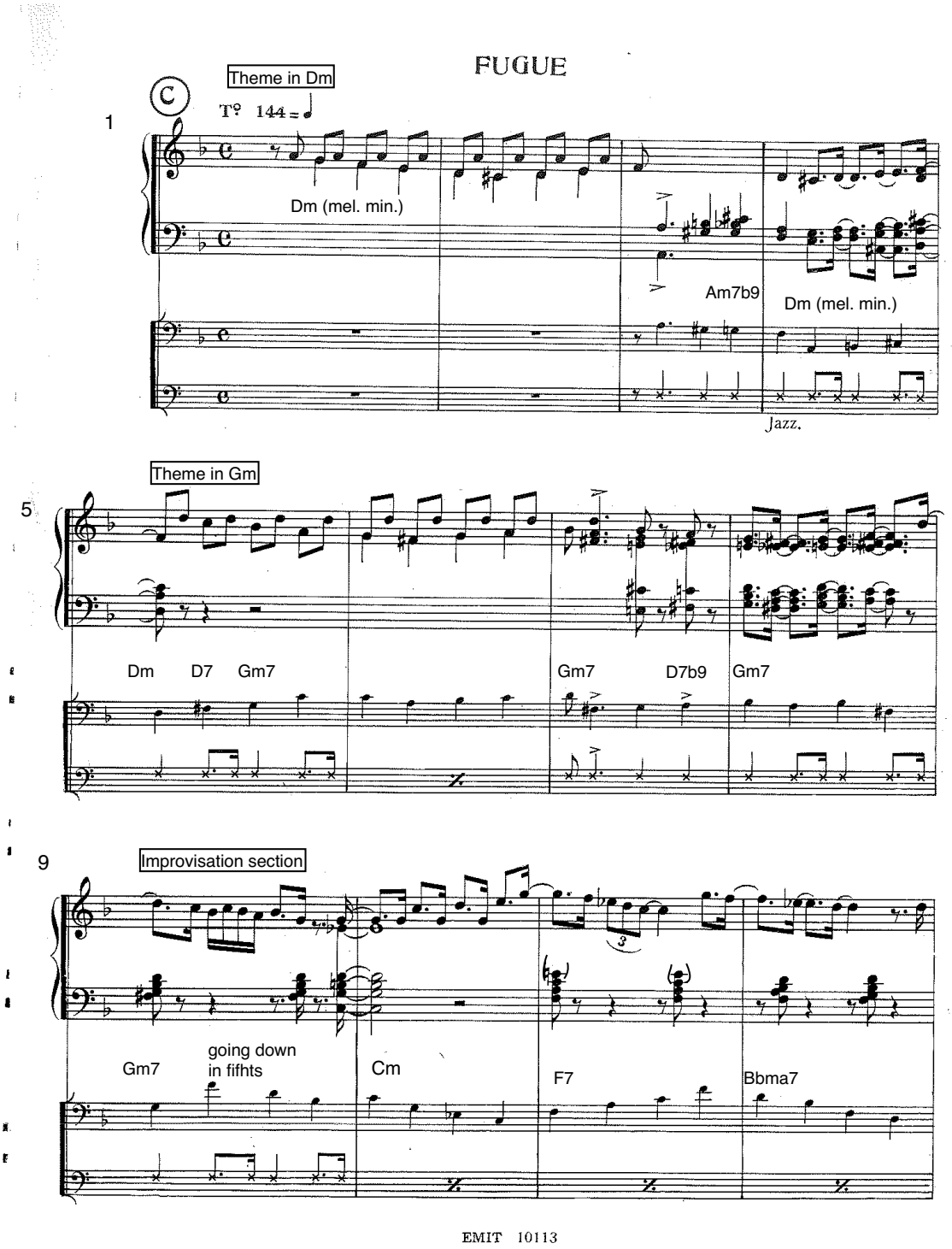
B.W. XIV.

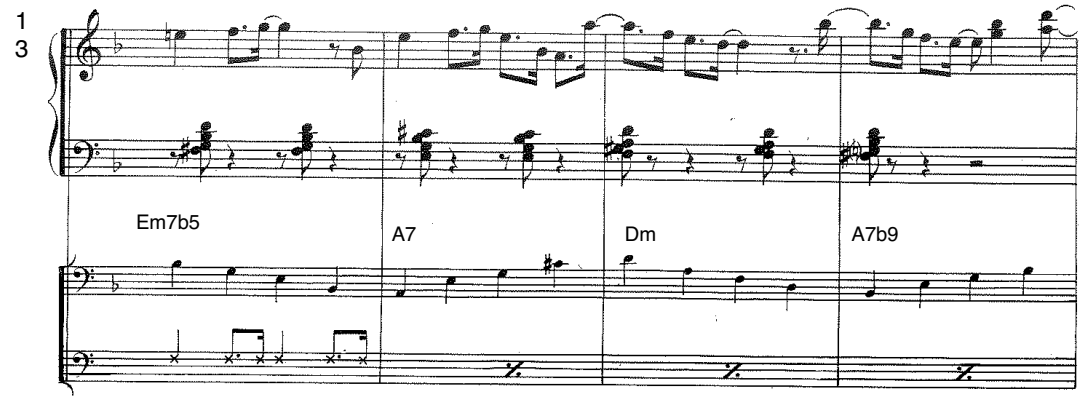

Theme in Amb5
Theme in F
(F)
Dm
Gm
Eb
Cm
F
45
Bb
Gm
C7
F
Cm
G
50
Theme in Ab#11
Theme in Cm
Cm
Ab
Fm
Bb
Gm
Eb
Ab
G7b9
Fm
G7
55
Cm
Ab
Dhalfdim7
G7b9
Dbdim
C7
F7
Fdim
Bb7
Gm
Theme in Gm (dux)
Theme in Eb
Cm7
Ab
Fm
60
Bb7
Bb7
Gm
Cm
Ab
Eb
G7

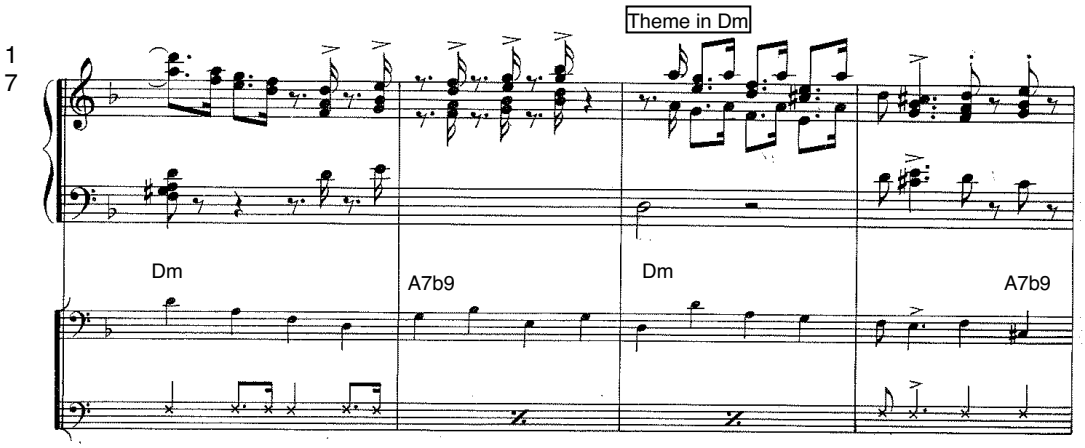

Cm
D7
Gm
Ebdim
65
Theme in Gm (dux)
Cm
F
D7
Cm7
F
F7
D
Gm
Theme in Gm (dux)
70
Bb7
Gm
Cm
D7
Gm
Ab
Gm
D7
A7
Dm
F7
Fm7
G7
Cm
Gm
75
Ebdim
Gm
D7
Ebmaj7
Cm
80
Oder:
Bdim
Cm
D7
G

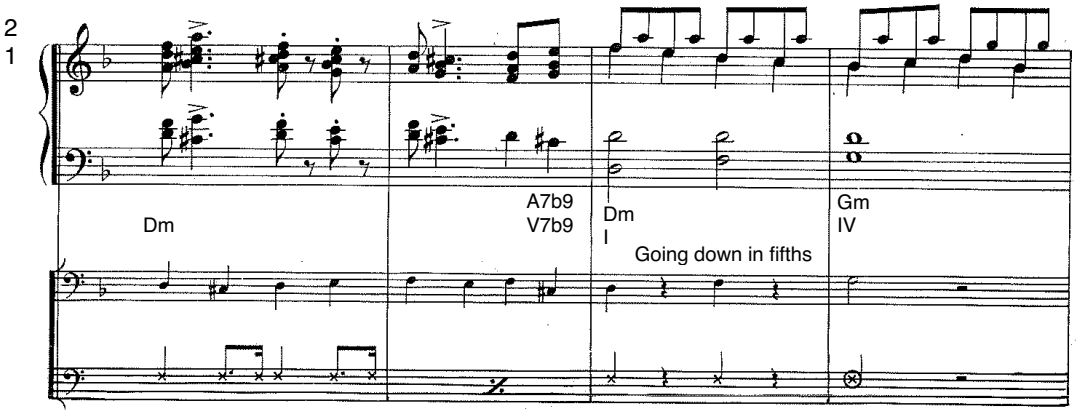
4. Appendix 4: Fugue en ré mineur, BWV 565 by J. Loussier

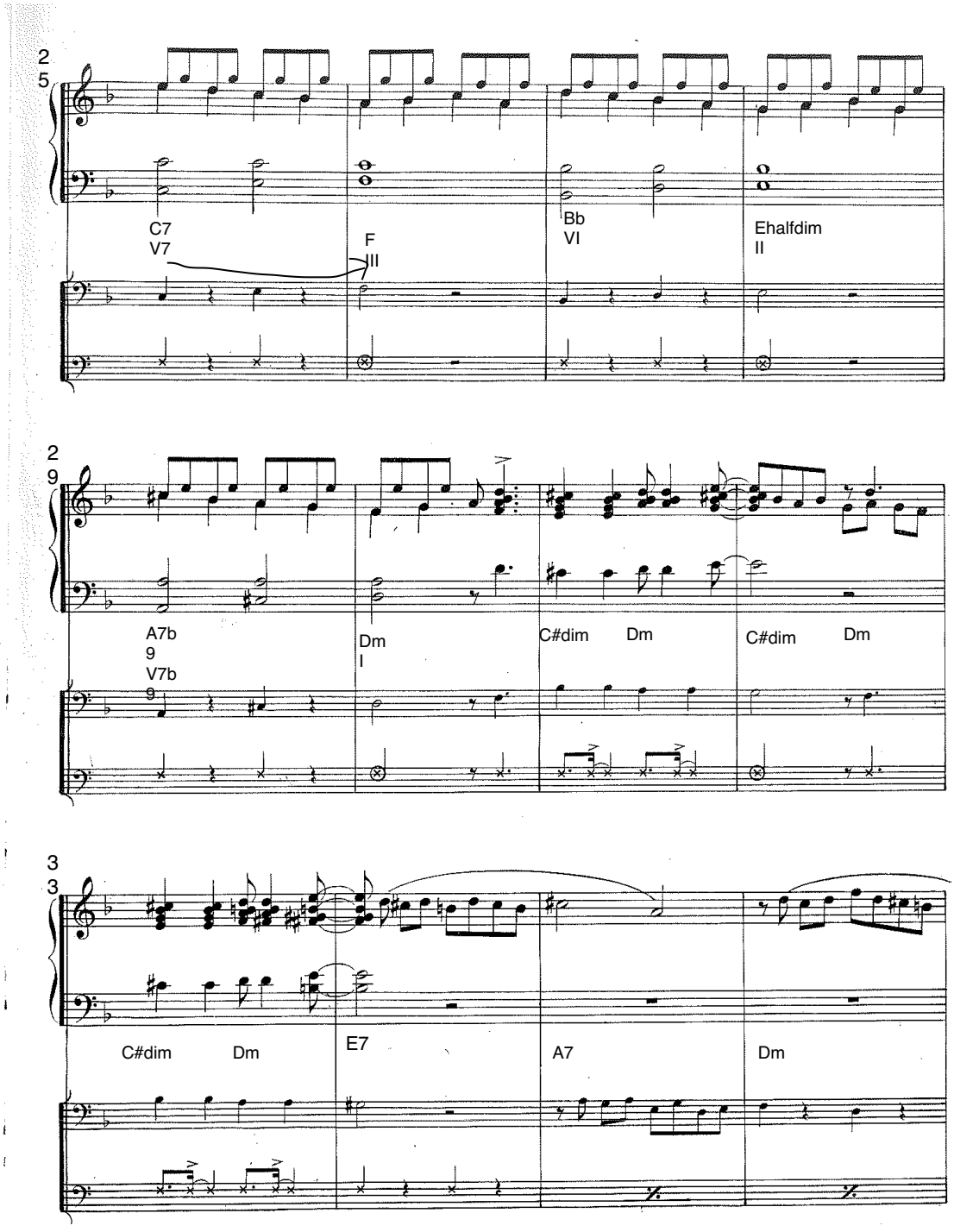
All chord symbols (except bar 152-167) and framed text were added by myself.

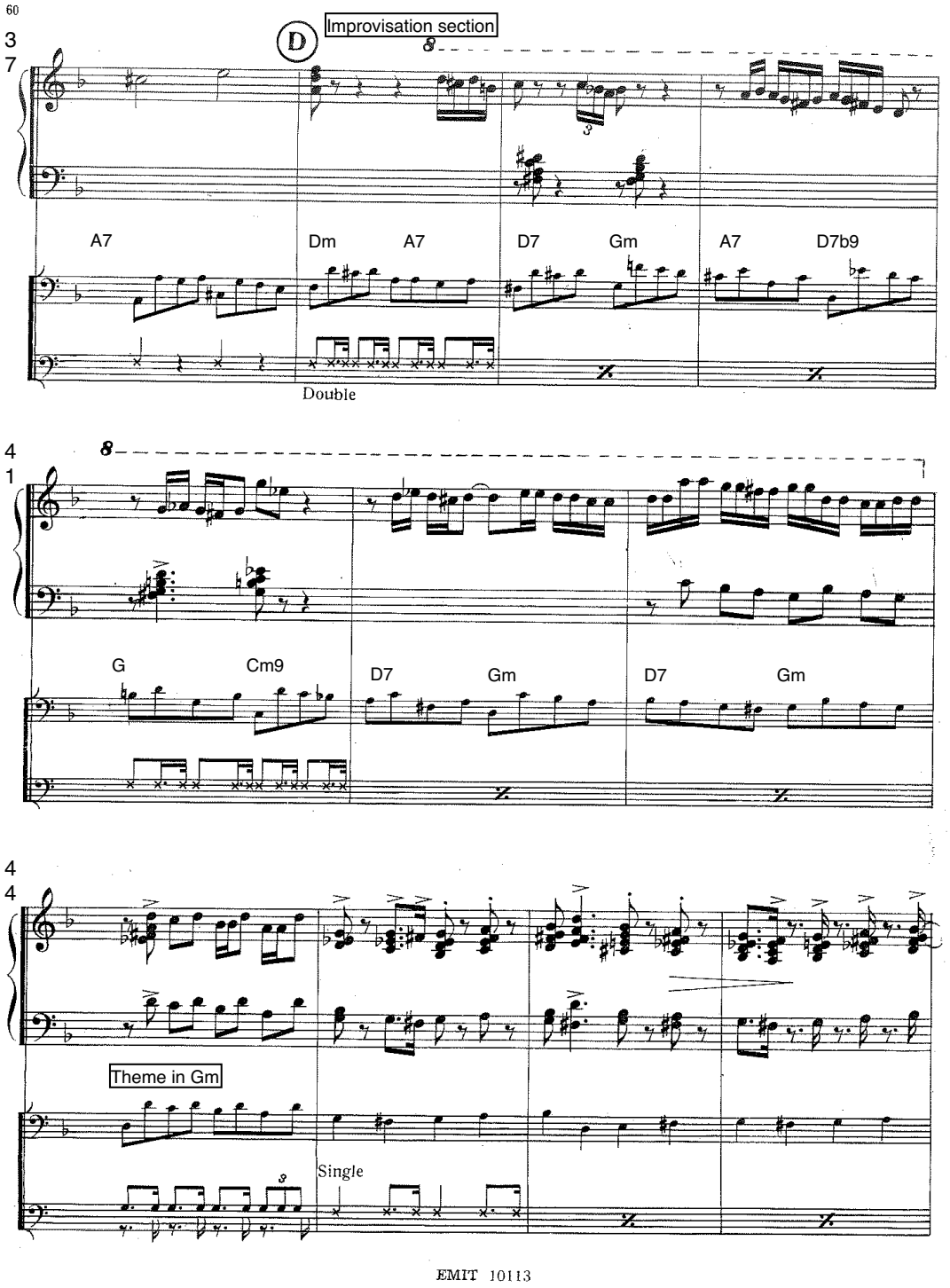


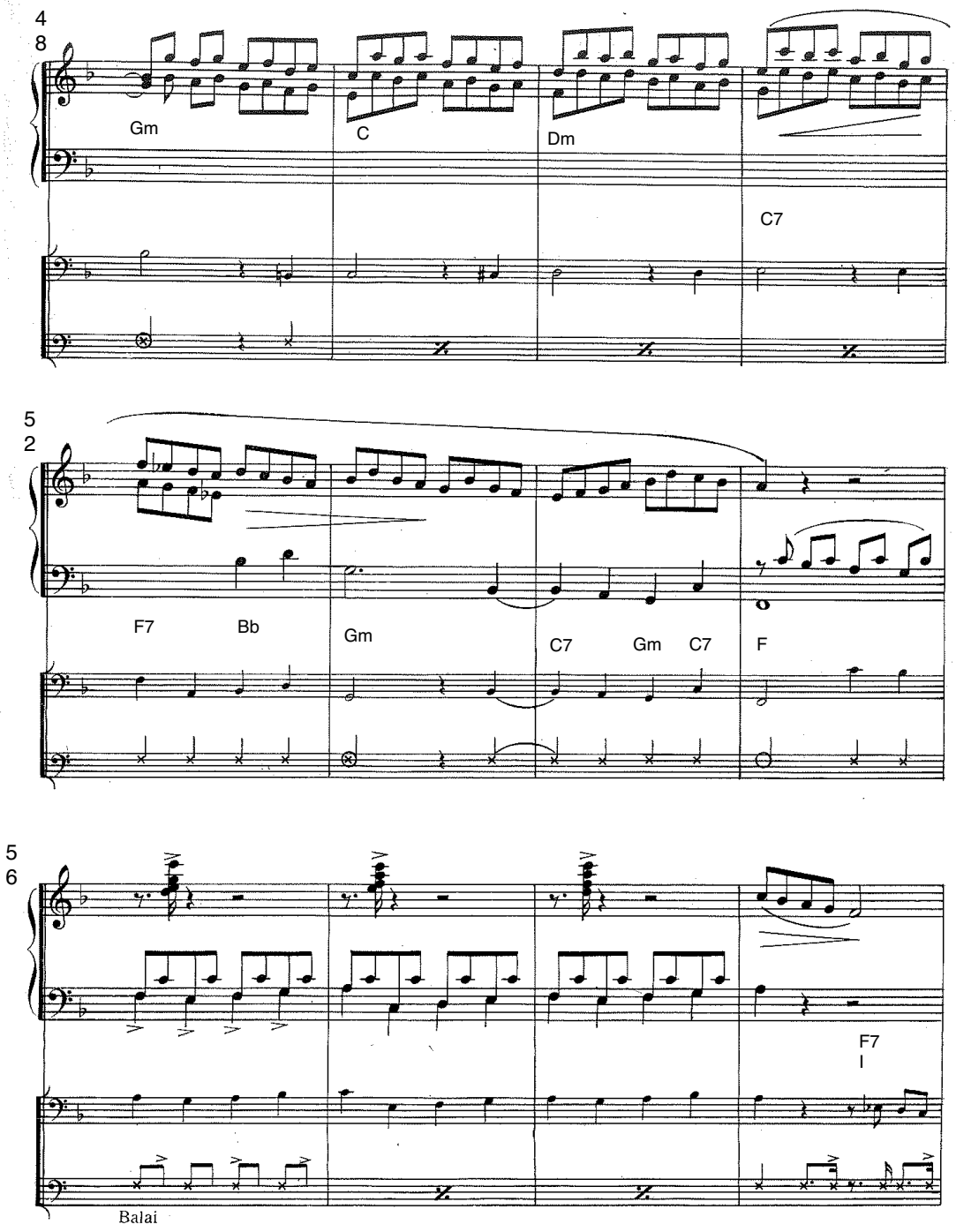

13
Em7b5
A7
Dm
A7b9


17
Theme in Dm
Dm
A7b9
Dm
A7b9


21
Dm
A7b9
V7b9
Dm
I
Going down in fifths
Gm
IV

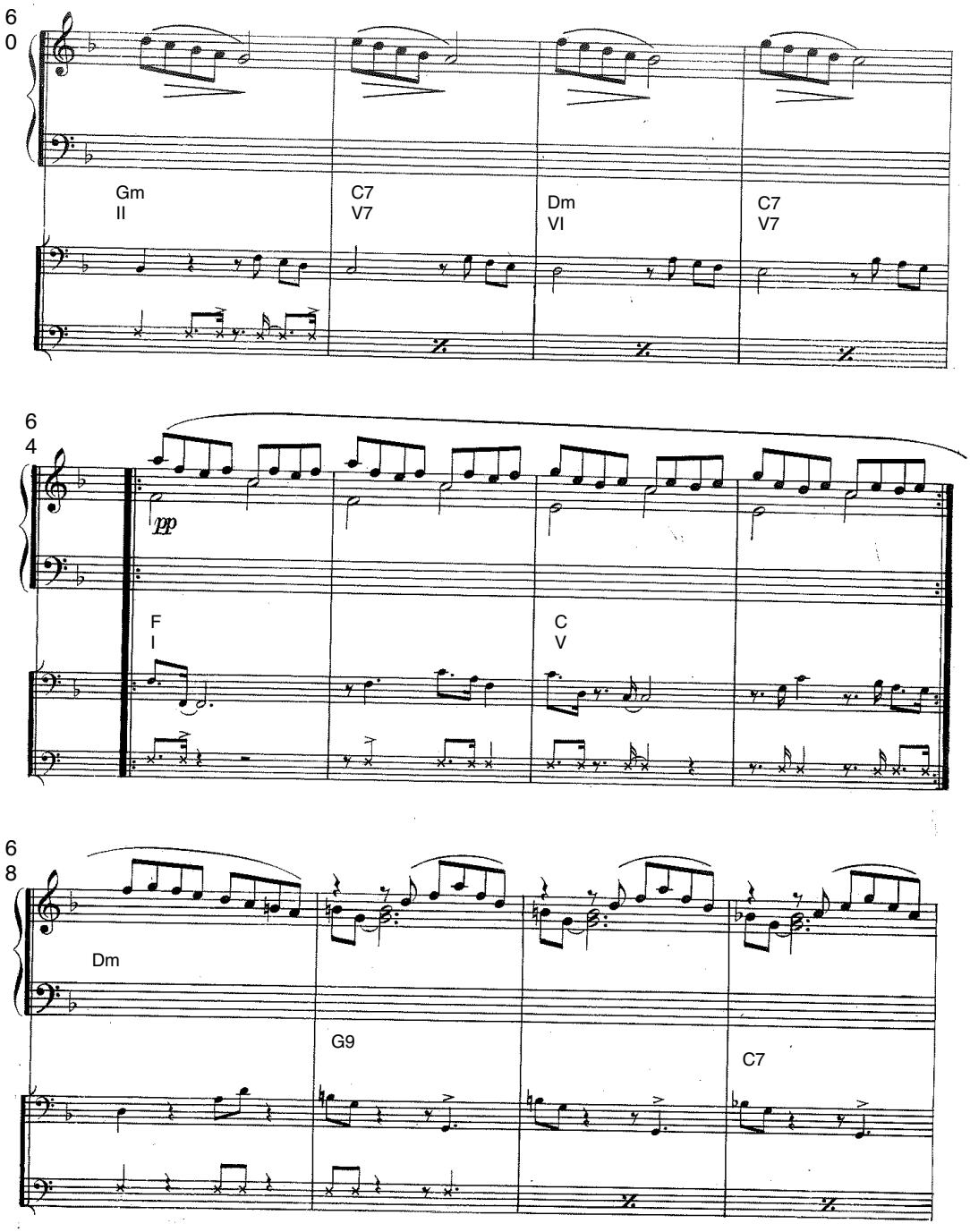

25
C7
V7
F
III
Bb
VI
Ehalfdim
II
29
A7b
9
V7b
9
Dm
I
C#dim
Dm
C#dim
Dm
33
C#dim
Dm
E7
A7
Dm


60
3
7
D
Improvisation section
8
A7
Dm
A7
D7
Gm
A7
D7b9
Double
4
1
8
G
Cm9
D7
Gm
D7
Gm
4
4
Theme in Gm
Single

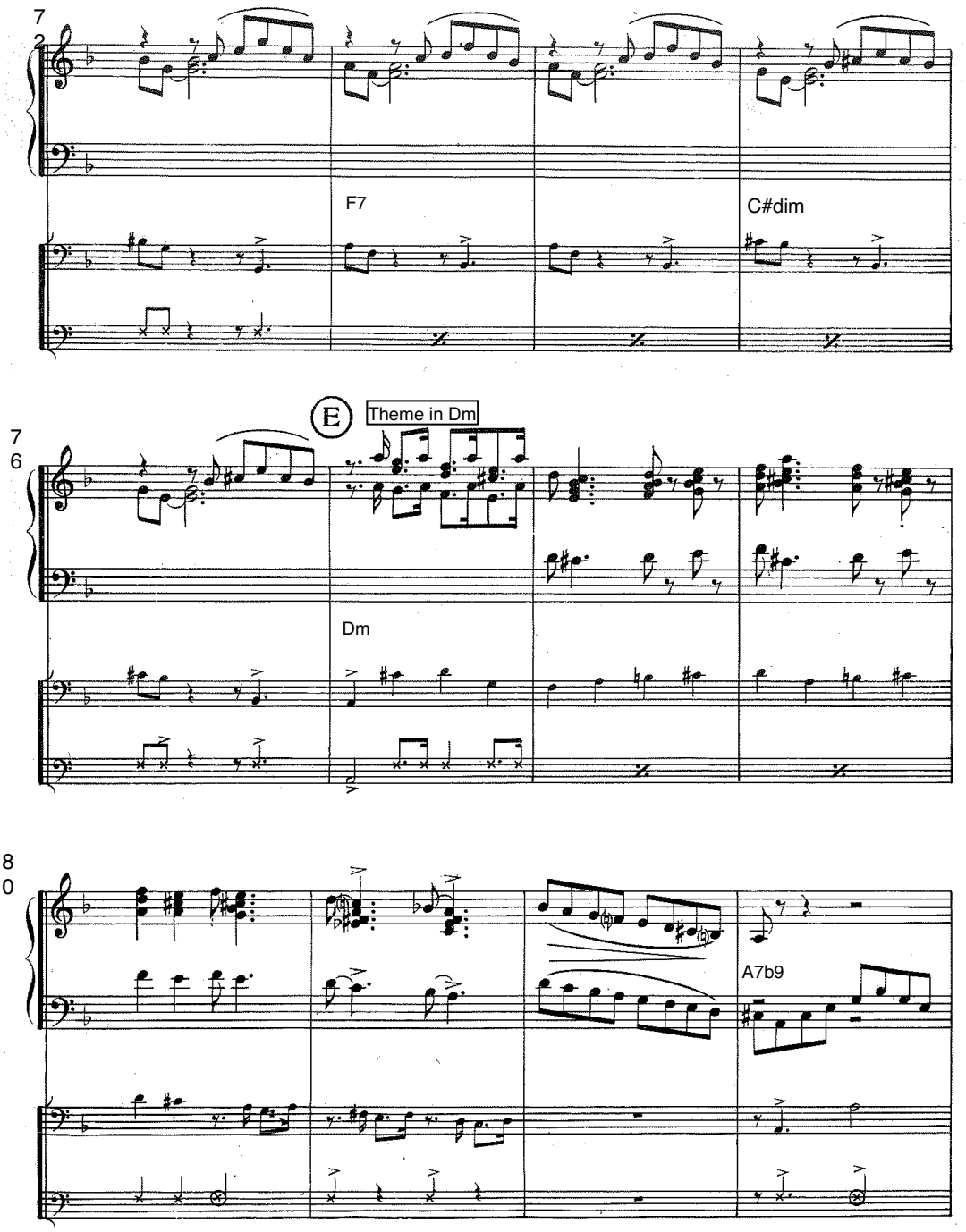


EMIT 10113

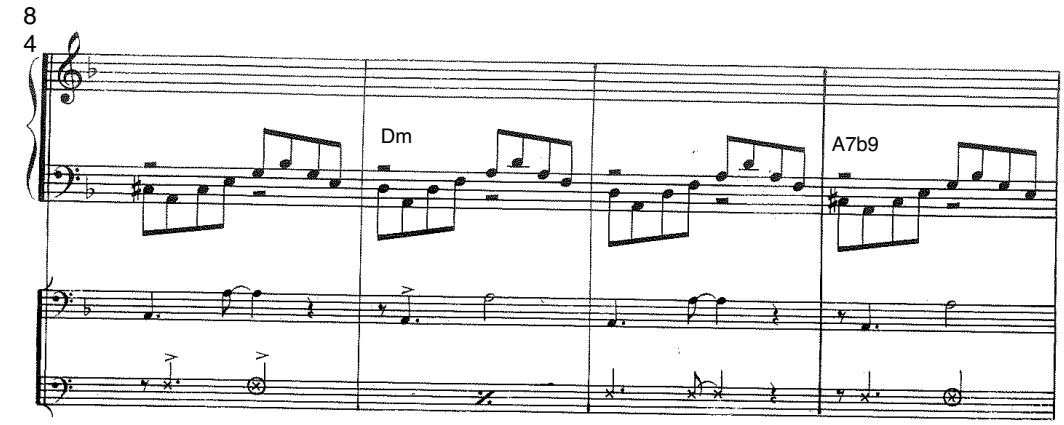
62

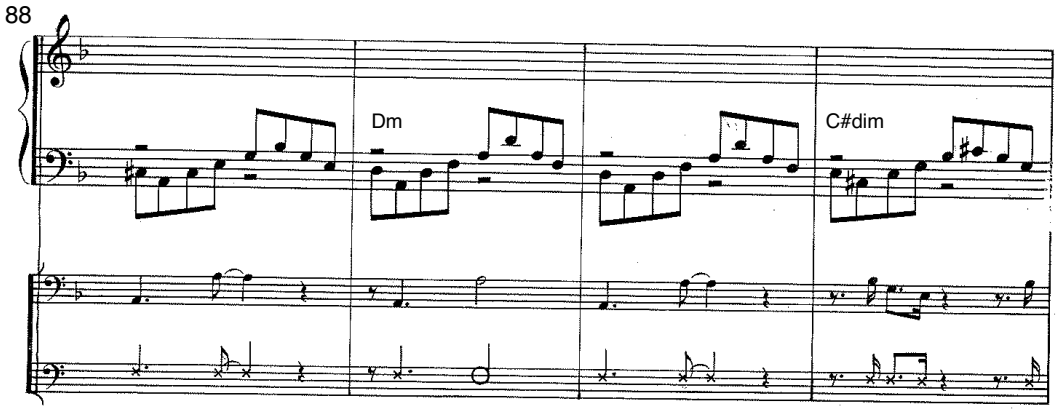


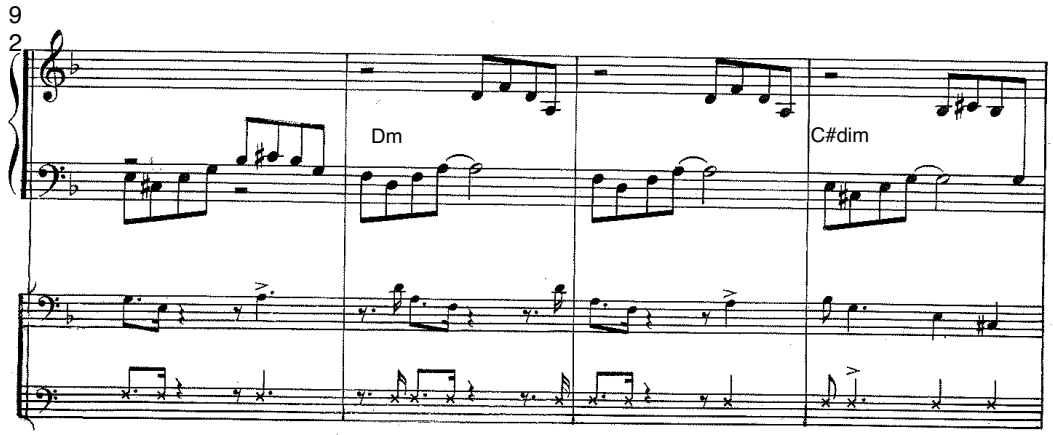
EMIT 10113


72
F7
C#dim
E
Theme in Dm
76
Dm
80
A7b9

64







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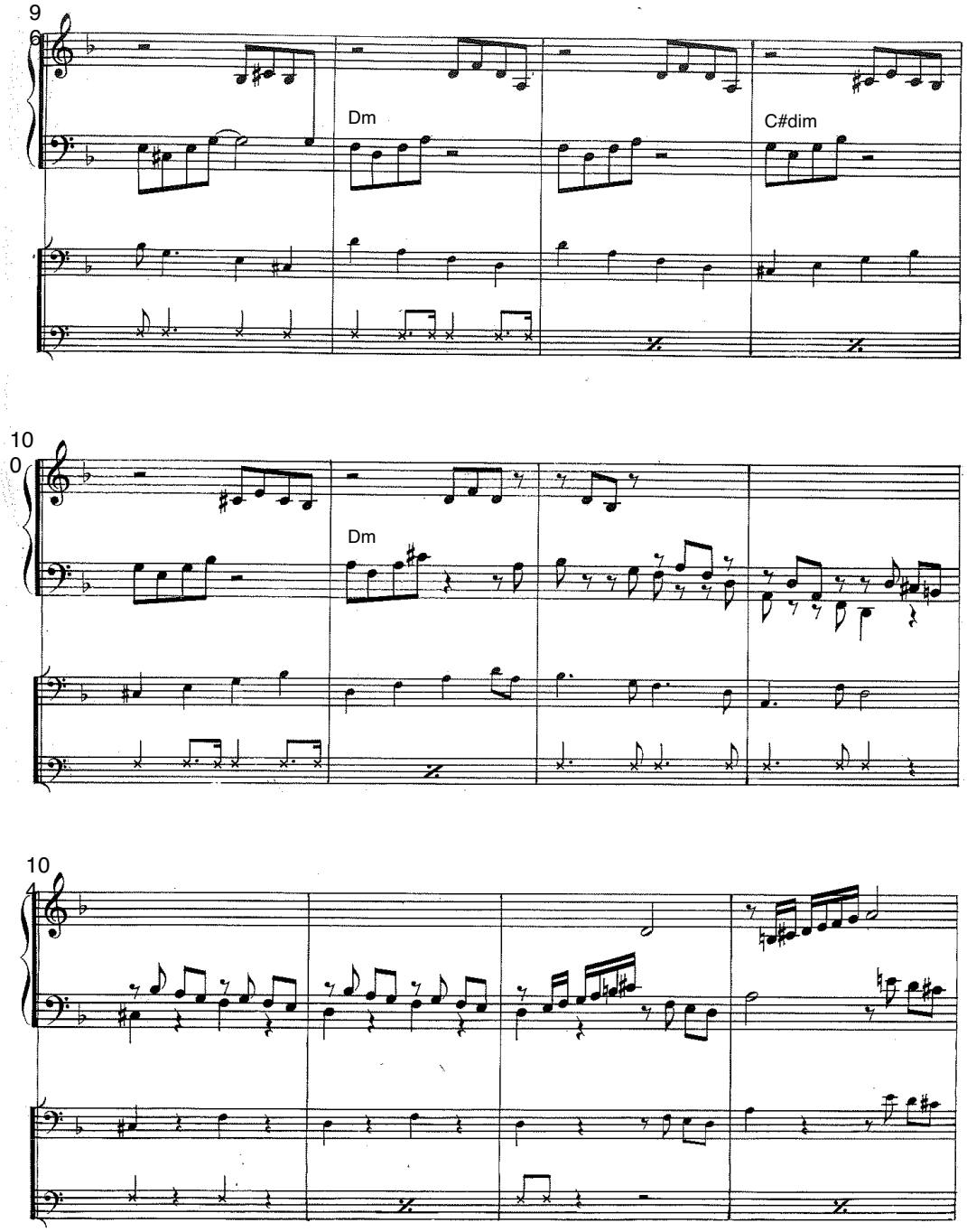
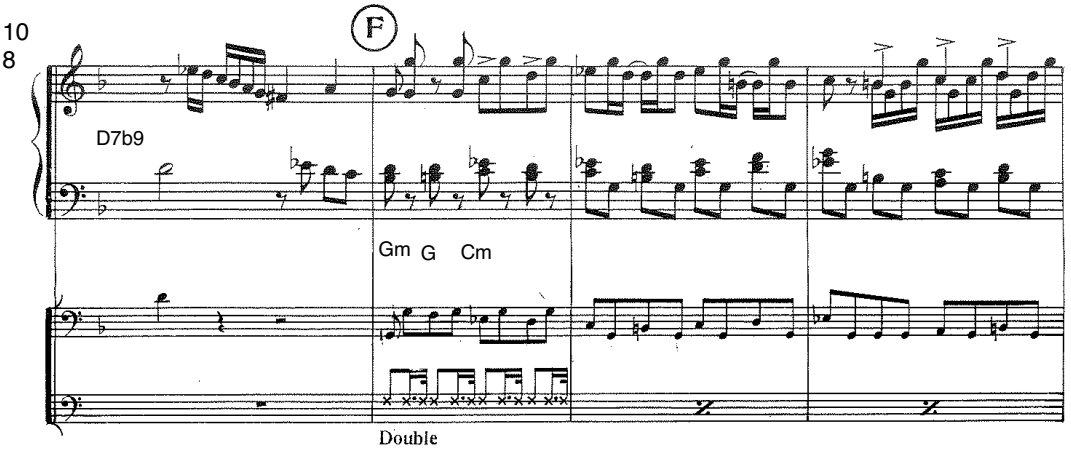


