A THEORY OF TEXT SETTING CONTOUR: A PROPOSED THEORY THAT PLACES TEXT AT THE STRUCTURAL FOREGROUND OF THE ANALYSIS OF VOCAL MUSIC

Grace K. Weaver

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A THEORY OF TEXT SETTING CONTOUR:
A PROPOSED THEORY THAT PLACES TEXT AT THE STRUCTURAL FOREGROUND OF THE ANALYSIS OF VOCAL MUSIC

by

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Bachelor of Arts in Speech Communication
Bachelor of Arts in Vocal Performance

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A THEORY OF TEXT SETTING CONTOUR:
A PROPOSED THEORY THAT PLACES TEXT AT THE STRUCTURAL FOREGROUND OF THE ANALYSIS OF VOCAL MUSIC

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ABSTRACT

How can contour theory be used to analyze a composer’s setting of a poem? Can this approach provide insights that lead to an interpretation of the composer’s setting of the text? This study presents a new contour theory on text setting by examining two different settings of the same text. This theory examines one aspect of the music, the vocal line, and plots syllable’s locations in two dimensions of music: pitch space and duration. Using these data points, one can suggest an interpretation of the poem. Through the application of this theory to Fanny Hensel and Franz Schubert’s setting of “Du bist die Ruh” by Friederich Rückert and Barbara Kolb and Darius Milhaud’s settings of “Le vitrier” by Stephane Mallarmé, we see how this theory can suggest similar and different interpretations of the same text.
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**Introduction**

How can contour theory be used to analyze a composer’s setting of a poem? Can this approach provide insights that lead to an interpretation of the composer’s setting of the text? This study presents a new contour theory on text setting by examining two different settings of the same text. By examining pitch contour and rhythmic duration of two settings of the same song, I demonstrate that contour is an analytical tool for singers and theorists alike. The proposed application of contour theory investigates whether structural features of the vocal line, like pitch and duration, can suggest interpretations of a composer’s readings of the poem.

I selected pieces for equal representation of composers’ genders, the poet’s caliber, the poetry’s language, and finally, period and style of composition. What follows is a discussion of how each consideration narrowed the choice of pieces. Half the pieces are by women, easily the largest limiting factor.

Part of examining text setting is a thorough analysis of the text itself. To narrow the search, I made a list of notable poets from various countries whose works I knew had been set to music fairly often but were also notable within literary studies, such as Goethe, Rückert, Heine, Mallarme, Hugo, Verlaine, Shakespeare, Blake, Keats, etc.

French, German, Italian, and English are considered the most helpful languages for classical singers to learn because of their prominence within the genres of opera and art songs. There are many differences between them, but one concern is stressed syllables and tonic accents. A tonic accent is a stress on a syllable that is so heavy that it affects the vowel sound and length of surrounding phonemes. Languages like Italian, German, and English all have tonic accents, but French does not. Because of this feature, French poetry does not have poetic feet, and the

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meter is measured solely by the number of syllables. In comparison, English poetry can have a meter that demonstrates a pattern of stress within a single line of poetry, like iambic pentameter.\textsuperscript{2}

To examine the relationship between poetic meter and the contour of song, I selected works in French and German. French has no tonic accent, whereas German is metric with primary stress, secondary stress, and unstressed syllables.\textsuperscript{3}

Finally, I sought to create a theory that would be compatible with the analysis of post-tonal and non-metric music. Therefore, at least one of the pieces is post-tonal. Contour segments are already used in the analyses of post-tonal music, but I have not yet seen them applied to text settings in this way. Selecting a post-tonal art song also presented the opportunity to analyze a song that is not metric.

Each of these constraints narrowed the scope and led me to choose Franz Schubert and Fanny Mendelssohn Hensel’s settings of “Du bist die Ruh” by Friedrich Rückert and Darius Milhaud and Barbara Kolb’s settings of “Le Vitrier” by Stéphane Mallarmé.

Much of the musical analysis of vocal music solely examines the pitch structure; the vocal line is included but not examined as a separate feature. I use pitch contour and rhythmic proportions to analyze text setting emphasis within the vocal line. Research that examines the vocal line has implications for singers, conductors, and directors. For instance, if the music’s structural features correlate with dramatic interpretations, then the music might favor one dramatic choice over another, impacting how singers, conductors, and directors perform a given work.

\textsuperscript{2} The glossary includes more detailed definitions of meter.
This new use of contour analysis addresses a hole in the current Music Theory literature and the needs of singers directly. As aforementioned, much of analytical literature does not address the vocal line as a separate entity, nor does it address how text setting overlaps with significant structural phenomena within the piece. I consider which words are set on a given piece's longest, shortest, highest, and lowest notes. These words have musical emphasis given through pitch height and rhythmic duration. By examining two different settings of the same text, I investigate whether composers chose to emphasize the same words of the poem.

The first chapter presents the methodology for analyzing poems. This will include issues of rhyme scheme, poetic meter, translation, and the international phonetic alphabet (IPA). Readers unfamiliar with poetic analysis and IPA transcription are advised to utilize the glossary and appendices, which provide a more thorough explanation of terms and phonetic aids for various IPA symbols.

The second chapter presents how to create the contour analysis of the settings of a given text and create contour graphs for pitch height and rhythmic duration.

The third chapter will examine Franz Schubert and Fanny Hensel’s settings of Friederich Rückert’s poem “Du bist die Ruh”. Schubert and Hensel were both composing and living in the same era. A contour analysis suggests that the two composers’ music emphasizes different words, suggesting different interpretations.

The fourth chapter examines Darius Milhaud and Barbara Kolb’s settings of Stéphane Mallarmé’s poem “Le Vitrier”. Kolb’s post-tonal setting has no meter; Milhaud’s setting has a steady rhythmic motif, and the vocal line is modal. Compared to the settings of the Rückert poem, these two settings, on their face, have less in common. However, when examined through contour analysis, commonalities in the text setting are revealed.
The final chapter will present conclusions from both sets of music and suggest questions for future research. A theory of text setting contour is not to be used as a sole analytical tool. Contour theory does not address pitch structure at temporal, timbral, local and global levels. However, when used with a theory that addresses local and global pitch structures, significant moments of musical emphasis can be revealed where they overlap.
Introduction

Poetic and musical analysis share several vocabulary terms. This study uses “metre” for poetic use to avoid the equivocation of terms, and “meter” refers to musical use. Additionally, this study uses “beat” and “line” to refer to the musical phenomena and “poetic-beat” and “poetic-line” for poetic analysis. This chapter introduces a methodology for translating, transcribing IPA, researching, and interpreting poetic texts.

Translation

Richard Winston states that amateur translators strive for literalness, but “all the subtler modulations of the original are missing. The translation reads like a piece of music that rocks unimaginatively back and forth between tonic and dominant. The sentences lack rhythm entirely...”\(^4\) There are more factors to consider beyond the accuracy of a word. Translators decide which poetic devices are preserved, such as rhyme scheme and metre. Willis Barnstone explains that “In translation, perfect mimesis is impossible. But a fake or counterfeit of the original is possible, and usually, it lacks criminality, since it stays close and calls itself what it is: translation. In many eyes, translations resemble a museum reproduction of a Cycladic statue: it is beautiful but has no intrinsic value.”\(^5\)


Translating the pieces into one’s native language assists the analyst’s comprehension of the text and the songs. The best source for an accurate translation is an educated native language speaker. Native speakers can aid with syntax, idioms, and contextual meaning that non-native speakers may miss. After establishing a working relationship with a native speaker, follow this suggested procedure.

I developed the following procedure to craft word-for-word and readable translation for the use of this theory; it is based heavily on the process that vocalists use when preparing their repertoire. To replicate this process, craft a word-for-word translation and record words with multiple possible meanings. A word-for-word translation may not be “readable” because it preserves the word order of the original language.

Second, consult multiple poetic translations if they exist. Suggested resources include translations from LiederNet Archive, anthologies of works by the poet, *The Interpretation of French Song* by Pierre Bernac for French poetry, and *The Fischer-Dieskau Book of Lieder* for German poetry. Many scores provide transliterations\(^6\) of the work below the original text. Transliterations are not suitable translations for the use of this theory. Transliterations do not prioritize accurate translation of the original text and instead prioritize the metric structure, rhyme scheme, and text setting. At this stage, it is unnecessary to preserve metric structure or rhyme; therefore, prioritize accuracy.

Third, compare the translations to each other and the word-for-word translation. Finally, revise the word-for-word translation and craft a poetic translation that prioritizes accuracy, not metre or rhyme. While editing, one may find that some words may have multiple suitable

\(^6\) Transliteration has other meanings outside of the vocal area. Within the vocal area, it is used to refer to an approximate translation that is printed beneath the original text in a foreign language. This English version often preserves the number of syllables, rhyme scheme, and overall effect, and is not necessarily accurate. In the United States, English versions of the German operetta are performed using transliteration.
meanings or no direct translation. Be prepared to justify the choices made as a translator; it may be helpful to record specific decisions.

**IPA transcription**

Analysts of vocal music must know how to pronounce the words to understand the word stress, metre, and rhyme scheme. Sung diction differs from spoken diction. Therefore, in addition to consulting a native speaker for translation, consider consulting a singing diction expert such as a coach, voice teacher, or accomplished singer for help with sung diction. The International Phonetic Alphabet (IPA) is the tool required for using this theory. A phonetic alphabet is an alphabet in which a single symbol represents a single sound. Because the same sounds occur across different languages, IPA functions as a pronunciation guide for many languages. For this study, I use *Diction for Singers* by Wall, Caldwell, Allen, and Gavilanes, and *Singing in French* by Thomas Grubb with forward by Pierre Bernac. Both texts provide pronunciation keys for the IPA symbols and tables summarizing each letter's pronunciation rules. The keys and tables are an excellent tool for those new to IPA transcription.

IPA is not a substitute for learning the language or vice versa. Both are essential tools with different functions; IPA codifies the phonetic structure, whereas language learning teaches grammar, semantics, and vocabulary. For example, in sung French, one pronounces the end syllable “-ent” differently based on whether it is part of a conjugated verb [œ] or adjective ending [â]. Therefore, one would need to identify the part of speech to pronounce that syllable correctly. Additionally, IPA uses an apostrophe to show which syllables receive tonic accents in languages

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Like German, English, and Italian. See Appendix 1 for a pronunciation guide of relevant IPA symbols.

**Metre in poetry**

After the translation and IPA transcription, analyze the poetic structure. Prosody is the study of metre. Lennard describes three types of prosody: 1) quantitative, determined by vowel length and quality, 2) qualitative, based on patterns of stress or accent; and 3) syllabic, which, as with French, is based on the number of syllables per line.⁸

Metre built on the ordering of stressed and unstressed syllables is accentual-syllabic prosody. The units of measurement are poetic-line and foot. Lennard defines a poetic-line as “a single sequence of characters read from left to right.”⁹ Poetic-lines are analyzed through the metre, “the rhythmic pattern, down into the repetition of a basic unit.” The basic unit is the foot, “a prosodic unit of stressed and unstressed [poetic-]beats.”¹⁰ There are six types of feet that Lennard describes: 1) iambic unstressed-stressed, 2) trochaic stressed-unstressed, 3) spondaic stressed-stressed, 4) pyrrhic unstressed-unstressed, 5) anapestic unstressed-unstressed-stressed, 6) dactylic stressed-unstressed-unstressed.¹¹

The number of feet determines the metre: one foot per line monometer/monometric, two feet per line is dimeter/dimetric, three feet per line is trimeter/trimetric, and tetra-, pent-, hex-, hept-, and oct-. Combine the foot type with the metre to produce the label, e.g., iambic pentameter. After analyzing the metre, one can examine whether the composer preserved, accented, ignored, or subverted it in their musical setting.

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¹¹ These names received the same emphasis they describe. For instance, if capital letters represent a tonic accent, the words are pronounced i-AMB, TRO-chee, SPON-DEE, an-a-PEEST, etc.
Rhyme scheme

Lennard states, “Rhyme is another form of punctuation closely bound to lineation and layout, helping on the page and in performance audibly to organize the relations of the words.”

What follows is an introduction to how to analyze rhyme-scheme in poetry.

End-rhyme can forge poetic structure by creating couplets [aabb], cross- [abab], or arch-rhyme [abba]. Lennard states that “tension between these pulls of a rhyme can control the pace, as can rhyme that is accelerated or delayed.” Discussions of rhyme should not be limited to end-rhyme, however. Rhyme can occur at different places within a poetic line; it can be initial-, medial-, end-rhyme, connect a medial word with an ending like leonine-rhyme, etc. Lennard’s book provides a full chapter on rhyme. The discussion above is cursory and not exhaustive.

