THE COMPARATIVE USAGES OF THE NINTH, ELEVENTH, AND
THIRTEENTH INTERVALS, IN CHORDAL AND
CONTRAPUNTAL CONTEXT, AS ANALYZED
IN RICHARD WAGNER: DIE WALKÜRE,
ACT I, AND GÖTTERDÄMMERUNG,
ACT I

THESIS

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF MUSIC

By

David A. Herfort, B. M.
Denton, Texas
August, 1971
Herfort, David A., *The Comparative Usages of the Ninth, Eleventh, and Thirteenth Intervals, in Chordal and Contra-

In June, 1854, Richard Wagner began the composition of *Die Walküre*, the second music drama in his tetralogy, *Der Ring des Nibelungen*. Wagner completed *Götterdämmerung*, the fourth and final music drama of the *Ring*, in November, 1874. More than twenty years had elapsed from the beginning of *Die Walküre* until the completion of *Götterdämmerung*. The purpose of this thesis is to contrast Wagner's usages of the ninth, eleventh, and thirteenth intervals and chords, as found in *Die Walküre, Act I* and *Götterdämmerung, Act I*.

The ninth, eleventh, and thirteenth chord structures and intervals are categorized into three divisions: major, minor, and augmented ninth chords and intervals; perfect and augmented eleventh chords and intervals; and major and minor thirteenth chords and intervals. Complete chord types within these three divisions contain the ninth, eleventh, or thirteenth interval above the root, respectively, as well as the root and the seventh of the chord in each. The ninth,
eleventh, and thirteenth chords have been analyzed by descriptive terminology, and by Roman numeral terminology. For example, a dominant major ninth chord, consisting of a major triad and a minor seventh and major ninth interval above the root, would be described as follows: major-minor-major ninth chord (MmM9, V9). The ninth, eleventh, and thirteenth chord structures have been classified as tonally stable when they function as dominant, secondary dominant, or non-dominant chords in a given tonality, and as tonally unstable when they appear to be the vertical result of linear melodic activity, sequence, or other factors.

The ninth, eleventh, and thirteenth intervals have been analyzed as contrapuntally-introduced non-harmonic tones or chord tones. As non-harmonic tones, each is prepared and resolved as a passing tone, neighboring tone, suspension, anticipation, appoggiatura, changing tone, escape tone, or pedal point. When the ninth, eleventh, or thirteenth interval is found unprepared and/or unresolved or irregularly resolved, it is defined as a chord tone. It is noted that one ninth, eleventh, and thirteenth interval has been analyzed statistically for each ninth, eleventh, and thirteenth chord found in Die Walküre, Act I and Götterdämmerung, Act I.
In appraising all three divisions of ninth, eleventh, and thirteenth chords and intervals, it is established that the total number of examples found in *Götterdämmerung*, Act I exceeds the total number found in *Die Walküre*, Act I by a ratio of at least two to one. Although there are some exceptions in both compositions, the ninth, eleventh, and thirteenth chord is most frequently found in root position, and functions as a dominant chord (V) in a given tonality. Similarly, the ninth, eleventh, and thirteenth interval is most generally treated contrapuntally as a non-harmonic tone, and is resolved before a change of chord.

The diversification of differing ninth, eleventh, and thirteenth chord structures is much greater in *Götterdämmerung*, Act I than in *Die Walküre*, Act I. For example, in contrast to the total of eight differing types of perfect eleventh chord structures found in *Götterdämmerung*, Act I, only three differing types of perfect eleventh chord structures are analyzed in *Die Walküre*, Act I.

Concerning Wagner's contrapuntal treatments of ninth, eleventh, and thirteenth intervals, it is observed that while the non-harmonic treatments of the suspension, appoggiatura, passing tone, neighboring tone, and anticipation are employed in *Die Walküre*, Act I and *Götterdämmerung*, Act I,
the treatments of the escape tone, pedal point, and changing
tone are restricted to Götterdämmerung, Act I. Many of these
non-harmonic treatments of ninth, eleventh, and thirteenth
intervals in Die Walküre, Act I and Götterdämmerung, Act I
are of longer rhythmic duration than their tones of resolution.
Conversely, Wagner's contrapuntal treatments of ninth,
eleventh, and thirteenth intervals as chord tones are often
of equal or shorter rhythmic duration than their tones of
resolution. This pattern is most prevalent in Götterdämmerung,
Act I.

Dual contrapuntal treatments of the same interval in
the same chord, where non-harmonic and/or chord tone treat-
ments are combined, is found only in Götterdämmerung, Act I.
Although the ninth interval is treated in a similar manner
in both Die Walküre, Act I and Götterdämmerung, Act I, the
gradual emancipation of the eleventh and thirteenth intervals,
from their status as non-harmonic tones to chord tones, is
quite evident in Götterdämmerung, Act I.

The major differences in Wagner's use of ninth, eleventh,
and thirteenth chords and intervals are due to a gradual
increase in certain factors of style, which is begun in
Die Walküre, Act I and continued in Götterdämmerung, Act I.
These evolvements in style, which are clearly manifested in
Gotterdammerung, Act I, include an increase in tonal instability and a greater frequency of inversion in ninth, eleventh, and thirteenth chords. As to the contrapuntal treatment of the ninth, eleventh, and thirteenth intervals in Gotterdammerung, Act I, an increased use in melodic sequence is observed, and a greater number of resolutions occur with or after a change of chord.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF TABLES</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF ILLUSTRATIONS</td>
<td>x</td>
</tr>
</tbody>
</table>

Chapter

I. INTRODUCTION ......................................................... 1

Analysis Procedure

Chapter Bibliography

II. THE MAJOR NINTH CHORD AND INTERVAL ......................... 8

The Major Ninth Chord in *Die Walküre*, Act I
The Major Ninth Interval in *Die Walküre*, Act I
Typical Usage of Dominant Major Ninth Chord and Interval in *Die Walküre*, Act I
The Major Ninth Chord in *Götterdämmerung*, Act I
The Major Ninth Interval in *Götterdämmerung*, Act I
Typical Usage of Dominant Major Ninth Chord and Interval in *Götterdämmerung*, Act I
The Secondary Dominant Major Ninth Chord in *Die Walküre*, Act I
The Major Ninth Interval as Appoggiatura in *Die Walküre*, Act I
The Secondary Dominant Major Ninth Chord in *Götterdämmerung*, Act I
The Non-dominant Major Ninth Chord in *Götterdämmerung*, Act I
The Tonally Unstable Major Ninth Chord in *Götterdämmerung*, Act I
The Major Ninth Chord in Inversion in *Götterdämmerung*, Act I
The Major Ninth Chord in Harmonic and Melodic Sequence in *Götterdämmerung*, Act I
The Major Ninth Interval as Passing Tone in Die Walküre, Act I and Götterdämmerung, Act I
The Major Ninth Interval as Suspension in Die Walküre, Act I and Götterdämmerung, Act I
Unusual Usage of Major Ninth Chord and Interval in Die Walküre, Act I
Unusual Usage of Major Ninth Chord and Interval in Götterdämmerung, Act I