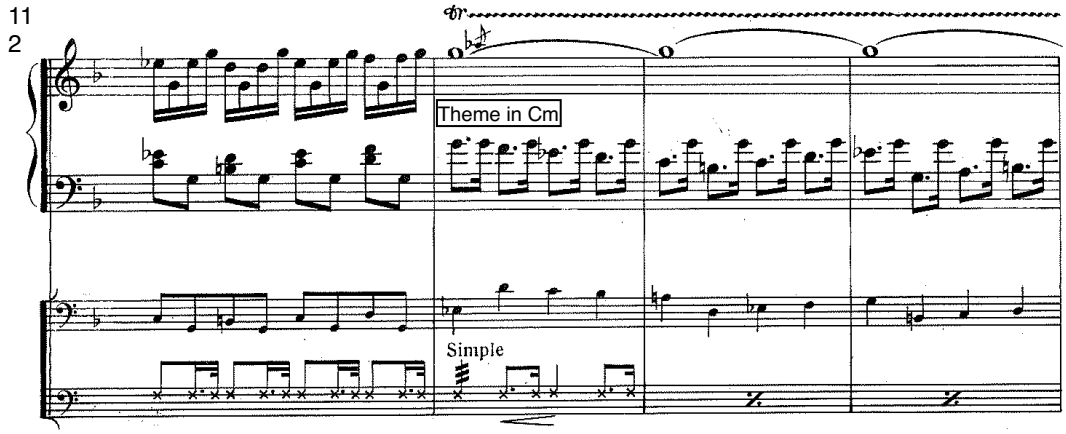
EMIT 10113

66

10
8



11
2



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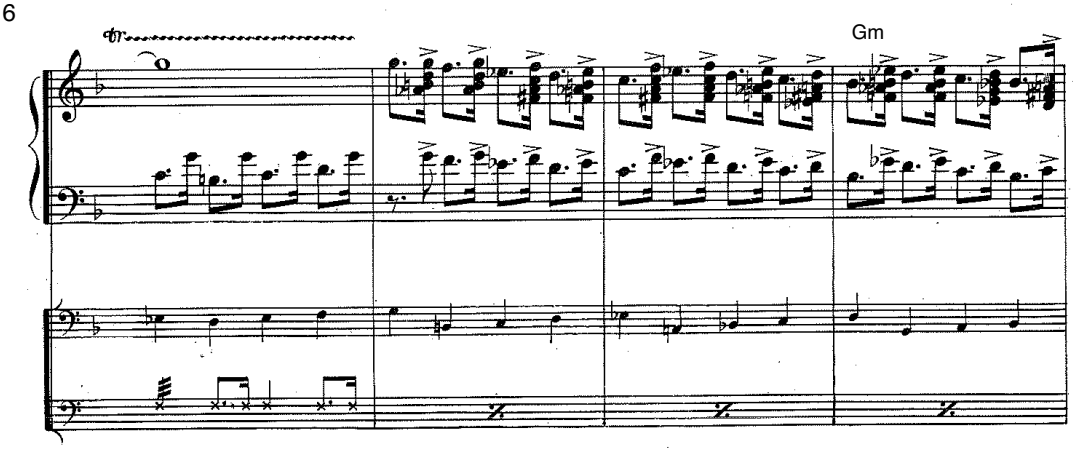

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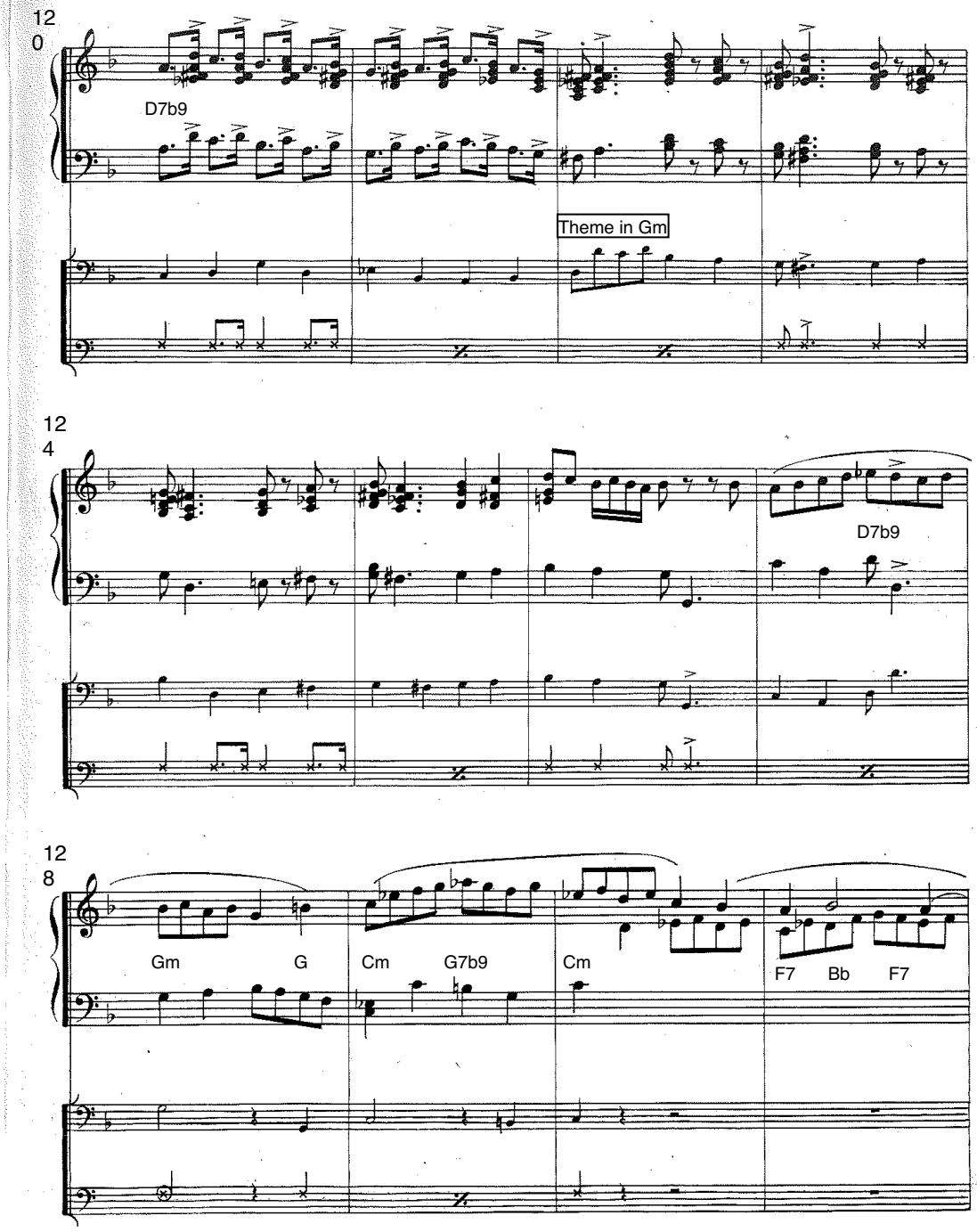
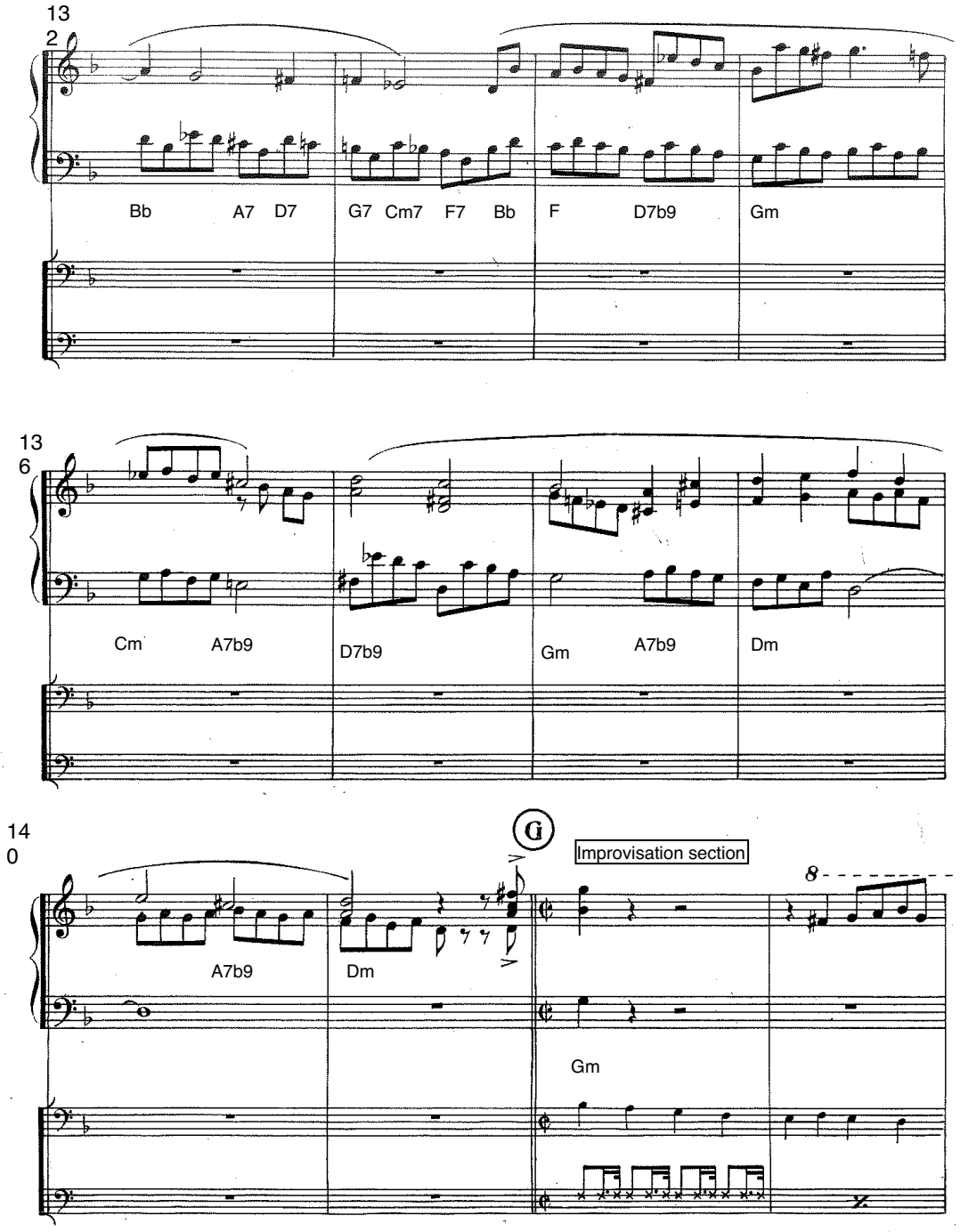


EMIT 10113

68



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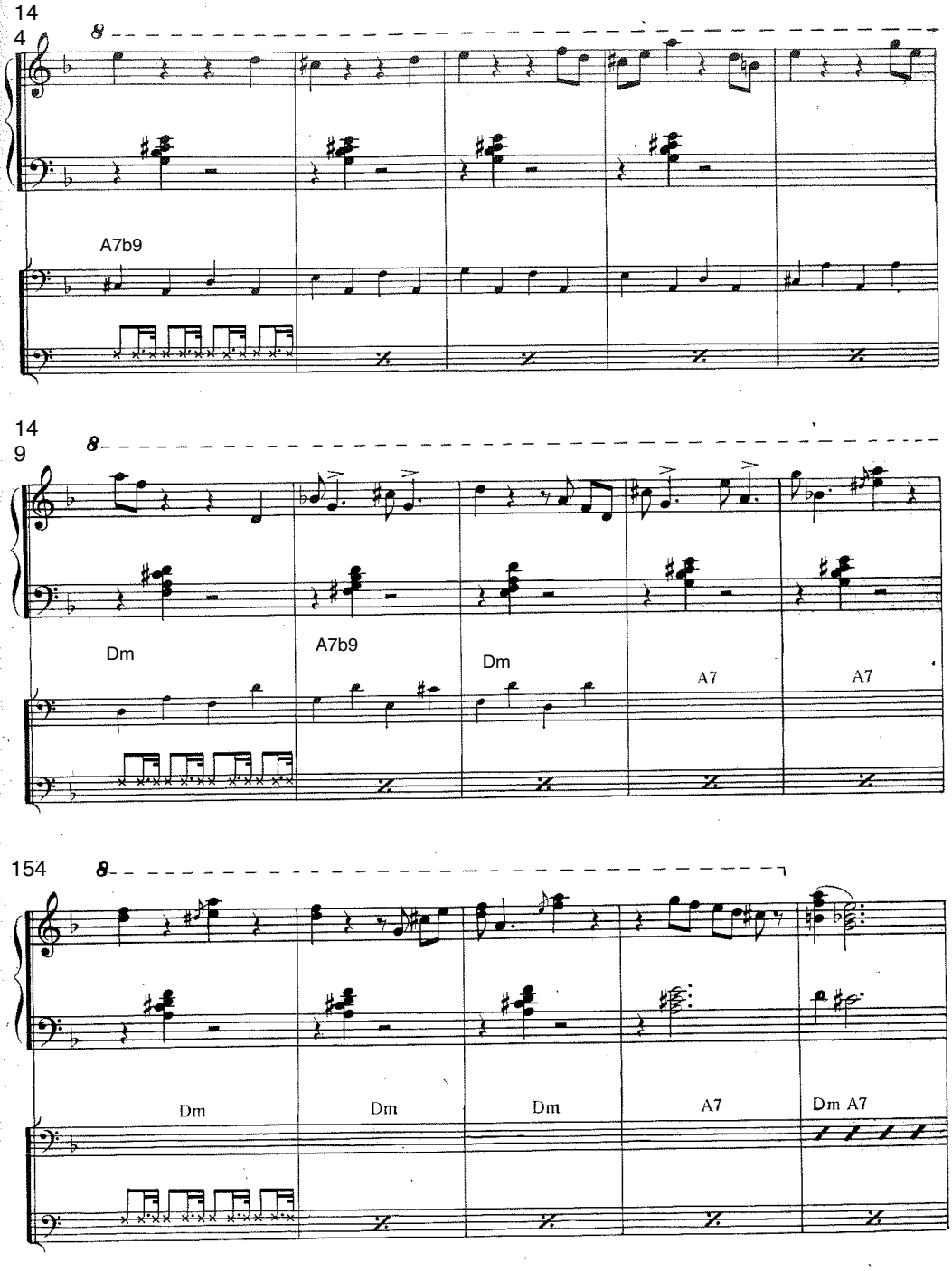

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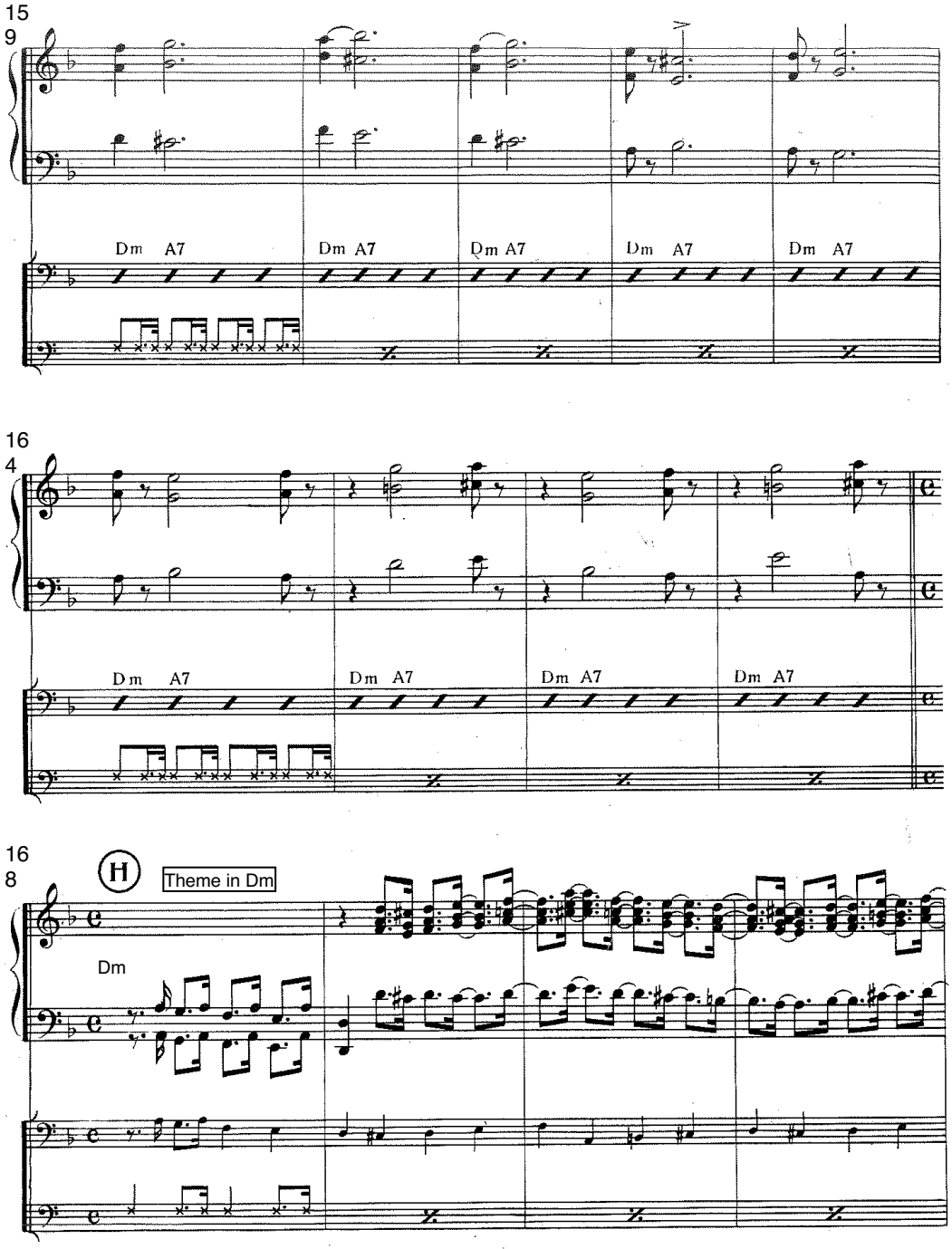
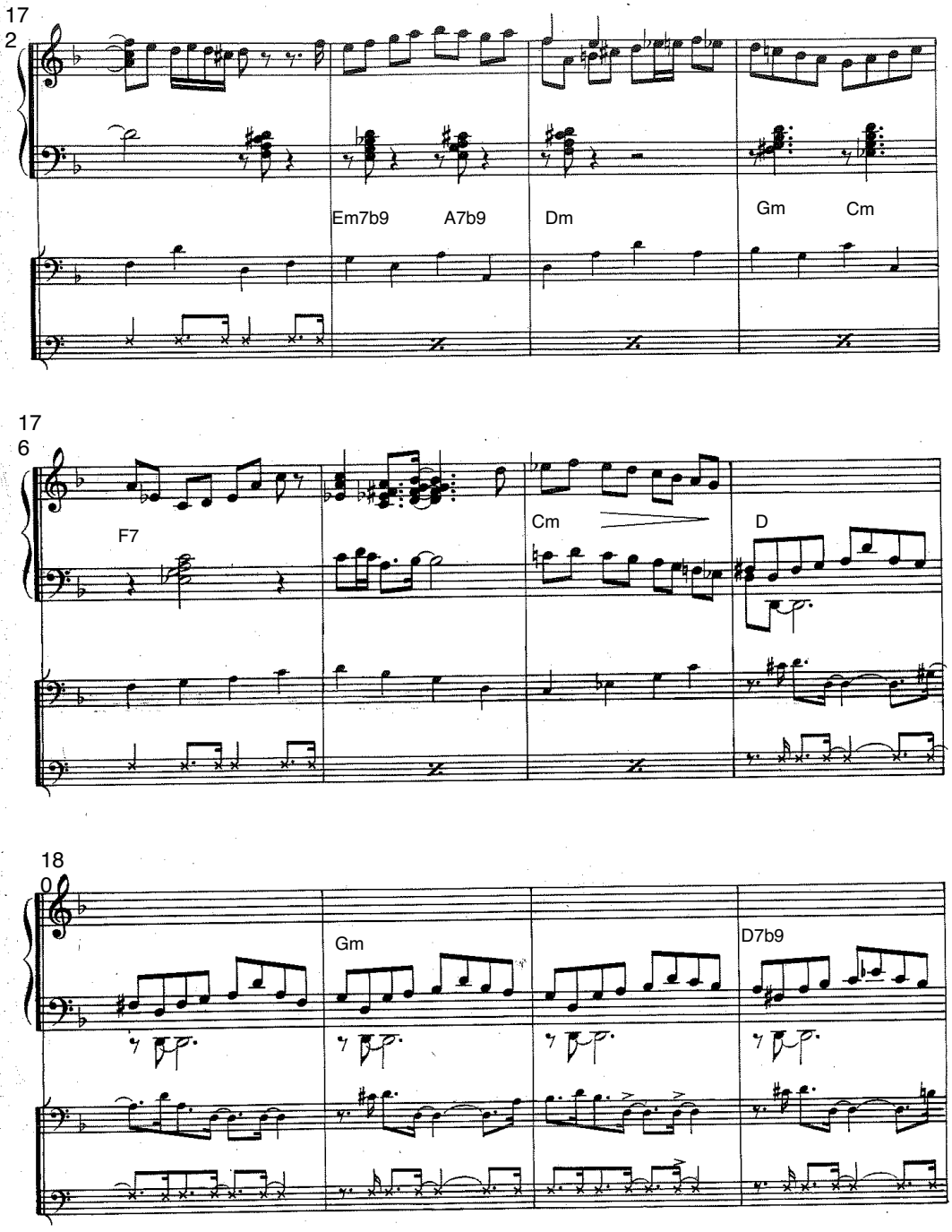
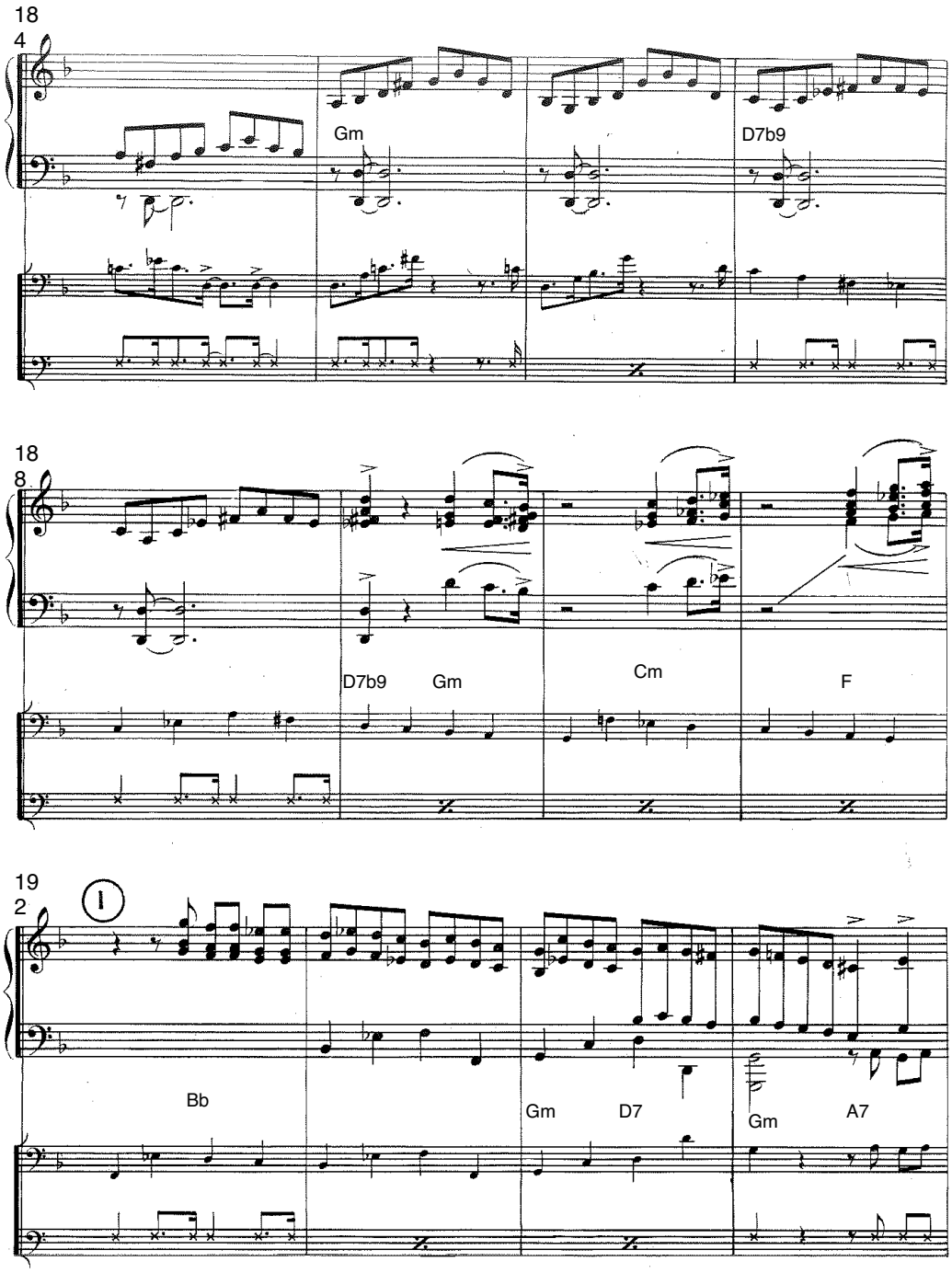
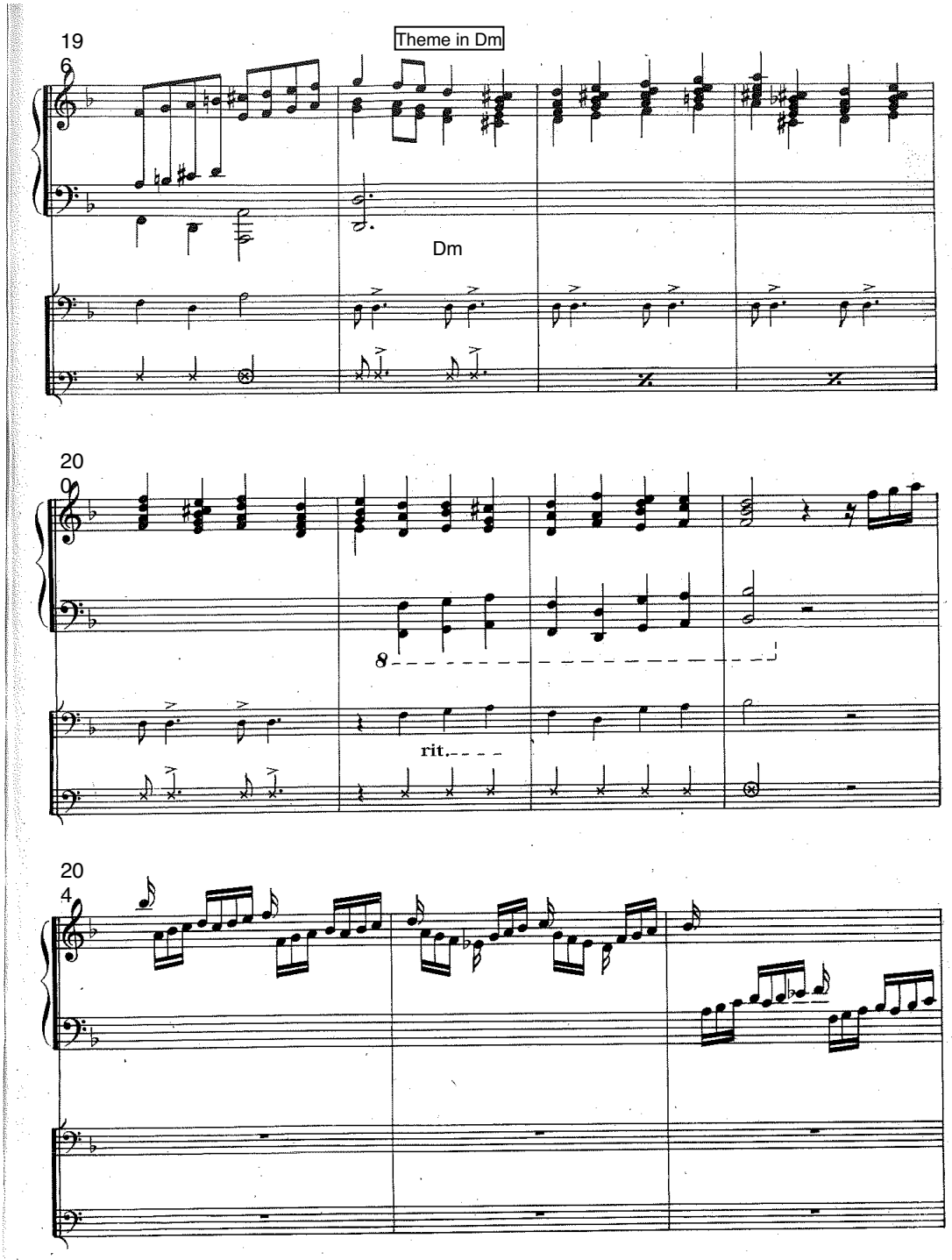

15
9
Dm A7
Dm A7
Dm A7
Dm A7
Dm A7
16
4
Dm A7
Dm A7
Dm A7
Dm A7
16
8
H
Theme in Dm
Dm



EMIT 10113


18
4
Gm
D7b9
18
8
D7b9
Gm
Cm
F
19
2
1
Bb
Gm
D7
Gm
A7



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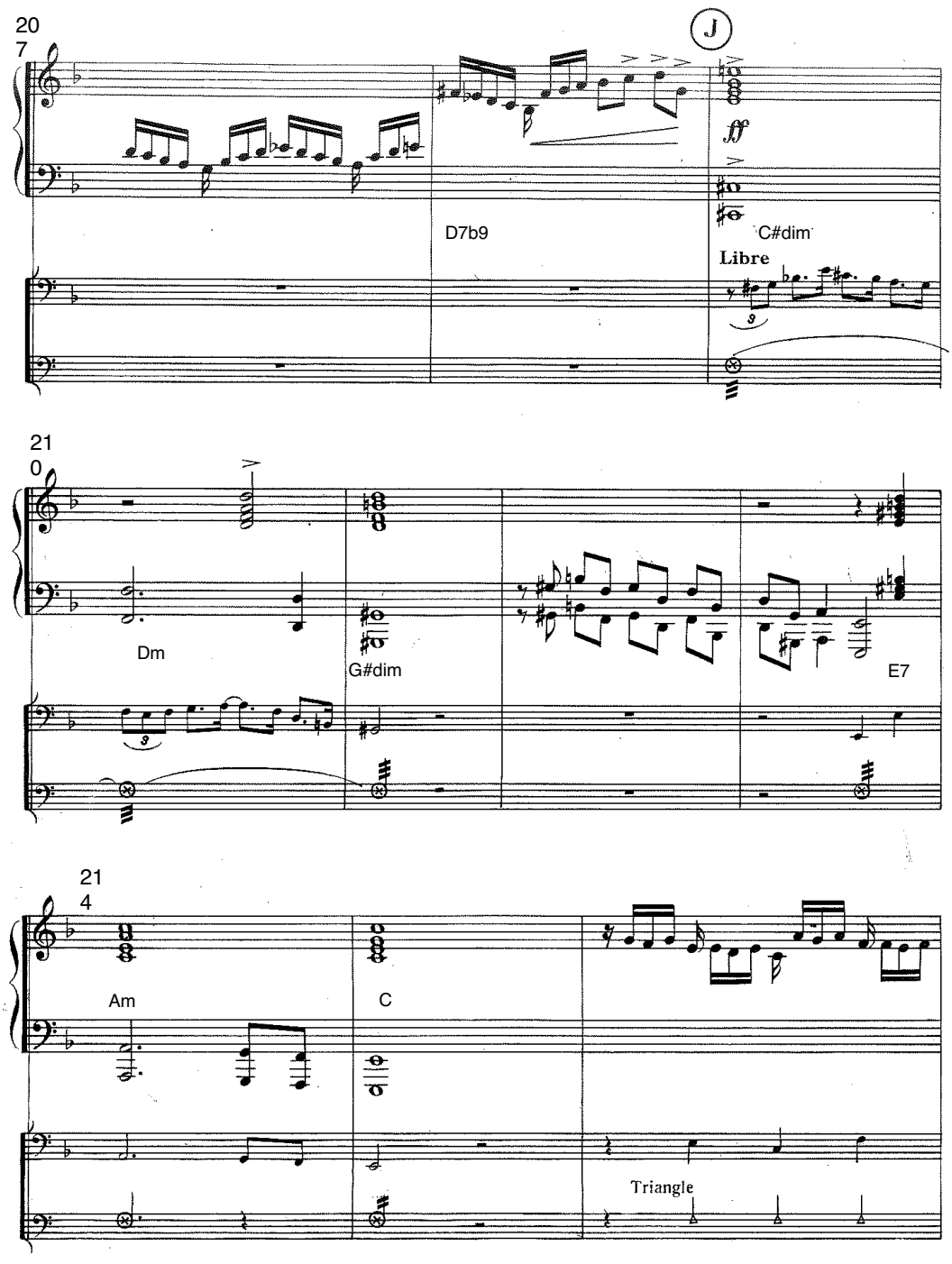
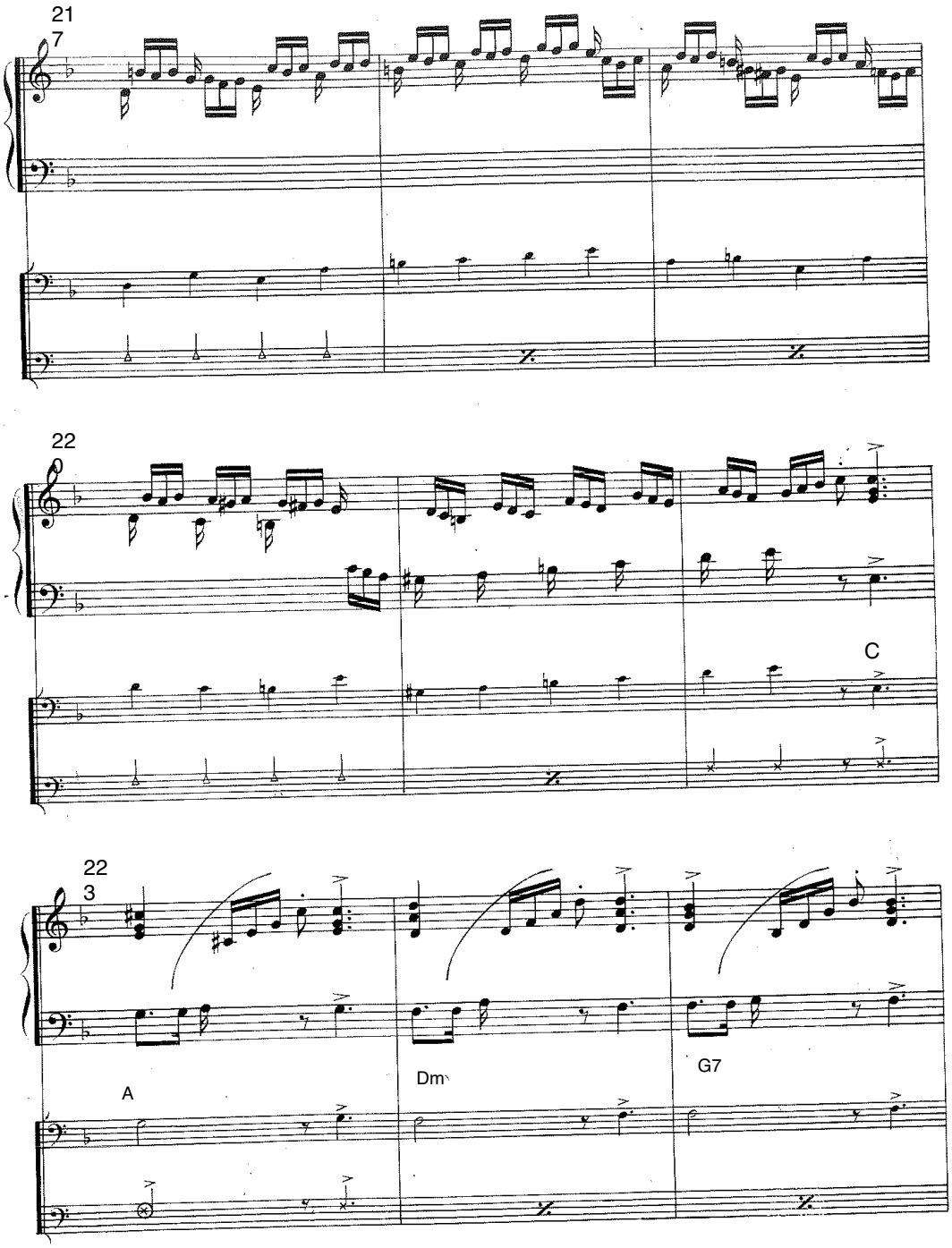
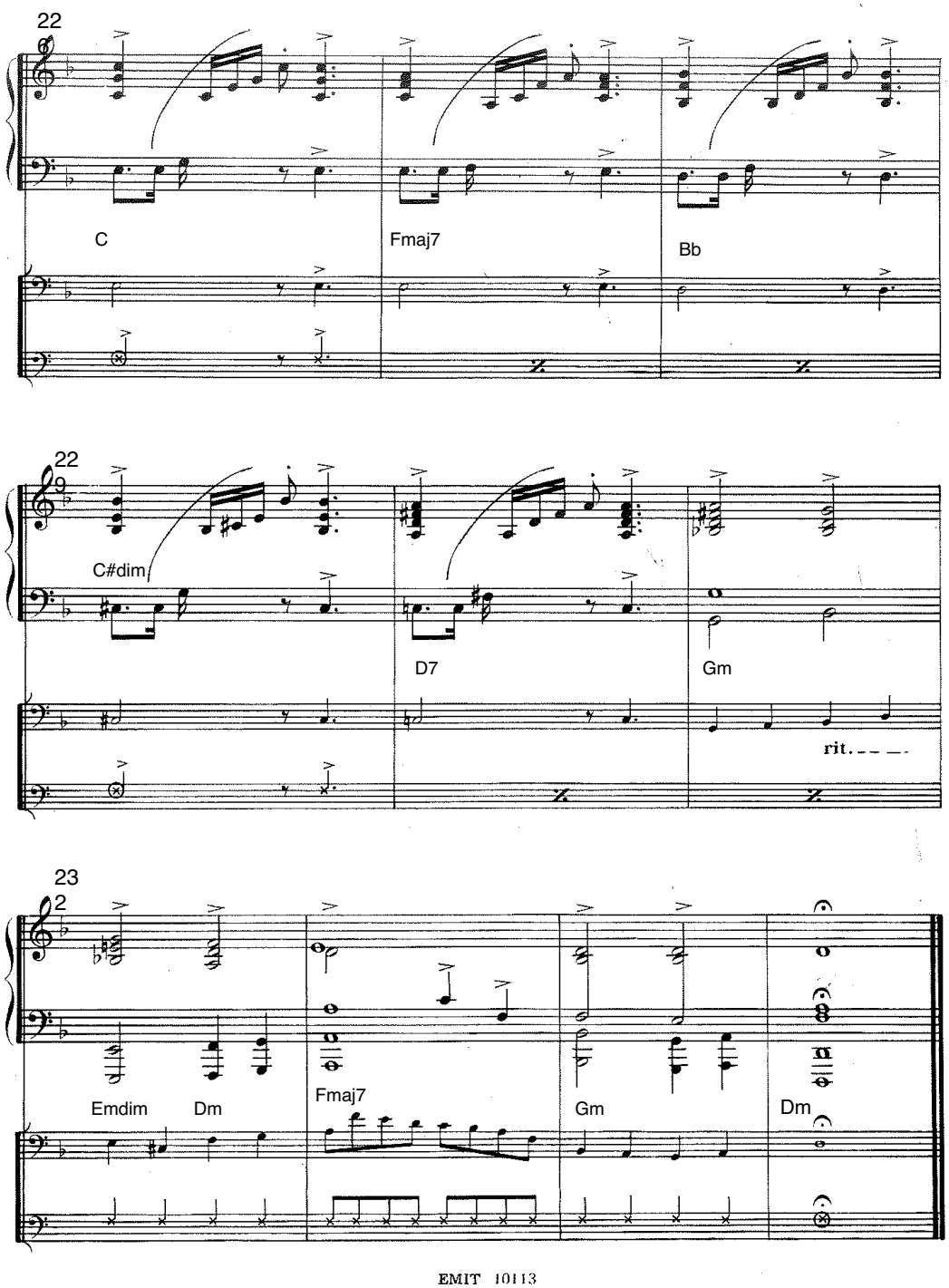