Rhyme can be qualified by its level of “perfectness,” whether it falls on an accented syllable and the quality of the preceding or following syllables. For example, in the following description of full-rhyme below, notice how the definition includes neighboring syllables and whether they and the rhyming syllable are stressed:

Full- (or perfect) rhyme occurs when two or more words or phrases share the same last stressed vowel + all following sounds. If the stressed vowel is in the last syllable, so both halves of the rhyme are stressed (CAT/ BAT, aBOARD/igNORED, disbeLIEF/TeneRIFE), rhyme is stressed (or masculine); if the stressed vowel is followed by one or more unstressed syllables (WILlow/BILlow, RAPidly/VAPidly) rhyme is unstressed (or feminine). Any number of unstressed beats may follow the stressed vowel, but with more than two rhymes tends to sound comic, and comedy soon becomes silliness—but may remain funny, especially if half the rhyme is made of monosyllables whose stresses are slightly wrenched, as Gilbert’s ‘lot o’ news/hypotenuse.’

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12 Ibid, 189.
13 Ibid, 189.
14 Lennard defines leonine rhyme as “between the word preceding a caesura and the end-word of the same line.” 221.
When rhyme is imperfect is called half-, near-, or slant-rhyme. “Either the stressed vowel or the
following sounds differ,” if the consonants differ, it is vowel-rhyme, but if the vowels differ, it is
called para-rhyme.16

**History**

To fully understand the texts composers have set, it is essential to become familiar with
genres and tropes associated with the selected poem. It would be impractical to attempt to provide
readers with a summary of every significant poetic movement in this chapter. Instead, what
follows is a method for researching the context of a specific poem and resources to understand
elements within the poem.

Analysts should become familiar with the movement(s) the poet is associated with and the
tropes and genres of those movements. A source to consult for German Romanticism is *The
Cambridge Companion to German Romanticism*. Topics include literature, philosophy, art, and
criticism by the German romantics and discussion of the origins of romanticism and its
divergence from classicist thought. In addition, it discusses German metrics of poetry. Prior
discussion of metre drawn from Lennard did not include specific metric patterns from German
poetry. Analysts must consult sources that focus on poetic norms of the region and era.

Shirlee Emmons’s text is an excellent tool for analyzing contextual meaning in a song.17 It
is a glossary of terms in art songs that carry associative meanings that modern listeners and
musicians may not be familiar with; the names of deities in the Greek pantheon, symbolic
meanings of various plants and animals, and historically relevant locations.

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16 Ibid.200.
University Press, 2006).
The Oxford Companion to Twentieth-Century Poetry and The Oxford Companion to Modern Poetry can serve as excellent guides to understanding more modern styles of poetry. While this study focuses on poetry from the nineteenth century, future research could include poetry from the 20th and 21st centuries.

Mallarmé

What follows is the translation, transcription, and background of “Le Vitrier” with a justification for choices made in the process. In Collected Poems of Mallarmé: A Bilingual Edition, Henry Weinfield translates Mallarmé’s poem into English. Weinfield’s translation follows below:

Le Vitrier
Le pur soleil qui remise
Trop d’éclat pour l’y trier
Ote ébloui sa chemise
Sur le dos du vitrier

The Glazier
The pure sun—throwing off
Too much brightness to measure—
Dazzled, contrives to doff
Its shirt on the back of the glazier.

Below is the original text, IPA transcription, word-for-word translation, and poetic/readable translation in parentheses. The poetic/readable translation will not be limited to the poetic conventions that Weinfield sought to preserve in the collection:

Le pur soleil qui remise
[le pyə rə lə ki rɛ mi sœ] The pure sun that gives
(The pure sun that gives off)
Trop d’éclat pour l’y trier
[trop de kla pur li tri ɛ] Too much of radiance for there to sort
(Too much radiance to sort through)
Ote ébloui sa chemise
[o te blu i sa fɛ mi sœ] Takes off dazzled its shirt
(Dazzled, it takes off its shirt)
Sur le dos du vitrier
[syr lœ do dy vi tri ɛ] On the back of glazier

The verb “remiser” in French translates to several different English verbs, including “to shed,” “to put away,” “to discount,” “to rebate,” or “to surrender,” and into other idiomatic meanings, including “to give.” The noun “éclat” also translates in many ways, including “brightness,” as Weinfield has chosen. “Glare” is also a possible translation, but it has a negative connotation in English. “Radiance” was chosen because of its relation to the sunlight and its fluency within the poetic-line. The word “ébloui” offers very few alternatives to “dazzled.” Finally, the verb “trier” means “to sort,” and one cannot sort light without the assistance of a prism. However, we should assume that Mallarmé is not speaking literally, given his legacy as a symbolist. Symbolists seek to portray their ideas through metaphor, simile, and other analogies; this is one of the quintessential traits of symbolist philosophy.

“[the Idea] must not allow itself to be deprived of the sumptuous trappings of external analogies; for the essential character of symbolic art is never to reach the Idea itself. Accordingly, in this art, the depictions of nature, the actions of human beings, all the concrete phenomena would not manifest themselves; these are but appearances perceptible to the sense destined to represent their esoteric affinities with primordial ideas.”

Mallarmé is likely not referring to the measuring of light but the image of a room so full of sunlight that it is, idiomatically, beyond measure. Additionally, the verb “ôter,” meaning “to take off,” may add an erotic subtext to a poem, especially when Mallarmé reveals the presence of the glazier. This person witnesses the events described. Mallarmé’s poem has four lines of seven syllables with endings that create an abab rhyme scheme. The relative brevity and simplicity of the poem are consistent throughout the collection and reflect the pedestrian subject.

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Friederich Rückert (1788-1866) was a German poet and playwright who wrote “Du bist
die Ruh” which was later set to music by Hensel and Schubert. There are nearly 2000 musical
settings of Rückert’s poetry by over 800 composers, placing him at the same level as Goethe,
Heine, and Eichendorff as one of the most frequently set German poets of the romantic era.²⁰

The translation below was provided by renowned baritone Dietrich Fischer-Dieskau who
collaborated with George Bird and Richard Stokes. Moreover, Fischer-Dieskau was a native
German speaker and expert in the genre, and this translation is perhaps one of the most valuable
of those available. In the second column from the right, I have added a word-word translation in
parentheses below Stokes and Bird’s published poetic translation. In the rightmost column, I have
combined the word-for-word translation with Stokes and Bird’s interpretation; the result is the
readable translation that will be used within the later analyses.

<table>
<thead>
<tr>
<th>Rückert</th>
<th>[\textit{Du bist die Ruh},]</th>
<th>\textit{You are repose}</th>
<th>You are rest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[\textit{Der Friede mild},]</td>
<td>(\textit{You are the rest})</td>
<td>(\textit{the mild peace})</td>
</tr>
<tr>
<td></td>
<td>[\textit{Die Sehnsucht du},]</td>
<td>(\textit{The peace mild})</td>
<td>(\textit{The longing you})</td>
</tr>
<tr>
<td></td>
<td>[\textit{Und was sie stillt},]</td>
<td>(\textit{You are longing})</td>
<td>(\textit{And what stills it})</td>
</tr>
<tr>
<td></td>
<td>[\textit{Ich weihe dir}]</td>
<td>(\textit{I dedicate to you})</td>
<td>(\textit{I dedicate you})</td>
</tr>
<tr>
<td></td>
<td>[\textit{Voll Lust und Schmerz}]</td>
<td>(\textit{full of joy and pain})</td>
<td>(\textit{full of joy and pain})</td>
</tr>
<tr>
<td></td>
<td>[\textit{Zur Wohnung hier}]</td>
<td>(\textit{as a dwelling here})</td>
<td>(\textit{as a dwelling here})</td>
</tr>
<tr>
<td></td>
<td>[\textit{Mein Aug und Herz}]</td>
<td>(\textit{my eye and heart})</td>
<td>(\textit{My eye and heart})</td>
</tr>
</tbody>
</table>

Die Pforte zu. [di pfor to tzu] The gate. (the gate shut)

Treib andern Schmerz [tra:ip an dern f'merts] Drive other pain (Push other pain)

Aus dieser Brust! [a:us di zɔ brust] From this breast. (from this breast)

Voll sei dies Herz [fol za:i dis herts] Full be this heart (full be this heart)

Von deiner Lust. [fon da:i nə lust] Of your joy. (from your joy)

Dies Augenzelt [dis a:u gɔn tsəlt] The temple of those eyes (This eye-tent) This eye on the canopy of heaven

Von deinem Glanz [fon da:i nəm glants] by your glance (from you glance) From your glance

Allein erhellt [a la:in ɛr hɛlt] alone is lit, (alone brightened) Alone is lit,

O füll es ganz! [o fyl ɛs gants] Oh fill it wholly! Oh fill it all!

"Augenzelt" is not a word in German, but this is how the word appears in the original text. It is likely a compound noun of both "Augen" and "Zelt." In Researching the Song, Emmons states that in this poem, the word "Augenzelt" is "one of Rückert’s orientalisms, a word invented from "Augen" (eye) and "Zelt" (pavilion, vault, or canopy of heaven)." Emmons offers the "eye on the canopy of heaven" as a translation from Rückert’s term. While Bird and Stokes have translated the line to "the temple of those eyes," I will use Emmons’s term.

---

Rückert’s poem is quintessential romantic literature. The depiction of unfulfilled longing while juxtaposing joy and pain. Stein and Spillman state that this interest in contradictory sentiments was a deliberate reaction against the rationality of Enlightenment-era thought.\textsuperscript{23} The sentiment of \textit{Sehnsucht} is the reaction that appears in the first stanza of Rückert’s poem. Stein and Spillman define \textit{Sehnsucht} as “romantic yearning for unattainable love; weeping for joy because love is full of pain; or the moon’s light creating shadows on the landscape.”\textsuperscript{24} This poem reflects the sentiments of \textit{Sehnsucht} expressed through contradictory images of pain and joy, as well as erotic imagery of the “\textit{Brust}” and “\textit{Augen}.”

The poem has five stanzas with four poetic-lines in iambic dimeter with an abab end-rhyme scheme. Some rhymes persist throughout the poem, although this has more to do with the repetition of words like “\textit{du},” “\textit{Schmerz},” and “\textit{Herz}.” Iambic syllable stress and abab end-rhyme could easily lend to a jaunty, playful, or “sing-song” expression.\textsuperscript{25} However, this would starkly contrast with the deeply emotional content of the text.

\textbf{Conclusion}

This chapter provides a cursory guide to analyzing poetic text, including methods for crafting translations, IPA transcriptions, determining poetic metre, rhyme schemes, and socio-cultural context. Completing these steps will familiarize analysts with the poem’s structure and significance. From here, they can begin to examine the text-setting in each song, interpret its relationship to the music, and compare different musical settings of the poem.


\textsuperscript{24} Ibid. 5.

\textsuperscript{25} Ibid. 40-41.
A theory of text setting contour looks at duration and pitch as means of emphasis. Therefore, examining which syllables and words the composer chose to emphasize.

Understanding a composer’s text setting begins with understanding the poem separate from the music. Creating a word-for-word translation and a poetic/readable translation allows analysts to have a working understanding of the poem from two different perspectives. The word-for-word translation allows analysts to precisely identify which word is emphasized through duration or pitch. An IPA transcription allows analysts to understand how each syllable is pronounced. This clarifies word stress, rhyme, and metre.

By examining which parts of the poem are emphasized, this theory provides input for creating an interpretation of the compositions. From there, we can determine whether and how a composer’s setting contradicts or reinforces the various aspects of the text, including metre, rhyme, and emotional affect.
Chapter Two

A Methodology for a Theory of Text Setting Contour

How can contour analysis provide input for interpreting the composers’ text setting? Analysis of high, low, long, and short settings of syllables could serve as a form of musical emphasis and suggest an interpretation of the composers’ presentations of the poem.

Chapter two outlines the process of analyzing the pitch and durational contours of a musical setting of a poem. While chapter one describes how to analyze the text, this chapter describes a method to analyze the musical contour of the text setting. Here contour is loosely inspired by Robert Morris’s ideas of contour segments\(^{26}\) and how the greater value is placed on the beginning, high, low, and ending points.\(^{27}\) However, we will not use his labeling system. Additionally, I will not use reduction algorithms or medial changes of direction in the following analyses.