Chapter Bibliography

III. THE MINOR NINTH CHORD AND INTERVAL . . . . . . 34

The Minor Ninth Chord in Die Walküre, Act I
The Minor Ninth Interval in Die Walküre, Act I
Typical Usage of Dominant Minor Ninth Chord in Die Walküre, Act I
The Minor Ninth Chord in Götterdämmerung, Act I
The Minor Ninth Interval in Götterdämmerung, Act I
Typical Usages of Dominant Minor Ninth Chord and Interval in Götterdämmerung, Act I
The Minor Ninth Interval as Chord Tone in Die Walküre, Act I
The Secondary Dominant Minor Ninth Chord in Die Walküre, Act I
The Secondary Dominant Minor Ninth Chord in Götterdämmerung, Act I
The Non-dominant Minor Ninth Chord in Götterdämmerung, Act I
The Tonally Unstable Minor Ninth Chord in Götterdämmerung, Act I
The Minor Ninth Chord in Inversion in Die Walküre, Act I
The Minor Ninth Chord in Inversion in Götterdämmerung, Act I
The Minor Ninth Interval as Passing Tone in Die Walküre, Act I
IV. THE PERFECT ELEVENTH CHORD AND INTERVAL

The Perfect Eleventh Chord in *Die Walküre*, Act I
The Perfect Eleventh Interval in *Die Walküre*, Act I
Typical Usages of Dominant Perfect Eleventh Chord and Interval in *Die Walküre*, Act I
The Perfect Eleventh Chord in *Götterdämmerung*, Act I
The Perfect Eleventh Interval in *Götterdämmerung*, Act I
Typical Usages of Dominant Perfect Eleventh Chord and Interval in *Götterdämmerung*, Act I
The mmpII Chord in *Die Walküre*, Act I
The Mm(II) Chord in *Götterdämmerung*, Act I
The Secondary Dominant Perfect Eleventh Chord in *Die Walküre*, Act I
The Secondary Dominant Perfect Eleventh Chord in *Götterdämmerung*, Act I
The Non-dominant Perfect Eleventh Chord in *Götterdämmerung*, Act I
The Tonally Unstable Perfect Eleventh Chord Types in *Götterdämmerung*, Act I
The Perfect Eleventh Chord in Inversion in *Götterdämmerung*, Act I
The Perfect Eleventh Chord in Melodic and Harmonic Sequence in *Götterdämmerung*, Act I
The Perfect Eleventh Interval Used as Passing Tone in *Die Walküre*, Act I
The Perfect Eleventh Interval as Anticipation in *Götterdämmerung*, Act I
The Perfect Eleventh Interval as Changing Tone in *Götterdämmerung*, Act I

V. THE AUGMENTED ELEVENTH CHORD AND INTERVAL

The Augmented Eleventh Chord and Interval in *Die Walküre*, Act I
The Augmented Eleventh Chord in *Götterdämmerung*, Act I
The Augmented Eleventh Interval in Götterdämmerung, Act I
Typical Usage of Dominant Augmented Eleventh Chord in Götterdämmerung, Act I
The Mm(A)11 Chord in Götterdämmerung, Act I
The Augmented Eleventh Chord in Inversion in Götterdämmerung, Act I
Unusual Usage of Augmented Eleventh Chord in Götterdämmerung, Act I

VI. THE MAJOR THIRTEENTH CHORD AND INTERVAL . . . 87

The Major Thirteenth Chord in Die Walküre, Act I
The Major Thirteenth Interval in Die Walküre, Act I
Typical Usage of Dominant Major Thirteenth Chord in Die Walküre, Act I
The Major Thirteenth Chord in Götterdämmerung, Act I
The Major Thirteenth Interval in Götterdämmerung, Act I
Typical Usages of Dominant Major Thirteenth Chords in Götterdämmerung, Act I
The Major Thirteenth Interval as Suspension in Götterdämmerung, Act I
The MmmPM13 Chord in Götterdämmerung, Act I
The MmAPM13 Chord and MmMPM13 Chord in Götterdämmerung, Act I
The Major Thirteenth Interval as Appoggiatura in Die Walküre, Act I
The Major Thirteenth Interval as Neighboring Tone in Die Walküre, Act I
The Major Thirteenth Chord in Inversion in Götterdämmerung, Act I
Unusual Usage of Major Thirteenth Chord and Interval in Götterdämmerung, Act I
VII. THE MINOR THIRTEENTH CHORD AND INTERVAL . . . 102

The Minor Thirteenth Chord in *Die Walküre*, Act I
The Minor Thirteenth Interval in *Die Walküre*, Act I
Typical Usage of Dominant Minor Thirteenth Chord in *Die Walküre*, Act I
The Minor Thirteenth Chord in *Götterdämmerung*, Act I
The Minor Thirteenth Interval in *Götterdämmerung*, Act I
Typical Usage of Minor Thirteenth Chord and Interval in *Götterdämmerung*, Act I
The Secondary Dominant Minor Thirteenth Chord in *Götterdämmerung*, Act I
The Minor Thirteenth Interval as Appoggiatura in *Götterdämmerung*, Act I
The Minor Thirteenth Interval as Anticipation in *Die Walküre*, Act I and *Götterdämmerung*, Act I
The Minor Thirteenth Interval as Passing Tone in *Götterdämmerung*, Act I
The Minor Thirteenth Interval as Escape Tone in *Götterdämmerung*, Act I
Unusual Usage of Minor Thirteenth Chord and Interval in *Götterdämmerung*, Act I