20
7
J
D7b9
C#dim
Libre
21
0
Dm
G#dim
E7
21
4
Am
C
Triangle

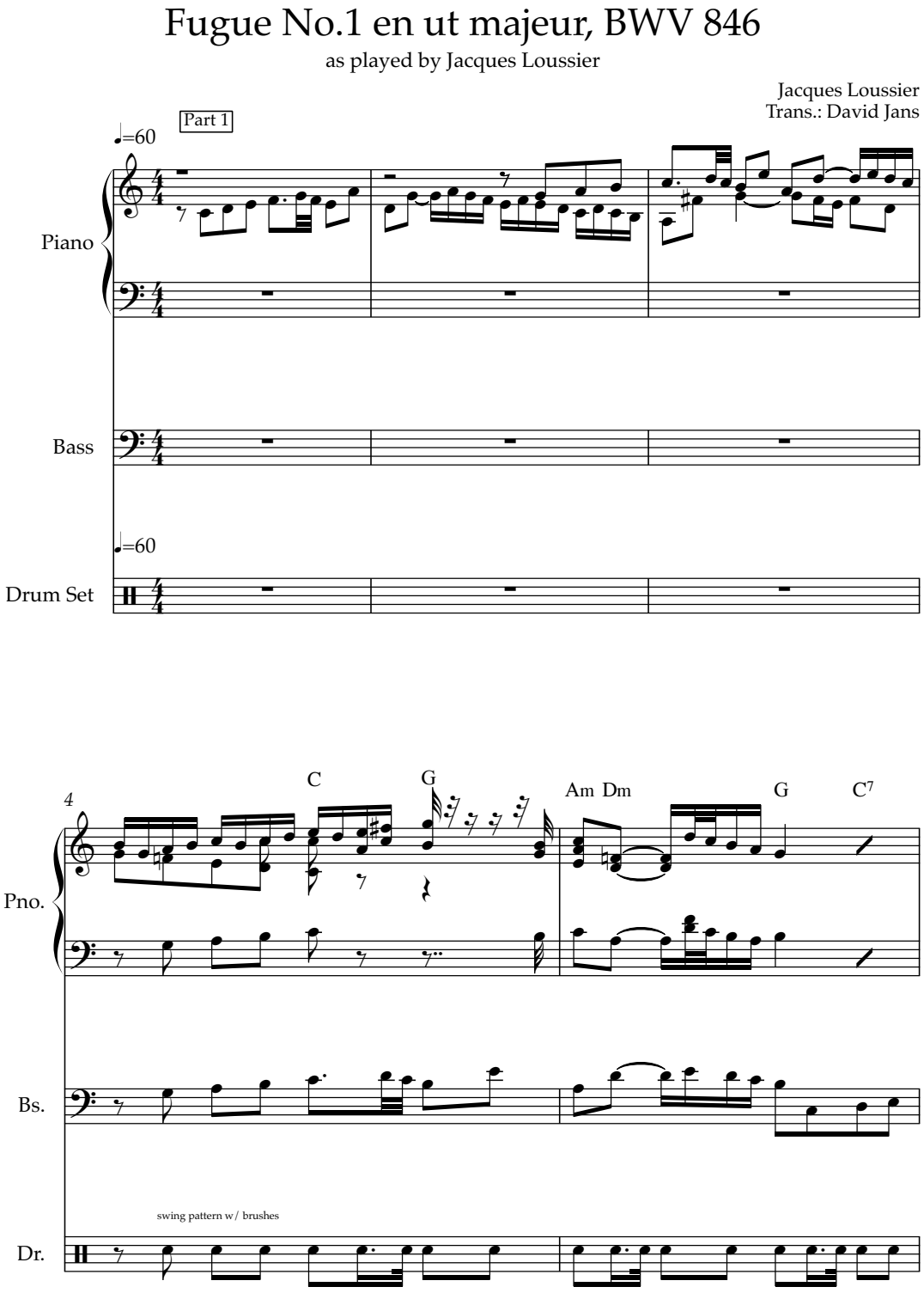


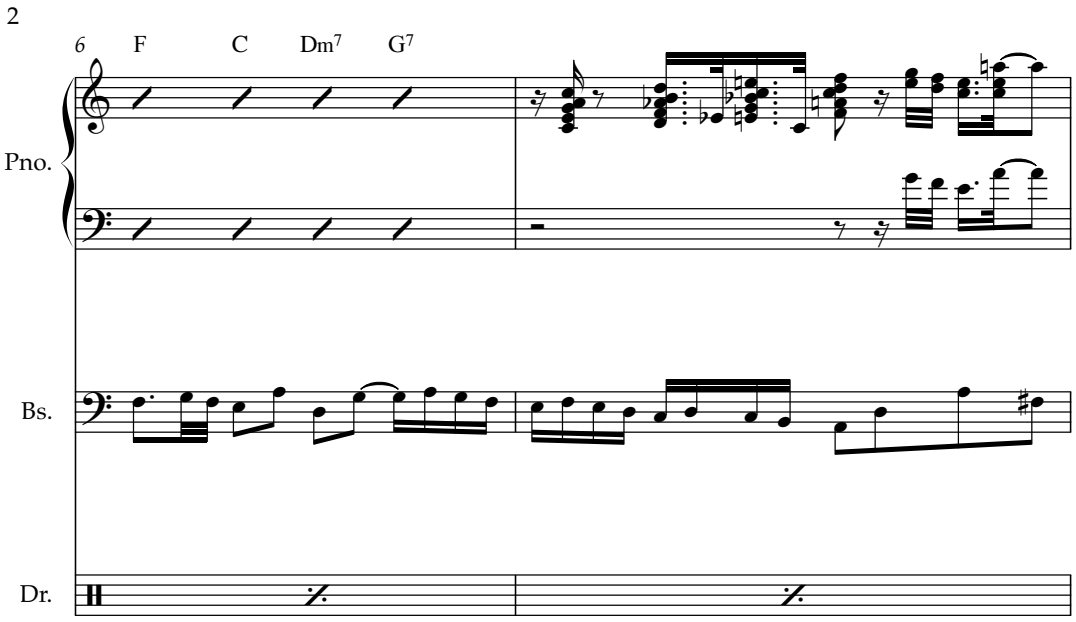
EMIT 10113

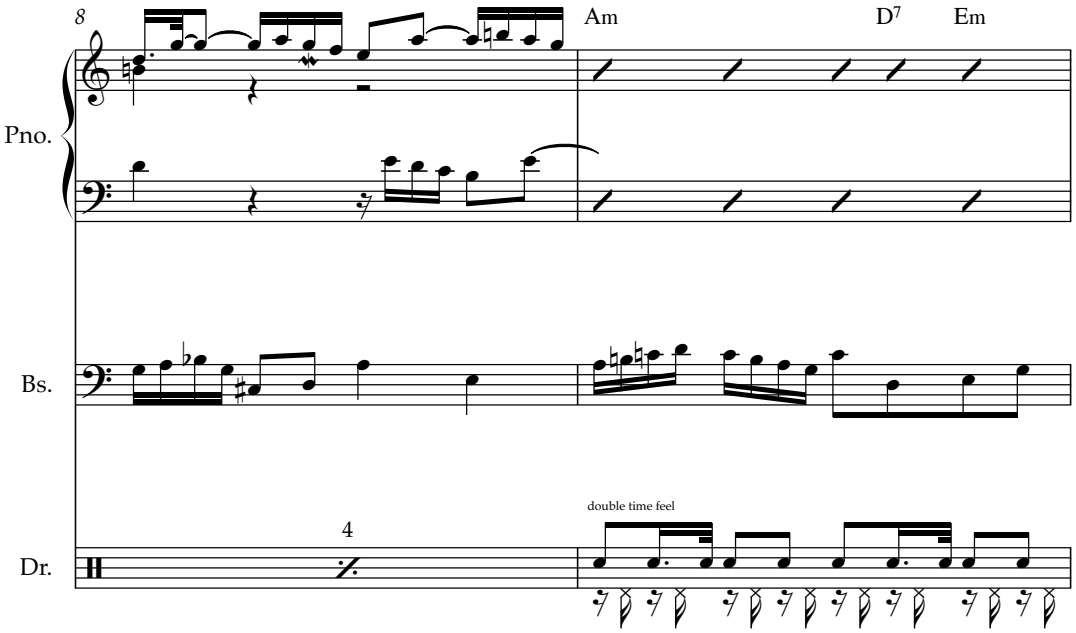


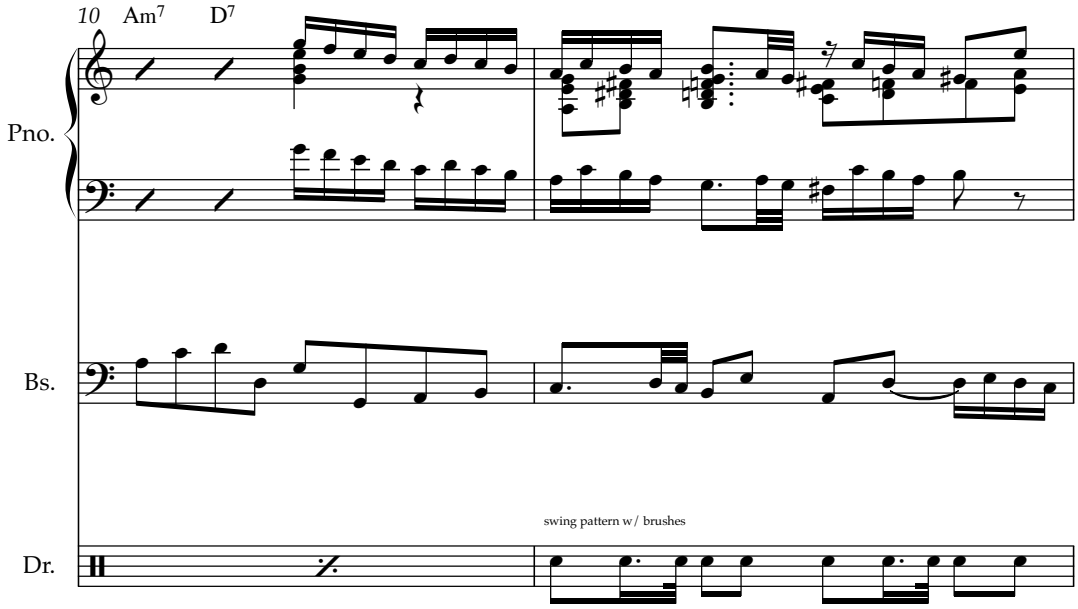
EMIT 10113

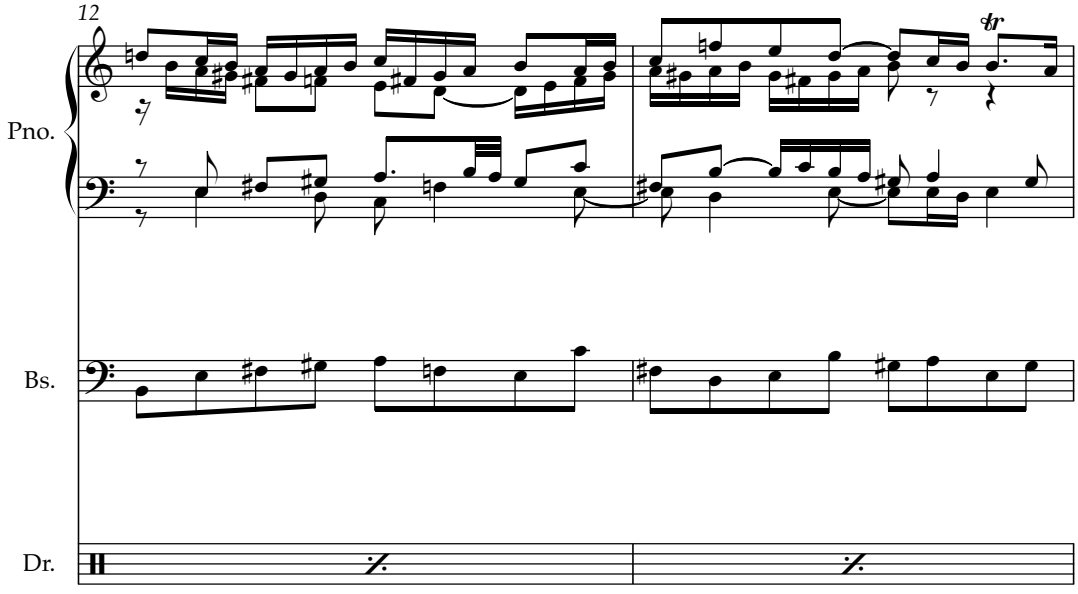
5. Appendix 5: Fugue en ut majeur, BWV 846, by J. Loussier

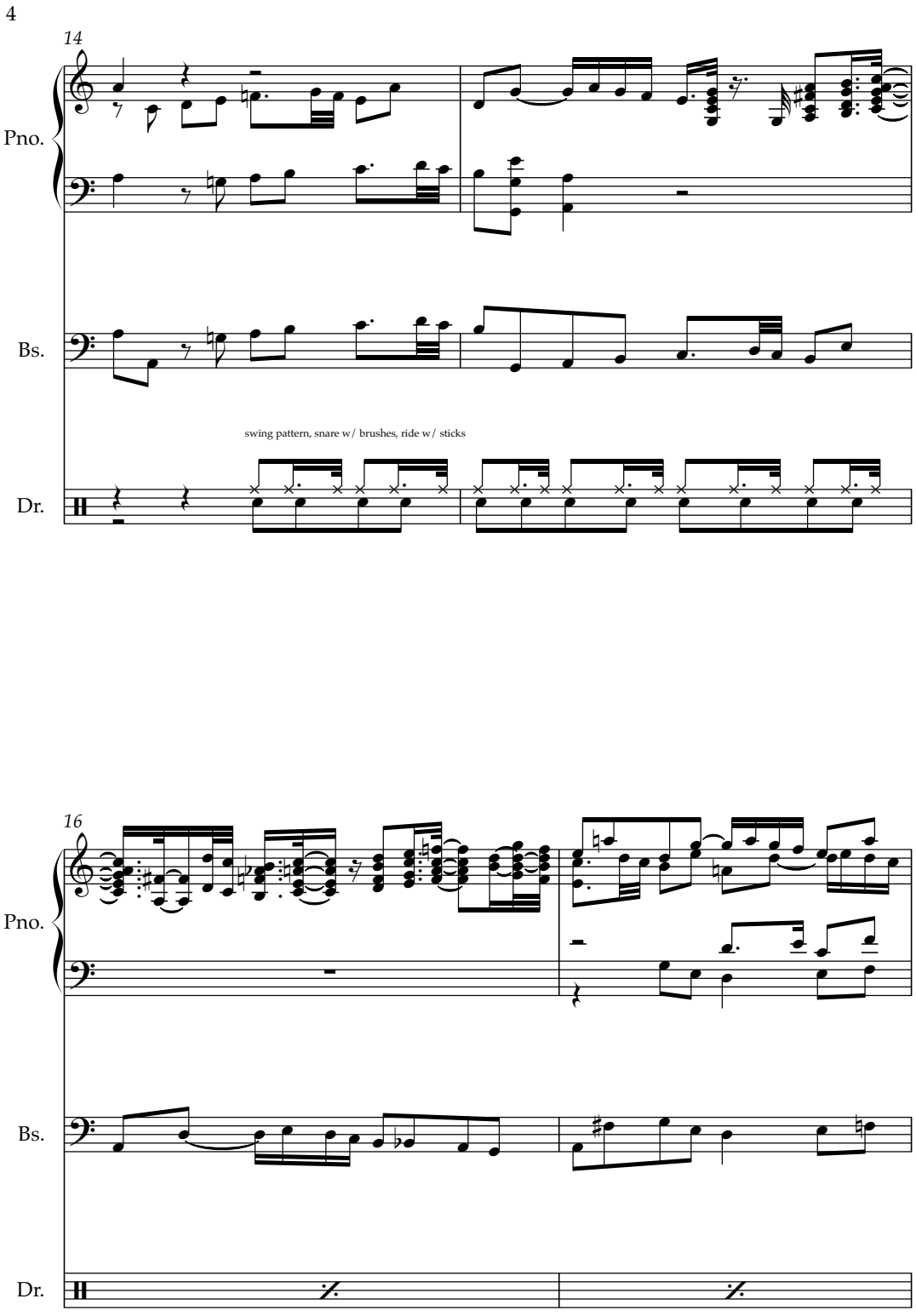


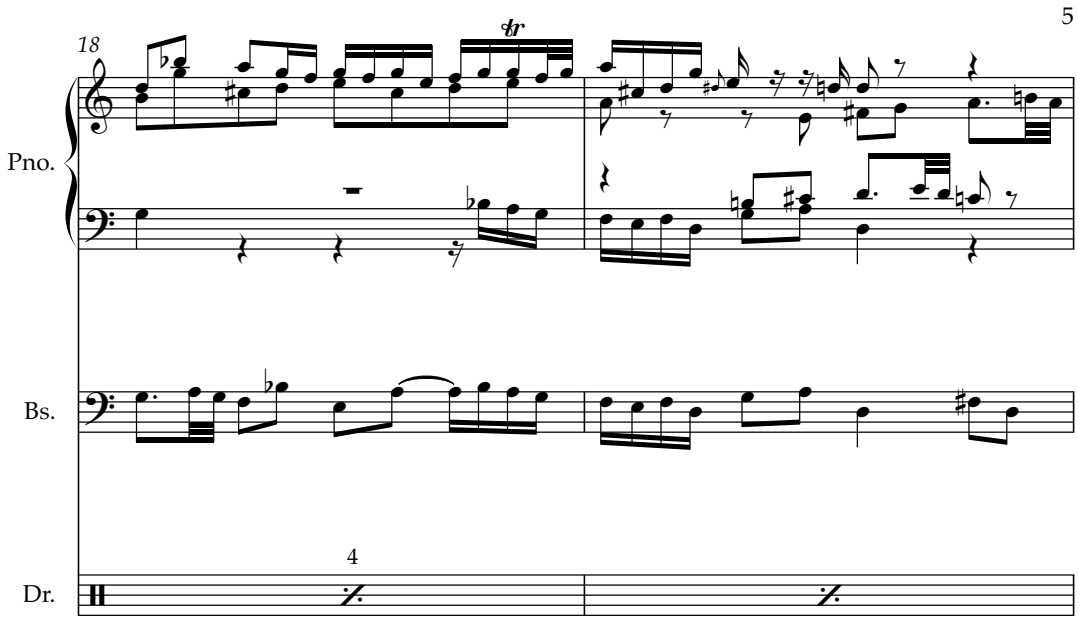

2
6
F
C
Dm7
G7
Pno.
Bs.
Dr.

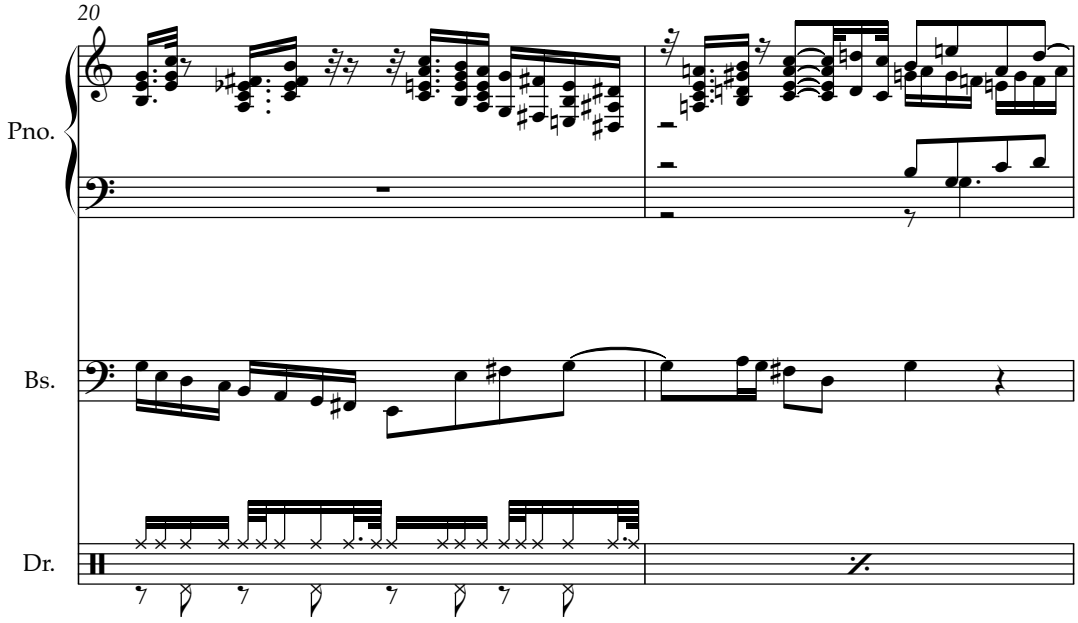

8
Am
D7
Em
Pno.
Bs.
4
double time feel
Dr.

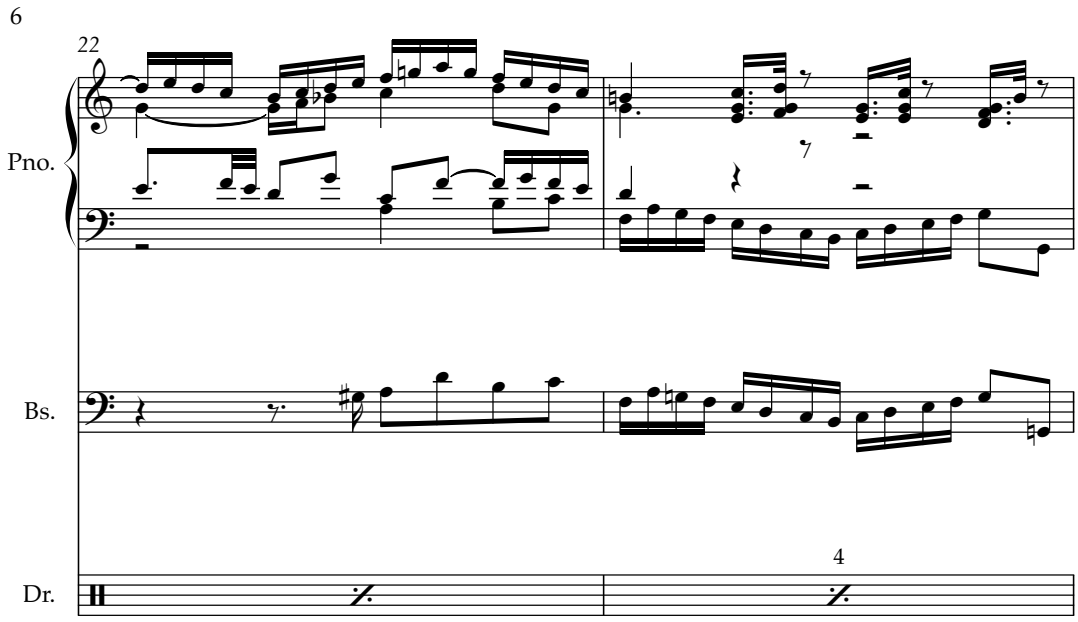

10
Am7
D7
Pno.
Bs.
swing pattern w/ brushes
Dr.

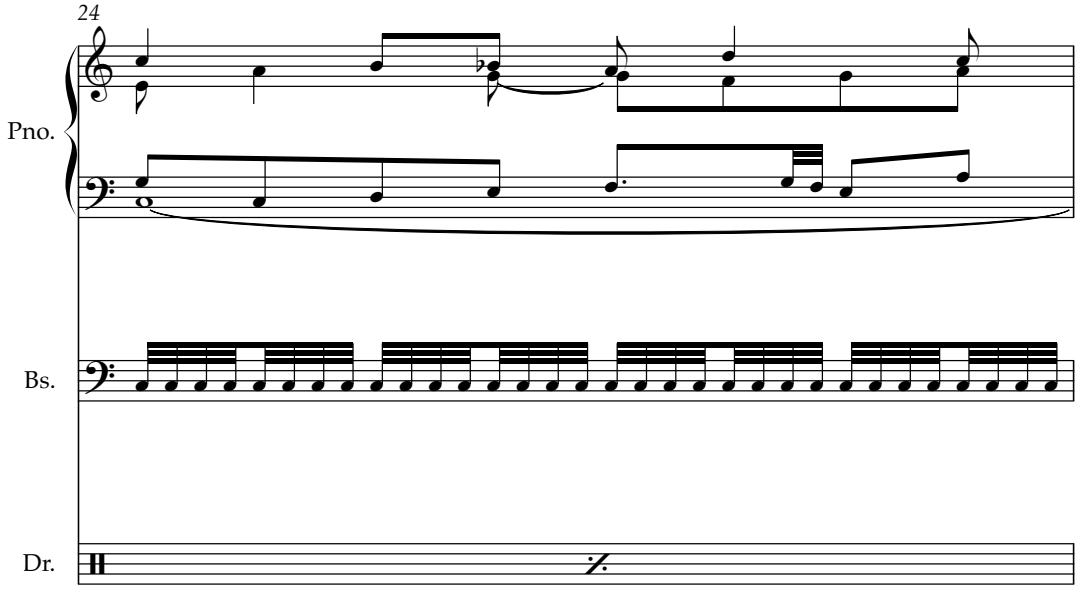

12
tr
Pno.
Bs.
Dr.

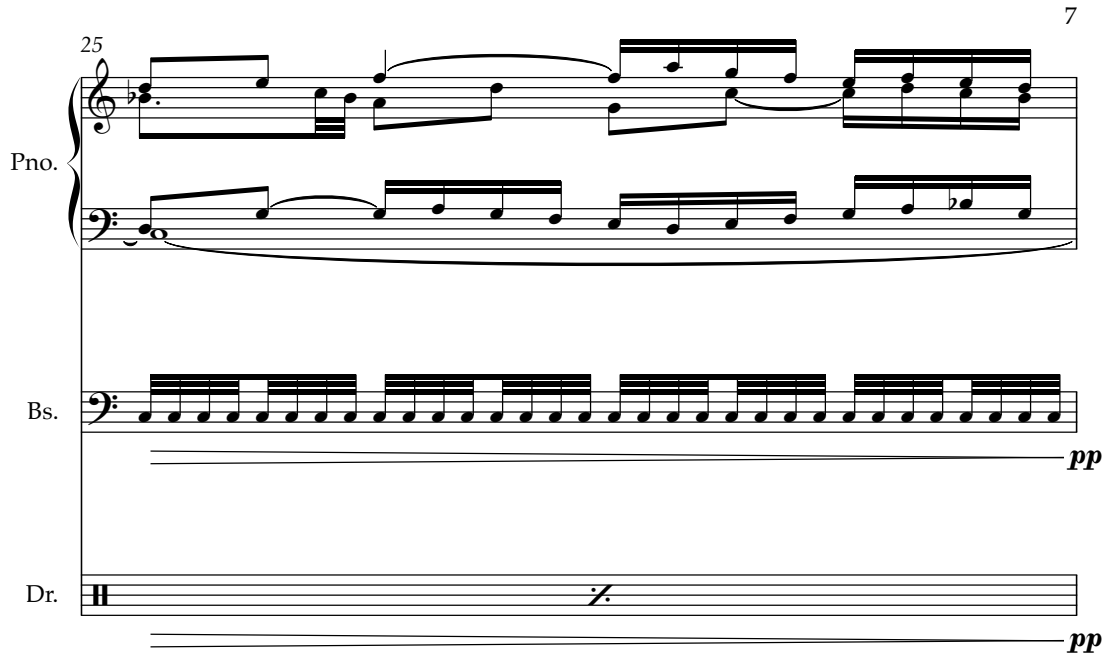

4
14
Pno.
Bs.
swing pattern, snare w/ brushes, ride w/ sticks
Dr.
16
Pno.
Bs.
Dr.

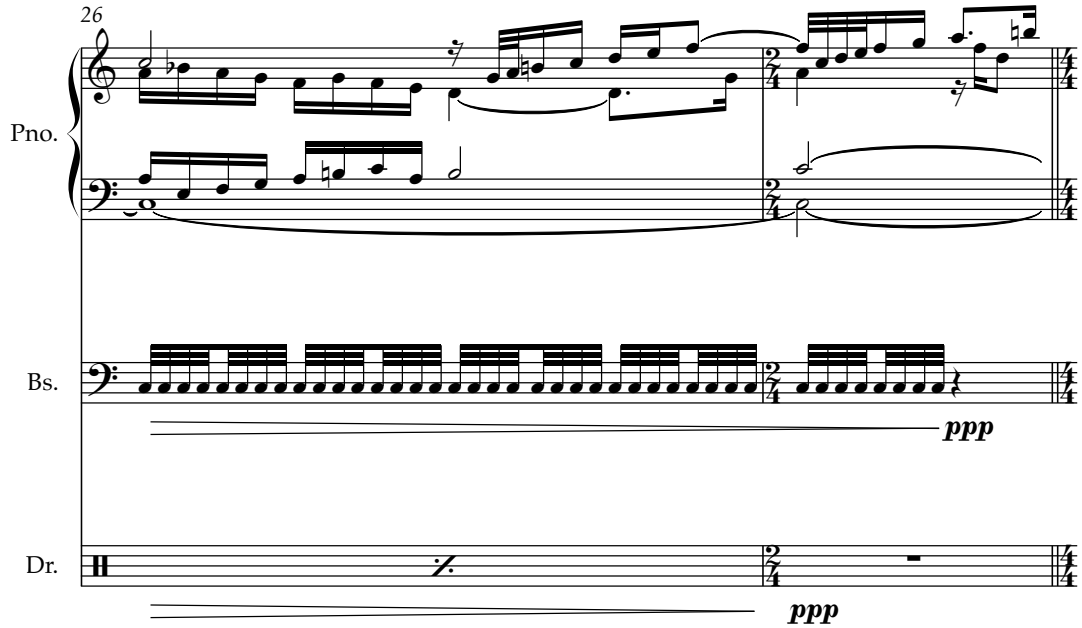

18
5
Pno.
Bs.
4
Dr.