By using syllables as a constant, this theory looks at how pitch-class contour and rhythmic duration can create emphasis on certain words. The x-axis of the graphs contains the syllables of text in the order that they appear, and the y-axis measures either the pitch or the duration of the syllables. The result is two contour graphs, one that shows the pitch contour and another which shows the durational contour. Pitch contour analysis examines the entire landscape of the piece, but analysts should examine contour on different scales, including phrases, poetic verses, strophes, poetic lines, etc.

This chapter divides into three parts: 1) creating tables and graphs, 2) determining pitch contour, and 3) determining durational contour. The first section describes how to turn the texts


Creating the table

What follows is the procedure for creating the tables and graphs. Record the original poem. Next to the poem, record the lyrics as they appear in the song with all repetitions and alterations. Compare the composers’ settings with the original poem; if the composer has changed a word, circle or highlight the alteration. If the composer has repeated a word, phrase, poetic-line, or stanza, circle or highlight the repetition. Next, separate the words into syllables within the different settings. Each syllable is a single data point on the x-axis. For syllables added or modified by the composer, use the label “A-“ for the composer whose last name appears first alphabetically, “B-“ for the second, and so forth when comparing multiple settings. Create a table with two columns, one for the x-axis and one for the y-axis for each setting. Input each setting syllable by syllable into the column for the x-axis. Leave the column for the y-axis empty; the following two sections describe how to calculate these data points.

To create a table of syllables from both settings, create a table with three columns: 1) the x-axis, which contains all syllables from both settings, 2) the data from composer A’s setting, and 3) the data from composer B’s setting. Combine the syllables but retain the order of the syllables’ appearance, including the composers’ alterations, into the x-axis column. If both composers vary

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the same line of text, present each composer’s variation in the order of the composer’s last name. Thus, if composer A and composer B both vary the same text, within the table, composer A’s variation will come before composer B’s. Once both sets of variants are overlaid, continue adding the syllables where there are no variants. After sorting all of the syllables, number them. Diagram 2.1 below shows the original text, the composers’ versions, and the ordered syllables that will appear in the data table and graph.

<table>
<thead>
<tr>
<th>Diagram 2.1—Text Setting variation in the settings of “Le vitrier”</th>
</tr>
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<tbody>
<tr>
<td><strong>Original Text</strong></td>
</tr>
<tr>
<td>Le pur soleil qui remise</td>
</tr>
<tr>
<td>Trop d’éclat pour ly’trier</td>
</tr>
<tr>
<td>Ote ebloui sa chemise</td>
</tr>
<tr>
<td>Sur le dos du vitrier</td>
</tr>
</tbody>
</table>

**Ordered Syllables for Data Tables and Graphs**

1-le, 2-pur, 3-so, 4-leil, 5-qui, 6-re, 7-mi, 8-se, 9-Trop, A10-Trop,
11 d’é, 12-clat, 13-pour, 14-l’y, 15-tri, 16-er, 17-Ote, A18-o, A19-te, A20-blou,
A21-i, A22-ote, A23-e, A24-blou, A25-i, 26-e, 27-blou, 28-I, 29-sa,
30-che, 31-mi, 32-se, 33-sur, 34-le, 35-dos, 36-du, 37-vi, 38-tri, 39-er

This section explains 1) how to account for variances between the settings and the original text; 2) how to divide the texts by syllable; 3) how to create tables for data entry; and finally, 4) how to combine the text settings into one table. The following sections address how to plot the syllables of each setting in pitch space and their durational contour.
Pitch contour data

The y-axis measures the syllable’s place in pitch space for the pitch contour graphs. The y values are determined by using C4 as the zero point, much like the use of ordered pitch intervals from post-tonal music theory. Each point along the y-axis represents a pitch’s distance in semitones from C4. The zero point can be adjusted for songs written for tenor and bass as needed.

If multiple pitches are sung on one syllable, take the weighted average of the pitches. This process should be repeated for each composer’s setting. One setting at a time, enter each syllable’s location in pitch space into the tables. Create a line graph for each setting.

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30 According to Wikipedia’s entry titled “Weight Arithmetic Mean,” similar to the arithmetic mean, but instead of each data point contributing equally to the average, some are more valuable than others. The weight of each data point is determined based on its proportion to the other data points. For purposes of this research, the weight of a pitch will be determined by the rhythmic duration it occupies during the sounded syllable.
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<tr>
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Kolb-Milhaud Pitch Table Continued
2.6 Combined Pitch Contour of Kolb and Milhaud’s Setting of Le Vitrier
To determine the durational value of a syllable, calculate the percentage of rhythmic space that a syllable occupies within its segment. Dora Hanninen outlines a method to interpret segments within pieces of music. This part of the chapter begins with an introduction to Hanninen’s meta-theory, followed by an explanation of how to calculate a syllable’s rhythmic percentage of a segment.

To briefly summarize Hanninen’s meta-theory of segmentation, she argues that sonic and contextual criteria are perceptible features of the music that can realize the theoretical or structural features at play. Hanninen defines a sonic criterion as “A basic type of criterion that responds to disjunctions in the attribute-values of individual sounds and silences within a single psychoacoustic musical dimension such as pitch, attack-point, duration, dynamics (loudness), timbre, or articulation.” Therefore, any sound measured in these dimensions could be a sonic criterion. These criteria operate at different levels to create various units, including segments, associative sets, and landscapes.

Hanninen explains, “With its relatively neutral language and ability to accommodate various criteria for segmentation, theoretic orientations, and interests of individual analysts, the theory is unusually broad in its applications, which extend to music of different periods, styles, and structural means, including Western music before 1600 and some non-Western music.” Hanninen provides analyses of several pieces of music from Beethoven to Nancarrow.

Hanninen’s meta-theory does not operate within a fixed structural syntax and does not depend on the existence of a known syntax. This contributes to her theory’s broad applicability.

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32 This is by no means an exhaustive discussion of her theory, interested readers should examine her text for further discussion of her theory and guided analyses.
33 Ibid. 15-16.
One example of structural syntax is meter. Three of the pieces I selected to demonstrate the theory of text-setting contour are metric, and one is not. It was essential to develop a process of analysis that could examine meters when present but not force metric ideas upon non-metric works. Hanninen’s meta-theory has the potential to examine syntaxes that are realized through sonic and contextual phenomena:

The structural domain can be activated or deactivated by the analyst according to his or her interests and the music under consideration, or remain dormant by necessity. The structural domain is necessarily dormant when no systematizing principles obtain for the music at issue, or such principles have not yet been discerned or formalized, as is the case for some contemporary music.34

Hanninen’s framework is applied to durational contour to identify segments within the vocal line by using sonic and contextual phenomena that may or may not realize structural ideas. Rather than using a syllable’s duration within a measure, this theory compares it to other syllables within a segment. This process links a syllable’s duration to sonic and contextual episodes, which per Hanninen, should be audibly perceptible. Where the meter is perceptible, it should be used to determine segment borders and contents. However, in non-metric pieces, the meter will not be perceptible, but segments and groupings may be.

Create segments within the vocal line using sonic and contextual criteria by listening to the piece while reading the score. Once the segments have been defined, determine each segment’s overall durational value. Use the lowest common durational value and calculate how many times it fits into the whole segment. To determine the percentage of the segment that each syllable occupies, we will use the lowest common denominator in math and apply it to duration. Count how many times the lowest common durational value fits into each syllable’s duration. Convert each of these tables into bar graphs. To show a side-by-side comparison, combine the

tables as described above. The following equation models how to calculate the duration of a
syllable within its segment:

\[ D = \frac{(\text{Syl} \times L)}{(nL)} \]

*D: Syllable duration, L: lowest common durational value, n: number of appearances of the lowest
common durational value in the segment, Syl: syllable setting.*
### 2.4 Model of Lowest Common Durational Value

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<td><img src="image3.png" alt="Image 3" /></td>
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2.8 Combined Duration Contour of Kolb and Milhaud Settings of "Le Vitrail"
Conclusion

Chapter two outlines the process of analyzing the pitch class and durational contours of a musical setting of a poem. By using syllables as data points, we may look at how the pitch contour and proportional duration can create emphasis on certain words. To turn the text’s syllables into data points along the x-axis, determine if and how composers modified the texts and label the modified syllables. To calculate a syllable’s location in pitch space, determine the pitch’s distance from the reference pitch; the following analyses use C4. If multiple pitches are sung on one syllable, calculate the weighted average of all the pitches. Plot this data in a line graph. To calculate a syllable’s durational value, use principles from Hanninen’s segmentation theory to identify segments within the vocal line. Identify the syllable’s proportional duration within its segment. Plot this data within a bar graph.

Once the graphs have been created, analyze the contours of each musical setting separately. Each musical setting can be interpreted on different scales: the whole piece, each stanza, each musical phrase, or a single poetic-line. Examine which syllables and words were accented through pitch space or proportional duration. Consider how the emphasized words correlate or contradict an interpretation of the poem. Once a thorough understanding of each musical setting has been established, compare the settings. The following two chapters will present guided analyses of two settings of Rückert’s “Du bist die Ruh” and two settings of Mallarmé’s “Le vitrier.”
Chapter Three

Analyses of Franz Schubert and Fanny Hensel’s settings of “Du bist die Ruh” by Friedrich Rückert

How can contour analysis offer insight into a composer’s setting of a text? This chapter synthesizes those methodologies and applies them to two settings of Friederich Rückert’s “Du bist die Ruh” one by Fanny Hensel composed between 1839-1846 and one by Franz Schubert composed in 1823. This chapter divides into two parts, each applying the text setting contour theory to each composer’s work. Each analysis discusses, in order, pitch contour, segment boundaries, durational contour, and synthesis.

This poem depicts an exchange between two people, the speaker and the beloved. The poem does not specify the gender of either character; one could use any combination of pronouns to describe the speaker and the beloved. I would like to briefly address which pronouns I used to refer to each. As we are handling musical settings of the text that were written for treble voice, and both songs are historically performed by women, I will refer to the character of the speaker using she/her/hers pronouns. I will refer to the beloved using he/him/his pronouns because both Hensel and Schubert were attracted to men. In chapter five, I will discuss how Schubert’s attraction to men could be explored through this composition, by pairing a theory of text setting contour with queer theory.

Hensel Pitch

The contour of Hensel’s piece is linked to her strophic interpretation of the poem. Hensel’s phrases tend to descend but leap or skip into the second syllable, which is stressed, beginning a more significant descending motive. Concerning the poetic lines, this springboard
effect leads to the highest pitch in the musical phrase. Thus, she often places the highest pitches at the beginning of the poetic line.
3.1 HENSEL PITCH CONTOUR - 1ST VERSE

PITCH MEASURES IN SEMITONES FROM C4

ORDERED SYLLABLES

Series1
Hensel Segments

Within Appendix 2 is an annotated score marking segment boundaries of Hensel’s setting of “Du bist die Ruh.” The analysis revealed that the segments changed between strophes that paralleled duration and pitch contour emphases.

Hensel’s strophes are not identical. One way that they differ is in their durational segmentation. One might assume that this is due to the strophe being textually imbalanced; the first strophe contains two verses, and the second strophe contains the final three. But Hensel repeats the second verse entirely and each verse has the same number of syllables and metre. Therefore, there is no structural need to change the duration between strophes, and one can assume that this was an interpretative choice on Hensel’s part.

The A-segment oscillates between the tonic and sub-dominant at the piece’s opening measures 1-2 and 3-4. One distinct feature is the duples under single syllables, stretching the vowel between two pitches throughout the lied. Another is the descending contour of the segment. The Ai variant is the inversion of the vocal gesture of the A-segment, hence the letter “i,” seen in measure 8. The eighth note couplets are set on one vowel and ascend in pitch rather than descend. Even though the contour of the line is reversed, it still retains an association with A because of the text setting and chordal figuration. However, there are two differences between the Ai segments, Aia at measure 13 and Aib at measures 29-30. The harmonic structure beneath the vocal lines in segments Aia and Aib is the largest distinction. The Aia variant lingers on the global tonic following a PAC. However, the Aib variant vocal line closes into a deceptive cadence. This structural and sonic difference was enough to designate them as different segments.

The A1 segment varies from A in that the duples are less prominent than in the original A segment, but the descending gesture is retained as in measure 3. The A1a variant occurs in measures 8-9. It differs from A1 in that the duple gesture returns, and there is the addition of a
suspension on the word “Herz.” The A1b variant occurs in measures 24-25, and the second strophe is equivalent to A1a. As previously stated, Hensel’s second strophe is not identical to the first regarding text, repetition, and opening chord progression, but also does not maintain parallelism in segmentation. This will be discussed in greater depth following the passages of the segments within Hensel’s setting.