VIII. MISCELLANEOUS USAGES OF NINTH, ELEVENTH, AND THIRTEENTH CHORDS AND INTERVALS . . . 116

The Augmented Ninth Chord in *Die Walküre*, Act I
The Major and Minor Ninth Chords and Intervals in *Götterdämmerung*, Act I
Unusual Usage of Perfect Eleventh Chord and Interval in *Götterdämmerung*, Act I
The Perfect and Augmented Eleventh Chords and Intervals Combined in *Götterdämmerung*, Act I
The Major and Minor Thirteenth Chords in
Die Walküre, Act I
Linear Derivations of Ninth, Eleventh,
and Thirteenth Chords in Götter-
dämmerung, Act I
Rhythmic Duration of Ninth,Eleventh,
and Thirteenth Intervals as Non-Harmonic
Tones in Die Walküre, Act I and
Götterdämmerung, Act I
Rhythmic Duration of Ninth, Eleventh,
and Thirteenth Intervals as Chord Tones in
Die Walküre, Act I and Götterdämmerung,
Act I
Evolution of Ninth, Eleventh, and Thirteenth
Chords and Intervals in Die Walküre, Act I
and Götterdämmerung, Act I

Chapter Bibliography

IX. CONCLUSIONS ........................................... 134

BIBLIOGRAPHY ............................................. 142
LIST OF TABLES

Table | Page
-----|------
I. Descriptive Terminology | 4
II. The Major Ninth Chord | 9
III. The Major Ninth Interval | 10
IV. The Minor Ninth Chord | 35
V. The Minor Ninth Interval | 37
VI. The Perfect Eleventh Chord | 54
VII. The Perfect Eleventh Interval | 57
VIII. The Augmented Eleventh Chord | 80
IX. The Augmented Eleventh Interval | 81
X. The Major Thirteenth Interval | 88
XI. The Major Thirteenth Chord | 93
XII. The Minor Thirteenth Chord | 103
XIII. The Minor Thirteenth Interval | 105
XIV. Frequency of Ninth, Eleventh, and Thirteenth Chord Types | 135
XV. Frequency of Secondary Dominant Ninth, Eleventh, and Thirteenth Chords | 137
LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MmM9 chord, Die Walküre, Act I</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>MmM9 chord, Die Walküre, Act I</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>MmM9 chord, Die Walküre, Act I</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>16</td>
</tr>
<tr>
<td>6</td>
<td>MMM9 chord, Götterdämmerung, Act I</td>
<td>18</td>
</tr>
<tr>
<td>7</td>
<td>mmM9 chord, Götterdämmerung, Act I</td>
<td>19</td>
</tr>
<tr>
<td>8</td>
<td>mmM9 chord, Götterdämmerung, Act I</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>dmM9 chord, Götterdämmerung, Act I</td>
<td>21</td>
</tr>
<tr>
<td>10</td>
<td>ddM9 chord, Götterdämmerung, Act I</td>
<td>21</td>
</tr>
<tr>
<td>11</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>22</td>
</tr>
<tr>
<td>12</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>23</td>
</tr>
<tr>
<td>13</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>24</td>
</tr>
<tr>
<td>14</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>25</td>
</tr>
<tr>
<td>15</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>26</td>
</tr>
<tr>
<td>16</td>
<td>MmM9 chord, Die Walküre, Act I</td>
<td>27</td>
</tr>
<tr>
<td>17</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>28</td>
</tr>
<tr>
<td>18</td>
<td>MmM9 chord, Die Walküre, Act I</td>
<td>29</td>
</tr>
<tr>
<td>19</td>
<td>MmM9 chord, Götterdämmerung, Act I</td>
<td>29</td>
</tr>
<tr>
<td>20</td>
<td>MmM9 chord, Die Walküre, Act I</td>
<td>30</td>
</tr>
<tr>
<td>No.</td>
<td>Chord</td>
<td>Work</td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>21</td>
<td>MmM9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>22</td>
<td>Mmm9</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>23</td>
<td>Mmm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>24</td>
<td>Mmm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>25</td>
<td>Mmm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>26</td>
<td>Mmm9</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>27</td>
<td>Mmm9</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>28</td>
<td>Mmm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>29</td>
<td>dmm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>30</td>
<td>ddm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>31</td>
<td>Mmm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>32</td>
<td>Mmm9</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>33</td>
<td>Mmm9</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>34</td>
<td>Mmm9</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>35</td>
<td>Mmm9</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>36</td>
<td>MmP11</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>37</td>
<td>MmP11</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>38</td>
<td>MmP11</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>39</td>
<td>MmP11</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>40</td>
<td>MmP11</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td>41</td>
<td>MmP11</td>
<td><em>Götterdämmerung</em></td>
</tr>
<tr>
<td>42</td>
<td>MmP11</td>
<td><em>Die Walküre</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>43.</td>
<td>mmMPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>44.</td>
<td>mmPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>45.</td>
<td>mmmPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>46.</td>
<td>\textit{dd}Pll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>47.</td>
<td>\textit{mm}Pll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>48.</td>
<td>MmMPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>49.</td>
<td>MmPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>50.</td>
<td>MmPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>51.</td>
<td>MmPll chord, \textit{Die Walküre}, Act I</td>
<td></td>
</tr>
<tr>
<td>52.</td>
<td>MmMPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>53.</td>
<td>MmPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>54.</td>
<td>MmmPll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>55.</td>
<td>\textit{Mm}All chord, \textit{Die Walküre}, Act I</td>
<td></td>
</tr>
<tr>
<td>56.</td>
<td>MmMAll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>57.</td>
<td>\textit{Mm}All chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>58.</td>
<td>\textit{Mm}All chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>59.</td>
<td>MmMAll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>60.</td>
<td>MmMAll chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>61.</td>
<td>\textit{Mm}()M13 chord, \textit{Die Walküre}, Act I</td>
<td></td>
</tr>
<tr>
<td>63.</td>
<td>\textit{Mm}()M13 chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>64.</td>
<td>MmmPM13 chord, \textit{Götterdämmerung}, Act I</td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>65.</td>
<td>MmAPM13, MmMPM13 chords, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>66.</td>
<td>Mm()()M13 chord, <em>Die Walküre</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>67.</td>
<td>Mm()()M13 chord, <em>Die Walküre</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>69.</td>
<td>MmM()M13 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>70.</td>
<td>MM()AM13 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>71.</td>
<td>Mmm()ml3 chord, <em>Die Walküre</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>72.</td>
<td>Mm()()ml3 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>73.</td>
<td>Mm()()ml3 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>74.</td>
<td>Mmm()ml3 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>75.</td>
<td>Mm()()ml3 chord, <em>Die Walküre</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>76.</td>
<td>Mmm()ml3 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>77.</td>
<td>Mm()()ml3 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>78.</td>
<td>Mm()()ml3 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>79.</td>
<td>Mmm()ml3 chord, Mm()()ml3 chord, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>80.</td>
<td>MmA9 chord, <em>Die Walküre</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>81.</td>
<td>Mmm9, MmM9 chords, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>82.</td>
<td>MmmmP11, MmMP11 chords, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>83.</td>
<td>MmMA11, MmMP11 chords, <em>Götterdämmerung</em>, Act I</td>
</tr>
<tr>
<td></td>
<td>84.</td>
<td>Mm()()M13, Mm()()ml3 chords, <em>Die Walküre</em>, Act I</td>
</tr>
</tbody>
</table>
85. MnM9, Mmm9, Mmm()M13, Mn()Al1, Mn()M13, Mn()P11 chords, Götterdämmerung, Act I . . . 124