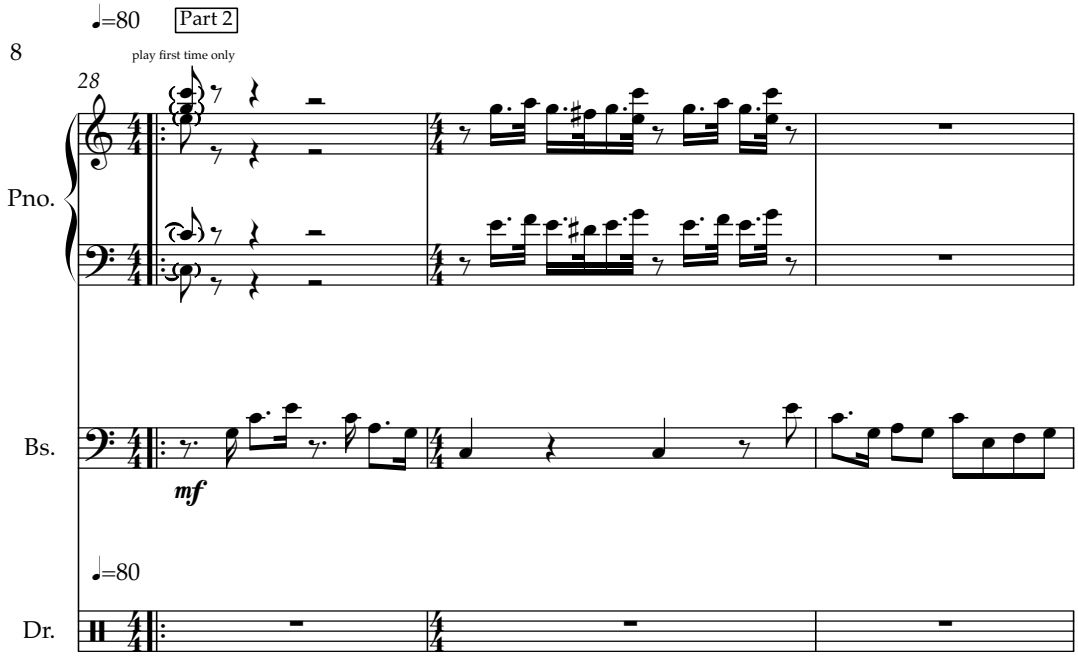

20
Pno.
Bs.
Dr.

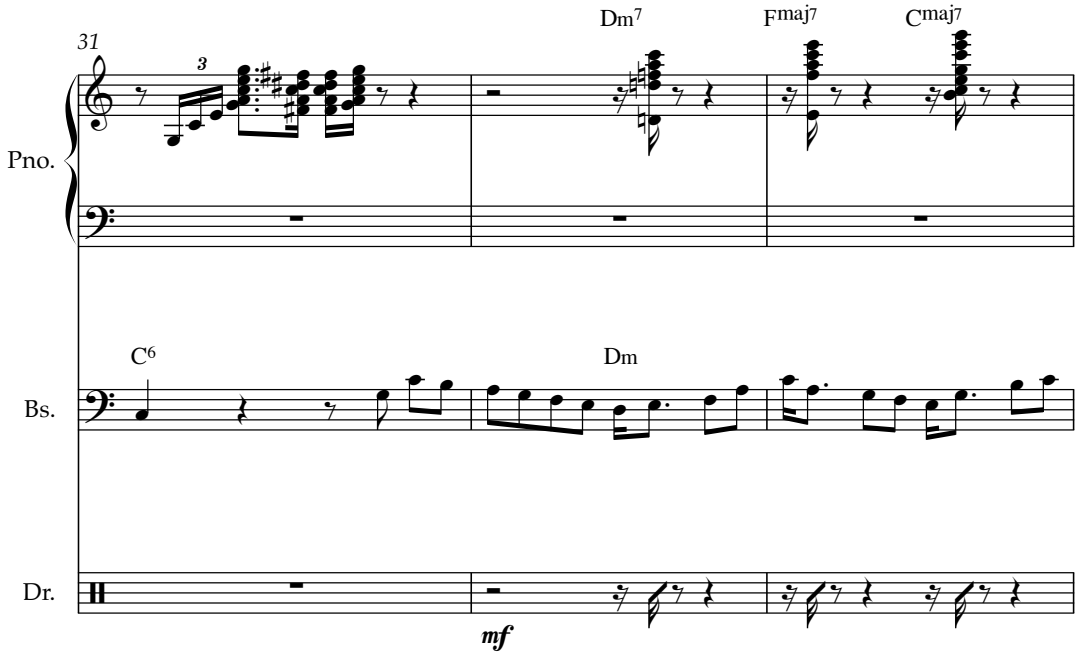

6
22
Pno.
Bs.
Dr.
4

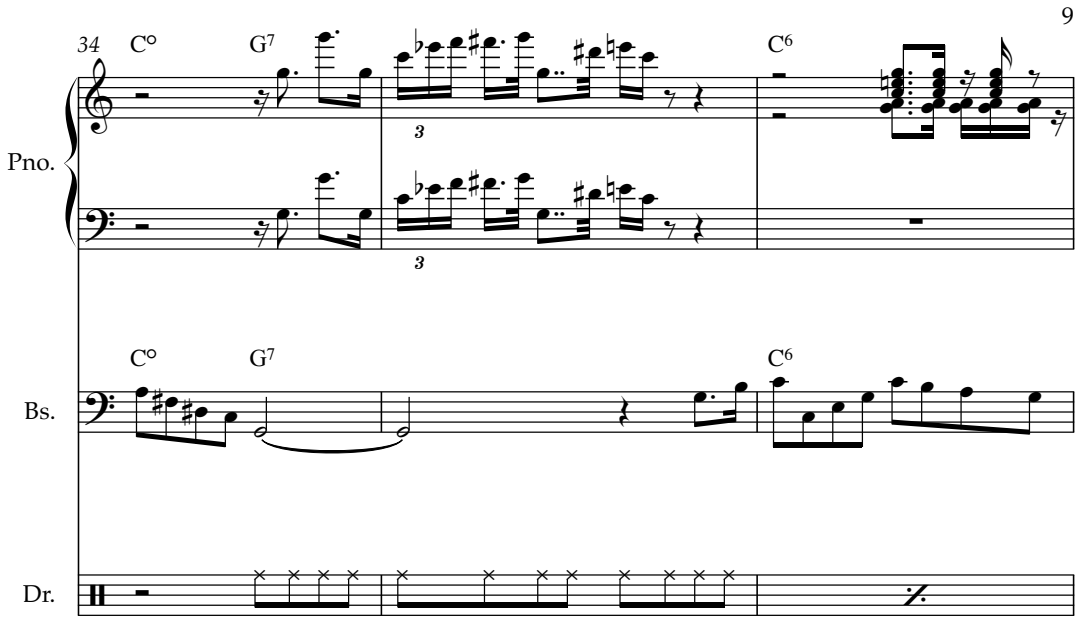

24
Pno.
Bs.
Dr.

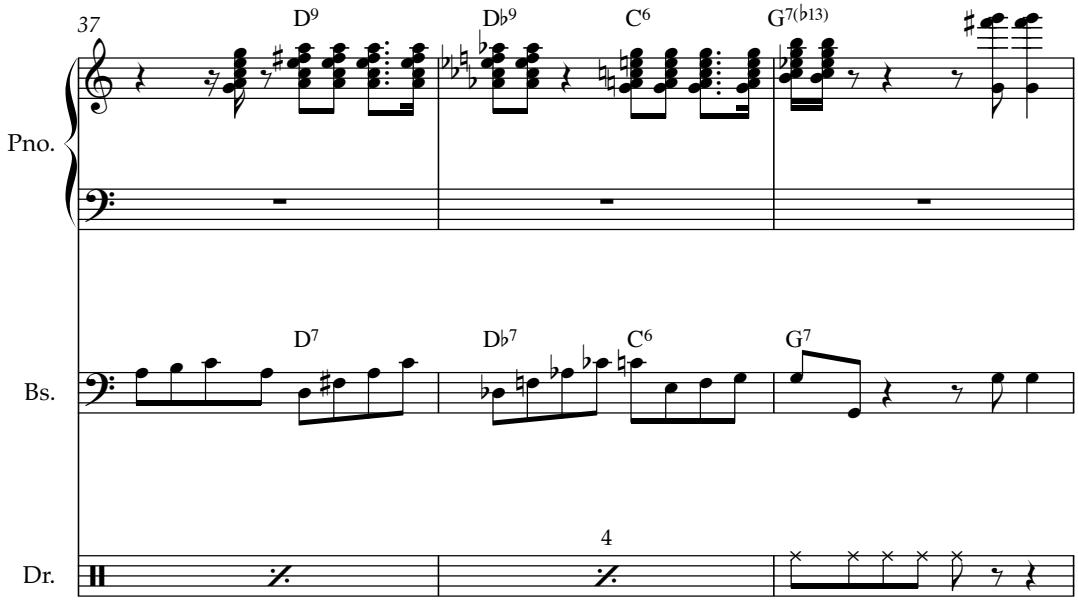

25
Pno.
Bs.
pp
Dr.
pp

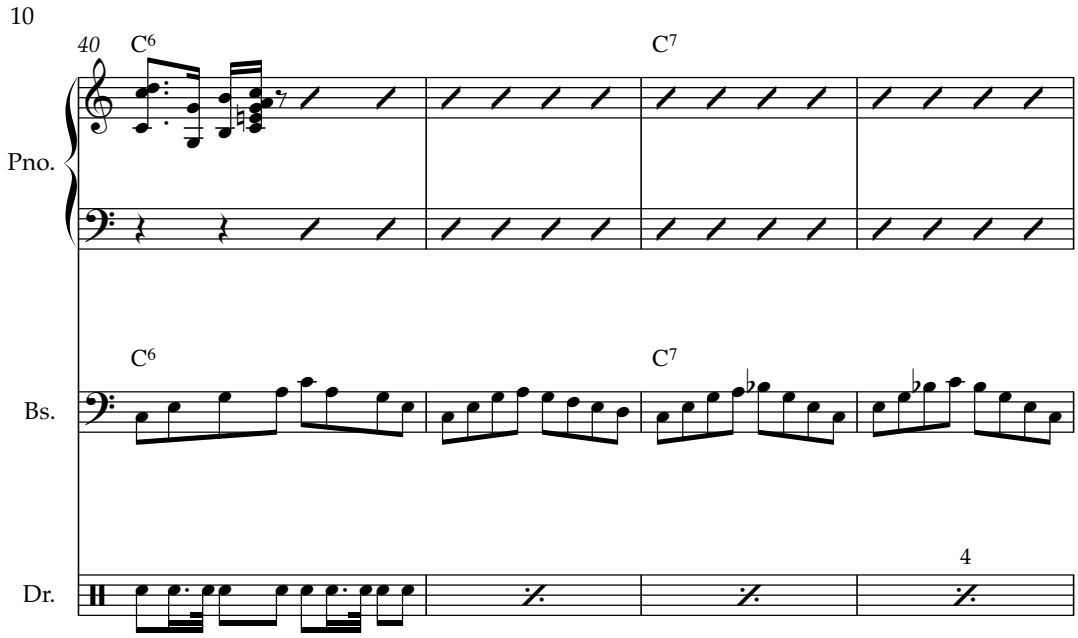

26
Pno.
Bs.
ppp
Dr.
ppp

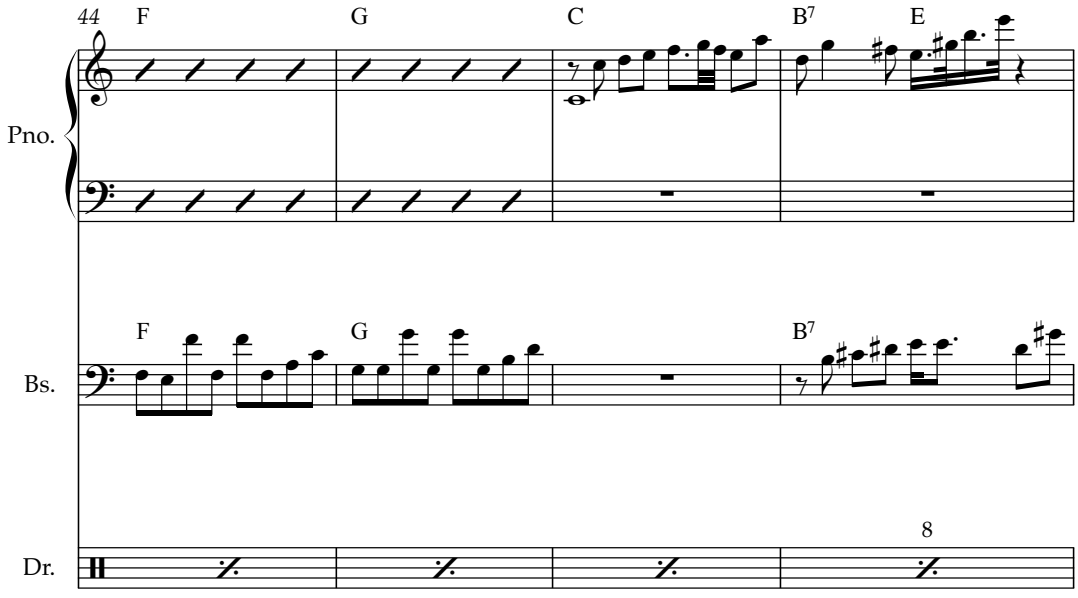

♩=80
Part 2
8
play first time only
28
Pno.
Bs.
mf
♩=80
Dr.

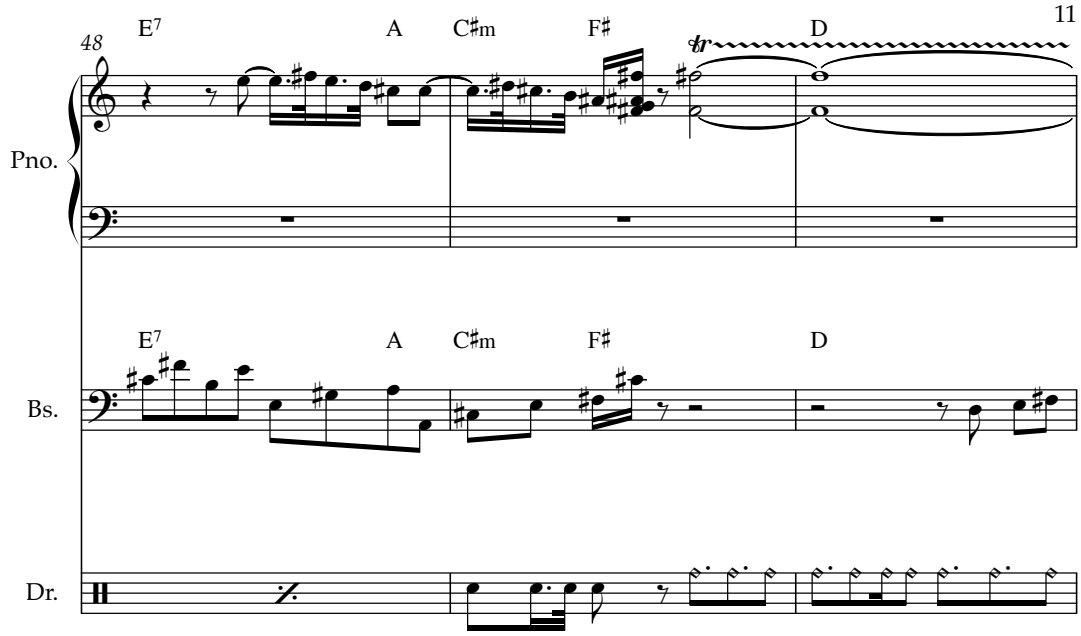

31
3
Dm7
Fmaj7
Cmaj7
Pno.
C6
Dm
Bs.
Dr.
mf

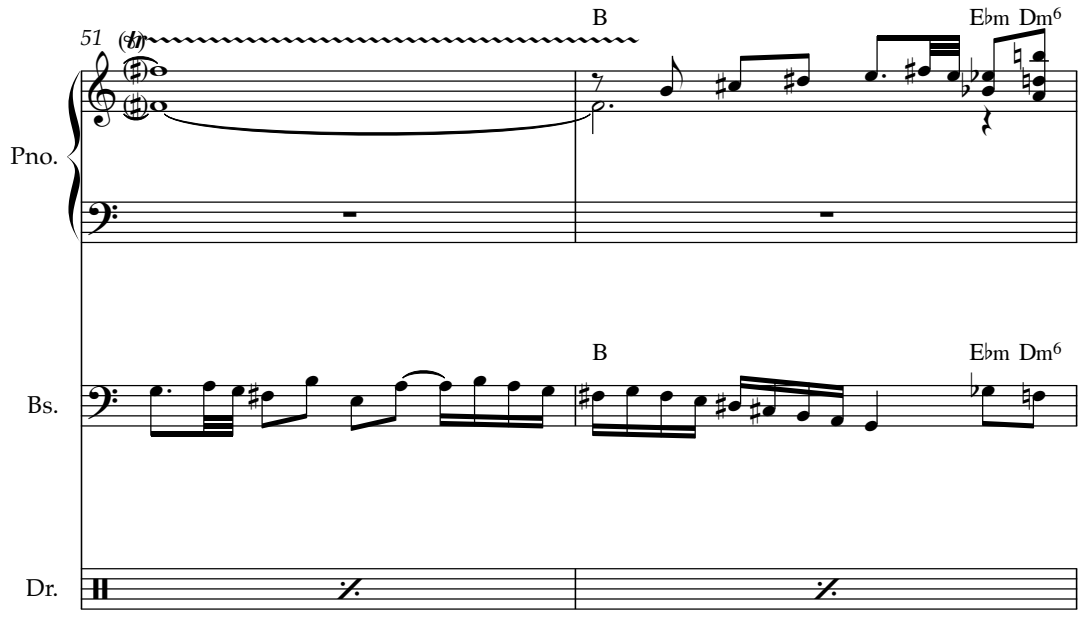

34
C°
G7
C6
Pno.
C°
G7
C6
Bs.
Dr.

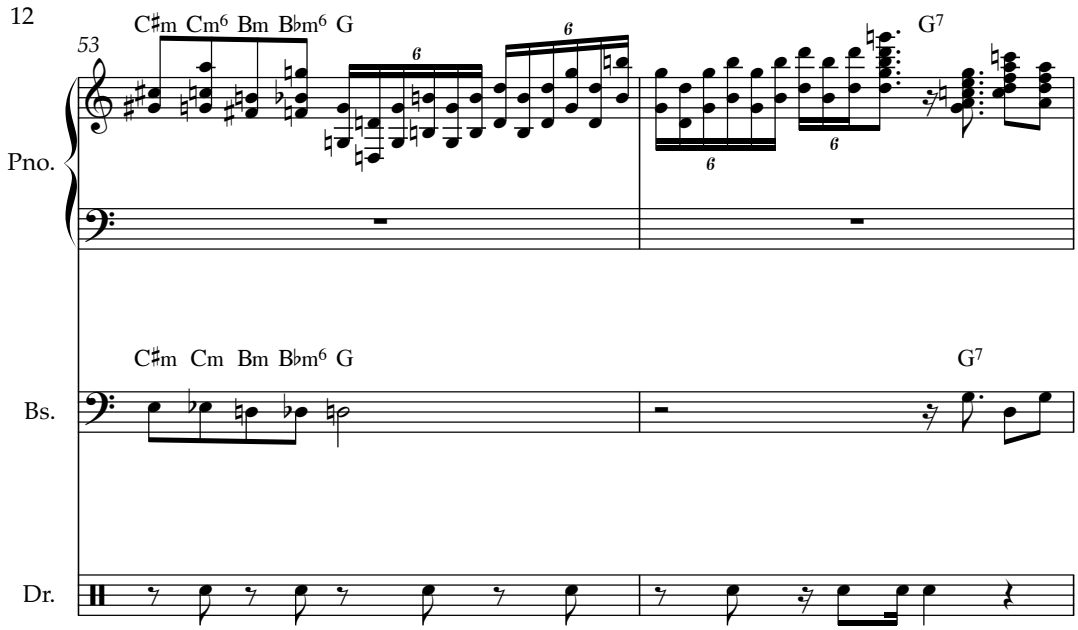

37
D9
D♭9
C6
G7(♭13)
Pno.
D7
D♭7
C6
G7
Bs.
4
Dr.

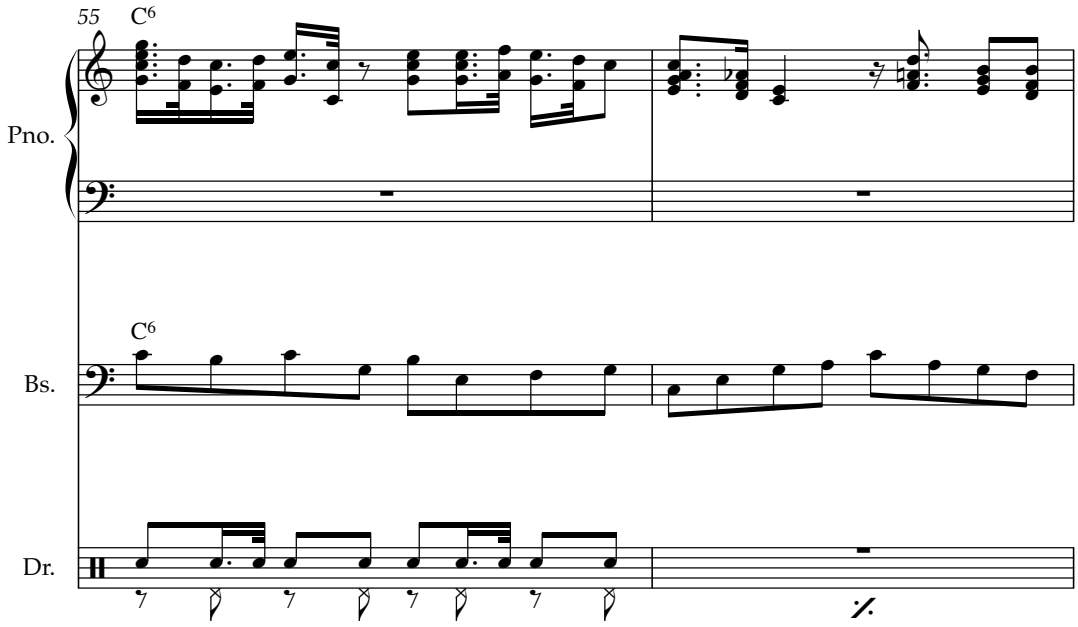

10
40
C6
C7
Pno.
C6
C7
Bs.
4
Dr.

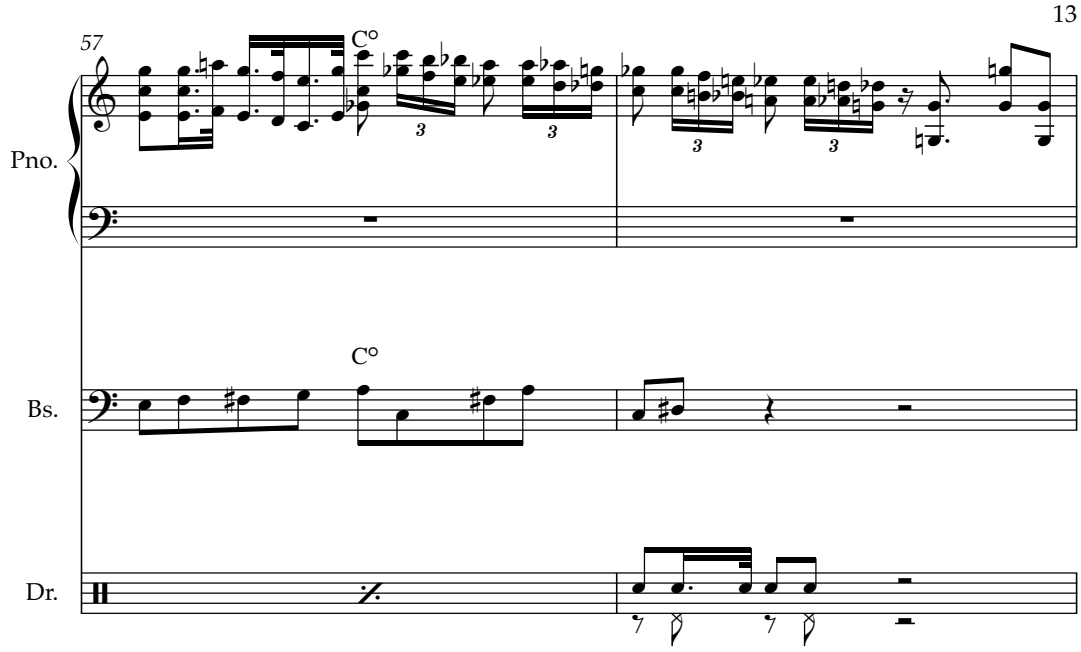

44
F
G
C
B7
E
Pno.
F
G
B7
Bs.
8
Dr.

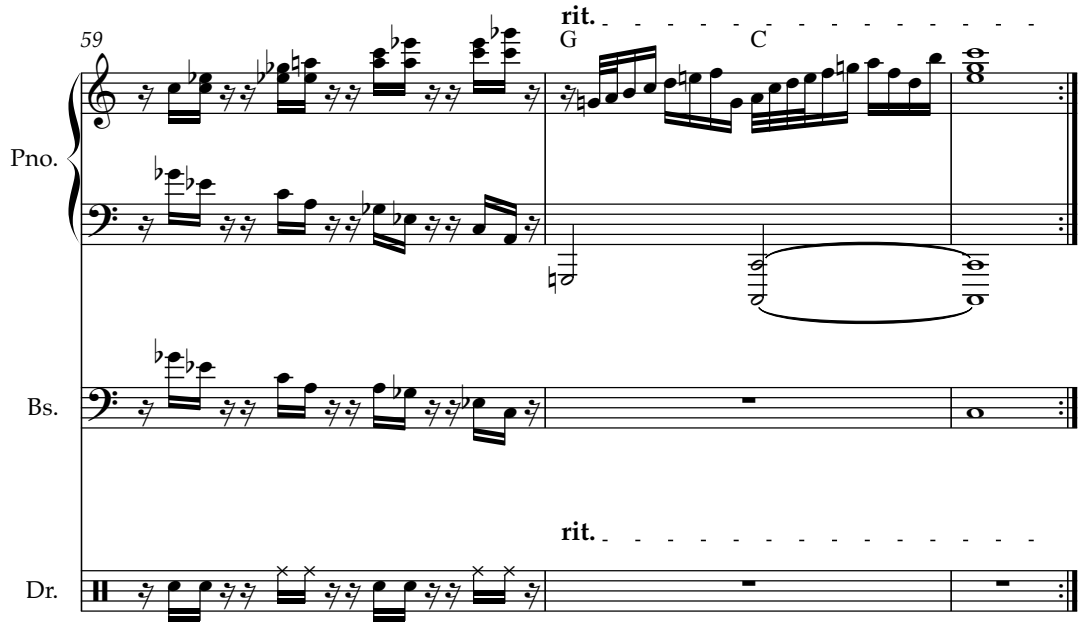

11
48
E7
A
C♯m
F♯
D
Pno.
E7
A
C♯m
F♯
D
Bs.
Dr.


51
B
E♭m
Dm6
Pno.
B
E♭m
Dm6
Bs.
Dr.

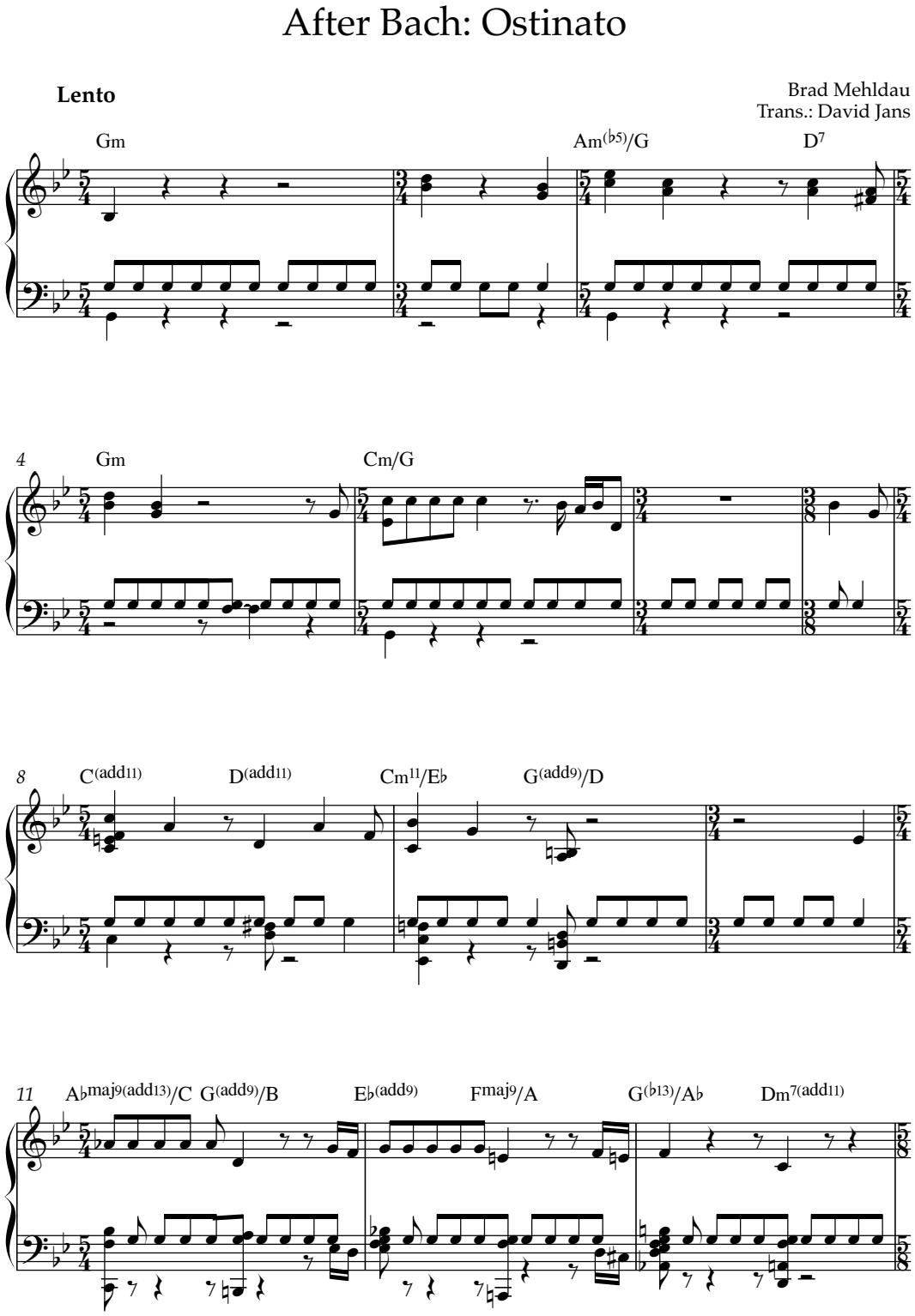

12
53
C♯m Cm⁶ Bm B♭m⁶ G
G⁷
Pno.
C♯m Cm Bm B♭m⁶ G
G⁷
Bs.
Dr.


55
C⁶
Pno.
C⁶
Bs.
Dr.


57
C°
Pno.
C°
Bs.
Dr.


59
rit.
G
C
Pno.
Bs.
rit.
Dr.

6. Appendix 6: After Bach: Ostinato, by B. Mehldau



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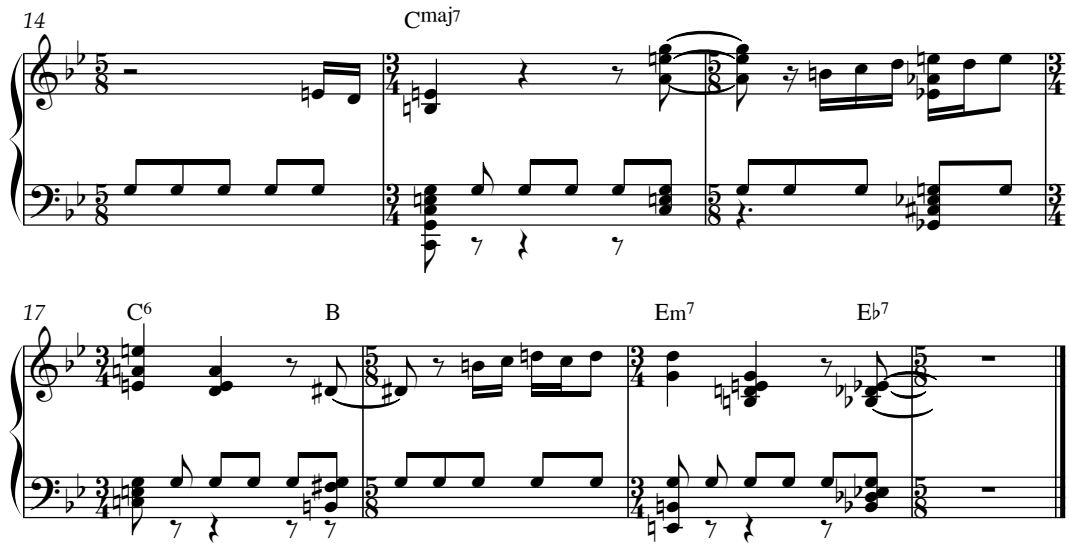
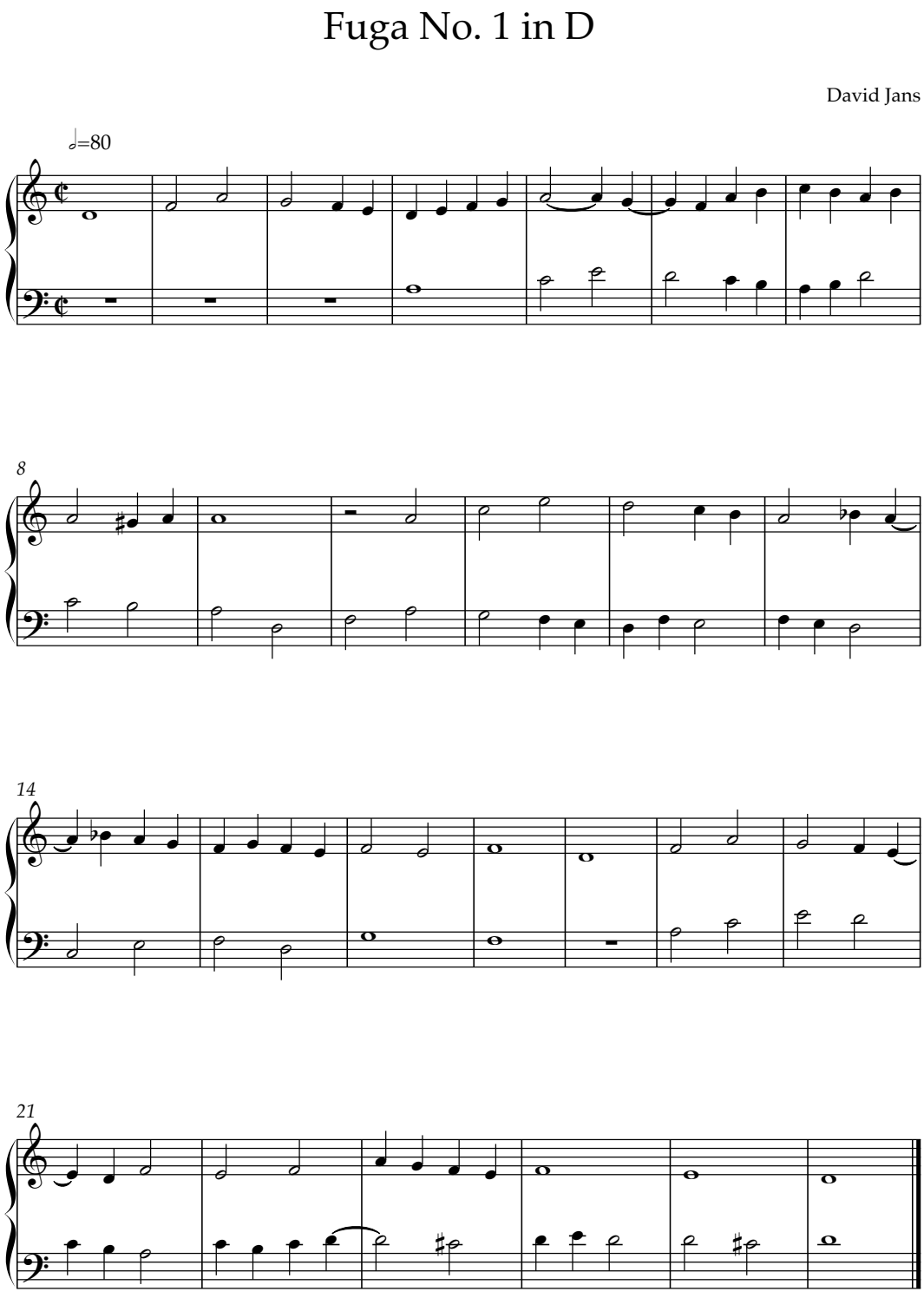