The A2 variant preserves the duple descent presented in the original A segment seen in measures 11-12. But it inserts a leap of a fourth or larger before the descending duples. However, the designation A2a is used for the two instances where there is an octave leap. This occurs between measures 11-12 and measures 27-28. Both instances of A2a variants occur on corresponding locations in Hensel’s strophes. As previously mentioned, the segments change between the strophes. The segment A2a1 occurs in the second strophe from measures 27-29. The main difference between A2a1 and A2a is the text setting. She sets the word “allein” on what was previously identified as a segment boundary in the first strophe.

The continuation of this word links the segments. This can also be heard as a deviation from the structure identified in the first strophe. Hensel emphasizes the word “allein,” bridging two segments through the setting of the word. Hanninen states, “associative organization is not only the province of music. In poetry and prose, literal repetition, as well as the phonemic and semantic properties of words---aspects of rhyme, character portrayal, and imagery, create layers of association.”

That is to say, textual features should be considered when determining contextual and sonic criteria.

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36 Contextual criterion: “A basic type of criterion that responds to repetition in a certain respect (e.g., contour, scale degree ordering, or set-class) between two or more groupings of notes within a specific musical context. Contextual criteria assume an associative orientation; they represent associations between
However, Hanninen does not state how they should be used. Moreover, she does not describe how to determine segment boundaries when the text and music seem to contradict or blur boundaries. This is not a criticism of Hanninen, but it was a question that arose throughout this analysis. As a solution, I suggest using segment borders of varying strengths. A complete diagram of the segments is featured in Appendix B which shows dotted, dashed, and solid lines to mark segments and their boundaries. When boundaries are supported by the text as well as pitch and rhythm, the boundaries are solid. However, when the pitch and rhythm suggest a boundary that interrupts a poetic line, the border is dashed. Finally, when the border splices a word, the line is dotted signifying a weaker boundary.

The B boundaries follow the divisions of the sequence, which is initially presented from measures 5-7. Each instantiation of the sequence includes a complete poetic-line. So these boundaries are reinforced by the poetic and musical structures. The difference between B and B.5 is that B.5 only presents the first half of the third iteration of the sequence at measure 7. In the third iteration of the sequence, the harmonic sequence continues but the vocal contour changes to the Ai segment.

The C boundaries are very similar to B’s in that they are reinforced by text and chord progression first appearing in measure 9. All instances of the C segment occur in the strophe sections on the dominant. The vocal contours outline a descent from the seventh scale degree of the diminished seven of the dominant to a suspension between the tonic pitch and the leading tone in each segment. The C1 segment is distinguished from C for similar reasons as discussed with the A2a1 segment. The word “Augenzelt” crosses between two previously and easily perceptible segments as relational properties of segments. Contextual criteria are essential to categorization and to the formation of associative sets and motives.” Ibid 482.

37 Sonic criterion: “A basic type of criterion that responds to disjunctions in the attribute-values of individual sounds and silences within a single psychoacoustic musical dimension such as pitch, attack-point, duration, dynamics (loudness), timbre, or articulation.” Ibid 482.
iterations of the same segment. However, the continuation of the word, particularly the first and stressed syllable “Au(genzelt)” blurs the lines of the segment boundaries. The continuation of a single phoneme sonically bridges the two iterations of the C segment that it is unclear how, or whether, the two are divided.

Hensel Durational Contour

Another trend in Hensel’s setting was her tendency to place durational stress on one of the two stressed syllables in each line. Hensel’s longest syllables are “Herz” measure 9, repeated iteration of “Schmerz” measure 11, repeated iteration of “Woh(nung)” measure 12, “Lust” measure 25, “Aug(en)” measure 26, “Glanz” measure 28, “füll” measure 31, and “Ganz” measure 32. This emphasis contradicts the inclination toward a faster tempo usually implied by the rhyme scheme and the iambic duple meter. Still, it complements the deep longing, which persists throughout the poem. Hensel frequently places the longest duration of the segment on the final syllable in each poetic line. By elongating the syllables that have structural rhyme, they are more perceptible to listeners. The prolongation of the final syllable also reinforces a larger-scale pianto gesture\(^38\), rather than a swift start to the next poetic line.

When one pairs this analysis with a harmonic analysis it paints a larger picture. Two of Hensel’s longest syllables occur in a repetition of the second verse, “Schmerz” at measure 11, and “Woh(nung)” at measure 12. Hensel only repeats the second verse in varied harmonic contexts, once within the sequence and once on the dominant. This repetition and harmonic variation could be interpreted as Hensel presenting two meanings for the same section of the text. The first musical setting of this verse occurs within a chromatic sequence beginning at measure 6 which eventually leads to a half cadence through the dominant of the dominant. This could be

interpreted as the uneasy feelings of the speaker while sharing this dedication, feeling more of the
“Schmerz” than the “Lust.” Whereas the second iteration beginning at measure 9 only moves
between two chords, the global dominant and the relative diminished seven. By comparison, it is
more stable, and facilitates the return to the global tonic. This could be interpreted as building
excitement or arousal as it accents words like “consecrate” and “pain,” both of which possess
erotic double entendre.

Arguably, the surest sign of Hensel’s Lied aesthetic is her tendency to undermine
the stability of the tonic, to continually and unexpectedly steer clear of it so that its return
at the end of a song or a larger formal section aligns with the end of the thought, or a
revelation of an idea-so that, in short, musical and poetic resolutions coincide.39

In Hensel’s work, these “absent tonics” suggest expressive text meanings often symbolizing “a
lack of emotional stability, an experience of profound loss, and a struggle to find peace of
mind,”40 this is especially prominent in her interpretation of longing, which is at the core of the
poem.

It is significant that two different approaches, which examine different structural features,
have identified the second iteration of the second verse in Hensel’s setting as an area of interest.
They both suggest that perhaps Hensel is interpreting Rückert’s poem. Hensel grew out of the
North German tradition of merely presenting the poem to interpret it and commenting on it
musically41. It is reasonable to think Hensel would have had exposure to critical poetry analysis42.
The women of Hensel’s family had a history of salon hosting in Berlin. Ludwig Berger, a famed
pianist and pedagogue, was Hensel’s piano teacher. He had collaborated with Wilhelm Müller,

40 Ibid. 187.
41 Ibid. 179.
famed German poet, and author of *Die Schöne Müllerin* and *Die Winterreise*, later set by Schubert.

**Hensel Synthesis**

Text setting contour examines two aspects of handling text: duration and pitch. Where these data points overlap can suggest or support possible interpretations. Comprehensive graphs of the text setting contour are in Appendix 4. The following syllables were emphasized through pitch and duration in Hensel’s setting: “Du” measure 1, “Sehn(sucht)” measure 3, “Woh(nung)” measure 7, “Aug(en)” measure 8, “Glanz” measure 28, and “(a)lein” measure 29. Within their poetic lines, the impact is “YOU are repose,” “LONGing you are,” “as a DWELLING here,” “my EYE and heart,” and “by your GLANCE ALONE is lit.” This emphasizes the beloved and what the speaker offers to and admires about the beloved. Two of these doubly accented syllables are set across segment boundaries. The pitch contours and rhythmic durations are nearly identical, note that “Augenzelt” has its duration stretched across what had been previously identified as a border between two segments. I observe a similar tactic in measures 28-29 on syllables 97-98 on the word “allein,” which immediately repeats. This is also the only repeat which disrupts the poetic metre. These changes occur in the second strophe and subvert the listener’s expectations. The effect of these prolonged durations is “The TEMPLE of those EYES/ by your glance ALONE, alone is lit.”

**Schubert Pitch**

The pitch contour of Schubert’s piece is linked to his strophic divisions. Generally, Schubert’s melodic lines are ascending and only employs downward leaps. Concerning the poetic line, the second and final stressed syllables are often the peak of the poetic line. The final lines of
verses two in measures 22-25, verse four in measures 45-48, and verse five in measures 62-65 & measures 76-79 are repeated. The pitch contour itself does not change significantly, but it is tonally transposed lower to reach the cadences on the global tonic. From a text painting perspective, this functions as settling quiet resignation but also prolongs the final thought of the verse.

One interesting trend in the second and fourth verses, unstressed syllables represent peaks in pitch height; in the second verse, “und” is elevated, and in the fourth verse, “(die)ser,” “dies,” and “dei(ner)” are all peaks. The impact these emphases would have in textual meaning is “My heart AND eye” and “Drive other pain from THIS breast, full is THIS heart, of YOUR joy.” Schubert chooses to accent conjunctions, definite articles, and a pronoun, none of which are the poem's most colorful or illustrative words. However, these words connect back to the speaker by emphasizing her body and heart, literal and figurative. The emphasis on the unaccented syllables across the second and fourth verses paints an overall emphasis on what the speaker is offering and asking of her beloved; therefore, it emphasizes the speaker’s wants.
3.2 Schubert - Syllables 9-23

Ordered Syllables

Pitch Space

Schubert Pitch Contour
Within Appendix 2 is an annotated score marking the segments of Schubert’s setting of “Du bist die Ruh.” Segments A and B have an antecedent and consequent relationship in the first phrase of Schubert’s setting, at measures 8 and 10. The division between the two is also marked by divisions of the poetic line. Within the first two strophes, this beginning phrase occurs twice in a row. The A1 variation of the A-segment occurs at measure 16. Structurally, it occurs over a fully diminished seven of five, and instead of ascending, it descends via a 7-6 suspension.

The C-segment first appears at measure 18 as the consequent of the A1 antecedent. Passing tones are introduced in an ascending motion, increasing the slope of Schubert’s contour. The C1 differs from the C segment by lingering on the eventual peak of the rapid ascent, which then resolves to G, as in measure 23, or a fifth, as in measure 25. Of course, dissonances resolve by step, but the rapid ascent is an embellishment from the structural A-flat from measure 22, so the structural resolution is from A-flat in measure 22 to the G in measure 23. This structure is paralleled in the right hand of the piano. The segments are mirrored throughout the first and second strophes of Schubert’s settings. However, the third strophe presents new segments.

The A2 variation of the A-segment contains modal mixture with the introduction of the C-flat major chord at measure 54. The root of this chord is sung in the voice. The first measure of the third strophe perceptually prepares the listener for the third iteration of the harmonic and vocal structure of the first and second strophe by including the same starting measure as the two preceding strophes. While the ascent by half step instead of a whole step may seem like a minute shift, and enough to identify this as another instantiation of the A-segment, the modal mixture subverts listener expectations.

The D segments reflect the sequential structure and voice leading, which begins at measure 56. Like Hensel’s setting, Schubert’s setting of the text subverts segment boundaries but
to a lesser degree. The predictable structure of the sequence on the harmonic, metric, and voice leading levels has more boundary-creating influence than the division of a word. Additionally, Schubert’s sequence also aligns the poem’s metre with the meter of the score. This also enforces the segment boundaries established by sequence over the division of words.

Schubert Durational Contour

Schubert also consistently places the most prolonged durations on the final syllable, which per the poetic analysis, is a stressed syllable. Schubert’s longest syllables in the piece are “(er)hellt” at measures 58-60 and 72-74. This emphasis is placed on the verb meaning “to light.” This is the poem’s climax, where the speaker declares that only the beloved’s glance can light this eye on the canopy of heaven, as shown in the graph below.

The following harmonic analysis reinforces this interpretation. Schubert only uses a sequence in the final strophe, which leads to a cadence in a different tonal area and the climax of the vocal line. The final strophe begins at measure 54 with the same opening as the others, but at measure 55, Schubert substitutes a submediant for a major flat-submediant. This modal mixture leads to a back-related dominant, which initiates the sequence, ending on a PAC in A-flat major. Each chord in the sequence uses a 4-3 suspension in the upper voices of the piano. The text in this section is: “Dies Augenzelt,/von deinem Glanz/allein erhellt.” This is the final dedication of the speaker’s love; she declares that only her beloved’s glance can brighten her eyes. The sequence moves in contrary motion into the lowest and highest registers scored in the work. This spans from A-flat5 in the voice to A-flat1 in the piano. The span of this final chord is dramatic and extreme and foreshadows the speaker’s request to be filled with the beloved’s gaze.

As stated in the discussion of Hensel’s most prolonged durational moments, the effect of the lengthened final syllable highlights the rhyme scheme. Both composers have made this
choice. With only three exceptions, Schubert places the longest duration on the final syllables of each poetic line.
**Schubert Synthesis**

This theory of text setting contour examines two aspects of handling text: duration and pitch. This section will examine where these data points overlap and support possible interpretations. Comprehensive graphs of his text setting contour are in Appendix 2. Schubert only used pitch and duration to accent the final syllables of the poetic lines. One effect of this pattern of emphasis is that the rhyme scheme is reinforced through the musical structure.