86. Mn()M13, MnM9 chords, Götterdämmerung, Act I . . . . . . . . . . . . . . . . . . . . . 127
CHAPTER I

INTRODUCTION

On June 28, 1854, Richard Wagner (1813-1883) began the composition of Die Walküre, the second music drama in his tetralogy, Der Ring des Nibelungen. Wagner completed the compositional sketch of Die Walküre in December, 1854, and finished the scoring on March 13, 1856. He commenced work on Siegfried, the third music drama of the Ring, on September 22, 1856, stopping on August 9, 1857, for a period of nearly twelve years, and resuming in February, 1869.

On October 2, 1869, Wagner began work on his fourth and final music drama of the Ring, Götterdämmerung. He completed the composition of Götterdämmerung in February, 1872, and finished the scoring on November 21, 1874.

More than twenty years had elapsed from the beginning of the composition of Die Walküre until the completion of Götterdämmerung. The purpose of this thesis is to analyze Wagner's usages of the ninth, eleventh, and thirteenth intervals, in chordal and contrapuntal context, as found in Die Walküre, Prelude and Act I, and in Götterdämmerung.
Prelude and Act I. This source material will hereinafter be referred to as *Die Walküre*, Act I and *Götterdämmerung*, Act I.

**Analysis Procedure**

After a thorough harmonic analysis of *Die Walküre*, Act I and *Götterdämmerung*, Act I, the ninth, eleventh, and thirteenth chord structures and intervals were extracted and categorized into three divisions:

1. Major, minor, and augmented ninth chords and intervals.
2. Perfect and augmented eleventh chords and intervals.
3. Major and minor thirteenth chords and intervals.

It should be observed that the abbreviated terms "major ninth," "minor ninth," "augmented ninth," "perfect eleventh," "augmented eleventh," "major thirteenth," and "minor thirteenth," when applied to chords refer to the quality of the interval above the root, not to the quality of the triad or the seventh.

**Ninth, Eleventh, and Thirteenth Chords**

Complete chord types within these three divisions contain the ninth, eleventh, or thirteenth interval above the root, respectively, as well as the root and the seventh of the chord in each. Arpeggiated chord structures, in which
the ninth, eleventh, or thirteenth interval sounds simultaneously with the root and the seventh of the chord, have been analyzed as complete ninth, eleventh, or thirteenth chords. Any "implied" ninth, eleventh, or thirteenth chord, which results from the higher tertian interval not sounding simultaneously with the root and the seventh, has not been considered in this analysis.

The ninth, eleventh, and thirteenth chords are analyzed by descriptive terminology and by Roman numeral terminology. The descriptive terminology shows the quality of the triad, the quality of the seventh, and the quality of the ninth, eleventh, or thirteenth interval (Table I). When the interval of the ninth is missing from an eleventh chord, and when the interval of a ninth or eleventh is missing from a thirteenth chord, the quality is shown in descriptive terminology as ( ). The Roman numeral terminology (1,2) indicates the scale degree upon which the ninth, eleventh, or thirteenth chord structure is based. The figured bass symbolization used for inversions of ninth, eleventh, and thirteenth chords is as follows:

1. First inversion: 5 4. Fifth inversion: 4
2. Second inversion: 3 5. Sixth inversion: 4
3. Third inversion: 2
TABLE I

DESCRIPTIVE TERMINOLOGY

Ninth Chords

<table>
<thead>
<tr>
<th>Chord Description</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major-minor-major ninth chord</td>
<td>MmM9</td>
</tr>
<tr>
<td>Minor-minor-major ninth chord</td>
<td>mmM9</td>
</tr>
<tr>
<td>Major-major-major ninth chord</td>
<td>MMM9</td>
</tr>
<tr>
<td>Diminished-minor-major ninth chord</td>
<td>dmM9</td>
</tr>
<tr>
<td>Diminished-diminished-major ninth chord</td>
<td>ddM9</td>
</tr>
<tr>
<td>Major-minor-minor ninth chord</td>
<td>Mmm9</td>
</tr>
<tr>
<td>Diminished-minor-minor ninth chord</td>
<td>dmm9</td>
</tr>
<tr>
<td>Diminished-diminished-minor ninth chord</td>
<td>ddm9</td>
</tr>
<tr>
<td>Major-minor-augmented ninth chord</td>
<td>MmA9</td>
</tr>
</tbody>
</table>

Eleventh Chords

<table>
<thead>
<tr>
<th>Chord Description</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major-minor-major-perfect eleventh chord</td>
<td>MmMP11</td>
</tr>
<tr>
<td>Major-minor-( )-perfect eleventh chord</td>
<td>Mm()P11</td>
</tr>
<tr>
<td>Major-minor-minor-perfect eleventh chord</td>
<td>MmmP11</td>
</tr>
<tr>
<td>Minor-minor-major-perfect eleventh chord</td>
<td>mmMP11</td>
</tr>
<tr>
<td>Minor-minor-( )-perfect eleventh chord</td>
<td>mm()P11</td>
</tr>
<tr>
<td>Diminished-minor-( )-perfect eleventh chord</td>
<td>dm()P11</td>
</tr>
<tr>
<td>Diminished-diminished-( )-perfect eleventh chord</td>
<td>dd()P11</td>
</tr>
<tr>
<td>Major-minor-( )-augmented eleventh chord</td>
<td>Mm()A11</td>
</tr>
<tr>
<td>Major-minor-major-augmented eleventh chord</td>
<td>MmA11</td>
</tr>
</tbody>
</table>