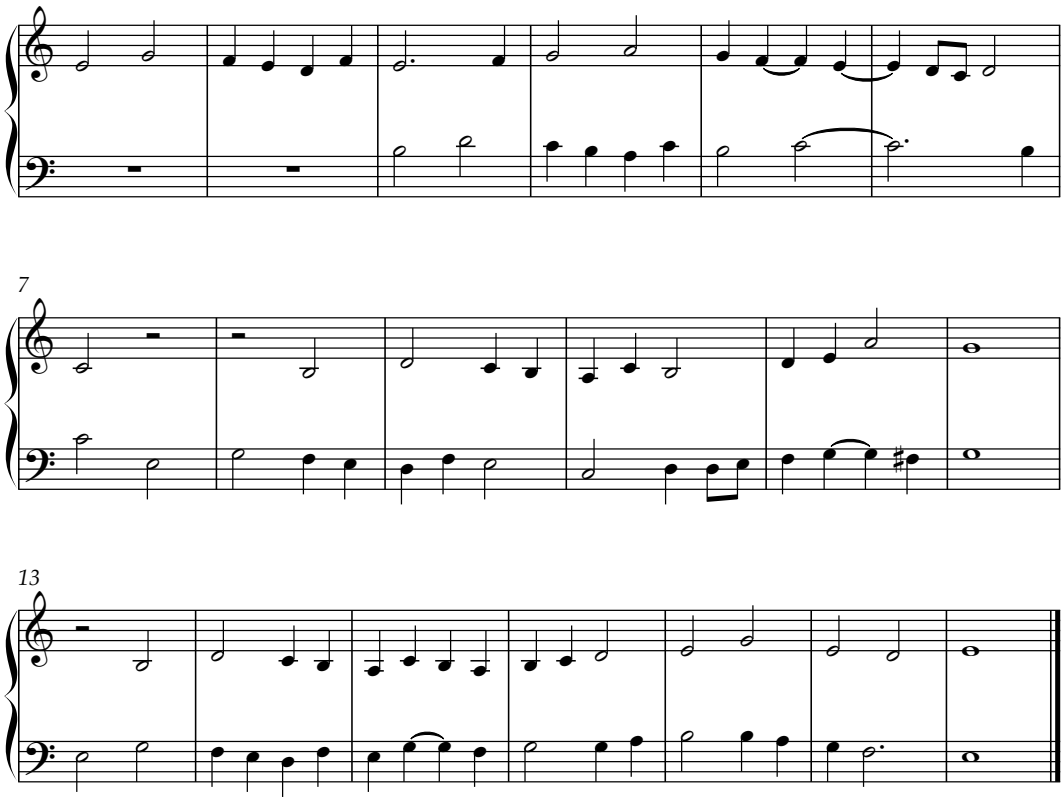
7. Appendix 7: Fuga No. 1 in D



8. Appendix 8: Fuga No. 2 in E

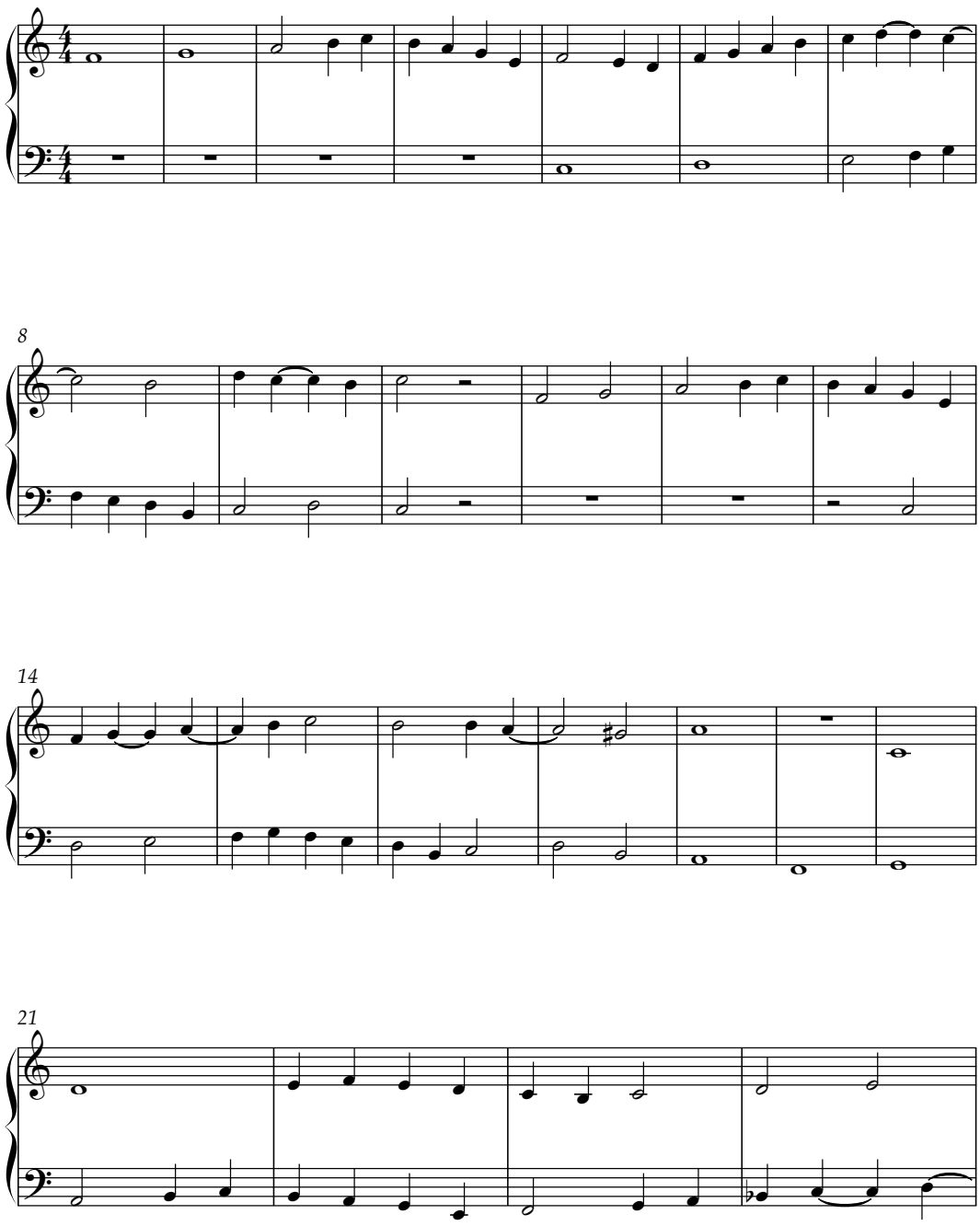
Fuga No. 2 in E

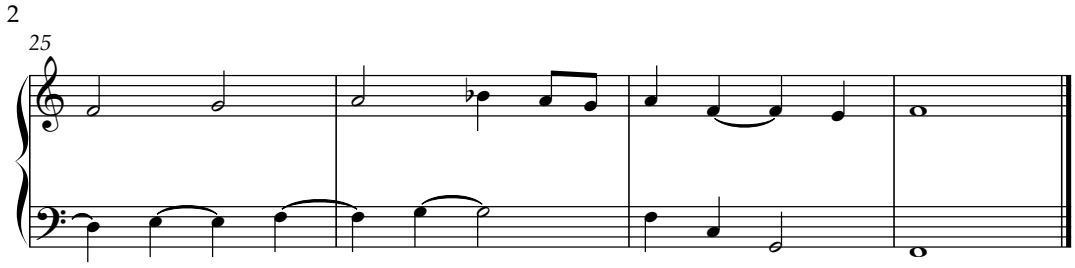
David Jans



9. Appendix 9: Fuga No. 3 in F

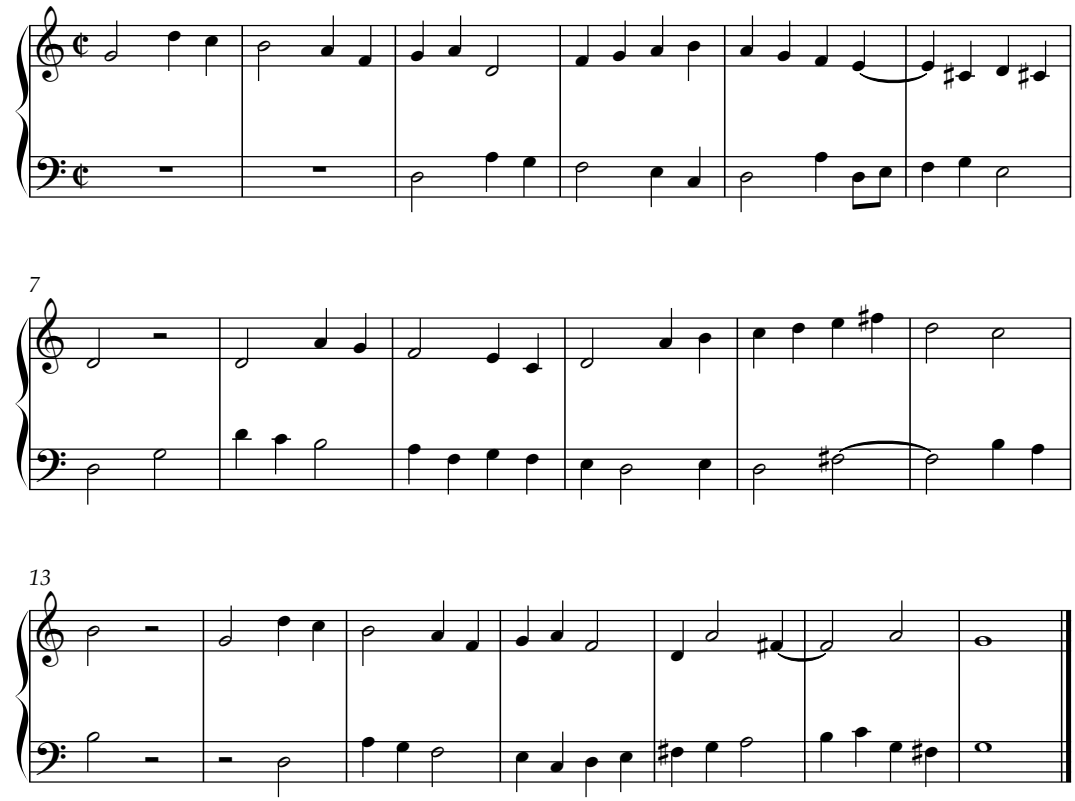
Fuga No. 3 in F



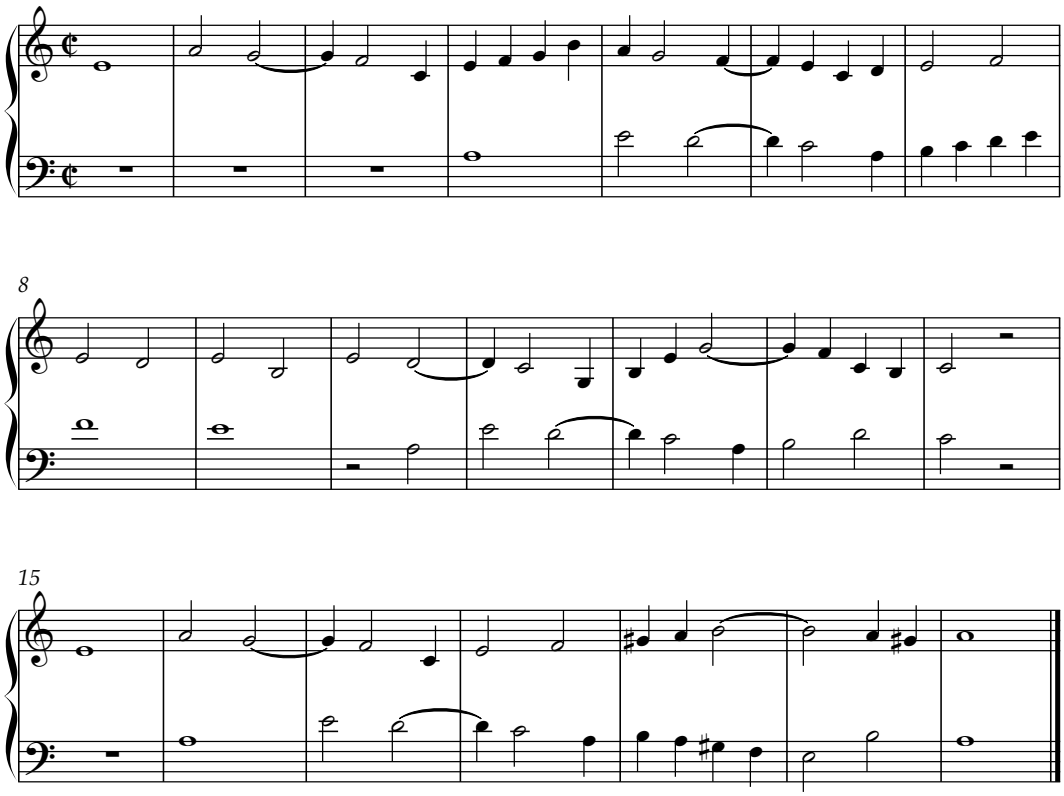


10. Appendix 10: Fuga No. 4 in G

Fuga No. 4 in G

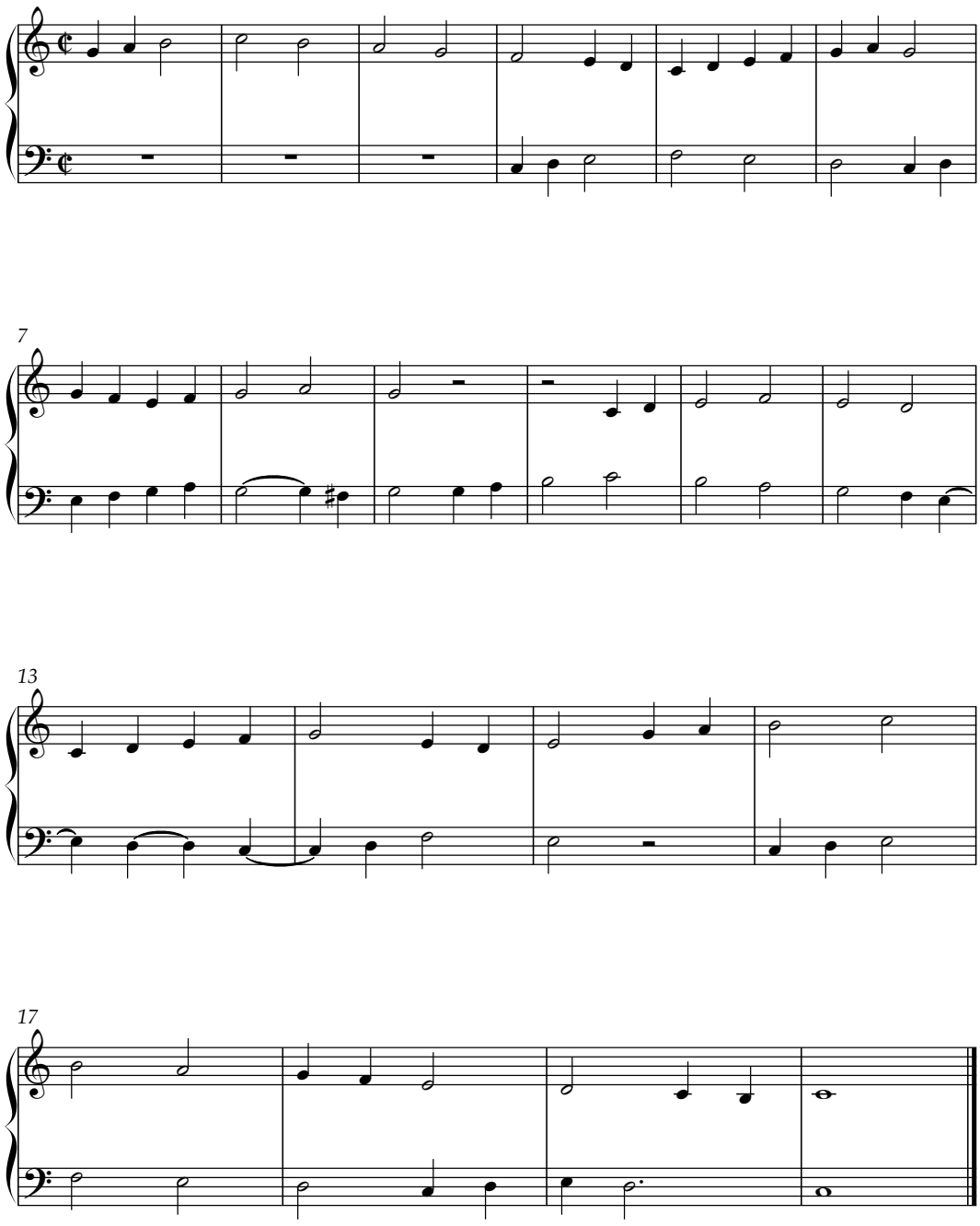


11. Appendix 11: Fuga No. 5 in A

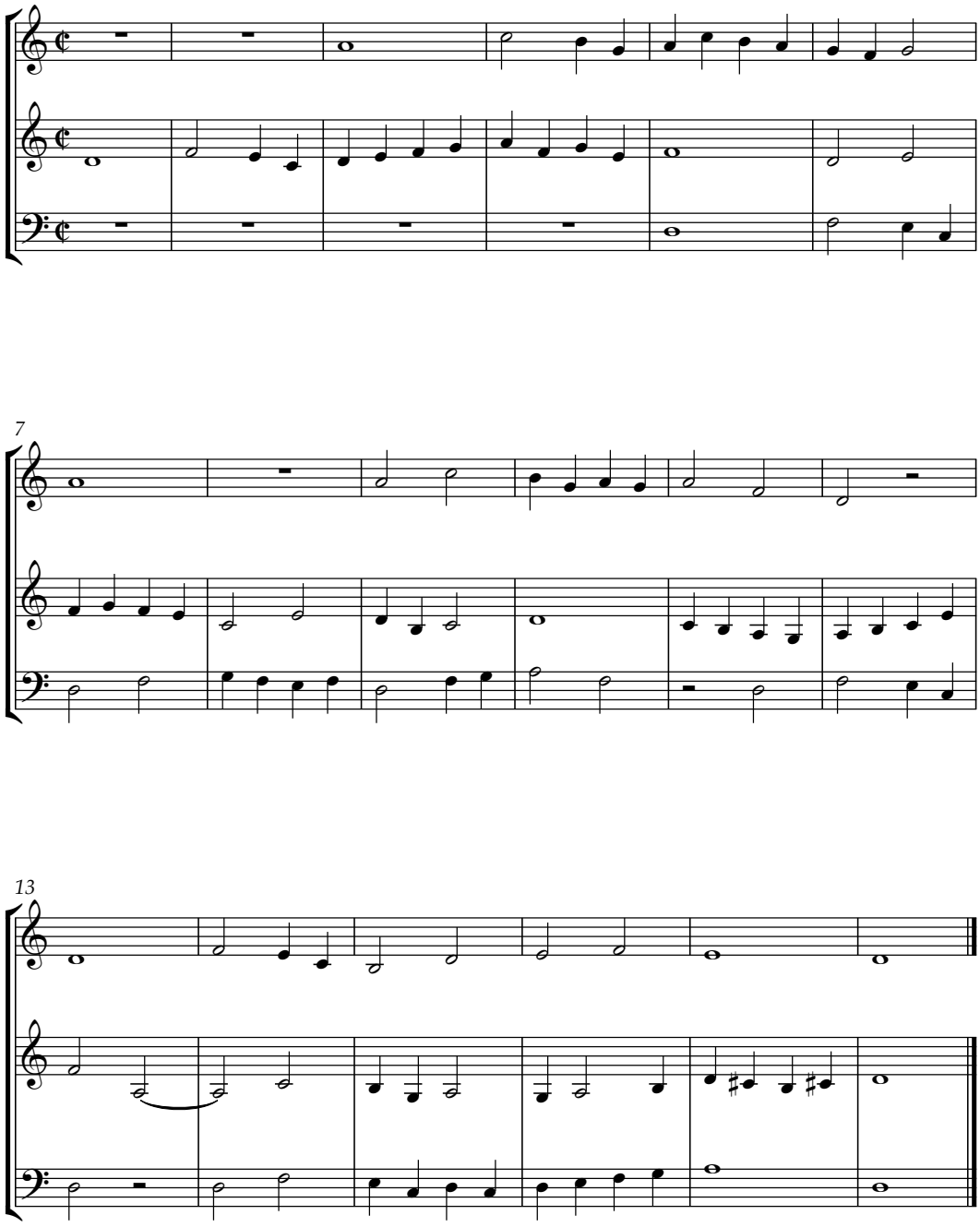


12. Appendix 12: Fuga No. 6 in C

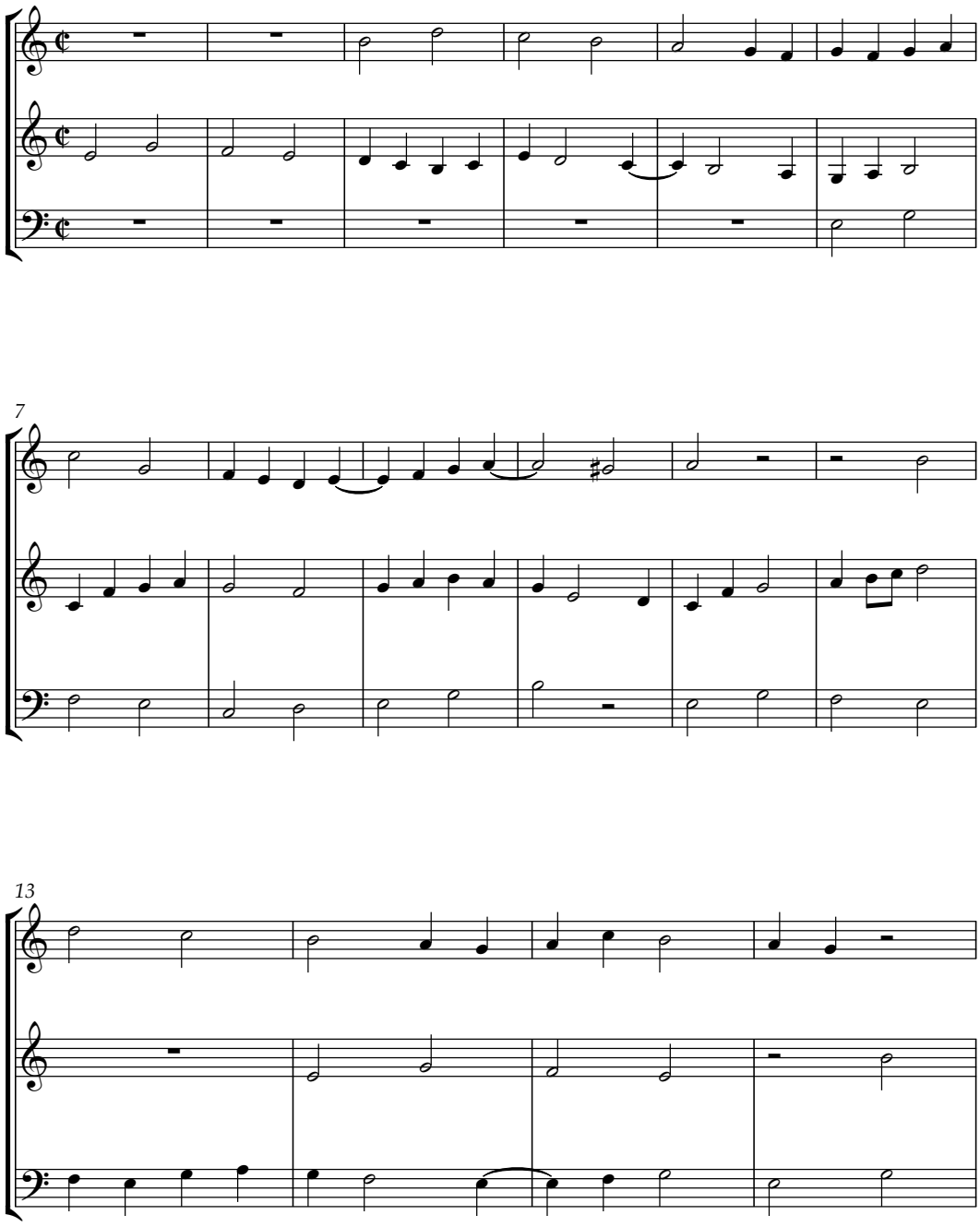
Fuga No. 6 in C



13. Appendix 13: Fuga No. 7 in D



14. Appendix 14: Fuga No. 8 in E



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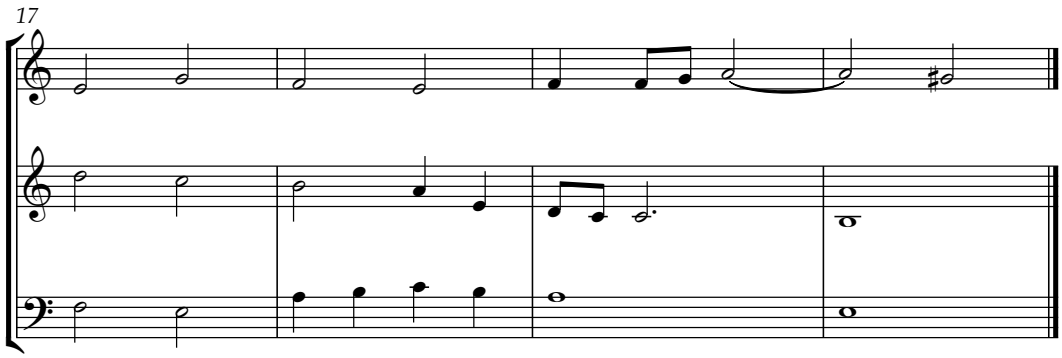
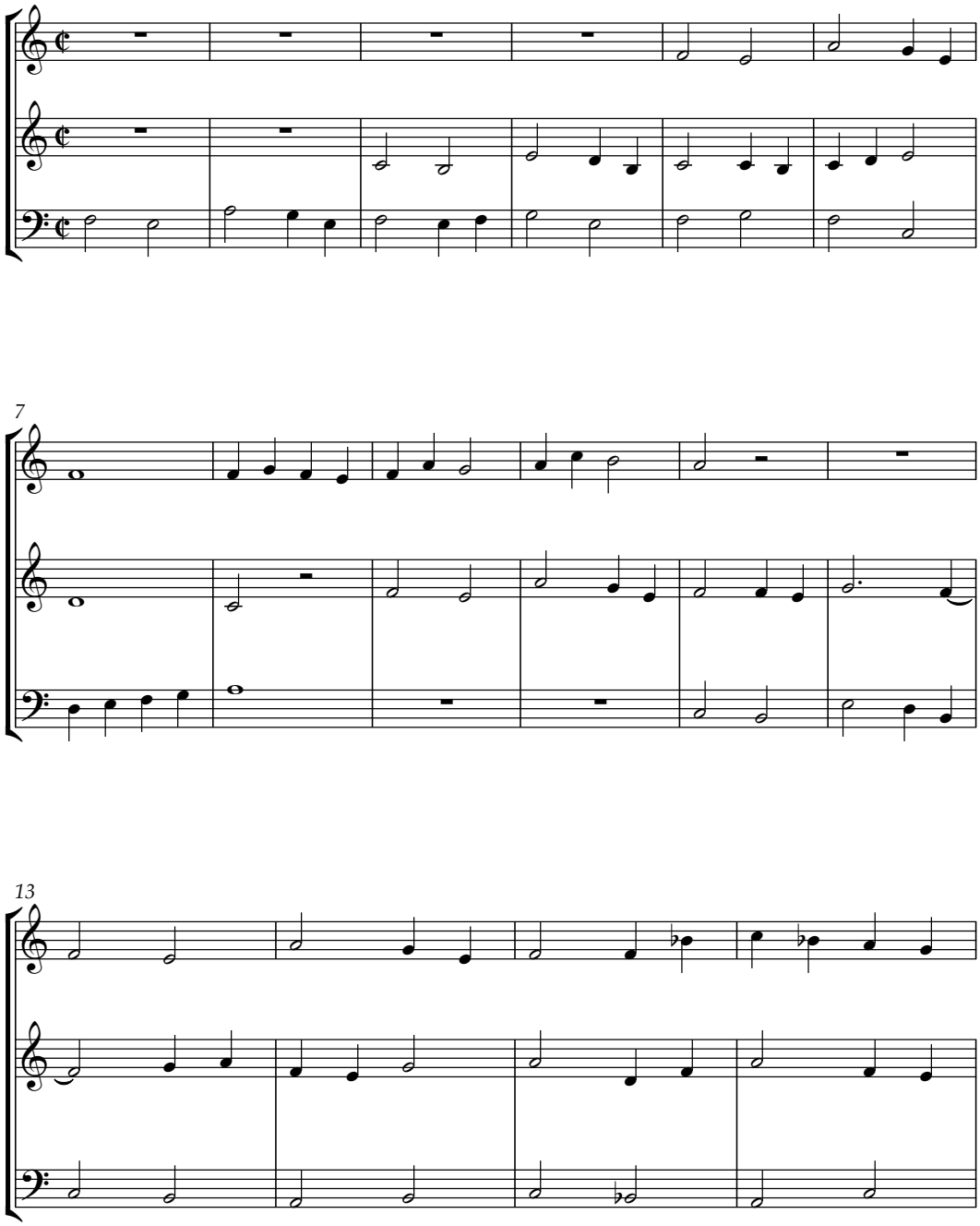
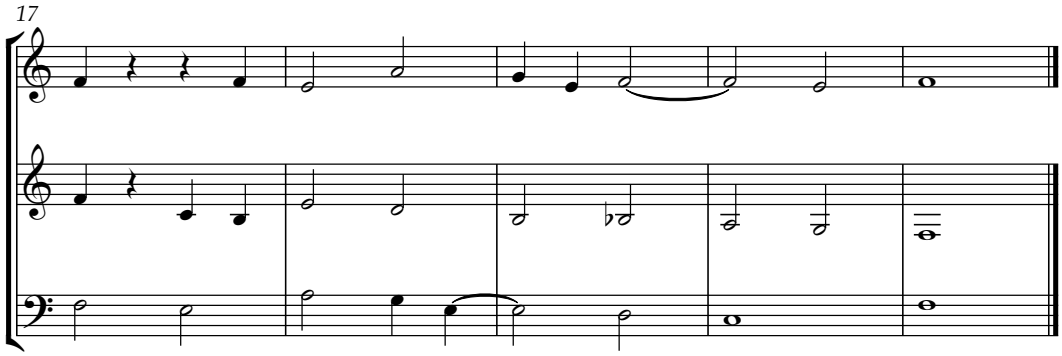