**Hensel & Schubert**

Analysis can point to how critical differences in setting can help in interpreting the composers’ settings of the poem. Rückert’s “Du bist die Ruh” is a quintessential expression of German romanticism through its exploration of Sehnsucht. Both composers deviate from the tonal center as a means of text painting. Schubert does this at the emotional peak of the poem when the speaker’s eyes and heart are only lit by the beloved’s glance. Hensel does this in a repetition of the second verse when the speaker proclaims the dedicates her body to the beloved and asks him to be the only cause of pain in her breast.

Schubert and Hensel’s settings also differ in how they chose to use simultaneous pitch and durational emphasis. For Schubert, this solely occurs on the ending syllables of poetic lines. This places a compositional emphasis on musical and poetic forms. Recall in chapter two, that rhyme is influenced by metre, and that both contribute to the form of a poem. This is not to say that Hensel’s setting neglects poetic form, rather Schubert has chosen to exclusively place dual text-setting emphasis on the words which most acutely reveal the poem’s form. Hensel has placed this dual emphasis on medial as well as final syllables.
Hensel’s most prolonged, duration, and highest notes have more to do with what the speaker offers and admires about the beloved. In contrast, Schubert’s are more associated with what the beloved can do for the speaker, illuminate the eye on the canopy of heaven. In many ways, the analysis of Hensel’s setting suggests an emphasis on whom the speaker desires, but Schubert’s reflects the act of desiring.
Chapter Four

Analyses of Barbara Kolb and Darius Milhaud’s settings of “Le Vitrier” by Stephane Mallarmé

How can contour analysis offer insight into a composer’s setting of a text? Chapter four displays how this theory of text setting contour can be applied to post-tonal and non-metric compositions. Barbara Kolb and Darius Milhaud’s settings of Stephan Mallarmé’s “Le vitrier” from his collection Chanson bas are our subjects. This chapter divides into two parts 1) post-tonal analyses of Kolb and Milhaud’s settings and 2) the application of the text setting contour theory.

Post-tonal analysis

Milhaud

Milhaud was interested in polytonality. But many scholars have dismissed his idea because it 1) focuses on taxonomy over musical context, 2) assumes equal key defining weight to each stream 3) the two keys could easily be perceived as a single scale or collection. Unfortunately, the research on the perception of polytonality is inconclusive, “While the work of Terhardt and Huron supports perceptual salience of the upper-most and lower-most voices, neither scholar addresses conditions approaching polytonality.” Peter Kaminsky suggests that analysts work to find a balance between blind acceptance and outright rejection of the concept. The post-tonal analysis was more insightful than a polytonal analysis because Milhaud’s chord progressions are not necessarily functional.

Milhaud repeats a two-measure grouping four times; the repetition ends at measure 9 and is replaced with another that continues until measure 14. The change of the pattern coincides with

43 Peter Kaminsky. Ravel’s Late Music and the Problem of “Polytonality”, Music Theory spectrum, Issue 2 (Fall 2004). 239.
44 Ibid. 240.
the midpoint of the poem. The combination “m(x)b(x)” refers to a measure and specific beat, “pcs” refers to the pitch-class set, and “NF” refers to normal form. “RH” and “LH” are used to show in which hand of the piano part the set occurs. Here “m(x)b(x)Composite” refers to an inclusion of both hands. Following are various transformational networks. Transformation of 3-11[037] between measure one and measure nine could be summarized as a series of T7 transformations modeled below in diagram 4.1:

4.1 Milhaud Righthand Transformation Between m1 and m9

The model below shows the transformations between the left and right hands at the same measures. The T7 transformation preserves one common tone. Ten semitones separate the left and right hand in pitch space, so a Tt transformation was chosen over T2. This is modeled below in diagram 4.2 based on Lewin’s models from Generalized Musical Intervals and Transformations.45

4.2 Milhaud Network Across Hands in m1 and m9

The second measure of the repeated cell creates 6-32[023579] and it undergoes the following T7 transformation. T7 transformation was selected because it preserves the voice leading. Milhaud directly transposes the material from measure 2 down by five semitones in pitch-space in measure 10.

4.3 Milhaud Composite Transformation Between m2 and m10

The transformation of 3-11[037] between measure 2 and measure 10 is shown below. While the diagram depicts non-adjacent transformations, their associative relationship is strong because they retain an identical rhythmic structure.
4.4 Milhaud Composite Transformation Between m2 and m10

\[
\begin{align*}
\text{m2b2RH} & \rightarrow \text{m10b2RH} \\
\text{NF[590]} & \rightarrow \text{NF[047]} \\
\text{T7} & \\
\end{align*}
\]

The transformation of 4-22[0247] between measure 2 and measure 10:

4.5 Milhaud Lefthand Transformation of 4-22 between m2 and m10

\[
\begin{align*}
\text{m2LH} & \rightarrow \text{m10LH} \\
\text{NF[0357]} & \rightarrow \text{NF[7T02]} \\
\text{T7} & \\
\end{align*}
\]

The shift in centricity is not abrupt because of the number of common tones. Tonality is a type of centricity, but centricity can be created without functional harmony. Straus states that “Centricity in post-tonal music can be established by various kinds of direct emphasis and reinforcement: centric pitches are often longer, louder, more frequent, and higher (or lower) than other pitches.”

This coincides with Mallarmé’s shift, where the language becomes more metaphorical and departs from mere description; a quintessential tactic in Symbolist poetry.

\textit{Kolb}

Unlike Milhaud’s setting, Kolb’s is atonal with no traces of diatonic pitch structure. The two most prominent hexachords and their subsets appear to be 6-27[013469]; a subset of the 8-28 octatonic collection. Each of these appears as a hexachord along with some of their subsets. Because of this, there are many relationships between their abstract subsets. The network below demonstrates the transformation of members of set-class 3-7[025], a subset of 6-9[012357] on the

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first page. Additionally, the trichord 3-7(025) appears as an abstract subset in both prominent hexachords in this setting as well.

4.6 Kolb Transformation of 3-7 Between m1 and m4

![Diagram showing the transformation of 3-7 between m1 and m4]

While other relationships exist, the ones displayed above were what I heard. The transformations of members of set-class 3-7(025) are repeated throughout the poem’s first half. They create association throughout the first half of the composition. But this sense of recurrence is missing in the second half; and coincides with the poetic shift into more abstract metaphor and imagery.

The final word, “vitrier,” the word which contextualizes the whole poem, is emphasized through whisper and silence from the instrumental ensemble. The sudden silence beneath the whisper of the vocal line occurs between two sections of quintuplets in the vibraphone and sextuplets in the harp. These quintuplets and sextuplets are structured upon 6-27(013469) and its subsets in the song's final moments. Below is an inclusion lattice that “graphically illustrate[s] inclusion relationships among sets.”\(^{47}\) of the subset and superset relationships of measure 17.

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“Harp” and “Vibr” indicate the instruments in which the pitch class set occurs, harp or vibraphone. The connection to the text will be discussed later in the chapter.

4.7 Kolb Inclusion Lattice

There are six pitch-class sets in this lattice which tie to 3-2(013), which is played by vibraphone at measure 17 beat 9. 5-10(01346) is played in the vibraphone on beats 5 and 6, and it is a transpositional combination of 3-2(013)*3. A transpositional combination “is the combination of a set with one or more transpositions of itself to create a larger set.”48 This connects it to the appearance of 3-2(013) in the harp at measure 17 beat 9. One feature of these collections is that the pitches stay the same in each voice, but the cardinality decreases as the piece ends. While the cardinalities of the set classes do not perfectly align, they are all subsets of the same hexachord 6-27(013469).

48 Joseph Straus, Introduction to Post-Tonal Theory, 124.
Theory of text setting contour

This part of the chapter applies the theory of text-setting contour, first to Kolb’s setting and then to Milhaud’s. It concludes with comparisons and observations on analyses and proposes different interpretations based on the analytical findings. Discussion of the analysis of each composer includes, in order, pitch space contour, segment boundaries, durational contour, and synthesis.

Kolb Pitch

The pitch contour of Kolb’s composition suddenly becomes more registrally compressed in the last line of the poem. While not stagnant, Kolb’s setting of the last line is more reserved than the beginning of the song and features a whisper of the final word.

One point of contrast between Kolb and Milhaud’s settings is the dramatic difference in pitch intervals explored. Kolb’s piece employs large leaps throughout the poetic line, within a single word, and at times on the same syllable. The vocal range exceeds two octaves and seldom has step-wise motion. Kolb repeats several words throughout the poem. Perhaps her melodic contour justifies this repetition; the interval widens with each repetition of “too much.” The first repeated word is “Trop” (too much), and she illustrates this meaning through slight variation in the contour of the word.

The ordered pitch interval sequence for each follows below:

| Trop 1: <-5, +2, +7> | Trop 2: <-5, +2, +11> |

In addition to sharing the same first two ordered pitch intervals for all three, they share the first two pitches, C#5 to G#4. This could be an instance of text-setting where the growth in pitch height at the final leap between the two repetitions illustrates an increase in light from the sun.
The text painting of the repeated word “ébloui” could illustrate the dazzling fall of a shirt onto the back of the glazier. The descent widens with each new iteration of the word. The ordered pitch interval for each follows below:

Ébloui 1: <+4,-11>  Ébloui 2: <-11, ±0>  Ébloui 3: <-14, ±0>

The growing descent in ordered pitch intervals could depict the sun casting down its “shirt” onto the back of the glazier.

Finally, another unique aspect of Kolb’s text setting is that she has the final and arguably most important word, “vitrier,” whispered instead of sung. The change in timbre from a sung line to a breathy whisper is a significant diversion from any prior part of the vocal line and highlights the final word in a surprising way. Whispering has an association with secrecy and intimacy. Coupled with the decrease in the cardinality of the sextuplets and quintuplets of the Harp and Vibraphone in the same measure, it creates an effect of decay. Kolb could be using this effect to emphasize and uniquely highlight the final word of the poem.

Kolb Segmentation

Within Kolb’s composition, many segments contain a single syllable word. Her segments can most easily be characterized by stasis and motion. The A segments tend to exhibit fewer changes in duration, but some employ larger leaps in unordered pitch interval. In contrast, the B segments employ shorter durations and polyrhythm and more constrained movements in pitch space. Appendix 3 has a fully annotated score with segment boundaries.

Segment A begins and contains the word “le,” a member of the 3-7[025] that is also outlined in the Vibraphone. Segment B occurs in measure 5, containing “pur soleil.” Both the voice and vibraphone return to motion, creating a 5:3 polyrhythm. But on the word “qui,” both the voice and vibraphone’s pitches return to stasis, which can be interpreted as another iteration of
Segment A. Like the first appearance of Segment A, the pitches of “qui” is a member of 2-2[02] played in the Vibraphone. This is followed by Segment A1 in measures 5-6, which only contains the word “remise.” The difference between Segment A and A1 is that A1 is briefly preceded by a pitch 11 semitones lower.

The C segment is iterated twice in a row with a minor variation. They are both set on the same word “trop,” but the first iteration ascends to F5, and the second ascends to A5, changing the NF from [F, G#, Bb, C#] to [G#, A, Bb, C#] or in PF from 4-26(0358) to 4-4(0125). This is followed by the A1i segment; it is a near inversion of the A1 segment hence the use of “i.” The A1i segment in measure 9 contains the word “d’éclat” with a leap down from B5 to C#5, ten semitones. The B segment returns in measure 9 and contains the word “pour,” characterized by rapid movement and the 5:3 polyrhythm, this time between the harp and the vibraphone. The A1 segment returns in measures 9-10, and the vocal line is over sustained notes in the vibraphone, leaping down 9 semitones and up 10, outlining SC[023].

Segments A and B differ in their use of duration. Up until measure 12, Kolb has moved between periods of stasis and motion between the voice and the percussion. Segment A has been characterized by stillness in the vibraphone and Harp and a less durational change in the vocal line. Segment A1 and A1i’s most dynamic quality are the leaps in pitch space but are still rhythmically relatively simple. Segment B is characterized by polyrhythms between the voice, vibraphone, and Harp. These qualities characterize segment AB. This first appearance of the AB segment is in measure 12; the vocal line remains static while the Harp plays quintuplets under the word “ote.” Segment AB appears in measures 13 and 14 containing repetitions of the text “ote ébloui.” The A1 segment returns in measures 15-16 on the words “sa chemise,” with a return of relative stasis in the ensemble’s texture. It is repeated later in measure 16, containing the text “sur le dos.” The whole ensemble plays on quarter-note triplets. While there is more motion, the
polyrhythm in Segment B is not present; this is simpler rhythmically. However, in measure 17, there is a return to motion on the word “du” with a 6:5:2 polyrhythm. Until a moment of silence in the instrumental ensemble and the singer whispers “vitrier.”