Thirteenth Chords

<table>
<thead>
<tr>
<th>Chord Description</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major-minor-major-perfect-major thirteenth chord</td>
<td>MmMPM13</td>
</tr>
<tr>
<td>Major-minor-minor-perfect-major thirteenth chord</td>
<td>MmmPM13</td>
</tr>
<tr>
<td>Major-minor-augmented-perfect-major thirteenth chord</td>
<td>MmAPM13</td>
</tr>
<tr>
<td>Major-minor-major-( )-major thirteenth chord</td>
<td>MmM()M13</td>
</tr>
<tr>
<td>Major-major-( )-augmented-major thirteenth chord</td>
<td>MM()A13</td>
</tr>
<tr>
<td>Major-minor-( )-( )-major thirteenth chord</td>
<td>Mm()()M13</td>
</tr>
<tr>
<td>Major-minor-minor-( )-minor thirteenth chord</td>
<td>Mmm()m13</td>
</tr>
<tr>
<td>Major-minor-( )-( )-minor thirteenth chord</td>
<td>Mm()()m13</td>
</tr>
</tbody>
</table>
The ninth, eleventh, and thirteenth chord structures have been analyzed for tonal stability and tonal instability. The tonally stable chords function as dominants, secondary dominants, or non-dominants in a given tonality. The tonally unstable chords, even though they might be labeled as dominant, secondary dominant, or non-dominant chords, actually do not function as such, and are often found in melodic and/or harmonic sequences, chromatic bass lines, and may appear as the vertical result of linear melodic activity.

Ninth, Eleventh, and Thirteenth Intervals

The ninth, eleventh, and thirteenth intervals have been analyzed as contrapuntally-introduced non-harmonic tones or chord tones. As non-harmonic tones, each is prepared and resolved as a passing tone, neighboring tone, suspension, anticipation, appoggiatura, changing tone, escape tone, or pedal point (3, p. 164). When the ninth, eleventh, or thirteenth interval is found unprepared and/or unresolved or irregularly resolved, it is defined as a chord tone.

In analyzing vertical chord structures which contain more than one contrapuntal treatment of the ninth, eleventh, or thirteenth interval in the same chord, the following factors have determined which contrapuntal treatment is to be considered statistically predominant for that particular
example: 1. Longer rhythmic duration.

   2. High pitch placement of interval or its preparation tone in chord.

It is observed that one ninth, eleventh, and thirteenth interval has been analyzed statistically for each ninth, eleventh, and thirteenth chord structure. Discussion of the ninth interval in the eleventh chord, and the ninth and eleventh intervals in the thirteenth chord has been generally omitted.
CHAPTER BIBLIOGRAPHY


CHAPTER II

THE MAJOR NINTH CHORD AND INTERVAL

The Major Ninth Chord in Die Walküre, Act I

In Die Walküre, Act I, there is only one type of vertical chord structure containing the major ninth interval above the root: the major-minor-major ninth chord (MmM9). Of the total of forty-five major ninth chords analyzed in Die Walküre, Act I, all are classified as MmM9 chords, all are found in root position, and all are classified as tonally stable, functioning as dominant or secondary dominant major ninth chords in a given tonality. Of these tonally stable MmM9 chords, 66.66 per cent are classified as dominant chords (Table I, column 1).

The Major Ninth Interval in Die Walküre, Act I

The most frequent contrapuntal treatment of the major ninth interval in Die Walküre, Act I is as a chord tone. Twenty-five (55.55 per cent) of the forty-five major ninth intervals are resolved before a change of chord (Table III, column 1).
<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major ninth chords</td>
<td>45</td>
<td></td>
<td>Major ninth chords</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>Major ninth chord types:</td>
<td></td>
<td></td>
<td>Major ninth chord types:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MmM9</td>
<td>45</td>
<td>100.00</td>
<td>MmM9</td>
<td>185</td>
<td>92.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mmM9</td>
<td>2</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MMmM9</td>
<td>2</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dmM9</td>
<td>2</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ddM9</td>
<td>10</td>
<td>4.91</td>
</tr>
<tr>
<td>Major ninth chords of</td>
<td>45</td>
<td>100.00</td>
<td>Major ninth chords of</td>
<td>174</td>
<td>86.56</td>
</tr>
<tr>
<td>tonal stability:</td>
<td></td>
<td></td>
<td>tonal stability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominants (V)</td>
<td>31</td>
<td>68.89</td>
<td>Dominants (V)</td>
<td>129</td>
<td>74.13</td>
</tr>
<tr>
<td>Secondary Dominants</td>
<td>15</td>
<td>33.34</td>
<td>Secondary Dominants</td>
<td>29</td>
<td>16.66</td>
</tr>
<tr>
<td>I</td>
<td>3</td>
<td>20.00</td>
<td>I</td>
<td>8</td>
<td>27.58</td>
</tr>
<tr>
<td>II</td>
<td>6</td>
<td>40.00</td>
<td>II</td>
<td>17</td>
<td>58.62</td>
</tr>
<tr>
<td>IV</td>
<td>3</td>
<td>20.00</td>
<td>IV</td>
<td>3</td>
<td>10.37</td>
</tr>
<tr>
<td>VI</td>
<td>1</td>
<td>6.67</td>
<td>VI</td>
<td>1</td>
<td>3.43</td>
</tr>
<tr>
<td>bVII</td>
<td>1</td>
<td>6.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td>1</td>
<td>6.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major ninth chords in</td>
<td>45</td>
<td>100.00</td>
<td>Major ninth chords in</td>
<td>179</td>
<td>89.05</td>
</tr>
<tr>
<td>root position:</td>
<td></td>
<td></td>
<td>root position:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major ninth chords in</td>
<td></td>
<td></td>
<td>Major ninth chords in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>inversion:</td>
<td></td>
<td></td>
<td>inversion:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>3</td>
<td>13.63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>12</td>
<td>54.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>7</td>
<td>31.83</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE III