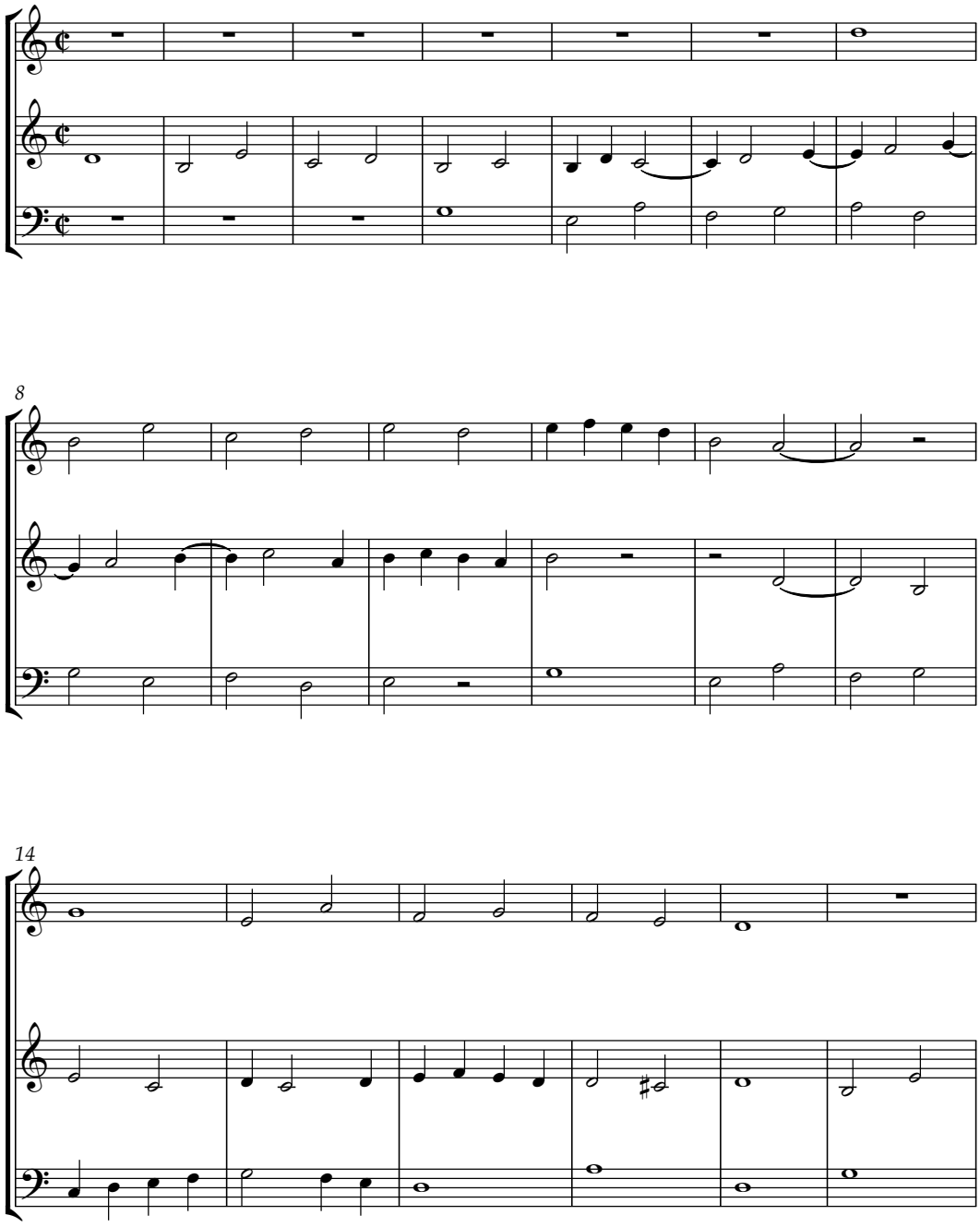
15. Appendix 15: Fuga No. 9 in F



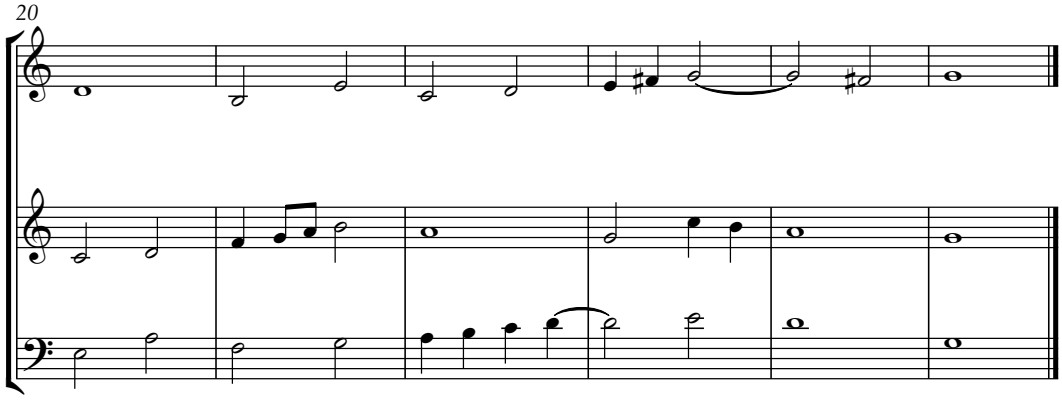
2



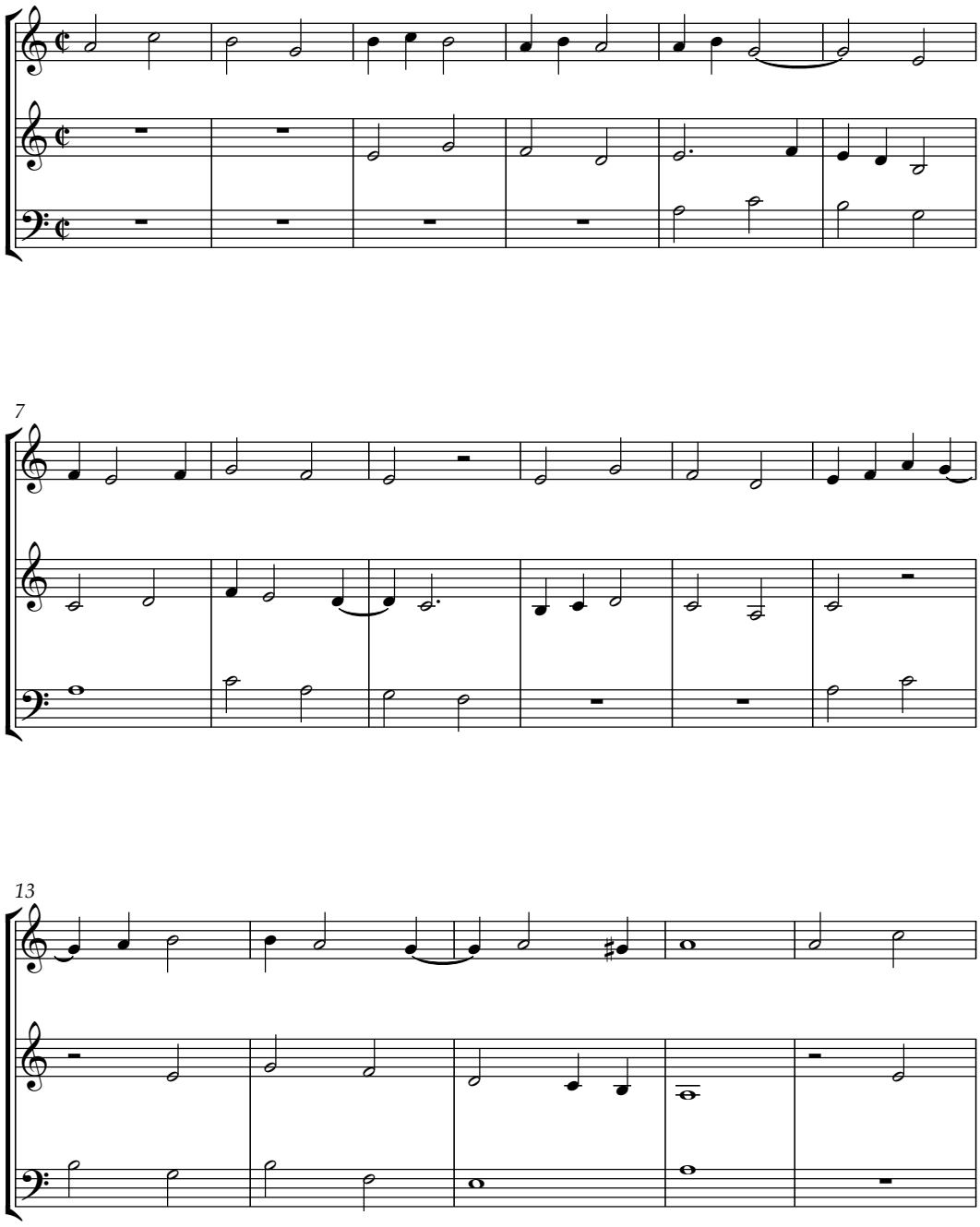
16. Appendix 16: Fuga No. 10 in G



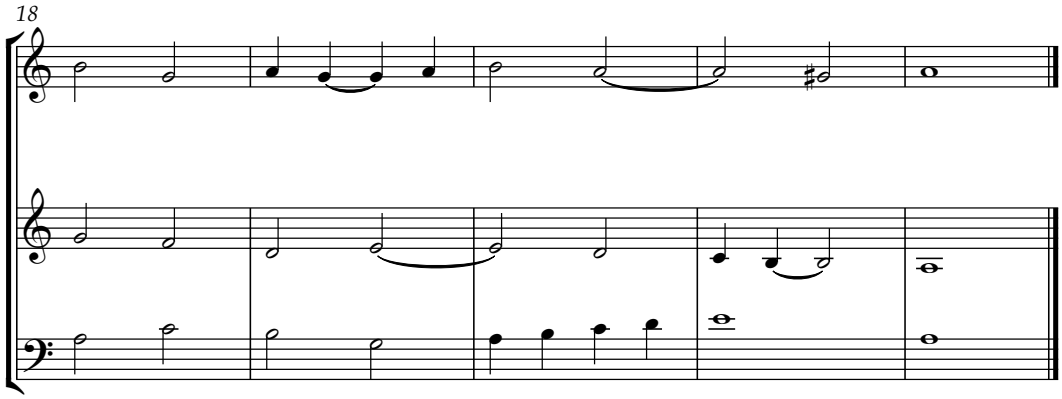
2



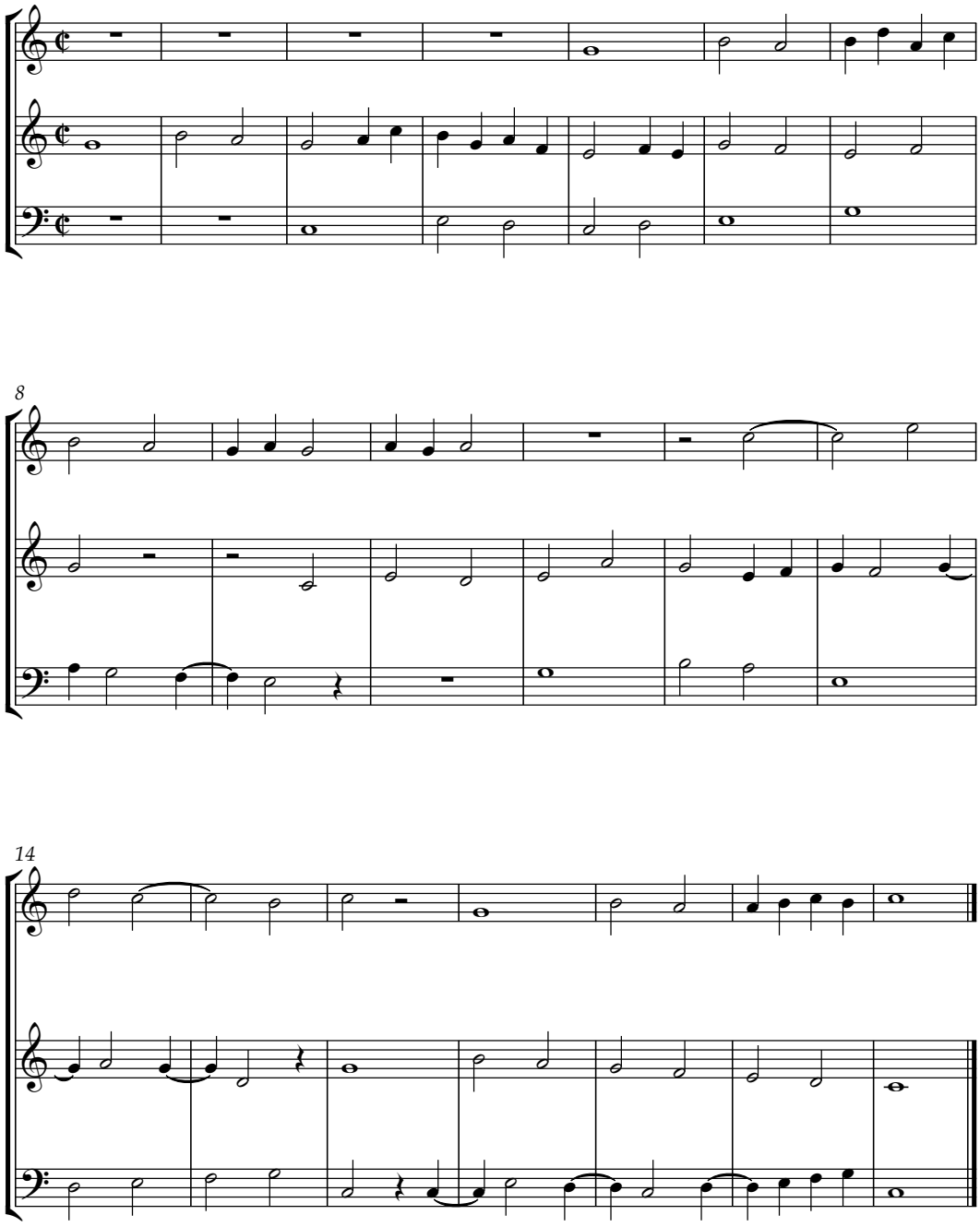
17. Appendix 17: Fuga No. 11 in A



2

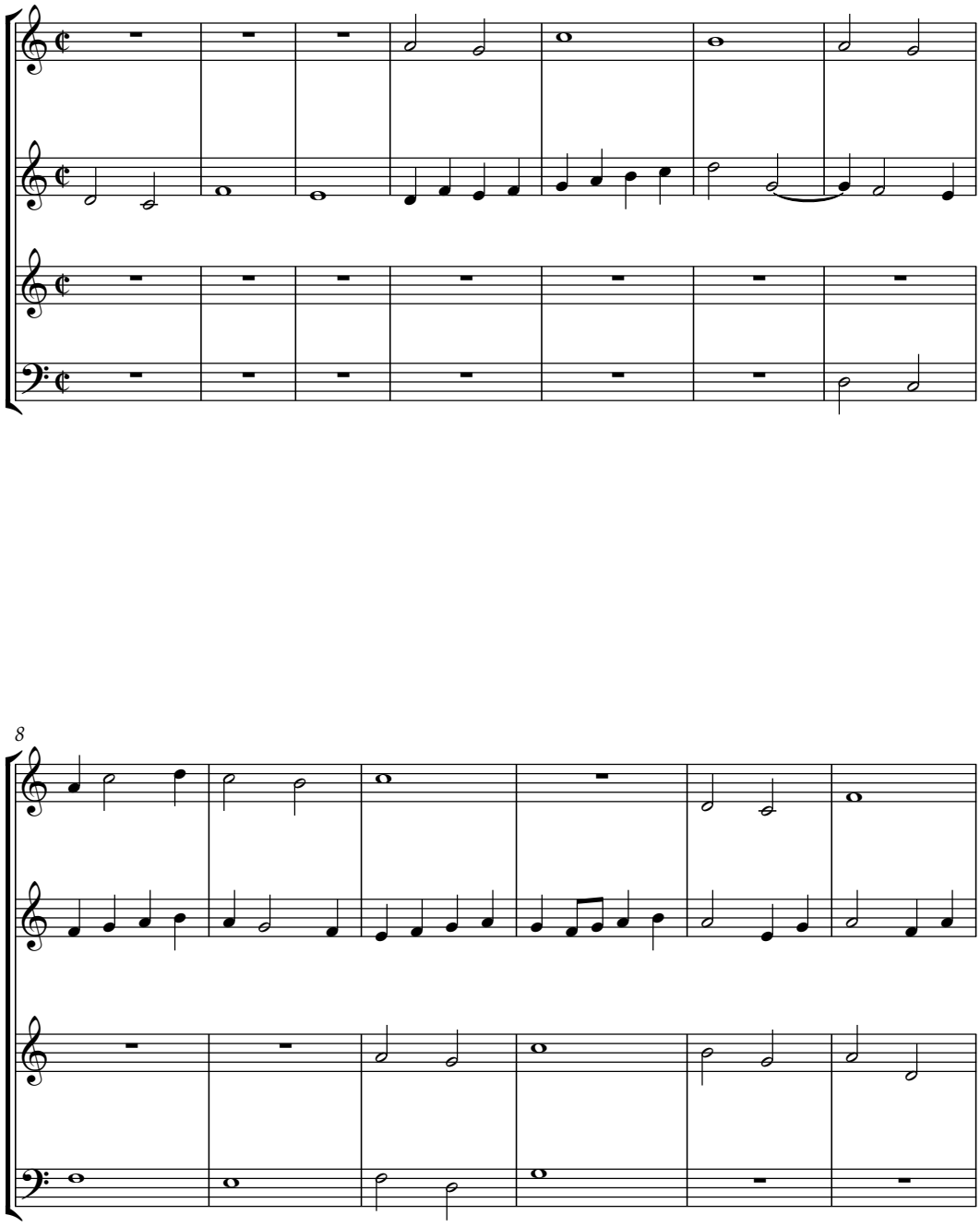


18. Appendix 18: Fuga No. 12 in C



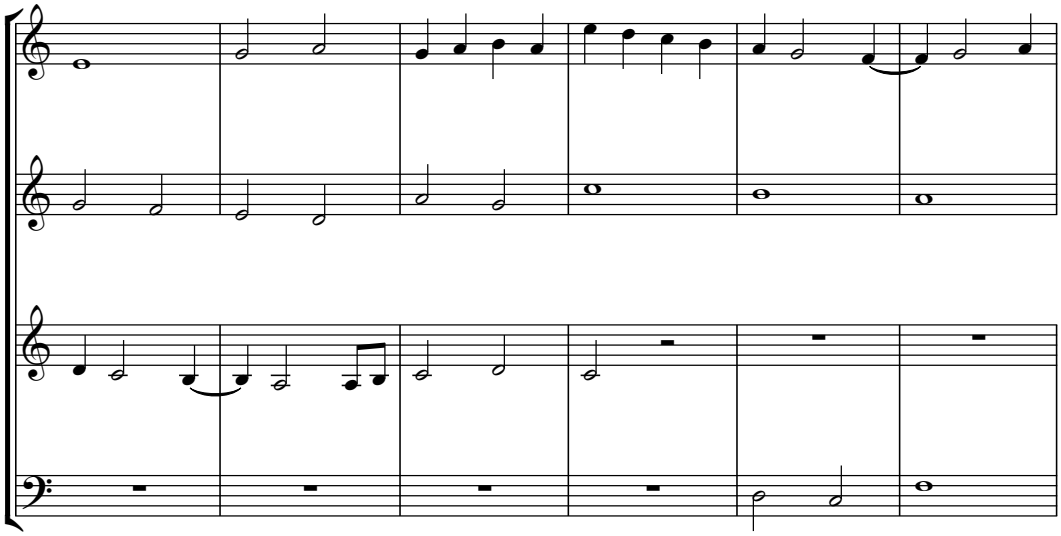
19. Appendix 19: Fuga No. 13 in D

Fuga No. 13 in D

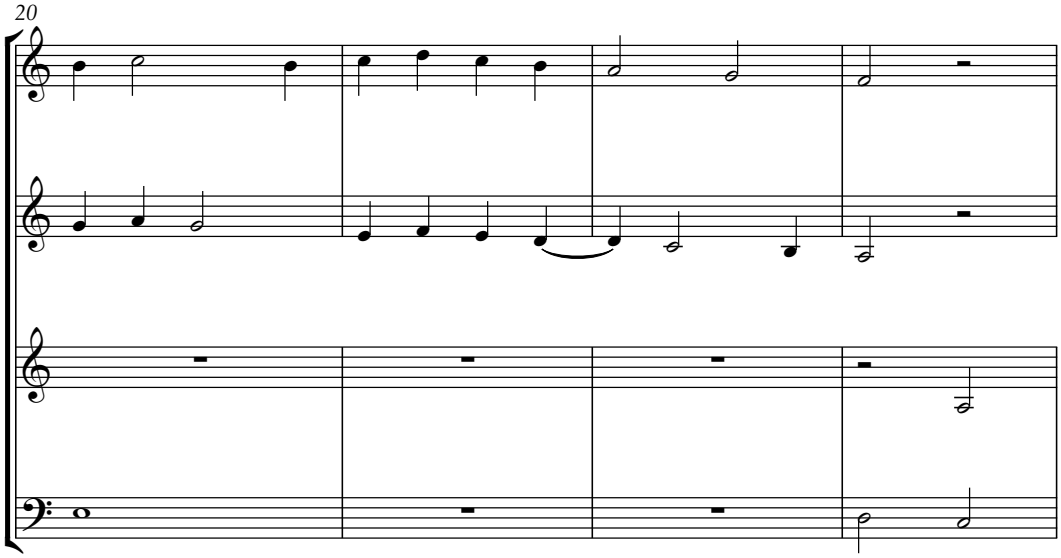


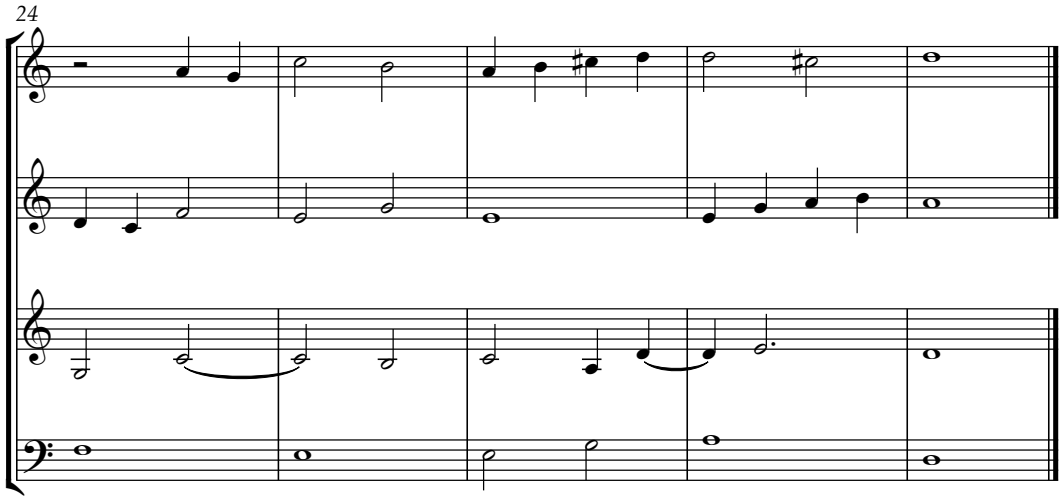
2

14

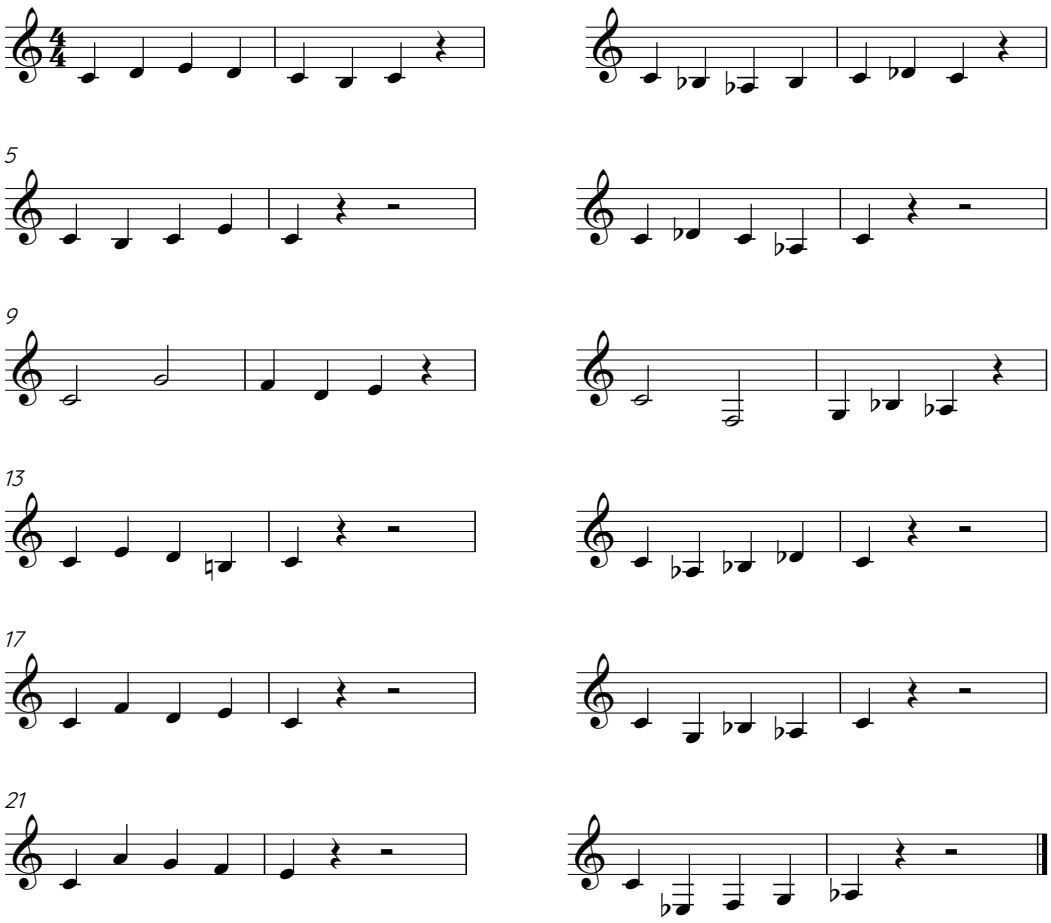


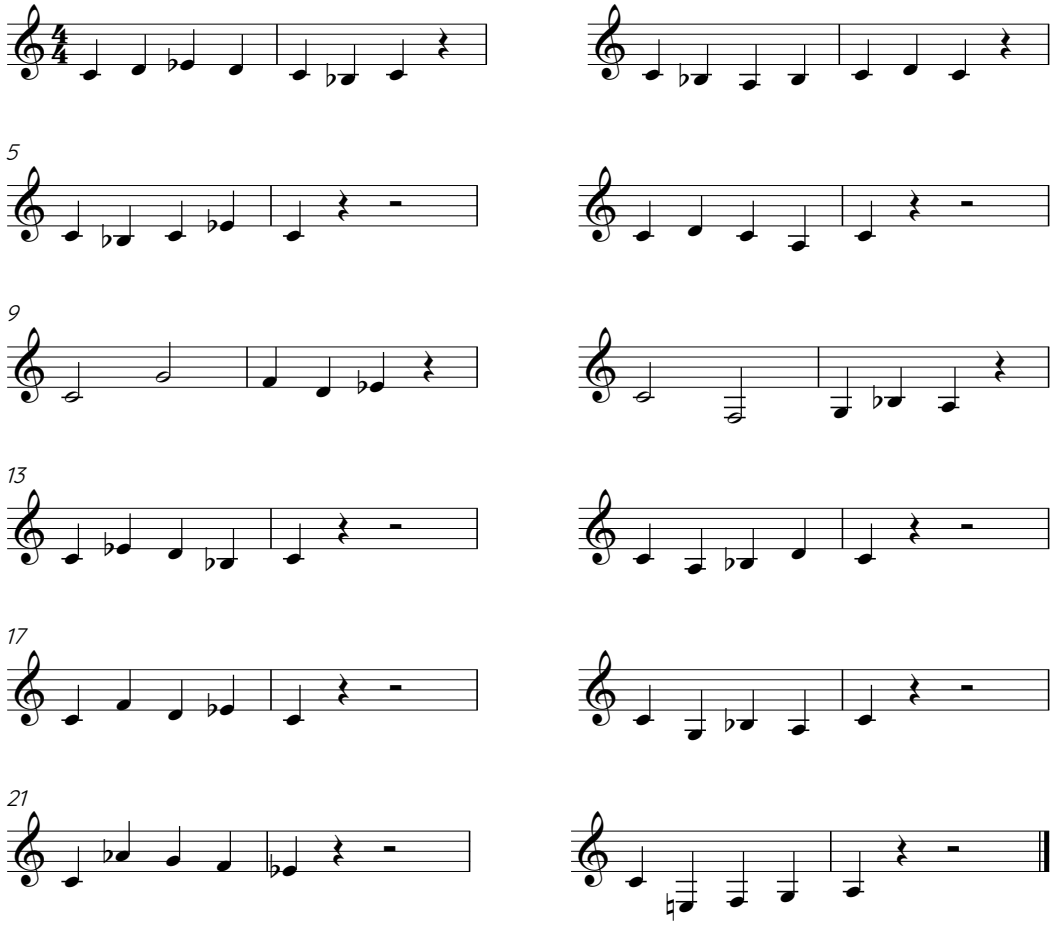
20

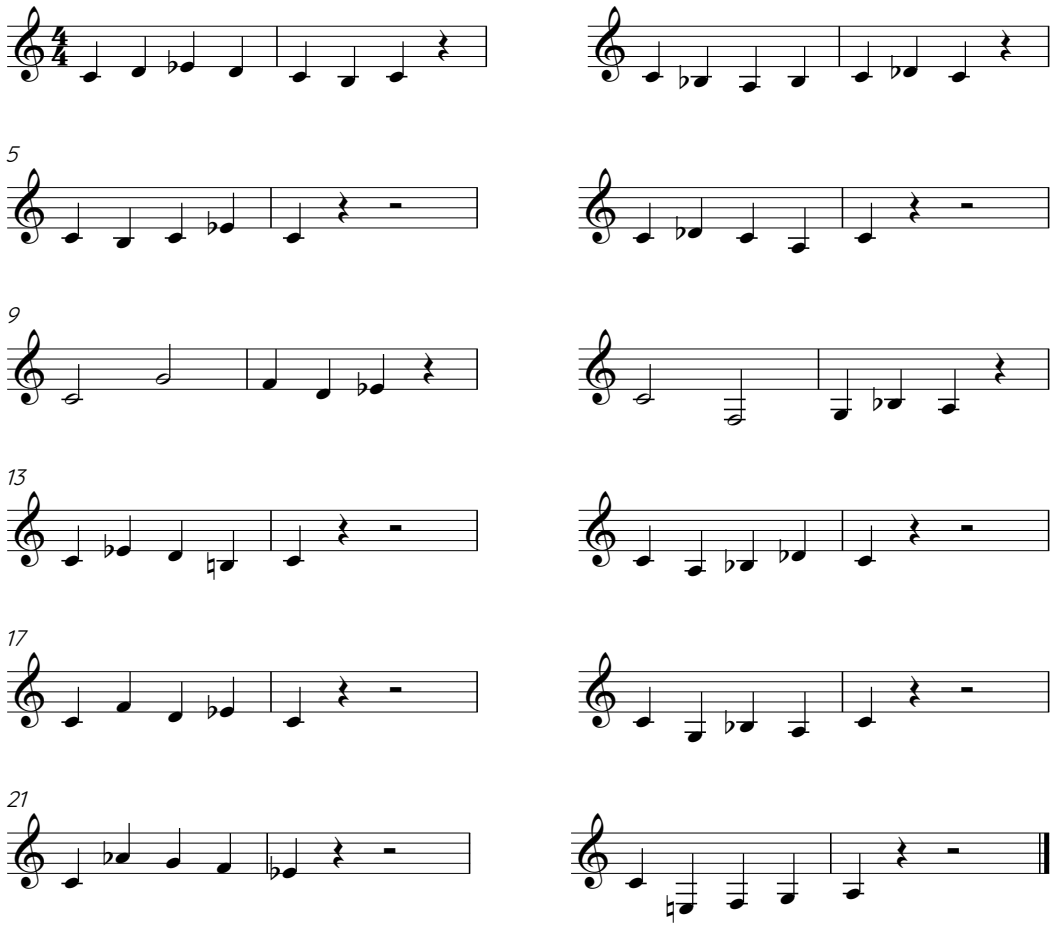


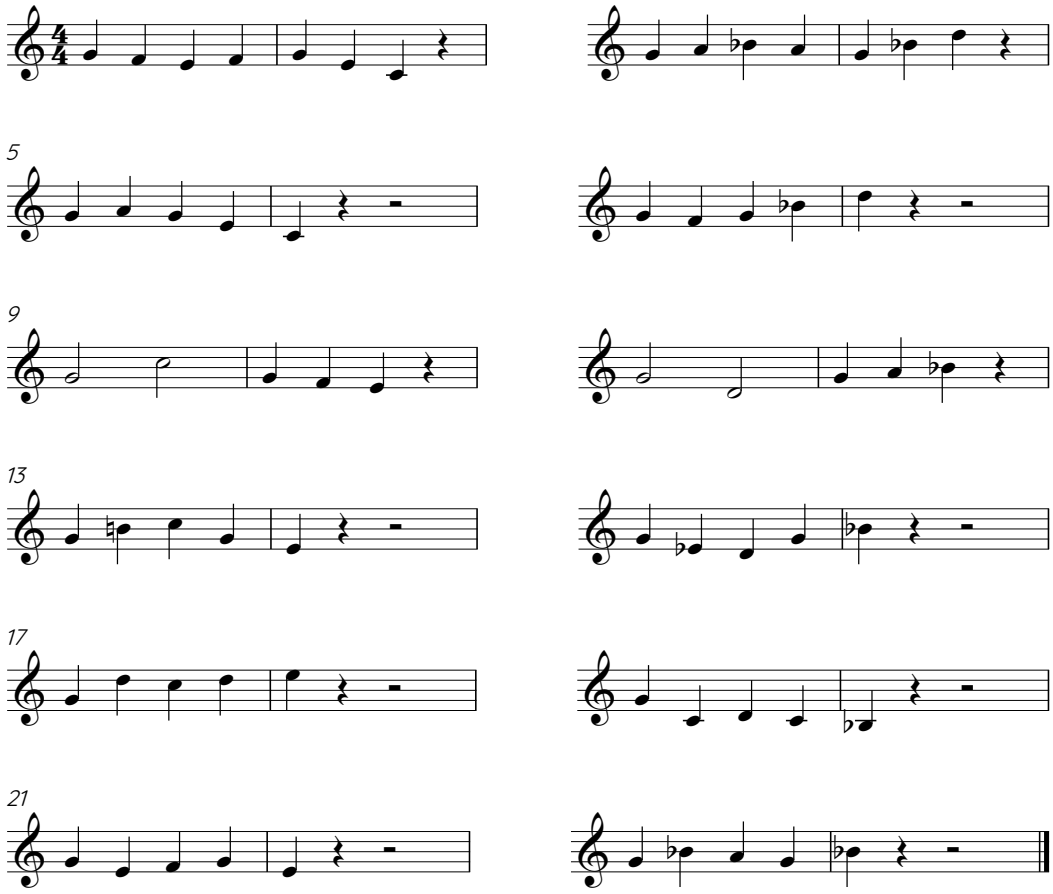

24

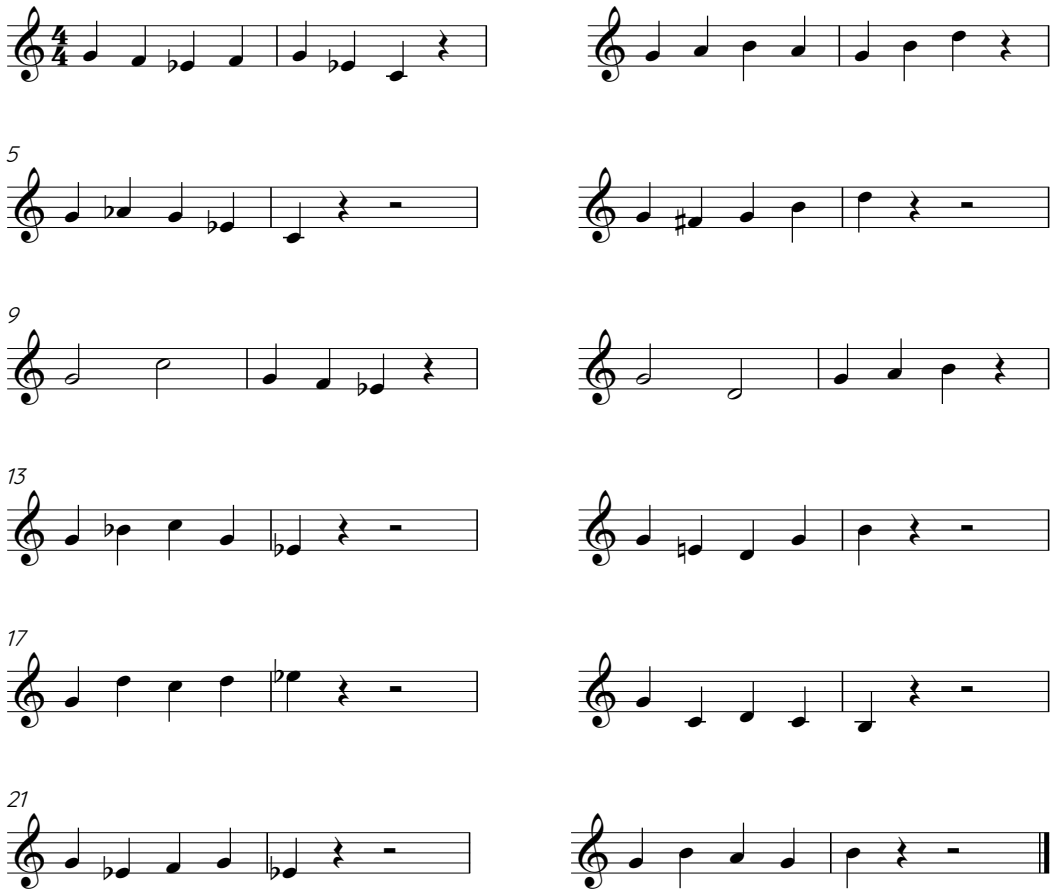
20. Appendix 20: Experimenting with inversions

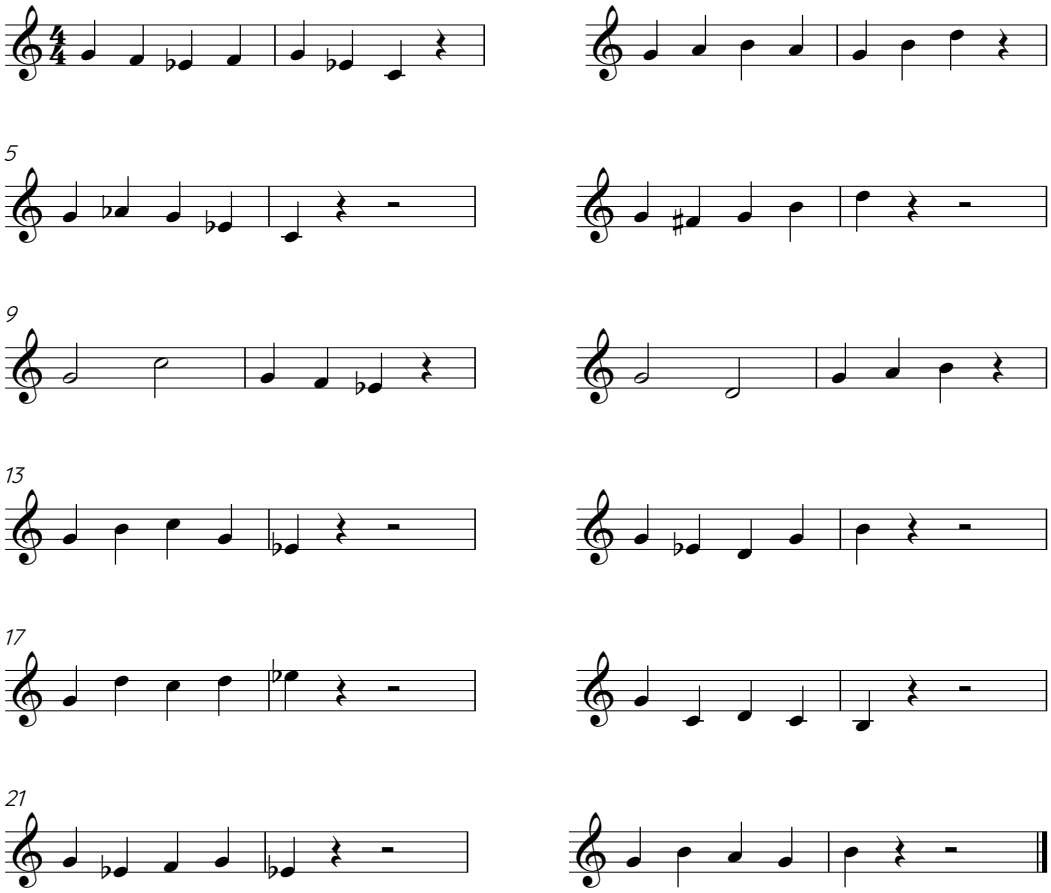



5
9
13
17
21


5
9
13
17
21



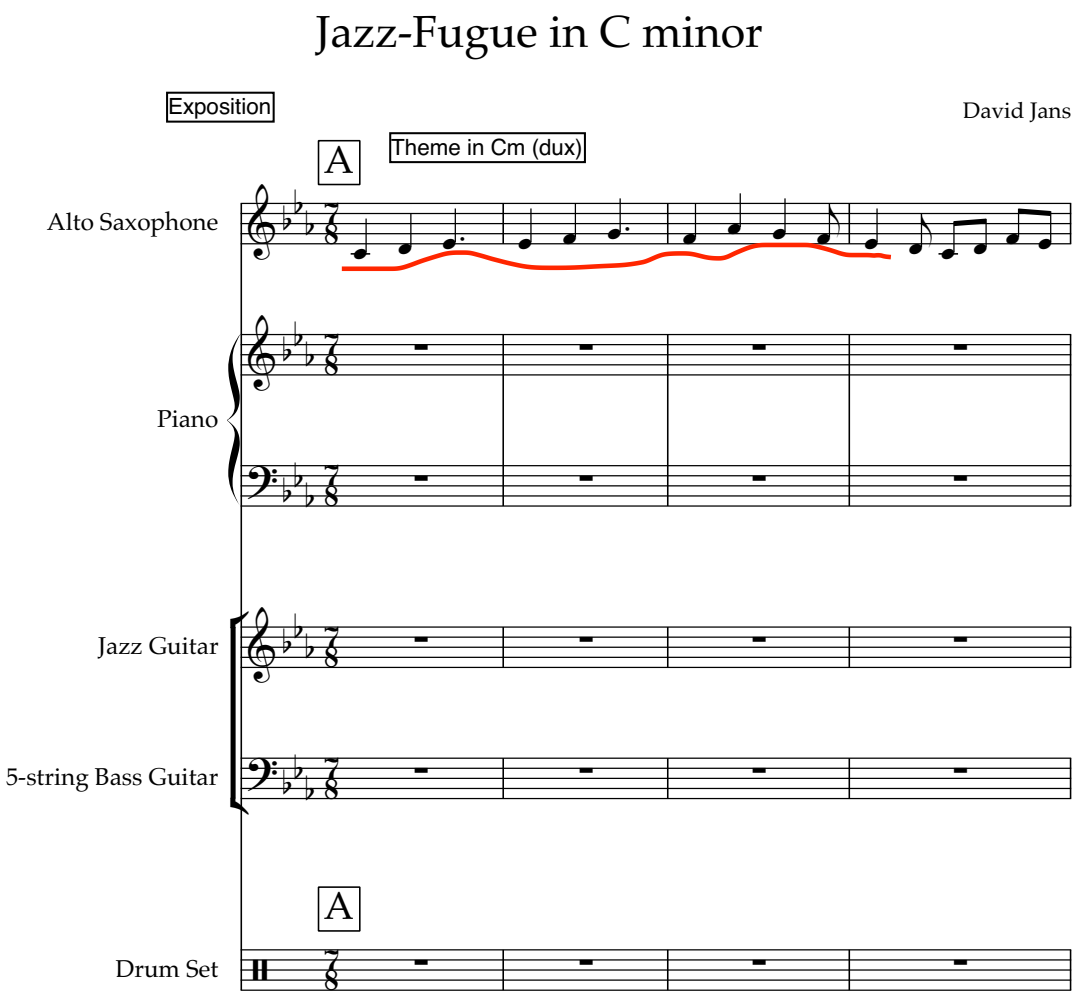




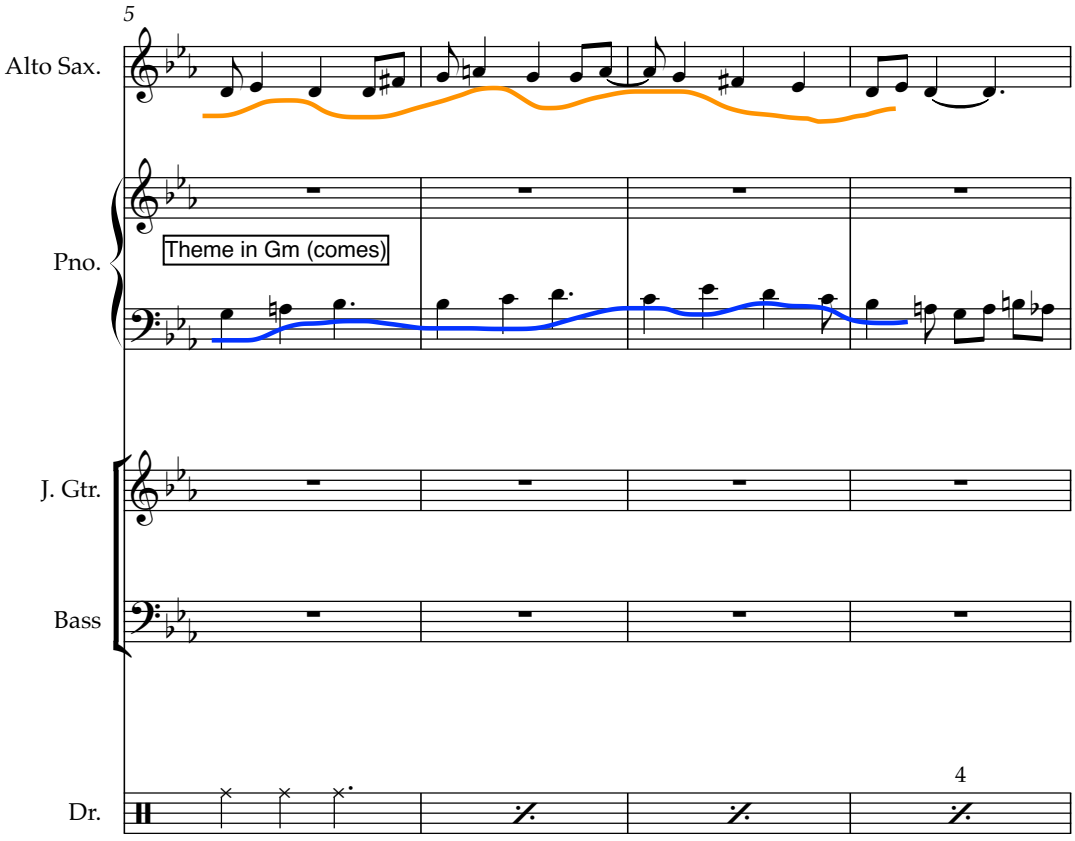
21. Appendix 21: Jazz-Fugue in C minor

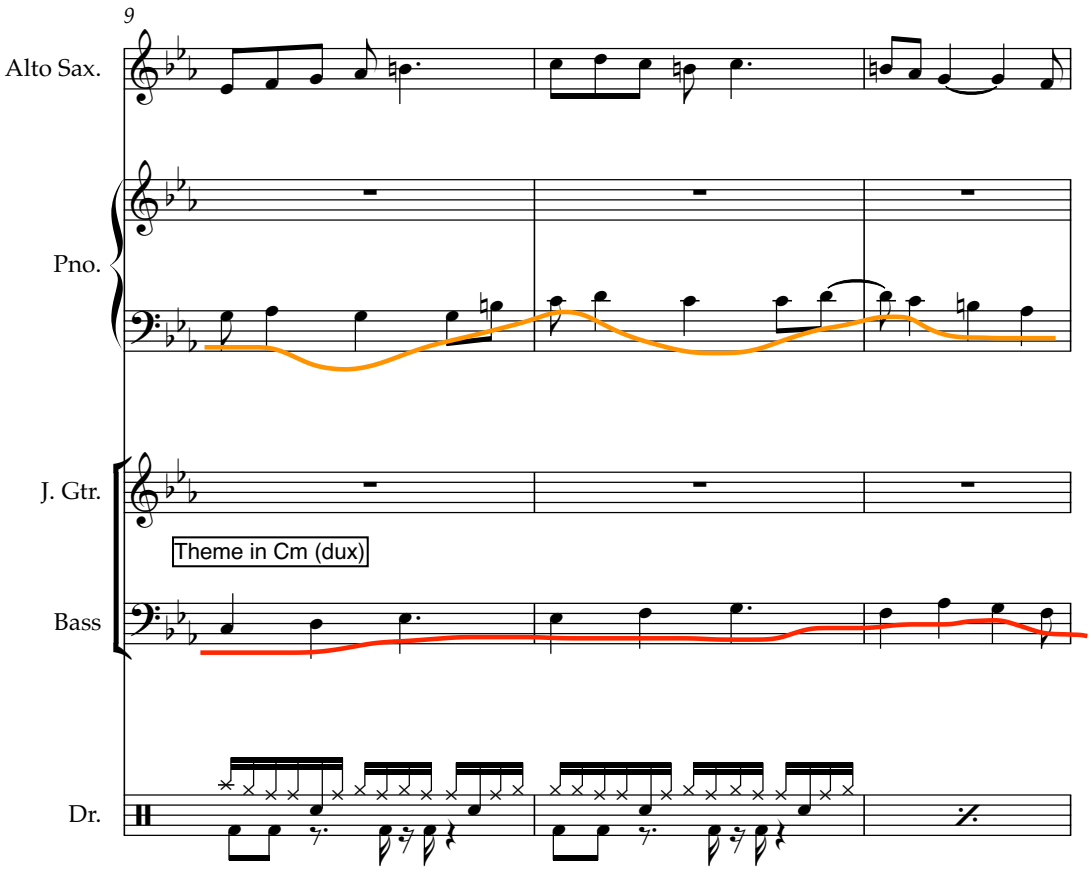
All framed text and coloured lines were added by myself.