**Kolb Duration**

These pieces are quite different in their approach to rhythm. The trait they share is using rhythm as a device to emphasize the final syllable of the French words that do not end in -e, -es, and -ent, “the stress in a French word habitually falls on the final or last vowel sound, but never on a final unstressed, -e, -es, or -ent sounding as [œ] or [ə].” Both did this because Kolb and Milhaud are intimately familiar with the French language.

Kolb’s setting uses silence in both the vocal and instrumental lines. The vocal line has a significant silence between the first and second poetic-lines but has no interlude between the third and fourth poetic-lines. The final two lines are blended into one complete idea, contrasting the two beginning lines of the song. Despite the repetitions of the text, Kolb does not repeat the rhythmic settings of those words.

Additionally, Kolb has elongated many syllables by using melismatic text setting, as seen on the second syllable of “remise,” at measure 5, “trop,” at measures 7 and 8, “pour,” at measure 9, and “du” at measure 17. This may be an instance of text painting. The verb “remise” means to give; perhaps the extended penultimate syllable illustrates the radiance from the sun’s rays falling into the room. The rhythmic extension of the word “pour” is a unique choice, as it is not an illustrative part of speech like a verb, noun, or adjective but is a preposition. It prolongs the suspense of what one would do with the light. The same can be said for the word “du,” which

50 Kolb is a Prix de Rome winner and was a composer-in-residence at Institut de Recherche et Coordination Acoustique/Musique in Paris from 1983-to 84. Julie Dunbar. “Women, Music, Culture.” 299.
translates to “of” or “from” it could also be analyzed as an extension of the suspense before the glazier’s presence is revealed.

A final feature is her use of duration in her setting. The first three lines exhibit more complex durational patterns. However, the poem’s final line, “sur le dos du vitrier,” is the most conservative writing in the entire piece, such to where a beat may be perceptible. The relative simplicity of the rest of the song is somewhat surprising and is a stark point of contrast.

*Milhaud Pitch*

Milhaud’s setting is more conservative in range and intervals between adjacent pitches. Additionally, the setting of the vocal line is modal and moves from C Dorian to G Dorian at the mid-point of the poem. The previous analysis supports this as many of the set classes were related by T7, as does the move from C to G centricity. Milhaud describes his compositional style as polymodal but his harmonies are not functional.\(^{51}\)

Milhaud’s text setting is somewhat predictable; the pitch height rises into the final syllable of words like “soleil” but falls in the final syllable of words like “chemise” and “remise.” The final syllables of “remise” and “chemise” are not pronounced in spoken French but are pronounced [œ] in sung French.\(^{52}\)

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Milhaud Segments

As previously described, Milhaud’s piece is structured around a repeated rhythmic cell in the piano. This returning gesture appears to play a significant role in defining the borders of the segments in Milhaud’s setting of “Le vitrier.” However, how the text aligns with these structures challenges these borders. What follows is a brief discussion of the piano segment structures. The repeated piano motif is four beats long. Rhythmic features identify them. The left hand of the piano subdivides into eighth notes. The right hand is three repetitions of an “eighth-note, sixteenth note, sixteenth note” division of the beat, and the fourth beat is a quarter note. This cell is a repeating segment, reinforced by the song’s slow harmonic rhythm. However, this divides the text in ways that divide poetic lines, words, and syllables.

Given specific features and textures within the Milhaud, the following discussion returns to Hanninen’s theory and her concept of associative sets and their component parts. Refer to the glossary for a more in-depth discussion of Hanninen’s terms. Hanninen defines associative sets as “A collection of two or more (pheno) segments interrelated and integrated by contextual criteria into a system at a higher level of organization.”

Associative sets are sets of segments bound together by contextual criteria that function as a higher unit or organization.

Milhaud’s setting of “Le vitrier” repeats and reorganizes various segments in a way that associative sets become the clearer organizing group. Let us examine Milhaud’s piece through the lens of associative sets. The associative sets are labeled as two segments, one for the piano part(s) and one for the vocal segment. While the associative sets discussed bisect many of the poetic lines, they do not divide words but keep grammatical associations.

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53 Hanninen’s term “phenosegment” is defined as “a readily perceptible musical segment supported by at least one sonic or contextual criterion (and perhaps structural criteria). That is, a phenoseg can be supported by one or more criteria.” Dora Hanninen, A Theory of Music Analysis, 483.
The right-hand rhythms define the piano gestures because the left hand only plays in eighth notes. The piano motifs have been separated into three groups Pa, Pb, and Pab. The Pa label indicates the eighth-sixteenth-sixteenth portion of the cell as played by the piano. The Pb label indicates that only the quarter note portion of the cell is played by the piano. Finally, the label Pab indicates that both are played.

Two gestures form separate segments throughout the vocal line, Va and Vb. Like the piano, the absence of a functional harmonic progression and slow movement between chords make rhythm a more defining trait of segments. An ascent characterizes the Va segment in contour with medial eighth notes with no note values exceeding a quarter note. The Va segment appears in measure 3 containing “le pur soleil.” Vai is a near contour inversion of Va, but it retains the running eighth-note quality. Two iterations of the Vai segment follow this “qui remise,” and “Trop d’éclat.” A “short-short-long” rhythmic motif defines the Vb segment, which can be seen in measures 6-9 “l’y trier,” and 11-12 “sa chemise.” Vb1 occurs in measures 12-15 “sur le dos du vitrier.” In Vb1, the more prolonged gesture augments the running eighth-note motif seen in the Va segments.

**Milhaud Duration**

Both composers have also found ways to durationally differentiate between the two halves of the poem. In Milhaud’s early works, like *Chanson bas*, the rhythmic structure is far simpler than his Austrian contemporaries. “Le vitrier” is written in 2/4, and there is no syncopation in the piano’s persistent motor rhythm. The eighth note motor rhythm in the bassline is eventually abandoned after the vocal line ends in measure 15 and is replaced with a G major chord held for a half note tied to a quarter note. The root position G major chord is held in the left hand, and the right hand arpeggiates. This is the longest chord in the song and the first time one chord is
sounded in both hands. This may be interpreted as the arrival of the truth of the poem, that the glazier is witnessing the sun’s undressing of light.

Milhaud’s vocal line, like the piano, is in constant motion once it begins; there are no rests until after the last word is sung. The poem’s first two lines are relatively rhythmically uniform except for the ending syllables of the words “soleil” and “trier.” These two words are extended beyond the running eighth note pattern, “soleil” is set on a quarter note, and “trier” is set on two half notes and a quarter note, all tied. Such a sudden and dramatic increase in duration, emphasizes the words. While Milhaud does not do this for every syllable, “soleil” and “trier” are the most important words in the poem’s first half. This makes sense, given that “soleil” is the subject of the poem. Additionally, the final syllable of “trier” is the longest note of the piece, which could be interpreted as Mallarmé conveying an abundant amount of light. The final line is written in nearly all quarter notes on a repeating G4. This rhythmic augmentation reveals the glazier’s presence to the listener.

**Conclusion**

While pulling from different compositional techniques, both Kolb and Milhaud have honored the great symbolist poet, Mallarmé, in their settings of “Le Vitrier.” Both Kolb and Milhaud harmonically distinguish between the descriptive first half and the metaphorical second half of the poem.

Milhaud and Kolb, in their different approaches, choose to compress the pitch space of their setting of the poem’s final line. Milhaud’s contour setting is far more conservative than Kolb’s. Kolb’s setting uses large leaps within a single word or syllable, while Milhaud’s is syllabic. Her vocal line has so much motion that the most attention-grabbing parts of the song are the moments of stillness. Milhaud’s setting of the final line occurs on one pitch, G4. While his
text setting was conservative, the sudden stagnant vocal line draws attention to the text. Kolb’s vocal line compresses significantly in the poem’s final line, starting at measure 16. Her setting of the poem’s final line begins on the lowest note of the song, Bb3, which is a return to the first pitch of the vocal line. Then Kolb accents the word “*du,*” a partitive article through a melodic segment before the whisper of “*vitrier.*”
4.8 Pitch Contour Graph - Kolb & Milhaud

SYLLABLES IN SONG ORDER

Kolb
Milhaud
Both composers also choose to accent the final line using duration. Milhaud durationally augments the running eighth-note idea that dominates the first three lines into quarter notes in the final line. Kolb’s final line of the poem is far more constrained than her durational variety of the last three lines, with simple quarter-note triplets and eighth notes in measures 16 and 17. Both composers have also used more conservative rhythmic writing in the poem’s final line.
Both composers created a vocal line that is far simpler, relative to their compositional styles, for the final line of a short poem, which makes sense if one accepts the premise that they were choosing to emphasize the delivery of text at the final moment where the subtext of the poem is revealed. This analysis suggests that stillness and simplicity can be just as much of an accent as leaps and complexity. It also demonstrates an insight to be gained when composers from different cultures and compositional practices make similar rhetorical choices when handling the same text.
Chapter 5

Conclusion, Criticism, Opportunities for Future Research

“I seem to be looking for ways in which music and text, in this repertory, enact each other. I like the term ‘enact’ better than ‘read’ or ‘allegorize,’ because the term emphasizes gestural—often even bodily—aspects of interrelation.”

- David Lewin, Studies in Music with Text

How can this theory of text setting contour be paired with other modes of analysis to expand our knowledge of musical settings of text? This approach is interdisciplinary in that it ties literary and rhetorical analysis to structural elements of the score. Chapter five connects the analyses from chapters three and four, addresses criticism with counterarguments, and points toward future research areas.

Combined Conclusions from Chapters Three and Four

Through the analyses presented in this study, we have seen how a contour analysis can point to different and similar interpretations of the text between composers.

As lieder composers of the nineteenth century, it is not surprising that Hensel and Schubert used similar compositional devices such as sequences, and prolongation of the dominant, and recurrent suspensions. But it is not until the contour is examined that additional differences in interpretation are revealed. Other modes of analysis can also reveal more interpretative differences.

The accented end syllables of Hensel’s setting reinforced the rhyme and structure of the poem. Her setting also accents medial syllables that relate to the attributes of the speaker’s beloved. However, Schubert’s setting accents end syllables, symmetrical to the rhyme scheme,

and his repetition of melodic content within his strophes reflect the even structure of the poem. Additionally, he accents parts of speech that reflect the speaker’s desire and what she gains from the beloved.

The composers who are most distantly related, Kolb and Milhaud, had more in common. Despite the temporal distance, cultural difference, and incredibly different compositional styles they made a similar choice in the contour of their vocal lines. At first glance, one might be surprised to find that these two pieces share anything other than text. Milhaud’s polymodal setting sits in the middle of the voice, and Kolb’s work is post-tonal and non-metric and spans nearly two octaves.

Both composers set the text in accordance with French diction, prolonging final syllables that do not end in the “-e,” “-es,” and “-ent” producing a [œ] sound. Both composers also choose to compress the pitch contour in the final line of the poem which, per Symbolist poetic norms, recontextualizes the entire poem.

The analysis suggests that the composers who were closest in time, culture, and compositional practice, had less in common in text setting than the composers who were more separated in each of those dimensions. This demonstrates that contour can point to differences through similar styles as well as similarities between different styles. Without isolating the contour of the vocal line such insights would not have been found.
Criticism and Counterarguments

This new theory integrates text setting and contour theory, and with every theory, there are criticisms. This section addresses potential criticisms of this theory and introduces future research areas. Two potential criticisms of this new use of contour theory are that 1) the scope of the analyses is too small to establish utility and 2) the theory is structurally agnostic.

One potential criticism of this theory is that the sample size is small. There is no way to refute this criticism because it is true. Four pieces of music, two poems each set by two different composers, is by no means exhaustive. However, the variety between these four pieces demonstrates this approach’s potential. What follows is a discussion of the selected languages and structural frameworks.

German and French are, of course, two very different languages. Beyond origins and etymologies, French and German have entirely different types of stress. Wall states that “German, like English, is metric, rising and falling with similar patterns of primary stress, secondary stress, and unstressed syllables.” But “In English, Italian, and German, you create strong and weak stress patterns in words by changing loudness and pitch of different syllables. Do not carry this practice into French, however; pronounce all syllables with almost equal emphasis.” Per Wall’s description, French and German are structured entirely differently. This difference influenced how these languages are pronounced, how their poetry evolved, and how vocal music is composed. While the scope of this research only included four pieces, it has demonstrated that valuable analyses can be performed on: 1) two very dominant languages in the art song genre and 2) languages that have different approaches to stress. However, the utility of

56 Ibid. 239.
this approach would be broadened if a language that uses tones to differentiate between words had been used, such as Mandarin, Punjabi, or Cherokee. This would be an interesting arena for future research.