**THE MAJOR NINTH INTERVAL**

<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major ninth intervals</td>
<td>45</td>
<td></td>
<td>Major ninth intervals</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>Major ninth intervals used as non-harmonic tones:</td>
<td></td>
<td></td>
<td>Major ninth intervals used as non-harmonic tones:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passing tone</td>
<td>20</td>
<td>44.45</td>
<td>Passing tone</td>
<td>125</td>
<td>62.13</td>
</tr>
<tr>
<td>Suspension</td>
<td>9</td>
<td>45.00</td>
<td>Suspension</td>
<td>41</td>
<td>32.80</td>
</tr>
<tr>
<td>Appoggiatura</td>
<td>5</td>
<td>25.00</td>
<td>Appoggiatura</td>
<td>7</td>
<td>5.60</td>
</tr>
<tr>
<td>Major ninth intervals used as chord tones:</td>
<td>25</td>
<td>55.55</td>
<td>Major ninth intervals used as chord tones:</td>
<td>76</td>
<td>37.87</td>
</tr>
<tr>
<td>Major ninth intervals resolved before a change of chord:</td>
<td>45</td>
<td>100.00</td>
<td>Major ninth intervals resolved before a change of chord:</td>
<td>148</td>
<td>73.63</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Major ninth intervals resolved with or after a change of chord:</td>
<td>53</td>
<td>26.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The characteristic features of the major ninth chord and interval, as found in Die Walküre, Act I, are as follows:

A. Chordal treatment of major ninth chord.
   1. MmM9 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of major ninth interval.
   1. Chord tone.
   2. Resolved before a change of chord.

Typical Usage of Dominant Major Ninth Chord and Interval in Die Walküre, Act I

In Figure 1, measure 287, a MmM9 chord appears in root position, and is functioning as a $V^9$ chord in an F-sharp major tonality. The major ninth interval (D-sharp) above the root (C-sharp) of the $V^9$ chord is treated as a chord tone (approached by step and resolved by leap). The resolution of the major ninth interval occurs before a change of chord.

![Fig. 1--MmM9 chord, Die Walküre, Act I Scene 1](image)
The Major Ninth Chord in
\textit{Götterdämmerung}, Act I

In \textit{Götterdämmerung}, Act I, the most frequent vertical chord structure containing the major ninth interval above the root is the MmM9 chord. Of the total of 201 major ninth chords analyzed in \textit{Götterdämmerung}, Act I, 185 (92.33 per cent) are classified as MmM9 chords. A majority (86.56 per cent) of all the major ninth chords analyzed are classified as tonally stable, and function as dominant, secondary dominant, or non-dominant chords in a given tonality. Of these tonally stable major ninth chords, 74.13 per cent are classified as dominant chords. One hundred and seventy-nine (89.05 per cent) of all the major ninth chords found in \textit{Götterdämmerung}, Act I are in root position (Table II, column 2).

The Major Ninth Interval in
\textit{Götterdämmerung}, Act I

The most frequent contrapuntal treatment of the major ninth interval in \textit{Götterdämmerung}, Act I is as a non-harmonic tone. Of the total of 201 major ninth intervals analyzed, 125 (62.13 per cent) are treated as non-harmonic tones, and of these, 53 (42.40 per cent) are treated as appoggiaturas. One hundred and forty-eight (73.63 per cent) of all the
major ninth intervals found in Götterdämmerung, Act I are resolved before a change of chord (Table III, column 2).

The characteristic features of the major ninth chord and interval, as found in Götterdämmerung, Act I, are as follows:

A. Chordal treatment of major ninth chord.
   1. MmM9 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of major ninth interval.
   2. Resolved before a change of chord.

Typical Usage of Dominant Major Ninth Chord and Interval in Götterdämmerung, Act I

In Figure 2, measure 39, a MmM9 chord is shown in root position, and is classified as a V9 chord in a B-flat major tonality. This MmM9 chord is partly a result of the melodic line of measures 37 through 9. The major ninth interval (G-natural) above the root (F-natural) of the V9 chord is treated as a appoggiatura, and is resolved before a change of chord.
The Secondary Dominant Major Ninth Chord in *Die Walküre*, Act I

In *Die Walküre*, Act I, fifteen (33.34 per cent) of the forty-five MmM9 chords analyzed are classified as secondary dominant chords. Of these, the most frequent is the II9 chord, which occurs six times (Table II, column 1).

In Figure 3, measure 89, a MmM9 chord appears in root position, and functions as a II9 chord in B-flat major tonality. A melodic and harmonic sequence is observed in measures 88 through 90, with a II9 chord acting as a tonally stable secondary dominant within the harmonic sequence.

The major ninth interval (D-natural) above the root (C-natural) of the II9 chord in measure 89 (Figure 3) is treated as a chord tone (approached by step and resolved by leap). Resolution of this major ninth interval occurs before a change of chord.
The Major Ninth Interval as Appoggiatura in Die Walküre, Act I

Of the twenty major ninth intervals treated contrapuntally as non-harmonic tones in Die Walküre, Act I, six (30.00 per cent) are treated as appoggiaturas (Table III, column 1). In Figure 4, measure 368, a major ninth interval (B-flat) appears above the root (A-flat) of the VI\textsuperscript{9} chord (MmM9) in a C-minor tonality. The major ninth interval is treated as an appoggiatura, and is resolved before a change of chord.

---

Fig. 3--MmM9 chord, Die Walküre, Act I, scene 2.

Fig. 4--MmM9 chord, Die Walküre, Act I, scene 2
The Secondary Dominant Major Ninth Chord
in Götterdämmerung, Act I

In Götterdämmerung, Act I, twenty-nine (16.66 per cent) of the 174 tonally stable major ninth chords are classified as secondary dominant chords. All of the twenty-nine secondary dominant major ninth chords are MmM9 chord types, the most frequent being the II\textsuperscript{9} chord, which occurs seventeen times (Table II, column 2).

In Figure 5, measure 620, a \textit{MmM9} chord is shown in root position, and is functioning as a II\textsuperscript{9} chord in an E-flat major tonality. Although a harmonic sequence occurs in measures 617 through 621 of Figure 5, the II\textsuperscript{9} chord in measure 620 is acting as a tonally stable secondary dominant chord. The major ninth interval (G-natural) above the root (F-natural) of this II\textsuperscript{9} chord is treated as an appoggiatura, and is resolved before a change of chord.