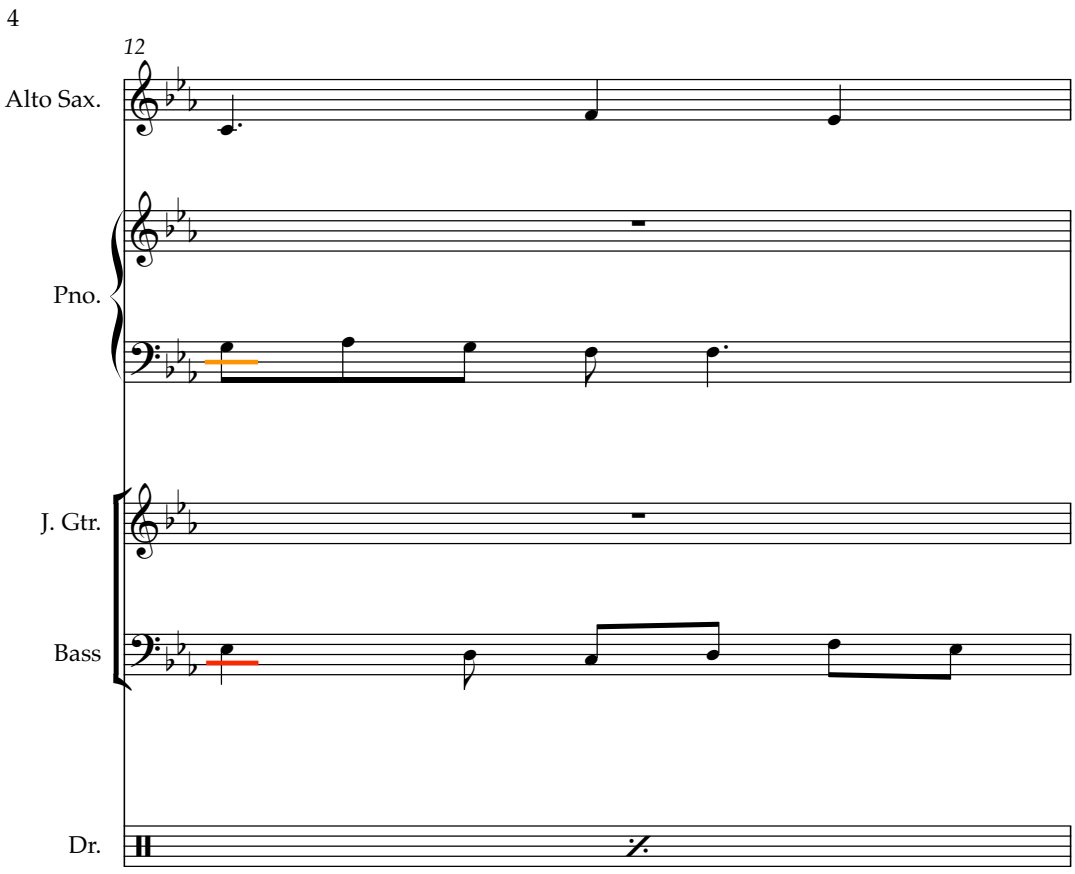
Red: *dux,* Blue: *comes*, Orange: *countersubject*, Green: all other entrances

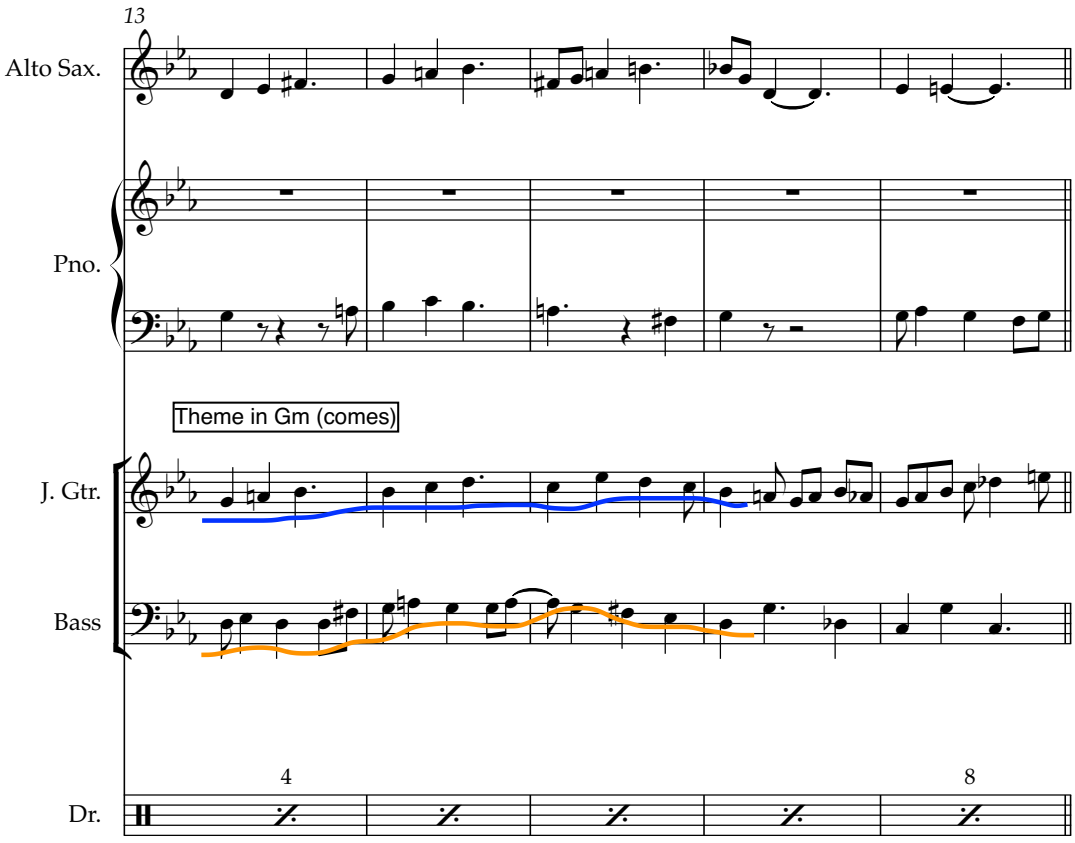


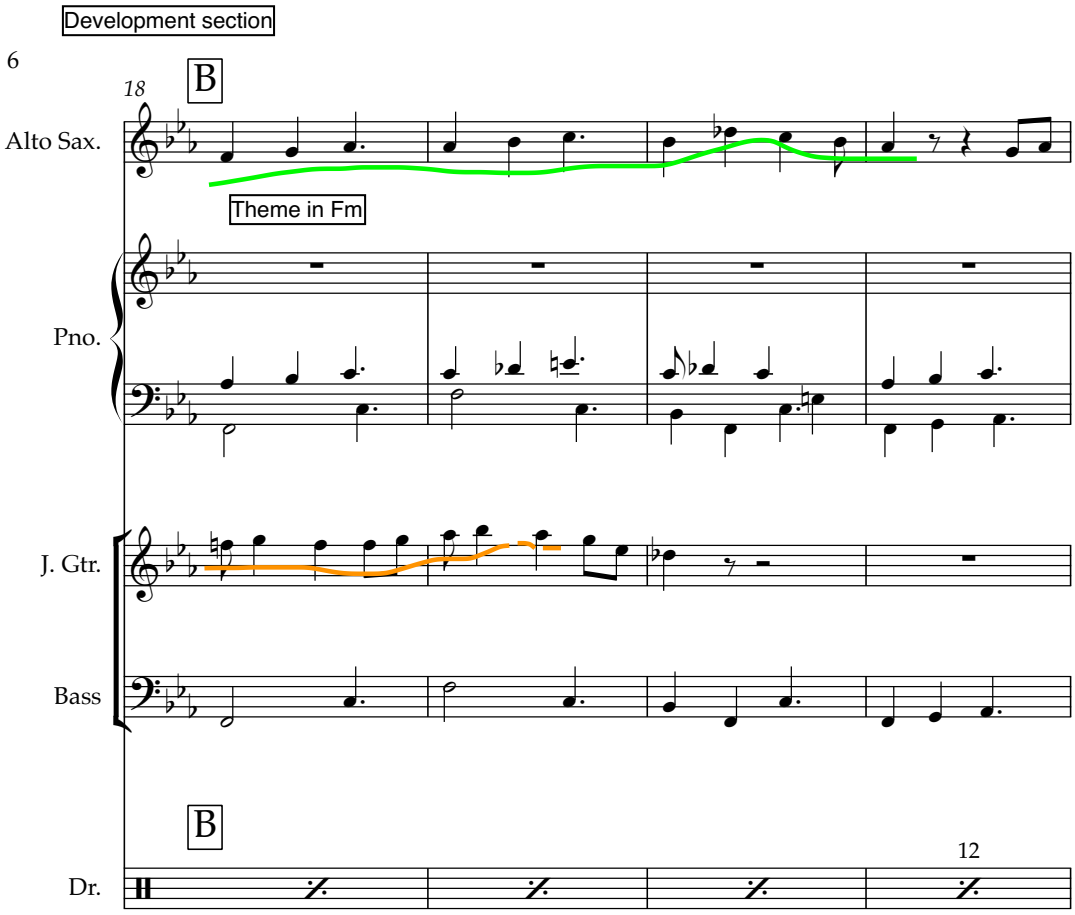
2

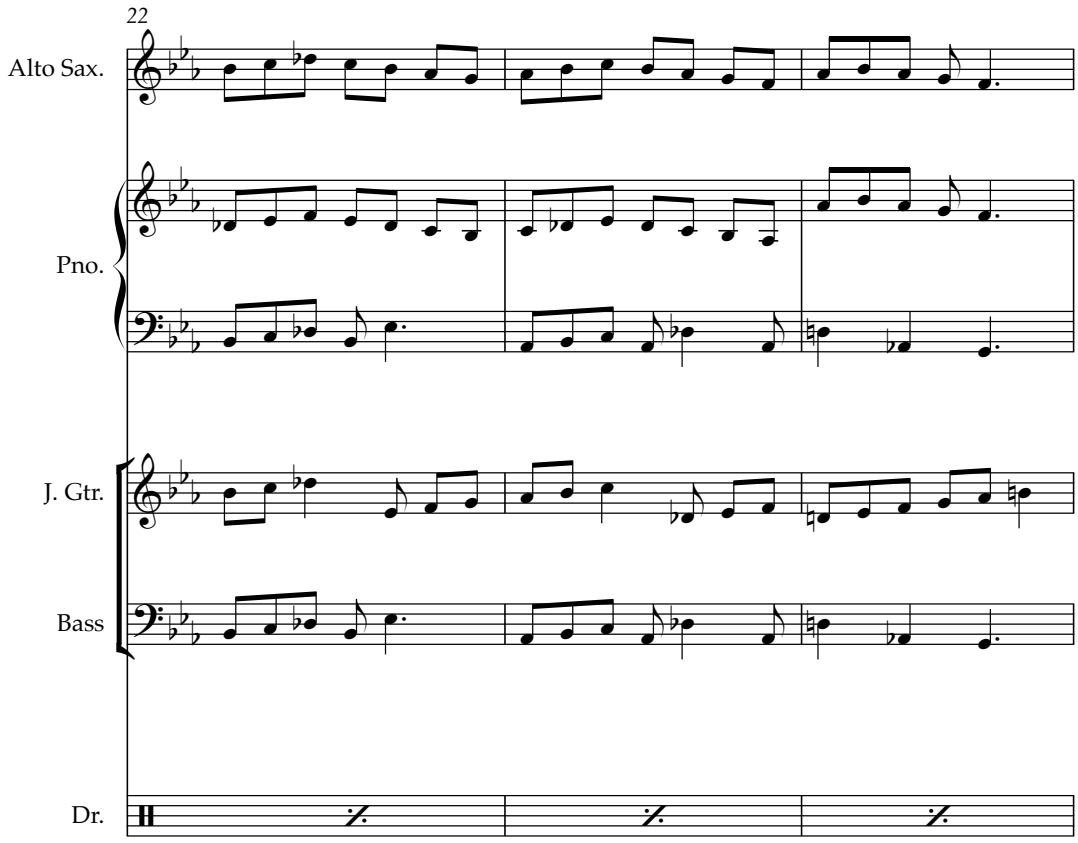


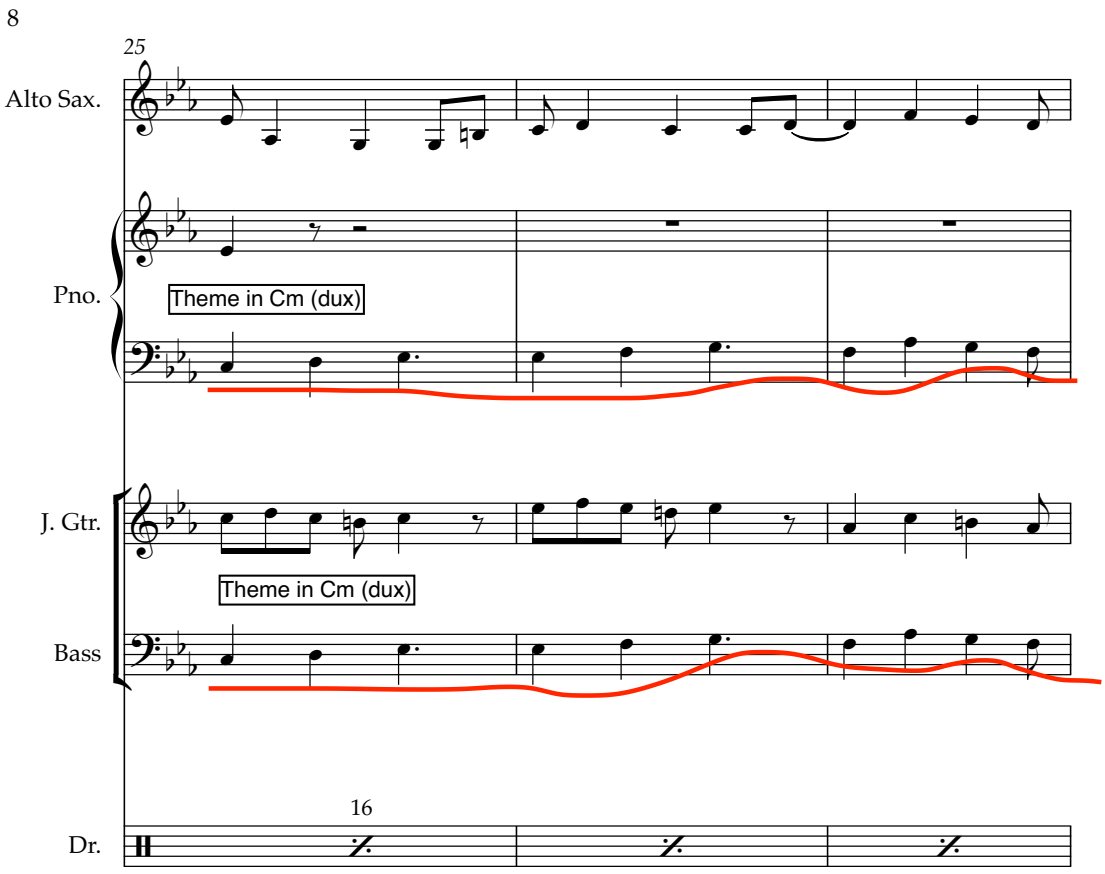

9
Alto Sax.
Pno.
J. Gtr.
Theme in Cm (dux)
Bass
Dr.

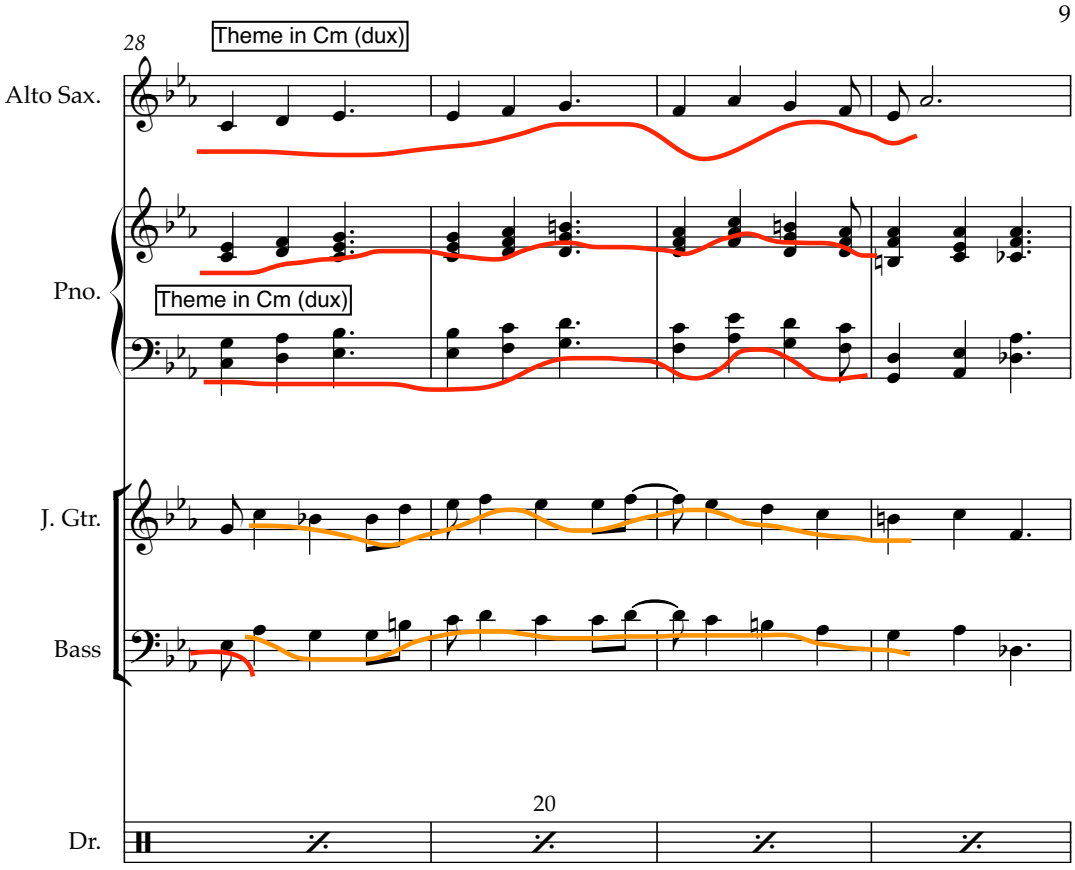

4
12
Alto Sax.
Pno.
J. Gtr.
Bass
Dr.

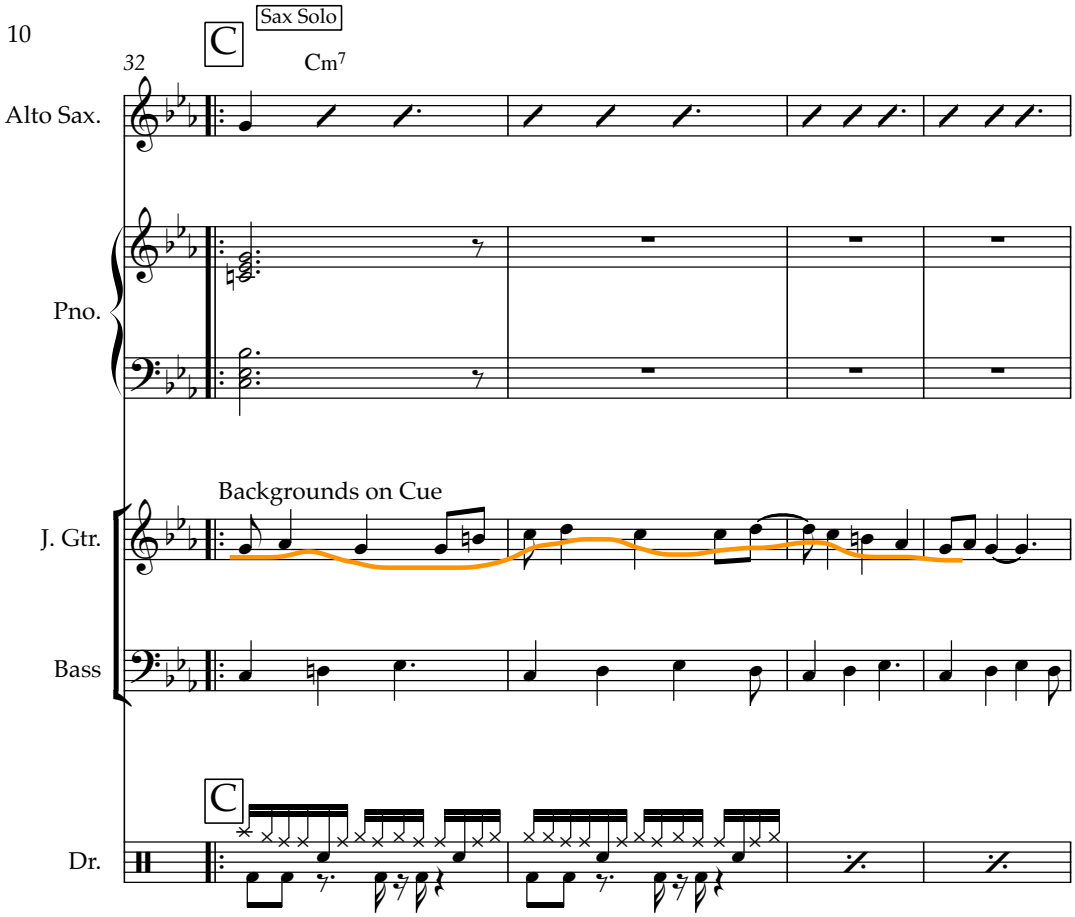

13
Alto Sax.
Pno.
Theme in Gm (comes)
J. Gtr.
Bass
4
8
Dr.

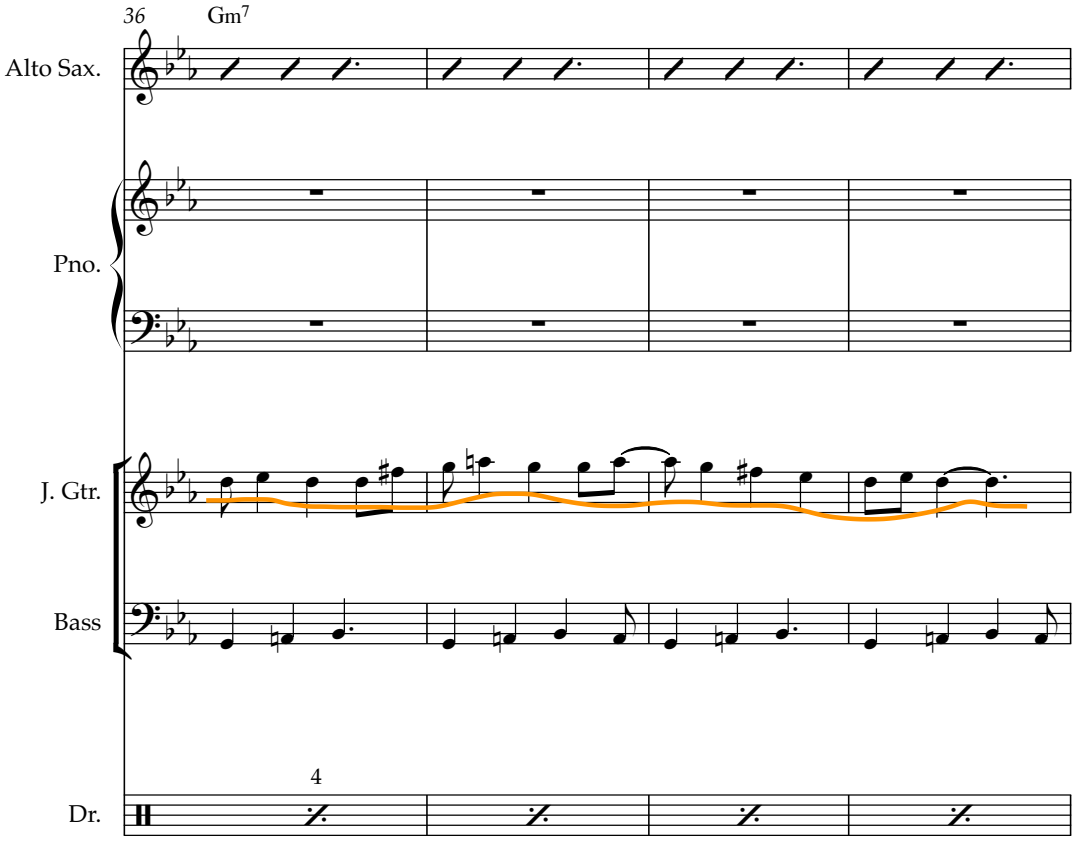

Development section
6
18
B
Alto Sax.
Theme in Fm
Pno.
J. Gtr.
Bass
B
12
Dr.


22
Alto Sax.
Pno.
J. Gtr.
Bass
Dr.

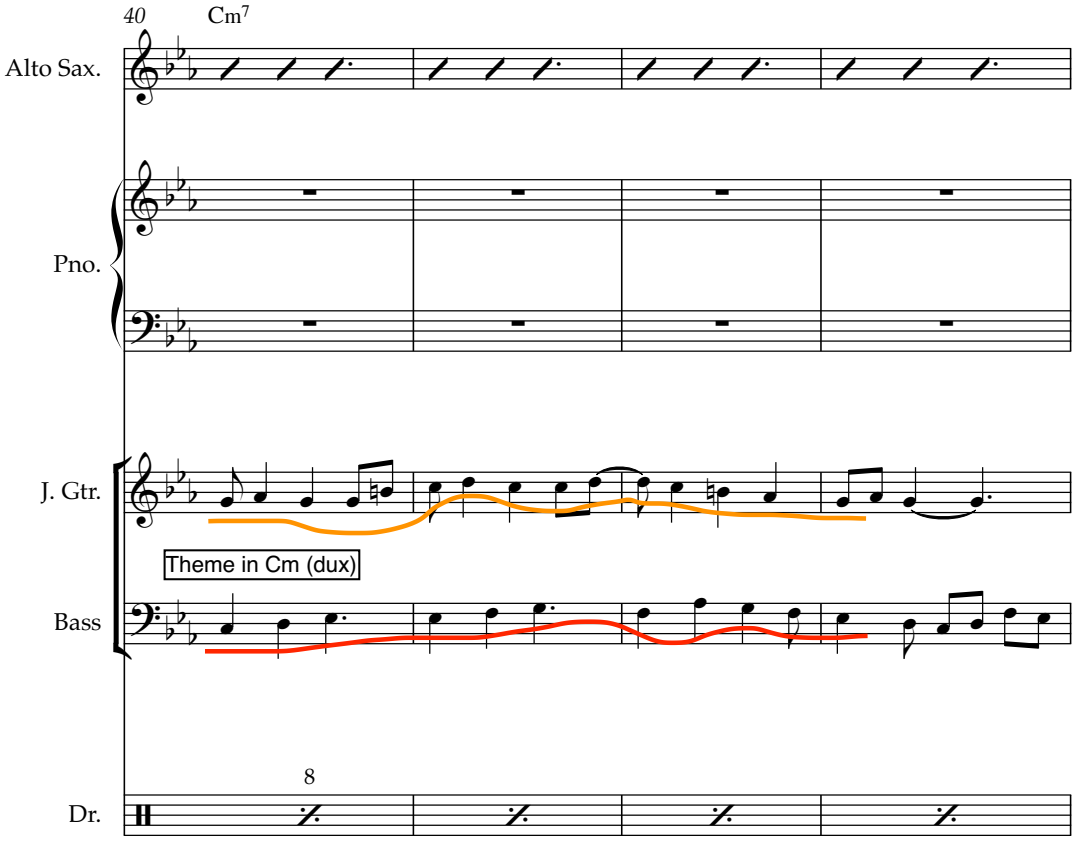

8
25
Alto Sax.
Pno.
Theme in Cm (dux)
J. Gtr.
Theme in Cm (dux)
Bass
16
Dr.

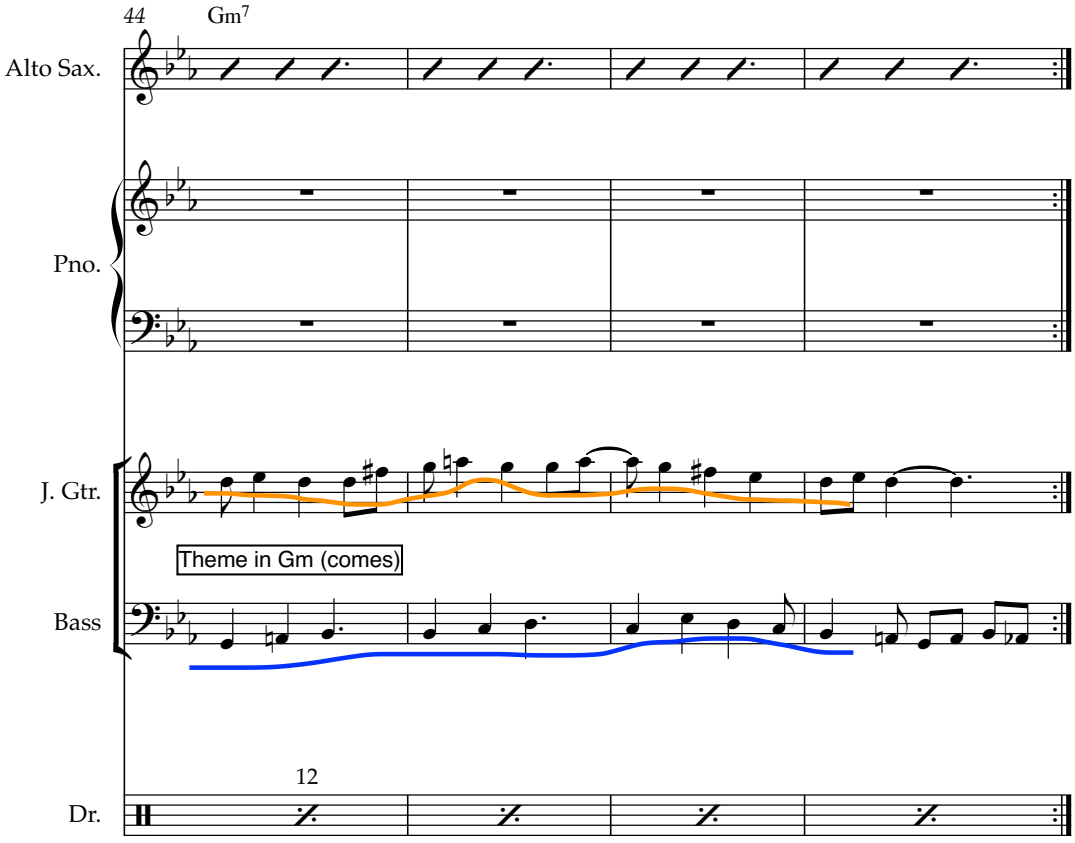

28
Theme in Cm (dux)
Alto Sax.
Pno.
Theme in Cm (dux)
J. Gtr.
Bass
20
Dr.


10
32
C
Sax Solo
Cm7
Alto Sax.
Pno.
Backgrounds on Cue
J. Gtr.
Bass
C
Dr.