Of the four pieces selected for this study, two were composed using functional harmony, and two are post-tonal. Despite the small number of pieces, the breadth of styles demonstrates how broadly this theory can be applied. Pitch space and duration are essential parts of music that transcend compositional eras and traditions. As mentioned in the introduction, this theory of text setting contour functions best when paired with a theory that addresses global and local structural relationships, or associational theories like post-tonal theory. This new use of contour theory investigates a narrow yet vital dimension of art song composition, the text. It is also a dimension that is under-discussed in analyses of vocal music. The third part of this chapter discusses specific frameworks that could partner well with this theory of text setting contour.

The major criticism of this theory is that it is structurally agnostic. While this appears to be a weakness, can be seen as a strength because it allows the theory to be used in tandem with other theories. Like Hanninen’s framework, the text-setting contour theory is not rooted in a structural syntax. Within Hanninen’s text, she demonstrates how her segmentation theory overlaps with Schenkerian analysis, spectral analysis, post-tonal theory, and functional harmony. Since Hanninen’s segmentation theory was formative in the development of this research, it follows that this theory of text setting contour could also overlap with these structural frameworks.
Areas for Future Research

The previous section addressed two criticisms of the theory and countered that the narrow scope of this theory is not a disadvantage as it can be easily paired with other theoretical frameworks. This study has demonstrated how it can overlap with functional harmony and post-tonal structure. David Lewin’s *Studies in Music with Text* demonstrates the breadth of study that vocal literature can span. In this work, he discusses issues such as phenomenology, Schenkerian analysis, semiotics in Mozart, meter in post-tonal music, dramatic concerns, and more. I discuss a similar breadth of research in this section. Arenas for future research include but are not limited to 1) prolongation theories like Schenkerian Theory and the Lerdahl Tension Model, 2) Semiotic analyses including schemata, Shaftel’s model of discontinuity, and Feminist & Queer Theory, 3) spectrographic analyses, and 4) non-notated musical works.

Prolongational Theories

Just as this theory of text setting contour can overlap with post-tonal analyses, it could also be used in tandem with Schenkerian theory. Carl Schachter has already written at least two essays that examine structural and textual relationships in Schubert lied and Mozart’s *Don Giovanni*. Schachter’s diagrams within his Schubert analyses label the most structurally salient parts of the vocal line, and he includes the text in some of his graphs. It would be interesting to see if there is any overlap between the syllables that are preserved in various levels of Schenker graphs and syllables that are emphasized in pitch space or duration. Moreover, in his analysis of Donna Anna’s recitative and aria “*Don Ottavio son morta . . . Or sai chi l’onore*,” he shows Mozart’s first edition of her aria. He explains the differences in the dramatic impact. He argues that the final version of the aria places Donna Anna’s hypermeter at odds with the orchestra,
dramatically portraying her as “swimming against the tide, as it were, of the surging turbulent accompaniment, and suggests an enormous force of will controlling powerful emotions.” This case alone would be an interesting study, a comparative contour analysis of two versions of the same aria. A contour analysis partnered with Schenkerian analysis could lend valuable insight to the scene that, to this day, stirs debate. Performers and directors alike disagree on Donna Anna’s motivations, and whether she is telling Don Ottavio the truth when she describes Don Giovanni’s attempt to assault her. Due to the themes of sexual violence and toxic masculinity in Don Giovanni, this could also tie in elements of feminist theory.

Overlapping this theory of text setting contour with Lerdahl’s theory of tonal tension is perhaps one of the most exciting areas for future research on text-setting in tonal music. What follows is a brief overview of his approach but interested readers should consult his article on the subject for a thorough explanation. Lerdahl’s approach examines three kinds of tension “the sensory dissonance of certain intervallic combinations, harmonic and regional stability/instability in relation to a governing tonic, and melodic attraction as a projection of expectancy tension.” Lerdahl’s approach determines the distance between two melodic pitches locations with five levels of distance, the octave, the fifth, the triad, the diatonic scale, and the chromatic scale.

The pitches do not need to be adjacent. Lerdahl presents analyses with a tree graph that shows network tension relationships. The tree graphs display which pitches are attracted to one another, “Attractions in TPS are computed not only from event to event at the musical surface but also from event to event at immediately underlying levels of prolongation reduction.”

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59 Ibid. 330.
60 Ibid. 337.
graph models larger scale harmonic tensions also observable through other prolongational analyses.

There is a complementary relationship between tension and attraction numbers. Where music tenses away from the tonic, attractions are realized on less stable pitches and chords. Hence where tension numbers rise, attraction values tend to be small. But where the music relaxes toward the tonic, attractions are realized on more stable pitches and chords; tension numbers decline and attraction values rise.61

Lerdahl’s approach quantifies dimensions of tension and attraction between adjacent and non-adjacent pitches in a melodic line while also considering the chordal structure. By overlapping Lerdahl’s theory with the text setting contour, one could tie a pitch’s level of attraction within the line and its tension to the text setting. This theory of text setting contour contextualizes the syllables within pitch space, but Lerdahl’s approach examines the pitch’s location in a tonal context. Just like pitch space and duration, tension can be used to emphasize a syllable, and so could attraction. The addition of the Lerdahl model to the analyses of the “Du bist die Ruh” settings could reinforce or add to the findings from this study.

Semiotics

This theory of text setting contour directly investigates the existence of relationships between structural musical elements and the text. Using this new approach to contour alongside semiotic analyses seems like a logical next step. The two analyses within this study suggest potential interpretations of the composer’s text setting based on structural features of the vocal line. Other semiotic analytical tactics could compound these findings.

The use of schemata within compositions can carry semiotic meaning. The schemata carry associative meanings from the prior structure; the “extramusical references are not

61 Ibid. 338.
inherent, however, but rather emerge under specific deictic conditions.” Schemata often have prescribed voice leading and chord progressions, and they have been found in vocal compositions. Olga Sanchez-Kisielewska discusses the use of the romanesca schema in Haydn, Mozart, and Beethoven, as a spiritual and supernatural signifier. She points to examples that include the contour and local harmonic function of pitches in the vocal line.

Her research ties vocal lines, voice-leading, or contour, over particular progressions, to the use of schemata that have already been used to interpret semiotic meaning. Pairing Sanchez-Kisielewska’s approach with a text-setting contour analysis could situate syllables within a schemata. Such research could address questions like: What is the impact of using schemata within the setting of a text? How could this reinforce or change the meaning of the text?

Matthew Shaftel examines the role that discontinuity plays between the music and the text using the Act II finale of Le nozze di Figaro as a model. Shaftel proposes a model that analyzes music and drama at four levels:

1) Level One
   a. Music: Explores intra-musical aspects of the work or Edward Cone’s “the musical persona.”
   b. Drama: Focuses on the synopsis, plot structure, and characters.
2) Level Two
   a. Music: focuses on elements that create denotative meaning,
      i. a) formal structure as semiotic type,
      ii. b) Topics as direct musical references to extra-opus musical genres,
      iii. c) musical gestures as icons,
      iv. d) leitmotifs.
   b. Drama: Drama’s denotative meanings, such as connections between libretto and culture and narrative archetype.
3) Level Three

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a. Music: **Connotative** meaning of music, including formal structure, topic, connotative understanding of gesture, connotative meanings of leitmotifs, musical narrative archetypes as separate or parallel to the drama.
b. Drama: **Connotative** dimension of drama such as “those underlying principles which reveal the basic attitude of a nation, a period, a class, a religious or philosophical persuasion.”

4) Level Four—Music and Drama are merged at this level
   a. Music can . . .
      i. paraphrase or correspond to,
      ii. polarize/define,
      iii. contradict/ignore,
      iv. supplement
   b. . . . one of the following drama elements
      i. character,
      ii. atmosphere,
      iii. action.  

His study discusses how specific settings of the text could reinforce or subvert the rhythmic structure of the poem. This connected musical structure to poetic structure. Shaftel’s model has found a way to describe how musical meaning can reflect or transform the dramatic meaning. Shaftel’s model mainly examines larger-scale phenomena such as modulations to related tonal areas and the presence of topics. The contours of the vocal lines and the text setting were outside the scope for this chapter. Still, I believe his four-layer model could be employed in songs with multiple characters like “Der Erlkönig,” or entire song cycles with an overarching narrative structure like Schönberg’s *Das Buch der hängenden Gärten*. Such an analysis could address questions like: How does the text setting contour paraphrase or correspond to, polarize/define, contradict/ignore, supplement the character, atmosphere, and action?

This theory of text setting contour could also be used to find semiotic meaning through the lens of feminist and queer theory. As described in the introduction, I decided to make sure that women wrote half of the examined pieces. Between the two poems, only one analysis

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suggested differences in interpretation by the composers: the settings of “Du bist die Ruh.” I will discuss the opportunities for using feminist and queer analysis through the lens of this piece because Hensel was a woman and Schubert was gay.

From chapter three, Schubert’s setting of the poem emphasized words that related to the speaker’s desire. Whereas Hensel’s setting accented medial syllables that clouded segment boundaries in her second strophe, or she emphasized attributes about her beloved. The differences between their analyses could be expanded upon through feminist and queer theory. A feminist analysis could examine the differences between the portrayals of masculine and feminine attraction by drawing in cultural norms and expectations for gender performance and making connections to how the text was set. Schubert’s setting emphasizes how the relationship fulfills the speaker’s needs. Such an analysis could address questions like: Is there a connection between these musical settings and differences between masculine and feminine courtship? How do these lieder reflect the gender norms of the 19th century?

However, queer theory adds another layer to the analysis. As a gay man in the 19th century, it could be interpreted that Schubert’s setting reflects not only the peace the speaker describes in the poem but the desire for an escape from prejudice. Hensel’s composition employs far more functional chromaticism, which undermines the stability of the tonic. At the same time, Schubert’s composition consists of two identical strophes and a third and final variation of the strophe. Much of his melodic content is repeated exactly between the strophes, including the first two phrases of the beginning strophes and the final lines of every strophe. When I describe his composition as predictable and straightforward, this is not a criticism. Portrayals of love do not always need to be exciting and dramatic, of which Schubert was also capable. But this poem talks about finding peace in their beloved. It could be interpreted as
Schubert’s desire for a non-scandalous and simple courtship and societal acceptance of his sexuality. Such an analysis could address questions: Can, and if so how, may text setting frame queerness in the musical setting?

_Spectrographic analysis_

Robert Cogan’s work on spectrographic analysis is a groundbreaking collection of analyses reading spectrographs and positions timbre as a structural and semiotic tool.65 As discussed in chapter one, the sounds of words are used as structural organizations of poetry. This includes vowel sounds, types of consonants, patterns of stress, and more. These sounds are observable through spectral analysis, and they can be highlighted or diminished in a composer’s setting of the text. Therefore, timbre has the potential to carry weight when analyzing text settings. Cogan states that:

 Many people—even some musicians—think that when music is added to words, it is the music that gives shape and expression to the words. Here we see this is only a half-truth. In ‘Qui sedes, Domine,’ the words, especially their vowels, _orchestrate_ the music, giving each melodic note (the notated fundamental pitch) a specific array of resonating spectral elements (the vowel formants). Depending upon the vowel, these spectral resonances can be relatively low, grave, and dark; or high, acute, and bright.66

In his analysis of the Gregorian chant “Qui sedes, Domine,” Cogan argues that the composer’s melodic contour reflects the differences between the most accented vowels [ɛ] and [u].67 Cogan has already connected contour to timbre; therefore, combining a formalized theory of text-setting contour with spectral analysis seems like a logical area for future research.

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66 Ibid. 27.
67 Ibid. 27.
Non-notated musical works

In his work on the ontology of musical works, Alessandro Arbo argues that there are three types of musical works: oral, notated, and phonographic works. For Arbo, these three distinctions exist on a spectrum from most to least ontologically stable, oral being the least and phonographic being the most. Oral works include Inuit katajjaq, Sardinian trazzu, and Indian raga. An example of a phonographic work is Milton Babbit’s “Philomell,” as it contains fixed recorded media essential for the performance. Examples of works that exist in gray areas of the spectrum include variations of jazz standards. There are elements that are notated, the chart and the words, but as a semi-oral practice, it is often expected that performers will improvise. In some cases, a performer’s improvisation or variation becomes famous in its own right.