![Fig. 5--MmM9 chord, Götterdämmerung, Act I, prelude](image)
The Non-Dominant Major Ninth Chord
in Götterdämmerung, Act I

Of the 174 tonally stable major ninth chords analyzed in Götterdämmerung, Act I, sixteen (9.21 per cent) are classified as non-dominant chords (Table III, column 2). Four differing non-dominant major ninth chord structures have been analyzed:

1. The major-major-major ninth chord (MMM9).
2. The minor-minor-major ninth chord (mmM9).
3. The diminished-minor-major ninth chord (dmM9).
4. The diminished-diminished-major ninth chord (ddM9).

The MMM9 Chord in Götterdämmerung, Act I

The MMM9 chord type is found two times (.92 per cent) in Götterdämmerung, Act I. Christ (1, pp. 328-9) states that "the MMM9th chord is usually built on tonic or subdominant in major keys, and . . . where the MMM9th chord is found, it usually occurs as the result of melodic activity . . . ." In figure 6, measure 286, a MMM9 chord is shown in root position, and is classified as a IV⁹ chord over a dominant pedal point (A-natural) in a D-major tonality. This IV⁹ chord appears to be largely the result of melodic activity (minor seventh leaps) in measures 285 and 286.
Concerning the contrapuntal aspect of Figure 6, measure 286, the major ninth interval (A-natural) above the root (G-natural) of the IV\(^9\) chord is treated as an escape tone, and is resolved before a change of chord. This same treatment is accorded the other example of the MMM\(^9\) sonority. As a point of comparison, the escape tone treatment of the major ninth interval accounts for only 3.20 per cent of the 125 non-harmonic treatments of major ninth intervals found in Götterdämmerung, Act I (Table III, column 2).

![Figure 6 -- MMM\(^9\) chord, Götterdämmerung, Act I, scene 2](image)

The mmM\(^9\) Chord in Götterdämmerung, Act I

The mmM\(^9\) chord is found two times (.92 per cent) in Götterdämmerung, Act I. In Figure 7, measure 288, a mmM\(^9\) chord appears in root position on the second half of beat one, and is classified as a ii\(^9\) chord over a dominant pedal point (A-natural) in a D-major tonality. As in the previously
discussed mmM9 chord example, this mmM9 chord structure in measure 288 also appears to be the result of melodic activity (minor seventh leap). The major ninth interval (F-sharp) above the root (E-natural) of the ii9 chord is treated as an escape tone, and is resolved before a change of chord.

Fig. 7--mmM9 chord, Götterdämmerung, Act I, scene 2

In Figure 8, measure 858, the second example of a mmM9 chord is shown in root position, and is classified as a ii9 chord over a dominant pedal point (B-flat) in an E-flat major tonality. In contrast to the first example of a mmM9 chord (Figure 7), the major ninth interval (G-natural) above the root (F-natural) of this ii9 chord in Figure 8 is treated as an accented upper neighboring tone, and is resolved with a change of chord. The treatment of the major ninth interval as a neighboring tone accounts for 15.20 per cent of the
total (125) non-harmonic treatments of major ninth intervals found in Götterdämmerung, Act I. As to resolutions of the total number of major ninth intervals analyzed (201), 26.37 per cent resolve in the same manner as the mmM9 chord shown in Figure 8 (Table III, column 2).

Fig. 8--mmM9 chord, Götterdämmerung, Act I, prelude

The dmM9 Chord in Götterdämmerung, Act I

The dmM9 chord is found two times (.92 per cent) in Götterdämmerung, Act I. In Figure 9, measure 151, a dmM9 chord is shown in second inversion, and is classified as a ii\(^9\) chord over a tonic pedal point (G-natural) in a G-major tonality. The major ninth interval (B-natural) above the root (A-natural) of the ii\(^9\) chord is treated as a chord tone (prepared as a suspension and resolved by leap). The resolution of the major ninth interval occurs before a change of chord.
The ddM9 Chord in Götterdämmerung, Act I

The ddM9 chord is found ten times (4.91 per cent) in Götterdämmerung, Act I. In Figure 10, measure 205, a ddM9 chord appears in third inversion, and is classified as a ii\textsuperscript{d}9 chord over a tonic pedal point (G-natural) in a G-major tonality. The major ninth interval (B-natural) above the root (A-natural) of the ii\textsuperscript{d}9 chord is treated as a chord tone (prepared as a suspension and resolved by leap). The resolution of the major ninth interval occurs before a change of chord.
The Tonally Unstable Major Ninth Chord in Götterdämmerung, Act I

Twenty-seven (13.44 per cent) of the 201 major ninth chords analyzed in Götterdämmerung, Act I are classified as tonally unstable. In Figure 11, measures 448 and 449, a MmM9 chord is shown in root position, and is labeled as a VI\textsuperscript{9} chord in an A-major tonality. However, the #i\textsuperscript{d7} chord in measure 447, and the #iv\textsuperscript{07} chord in measure 450 bear no relationship (2, pp. 218-19, 221) to the VI\textsuperscript{9} sonority in measures 448 and 449. The major ninth interval (G-sharp) above the root (F-sharp) of the VI\textsuperscript{9} chord is treated as a chord tone (approached by leap and resolved stepwise). The resolution of the major ninth interval occurs with a change of chord.

Fig. 11--MmM9 chord, Götterdämmerung, Act I, scene 3
The Major Ninth Chords in Inversion in
Götterdämmerung, Act I

Of the 201 major ninth chords analyzed in Götterdämmerung, Act I, twenty-two (10.95 per cent) are found in inversion. Of these twenty-two inverted major ninth chords, three (13.63 per cent) are found in first inversion. In Figure 12, measure 172, a MmM9 chord appears in first inversion, and is classified as a II\(^9\) chord in a B-flat major tonality. The major ninth interval (D-natural) below the root (C-natural) of the II\(^9\) chord is treated as an appoggiatura, and is resolved with a change of chord.