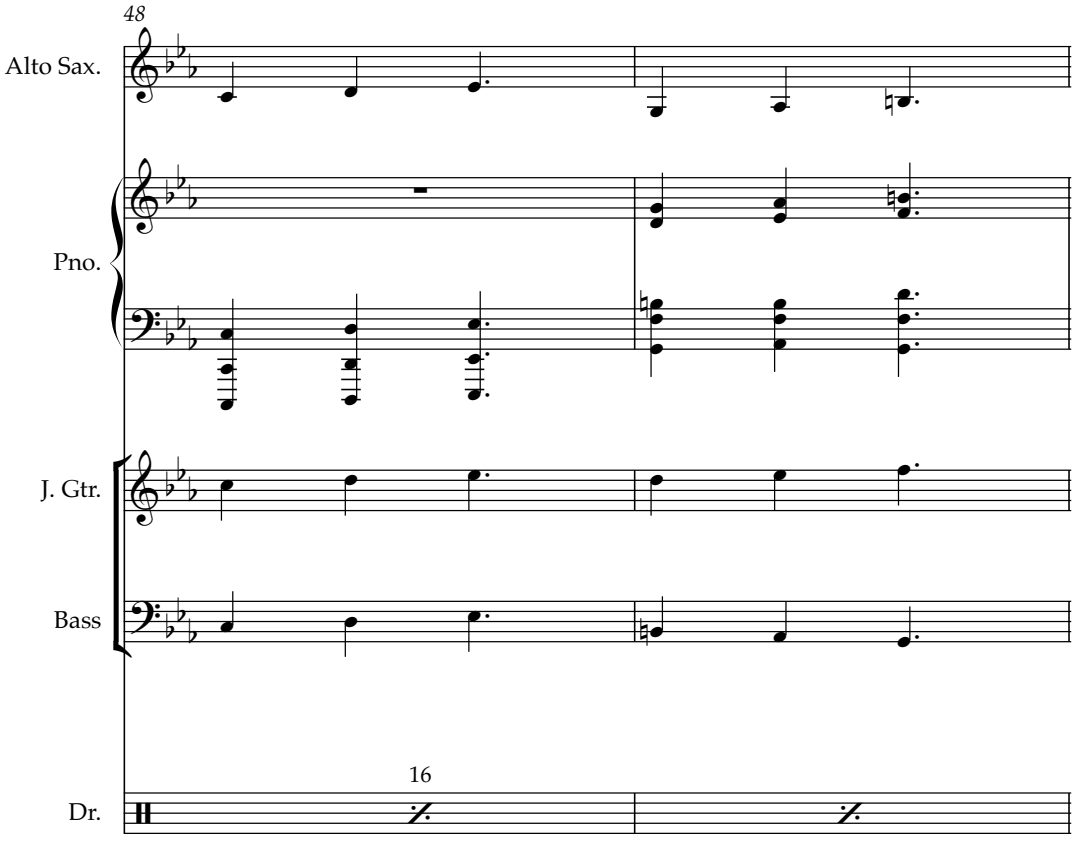

36
Gm7
Alto Sax.
Pno.
J. Gtr.
Bass
4
Dr.

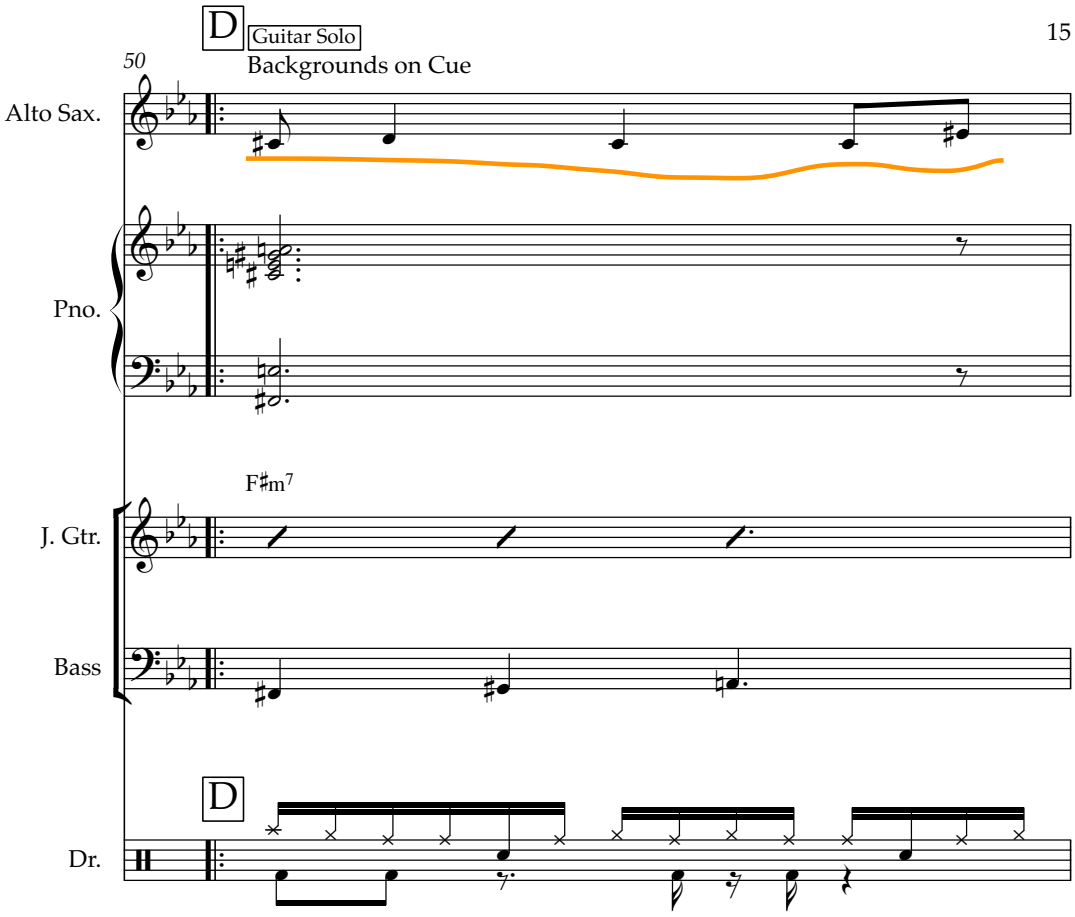
12



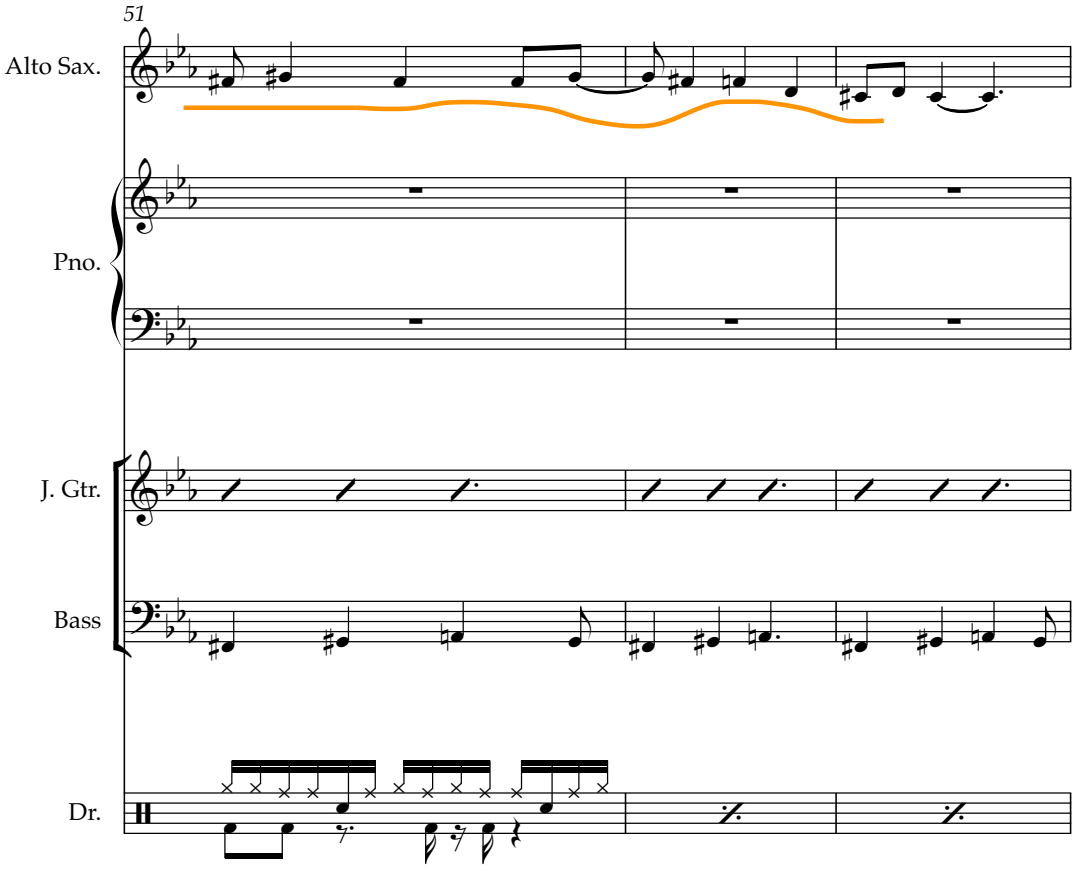

44
Gm7
Alto Sax.
Pno.
J. Gtr.
Theme in Gm (comes)
Bass
12
Dr.

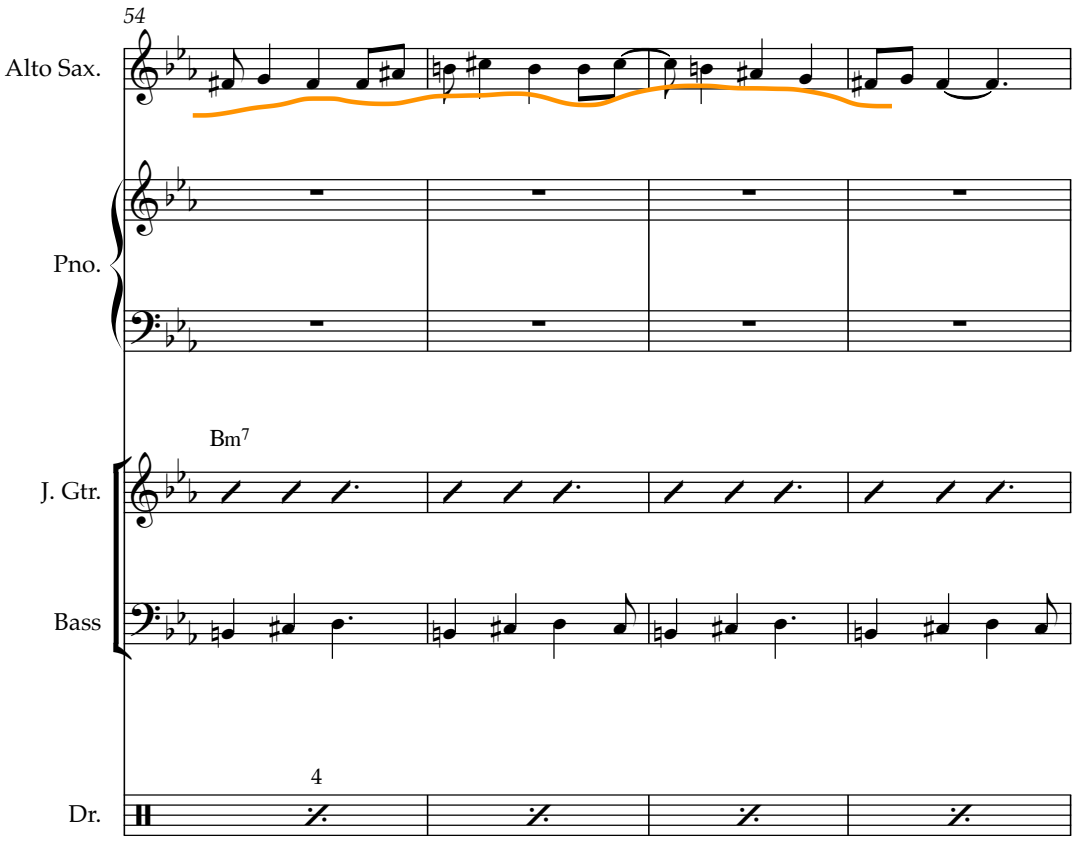
14



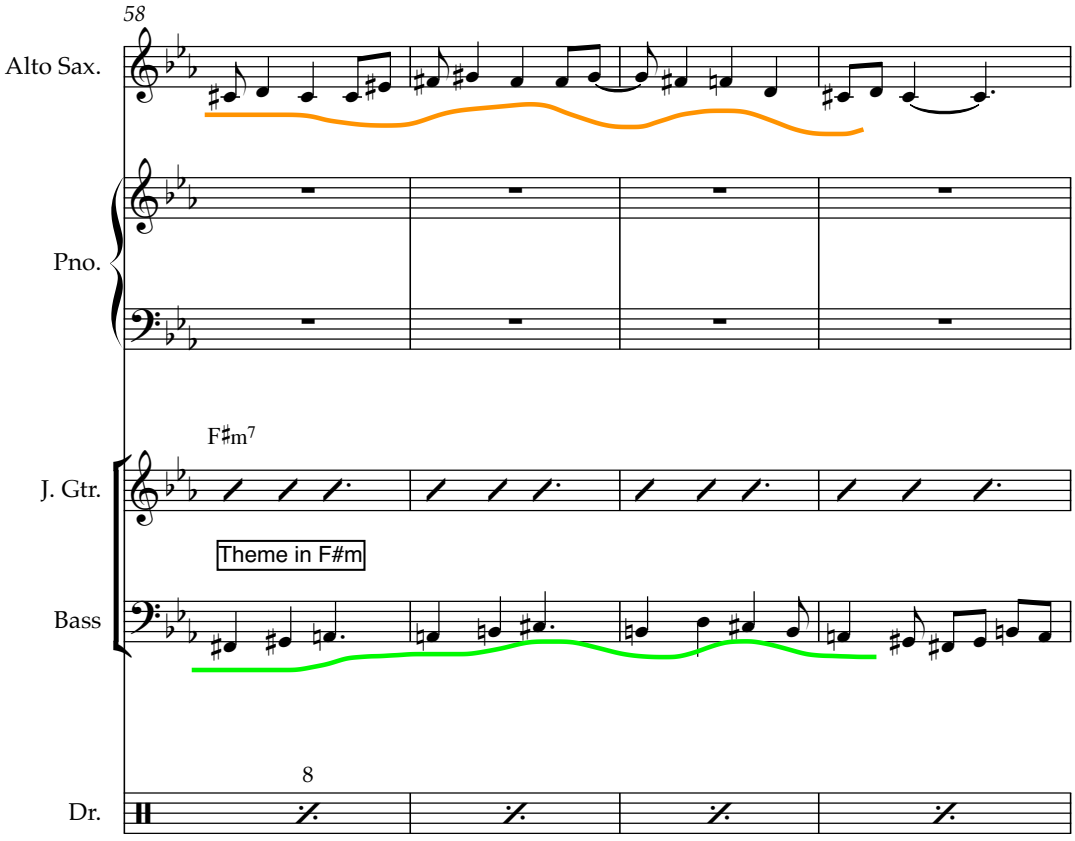

D
Guitar Solo
Backgrounds on Cue
15
50
Alto Sax.
Pno.
F♯m7
J. Gtr.
Bass
D
Dr.

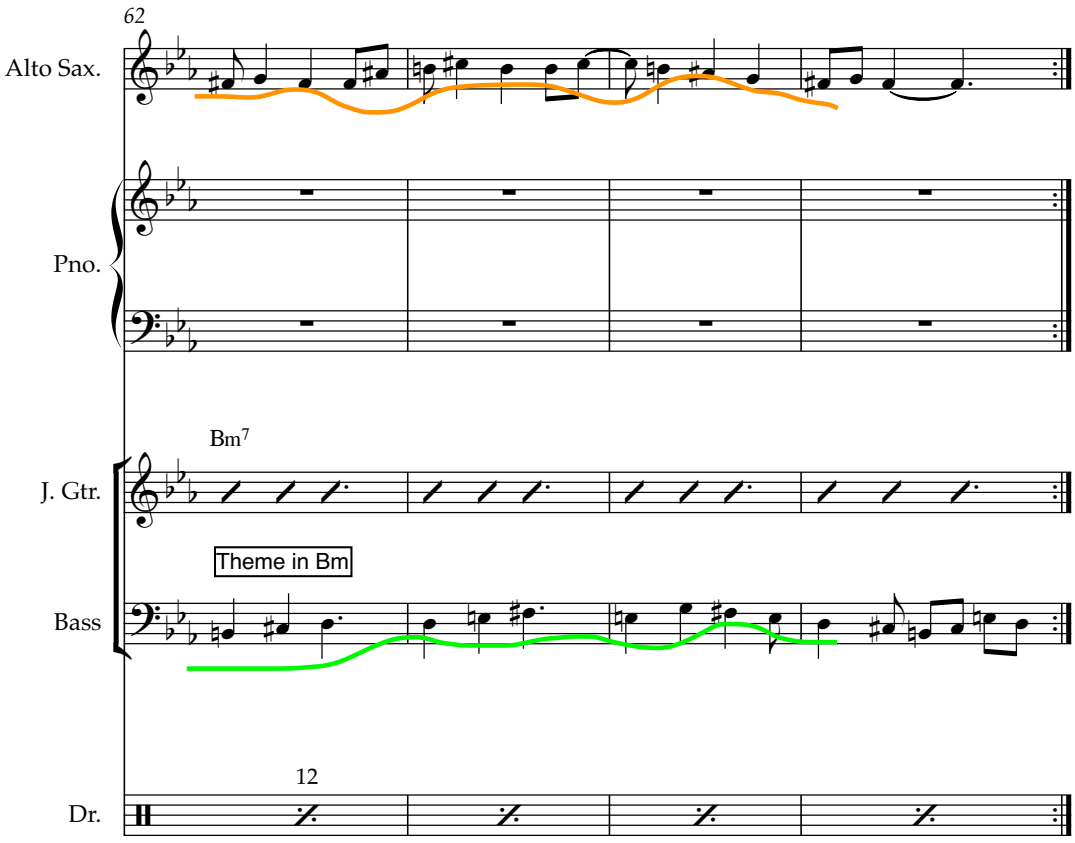
16

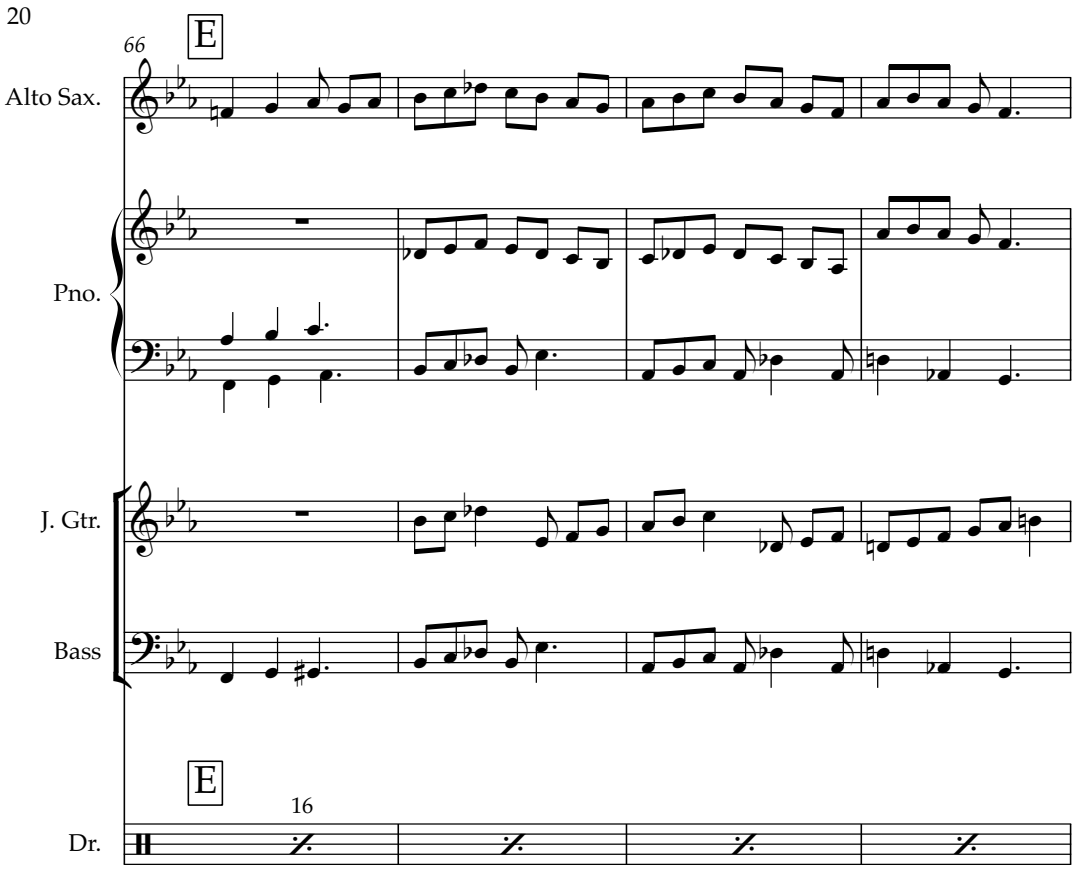


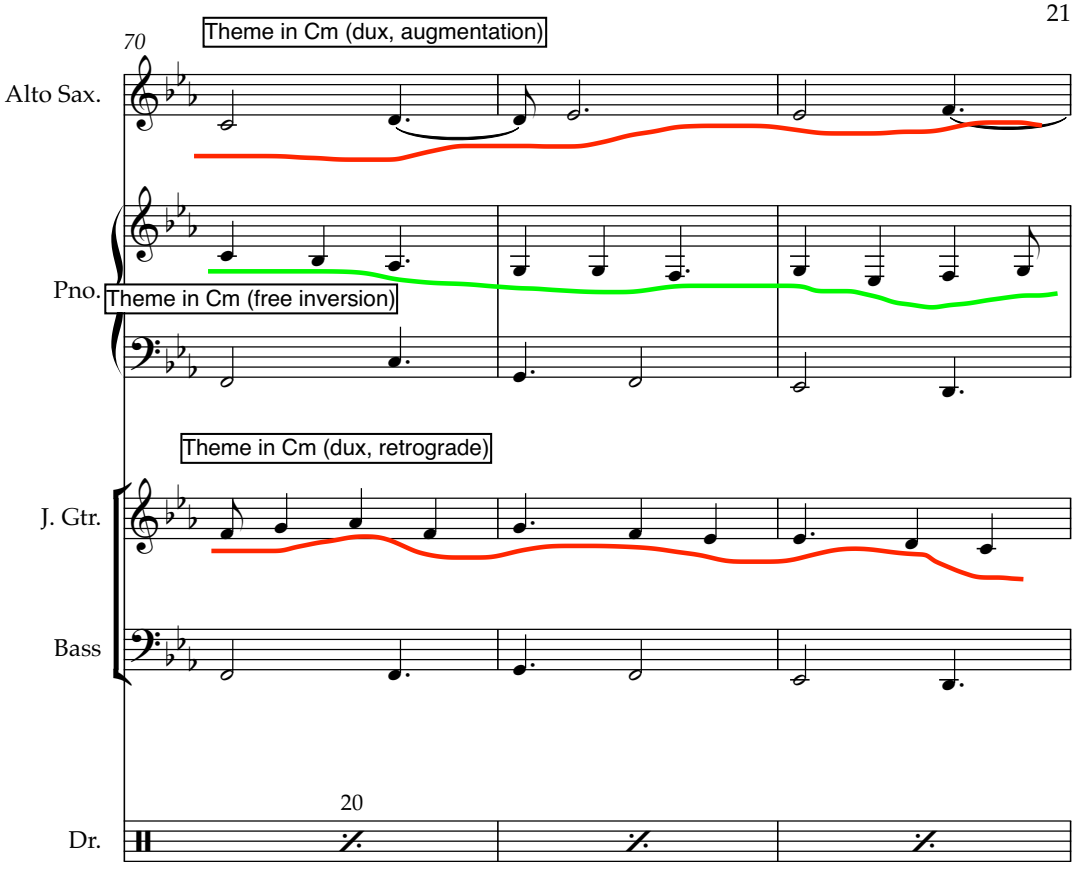

54
Alto Sax.
Pno.
Bm7
J. Gtr.
Bass
4
Dr.

18

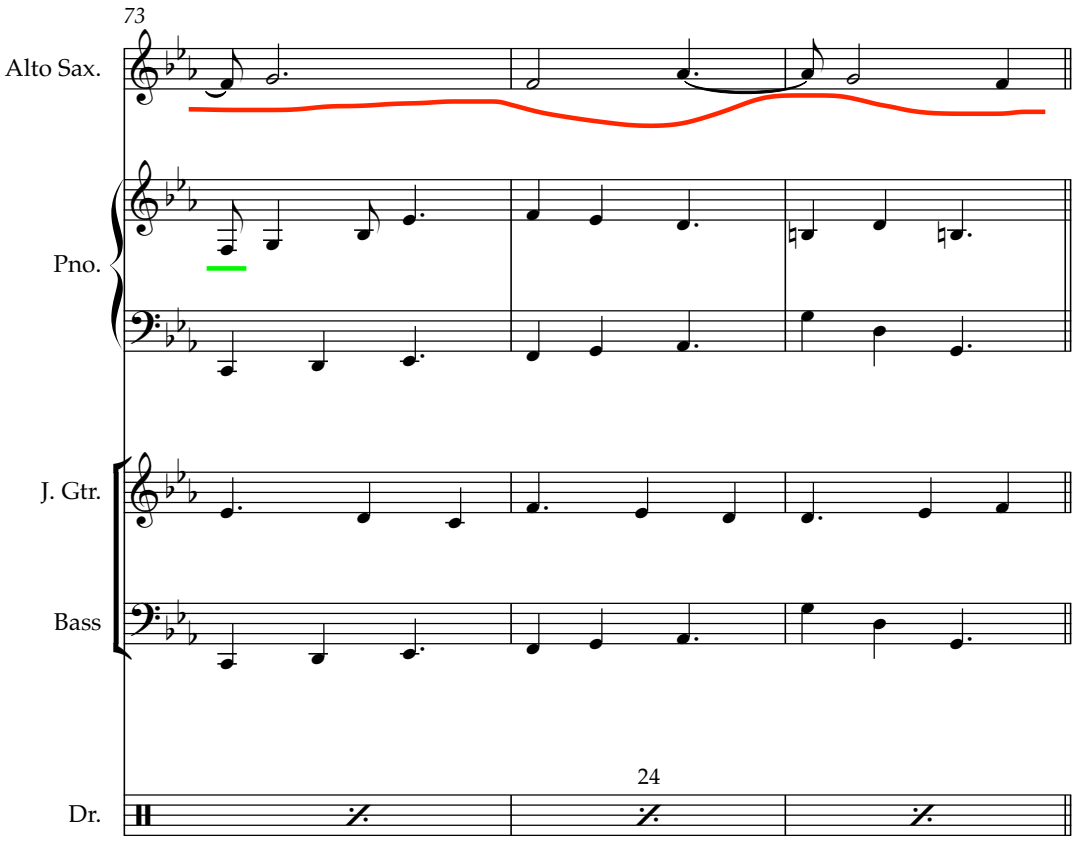


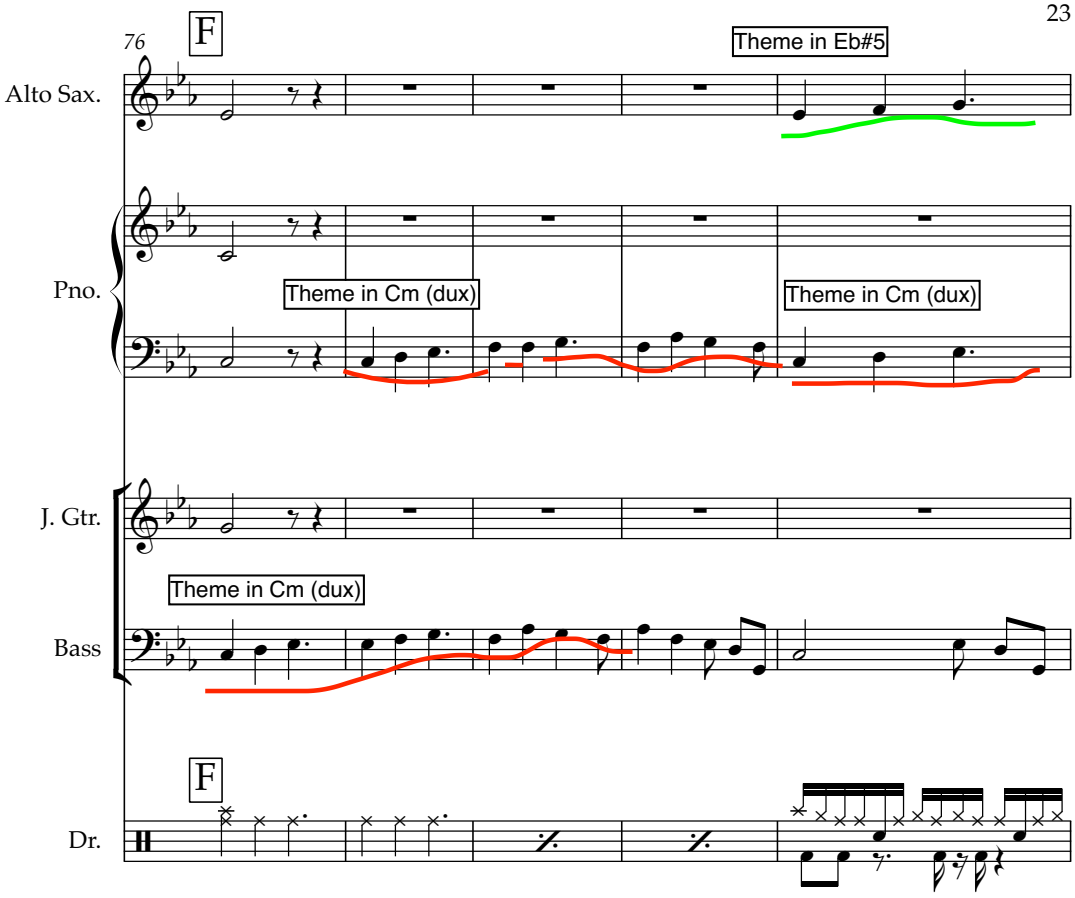

62
Alto Sax.
Pno.
Bm7
J. Gtr.
Theme in Bm
Bass
12
Dr.


20
66
E
Alto Sax.
Pno.
J. Gtr.
Bass
E
16
Dr.

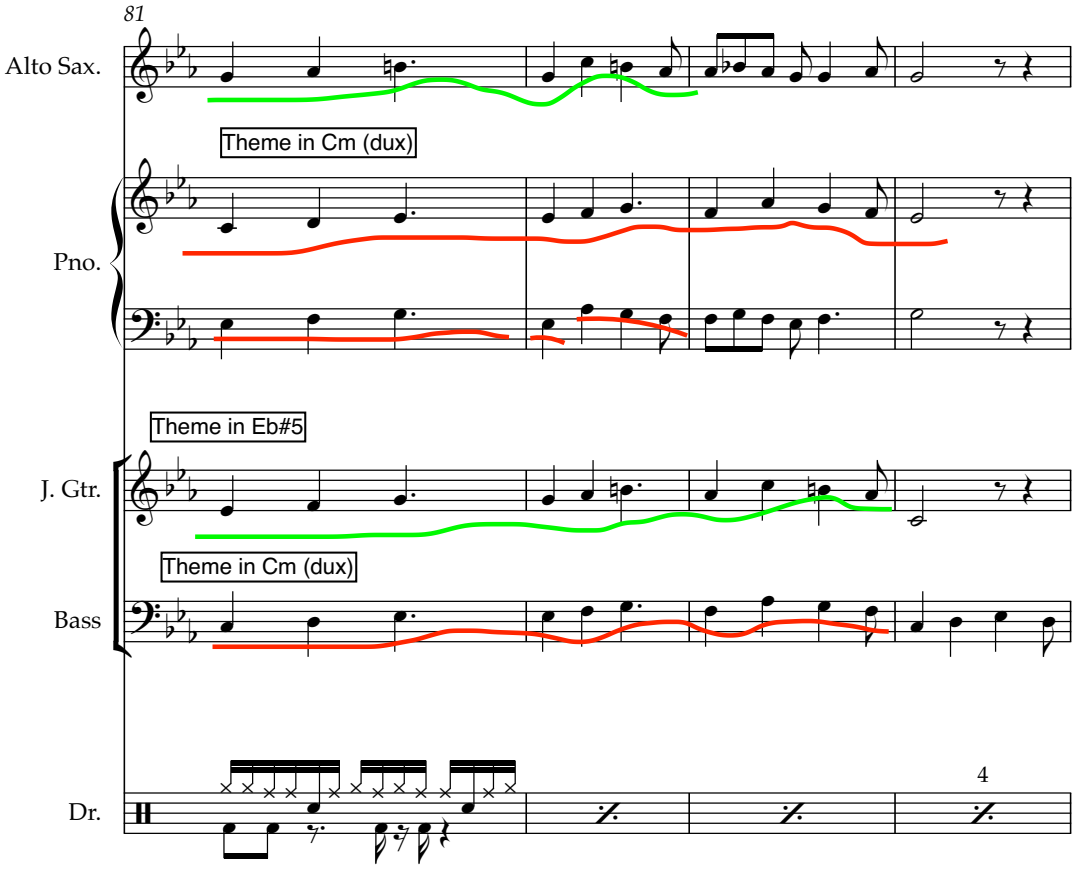

70
Theme in Cm (dux, augmentation)
Alto Sax.
Pno.
Theme in Cm (free inversion)
Theme in Cm (dux, retrograde)
J. Gtr.
Bass
20
Dr.

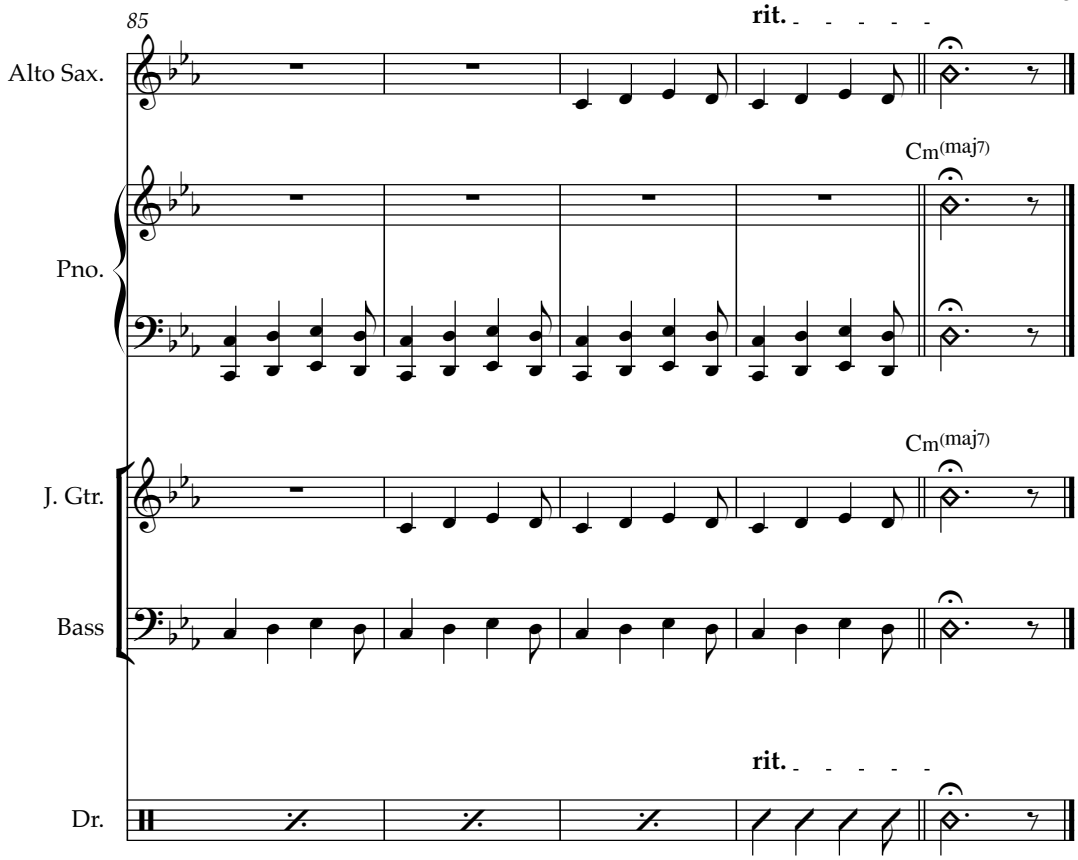
22




76
F
Theme in Eb#5
Alto Sax.
Pno.
Theme in Cm (dux)
Theme in Cm (dux)
J. Gtr.
Theme in Cm (dux)
Bass
F
Dr.

24


81
Alto Sax.
Theme in Cm (dux)
Pno.
Theme in Eb#5
J. Gtr.
Theme in Cm (dux)
Bass
Dr.
4


85
rit.
Alto Sax.
Cm(maj7)
Pno.
Cm(maj7)
J. Gtr.
Bass
rit.
Dr.

22. Appendix 22: Audio Files

This link leads you to a Google Drive folder which contains audio files of the exercises, transcriptions and compositions I did.

https://drive.google.com/drive/folders/1w1ItNDlQ0T5qtdKdPRkaP1UWC076ezOG?usp=share_link