This study has included works that fall within the notated work category. An interesting area of research would be to examine how singers’ variations within jazz standards may or may not alter the meaning of the text. These improvisations may not be notated; therefore, an additional step of transcribing the variations would be added to the methodology.

Conclusion

This theory of text setting contour presents a deep yet narrow examination of one specific dimension of vocal work. This theory examines one aspect of the music, the vocal line, and plots syllable’s locations in two dimensions of music: pitch space and duration. Using these data points, one can suggest an interpretation of the poem. Through the application of this theory to Hensel and Schubert’s setting of “Du bist die Ruh” by Rückert and Kolb and Milhaud’s settings of “Le vitrier” by Mallarmé, we see how this theory can suggest similar and different interpretations of the same text. One key component of the theory’s success is its versatility of

application. As it is not tied to a hierarchical syntax, it can be applied to modal, tonal, post-tonal, metric, and non-metric music. As demonstrated in chapter four, this is useful when comparing settings that come from different compositional practices. Additionally, this theory’s scope allows it to overlap well with various other areas of study including prolongation theory, semiotics, and non-notated musical works. While the scope of this theory may be narrow, it is incredibly versatile and could help address a gap in music theory discourse.
Glossary

Poetic Terms

**Anapest, anapestic:** A foot of three beats, two unstressed and the last stressed (uux); the metre produced by such feet.\(^{69}\)

**Arch-rhyme:** Mirror symmetry, as *abba*; also called *chiasmic rhyme*.\(^{70}\)

**Beat:** a word or syllable/s bearing stress (x) or unstress (u).\(^{71}\)

**Caesura/e:** the medial pause/s in a line; if there is no punctuation it will tend not to occur in lines shorter than a tetrameter, and to occur approximately centrally in tetrametric or longer lines; it may be forced towards the beginning or the end of a line by punctuation.\(^{72}\)

**Dactyl, dactylic:** a foot of three beats, the first stressed, the second and third unstressed (xuu); the metre produced by such feet.\(^{73}\)

**End-rhyme:** between words ending lines.\(^{74}\)

**Foot:** a prosodic unit of stressed and/or unstressed beats, the component of a line.\(^{75}\)

**Iamb, iambic:** a foot of two beats, an unstressed followed by a stress (ux); the metre produced by such feet.\(^{76}\)

**Leonine-Rhyme:** between the word preceding the caesura and the end-word of the same line.\(^{77}\)

**Medial-rhyme:** a rhyme at or near the middle of lines, stanzas, etc.; of rhyme, between medial words in successive lines.\(^{78}\)

**Metre:** the rhythmic patterns of beats.\(^{79}\)

**Pyrrhic:** a foot of two unstressed beats (uu).\(^{80}\)

**Qualitative Prosody:** of metres, based on patterns of stress or accent.\(^{81}\)

**Quantitative Prosody:** of metres, based on vowel length.\(^{82}\)

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\(^{70}\) Ibid. 361.

\(^{71}\) Ibid. 362.

\(^{72}\) Ibid. 363.

\(^{73}\) Ibid. 366.

\(^{74}\) Ibid. 369.

\(^{75}\) Ibid. 370.

\(^{76}\) Ibid. 373.

\(^{77}\) Ibid. 375.

\(^{78}\) Ibid. 376.

\(^{79}\) Ibid. 376.

\(^{80}\) Ibid. 381.

\(^{81}\) Ibid. 381.

\(^{82}\) Ibid. 381.
Slant-rhyme: (or near, or half-rhyme) between words whose last stressed vowel or all following sounds are identical, but not both; includes vowel- and pararhyme.\(^83\)

Spondee, spondaic: a foot of two stressed beats (xx).\(^84\)

Syllabic Prosody: of verse, with a prescribed number of syllables per line.\(^85\)

Trochee, trochaic: a foot of two beats, a stressed followed by an unstressed (xu); the metre produced by such feet.\(^86\)

**Hanninen’s Terms**

**Associative Landscape:** A level of organization and analysis concerned with the actual temporal (registral, timbral) disposition of associative sets and segments in a passage or composition. Dispositions are two kinds, *internal* and *external*.\(^87\)

**Associative set:** A collection of two or more (pheno) segments interrelated and integrated by contextual criteria into a system at a higher level of organization. Within a set, every segment is related to at least one of its consociates by one or more contextual criteria; conversely, every contextual criterion that contributes to the set (not just its individual segments) must support two or more of its segments. Sets are usually named by capital letters in italics (e.g., “set A”); individual segments in the set, by appending an Arabic numeral that reflects chronological order (A1).\(^88\)

**Contextual Criterion:** A basic type of criterion that responds to repetition in a certain respect (e.g., contour, scale degree ordering, or set-class) between two or more groupings of notes within a specific musical context. Contextual criteria assume an associative orientation: they represent associations between segments as relational properties of segments. Contextual criteria are essential for categorization and to the formation of associative sets and motives.\(^89\)

**Contextual Domain** The domain concerned with repetition, association, and categorization.\(^90\)

**Criterion:** A rationale for the cognitive grouping of musical events or segmentation.\(^91\)

**Domain:** A realm of musical activity, experience, and discourse about it, bounded by the sorts of musical phenomena or ideas under consideration.\(^92\)

\(^83\) Ibid. 384.
\(^84\) Ibid. 385.
\(^85\) Ibid. 385.
\(^86\) Ibid. 387.
\(^87\) Hanninen, *Theory of Music Analysis*, 486.
\(^88\) Ibid. 483
\(^89\) Ibid. 482.
\(^90\) Ibid. 481.
\(^91\) Ibid. 482.
**Genosegment:** A potentially perceptible grouping of notes (or other sound-events) supported by exactly one sonic or contextual criterion, which can realize a structural criterion.\(^93\)

**Genotype:** A set of criteria that support of phenosegment. The genotype of a segment \(x\), written \(G(x)\), is the set of sonic, contextual, and perhaps also structural criteria that support its coincident genosegs.\(^94\)

**Phenosegment:** A readily perceptible musical segment supported by at least one sonic or contextual criterion (and perhaps also structural criteria). \(^95\)

**Segment:** A grouping of notes (or other sound-events) that constitutes a significant musical object in analytic discourse. \(^96\)

**Sonic Criterion:** A basic type of criterion that responds to disjunctions in the attribute-values of individual sounds and silences within a single psychoacoustic musical dimension such as pitch, attack point, duration, dynamics (loudness), timbre, or articulation. \(^97\)

**Sonic Domain:** The psychoacoustic aspect of music. \(^98\)

**Structural Criterion:** A basic type of criterion that assumes a theoretic orientation and indicates an interpretation supported by a specific orienting theory. Structural criteria invoke theoretic entities defined or formulated with respect to a theoretic framework; these are often syntactic (or other abstract) units governed by grammatical or compositional constraints.\(^99\)

**Structural Domain:** The realm of interpretation shaped by active reference to a theory of musical structure or syntax chosen by the analyst.\(^100\)

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\(^{92}\) Ibid. 481.
\(^{93}\) Ibid. 483.
\(^{94}\) Ibid. 483.
\(^{95}\) Ibid. 483.
\(^{96}\) Ibid. 483.
\(^{97}\) Ibid. 482.
\(^{98}\) Ibid. 481.
\(^{99}\) Ibid. 482.
\(^{100}\) Ibid. 481.
Appendix 1– Pronunciation Guide for IPA Symbols Found In Poems

IPA symbols for vowel sounds:

[a]  low central (or front) unrounded vowel    French la
[e]  tense mid front unrounded vowel          bait, made
[ɛ]  Lax mid front unrounded vowel            bet, head
[i]  Tense high front vowel                  see, diva
[I]  lax high front unrounded vowel           hit
[o]  tense mid back rounded vowel             go, hope, boat
[u]  tense high back rounded vowel            ooze, prune
[ʊ]  lax high back rounded vowel              put, book
[y]  high front rounded vowel                 French u, German ü
[ə]  lax mid central vowel                    about, sofa

IPA symbols for consonant sounds:

[b]  voiced bilabial stop                     bib
[ç]  voiceless palatal fricative              German ich, hissing cat
[d]  voiced alveolar stop                    dad
[f]  voiceless labiodental fricative          fife, laugh
[g]  voiced velar stop                       gag
[h]  voiceless glottal fricative              hit
[k]  voiceless velar stop                    kick, cake
[l]  voiced alveolar lateral liquid           lip
[m]  voiced bilabial nasal                   mom
[n]  voiced alveolar nasal                    none
[p]  voiceless bilabial stop                 pep
[ɾ]  voiced alveolar tap                     Spanish pero
[s]  voiceless alveolar fricative             sit, hiss, rice, cent
[f]  voiceless postalveolar fricative         ship, push, delicious
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>[t]</td>
<td>voiceless alveolar stop</td>
<td><em>stop</em></td>
</tr>
<tr>
<td>[v]</td>
<td>voiced labiodental fricative</td>
<td><em>verve</em></td>
</tr>
<tr>
<td>[x]</td>
<td>voiceless velar fricative</td>
<td><em>hutzpah, German ach</em></td>
</tr>
<tr>
<td>[z]</td>
<td>voiced alveolar fricative</td>
<td><em>fizz, his, rose</em></td>
</tr>
</tbody>
</table>
Appendix 2—Segmentations of Hensel and Schubert

“Du bist die Ruh” by Fanny Hensel
Kehr ein bei mir, und schliesse du still hinter dir die Pforte zu, treib andern Schmerz aus dieser Brust, voll sei dies

Herz von deiner Lust, dies Augen Zelt, von deinem

Glanz allein allein erhellt, o füll es ganz.
Du bist die Ruh.
Gedicht von Fr. Rückert.
Für eine Singstimme mit Begleitung des Pianoforte
componirt von
FRANZ SCHUBERT.
Op. 50, No. 3,

Langsam.

Singstimme:

Pianoforte:

1  Du bist die Ruh, der Friede mild,

6  die Bahn sucht du, und was sie stillt.

12  Ich wehre dir,

18  voll Lust und Schmerz zur Wohnung hier,

F. S. 811.

Ausgegeben 1885.

Fr. [signature]

Verlag und Druck bei Breitkopf & Härtel in Leipzig.
C1
mein Aug' und Herz.

Kehr' ein bei mir, und schliesse du still hinter

dir die Pforten zu. Treib' an dern Schmerz aus dieser.

Brust! Voll sei dieses Herz von deiner Lust, von deiner.

Lust.
Dies Augen. zelt, von

dem Gla:nz al
lein er

P. S. 84.
Appendix 3—Segmentations of Kolb and Mi

“Le vitrier” by Barbara Kolb
“Le vitrier” by Darius Milhaud

6

La Femme de l'Ouvrier

CHANT

PIANO

Le Vitrier

CHANT

PIANO

E.D.18 L.S.
Le Criier d'imprimés

CHANT
Assez animé
Toujours n'importe le titre Sans même

PIANO
s'en ruiner au Dégel ce gai sifflé

© D.18 L.S.
Appendix 4—Complete Pitch and Duration Graphs for Hensel and Schubert

Combined Pitch Graph of Hensel and Schubert Settings of "Du bist die Ruh" - 1st and 2nd Verse

Combined Pitch Graph of Hensel and Schubert Settings of "Du bist die Ruh" - 3rd and 4th Verses
Combined Pitch Graph of Hensel and Schubert Settings of "Du bust die Ruh" - 5th Verse
Combined Duration Graph of Hensel and Schubert Settings of "Du bist die Ruh" - 1st Stanza

Combiend Duration Graph of Hensel and Schubert's Settings of "Du bist die Ruh" - 2nd Stanza
Combined Duration Graph of Hensel and Schubert's Settings of "Du bist die Ruh" - 3rd Stanza

Combined Duration Graph of Hensel and Schubert's Settings of "Du bist die Ruh" - 4th Stanza
Combined Duration Graph of Hensel and Schubert’s Settings of "Du bist die Ruh" - 5th Stanza
Appendix 5—Complete Pitch and Duration Graphs for Kolb and Milhaud

Combined Pitch Contour of Kolb and Milhaud's Settings of "Le Vitrier" -
1st and 2nd Line

Combined Pitch Contour of Kolb and Milhaud's Settings of "Le Vitrier" - 3rd and 4th Line
Combined Duration Graph for Kolb and Milhaud Settings of "Le vitrier" 1st and 2nd Lines

Combined Duration Graph for Kolb and Milhaud Settings of "Le vitrier" 3rd and 4th Lines