Fig. 12--MmM9 chord, Götterdämmerung, Act I, scene 1

Of the twenty-two major ninth chords found in inversion in Götterdämmerung, Act I, twelve (54.54 per cent) appear in second inversion. In Figure 13, measures 451 and 452, a MmM9 chord is shown in second inversion, and is classified as a I\(^9\) chord in a C-major tonality.
Further analysis of this particular example is of interest because of the unique succession of major ninth intervals. The major ninth interval (D-natural) above the root (C-natural) of the I\(^9\) chord in measures 451 and 452 is treated as a chord tone (approached from a rest and left by leap). The resolution of this major ninth interval occurs with a change of chord. A direct modulation occurs in measure 453 when the I\(^9\) chord of measures 451 and 452 (C-major tonality) progresses to a V\(^9\) chord (A-major tonality). The major ninth interval (F-sharp) above the root (E-natural) of this V\(^9\) chord (MmM\(^9\)) is treated in a "dual" contrapuntal manner: as a prepared and resolved appoggiatura, and as an
appoggiatura, prepared and irregularly resolved by leap (chord tone). Of the total number of major ninth intervals (201) analyzed in Götterdämmerung, Act I, 37.87 per cent are treated contrapuntally as chord tones (Table III, column 2).

Seven (31.83 per cent) of the twenty-two inverted major ninth chords in Götterdämmerung, Act I are found in third inversion. In Figure 14, measure 770, a MmM9 chord is shown in third inversion, and is labeled as a IV9 chord in an F-major tonality. However, the IV9 chord in measure 770 is a result of the ascending chromatic bass line, and is not functioning as a secondary dominant chord in an F-major tonality. The major ninth interval (C-natural) above the root (B-flat) of the IV9 chord is treated as an appoggiatura, and is resolved before a change of chord.

Fig. 14--MmM9 chord, Götterdämmerung, Act I, prelude
The Major Ninth Chord in Harmonic and Melodic Sequence in Götterdämmerung, Act I

Wagner's use of the major ninth chord in harmonic and melodic sequence in Die Walküre, Act I has been observed in Figure 3. In Figure 15, measures 453 and 454, two MmM9 chords are shown in root position, and are labeled, respectively, as V⁹ and VI⁹ chords in a G-flat major tonality. However, a harmonic and melodic sequence occurs in measures 453 and 454, and the V⁹ and VI⁹ chords are not functioning as dominant or secondary dominant chords in the G-flat major tonality. The major ninth intervals (E-flat and F-natural) above the roots (D-flat and E-flat) of the respective V⁹ and VI⁹ chords are both treated as chord tones (approached and resolved by leap). The resolutions of both major ninth intervals occur before a change of chord.

Fig. 15--MmM9 chord, Götterdämmerung, Act I, scene 2
The Major Ninth Interval as Passing Tone
in Die Walküre, Act I and
Götterdämmerung, Act I

In considering all the non-harmonic contrapuntal treat-
ments of the major ninth interval, it is observed that 45.00
per cent receive passing tone treatment in Die Walküre, Act
I, and 32.80 per cent are treated similarly in Götterdämmerung,
Act I (Table III, columns 1 and 2). In Figure 16, measure
290 (Die Walküre, Act I), a major ninth interval (D-sharp)
appears over the root (C-sharp) of a \( V_9 \) (MmM9) chord in an
F-sharp major tonality. The major ninth interval is treated
as an accented passing tone, and is resolved before a change
of chord.

Fig. 16--MmM9 chord, Die Walküre, Act I, scene 1

In Figure 17, measure 44 (Götterdämmerung, Act I), a
major ninth interval (G-natural) is introduced above the
root (F-natural) of a \( V_9 \) chord (MmM9) in a B-flat major
tonality. This major ninth interval is also treated as an accented passing tone, and is resolved before a change of chord.

![Musical notation]

Fig. 17--MmM9 chord, *Götterdämmerung*, Act I, scene 2

The Major Ninth Interval as Suspension in *Die Walküre*, Act I and *Götterdämmerung*, Act I

Suspension treatment of the major ninth interval accounts for 25.00 per cent of the total (twenty) non-harmonic contrapuntal treatments of major ninth intervals in *Die Walküre*, Act I. In contrast, only 5.60 per cent of the non-harmonic major ninth intervals are treated as suspensions in *Götterdämmerung*, Act I (Table III, columns 1 and 2).

In Figure 18, measures 46 and 47 (*Die Walküre*, Act I), a major ninth interval (C-natural) appears over the root (B-flat) of the V⁹ chord (MmM9) in an E-flat major tonality.
The major ninth interval is part of a melodic sequence in measures 46 and 47, and is treated as a suspension, resolving before a change of chord.

Fig. 18--MmM9 chord, Die Walküre, Act I, scene 2

In Figure 19, measure 233 (Götterdämmerung, Act I), a major ninth interval (E-natural) is shown above the root (D-natural) of the V⁹ chord (MmM9) in a G-major tonality.

Fig. 19--MmM9 chord, Götterdämmerung, Act I, scene 1
This major ninth interval receives two contrapuntal treatments: as a suspension, and as an appoggiatura, both resolutions occurring before a change of chord.

Unusual Usage of Major Ninth Chord and Interval in *Die Walküre*, Act I

In Figure 20, measures 432 and 434, two MmM9 chords appear in root position, and are classified as V\(^9\) chords in a G-flat major tonality. In what Uleha (3, p. 79) has described as a "surprising effect," Wagner has chosen the sound of the minor ninth interval as an appoggiatura tone to the major ninth interval (E-flat), and spelled it accordingly as D-natural (augmented octave). Uleha (3) also states that in measure 433, the "true notation" is shown of the minor ninth interval (E-double flat). The augmented octave appoggiaturas (D-natural) in measures 432 and 434 confirm the status of the major ninth interval (E-flat) above the root (D-flat) as a true harmonic chord member of the V\(^9\) chord.

Fig. 20--MmM9 chord, *Die Walküre*, Act I, scene 3
Unusual Usage of Major Ninth Chord and Interval in Götterdämmerung, Act I

In Figure 21, measure 382, a MmM9 chord is shown in root position, and is labeled as a bVII\(^9\) chord in an E-flat major tonality. The major ninth interval (E-flat) above the root (D-flat) of the bVII\(^9\) chord is treated as a chord tone (approached and left by leap). The resolution of this major ninth interval occurs before a change of chord.

![Fig. 21--MmM9 chord, Götterdämmerung, Act I, prelude](image)

In Figure 21, measure 381, the ii\(^6\)\(^7\) chord is spelled as follows: F-natural, A-flat, C-flat, and E-flat. In measure 382, the bVII\(^9\) chord is spelled identically with the addition of D-flat. Therefore, the appearance of a tonally unstable bVII\(^9\) chord structure in measure 382 is due to two factors: the harmonic extension of the ii\(^6\)\(^7\) chord, and the gradual
melodic expansion of the perfect fifth interval (measure 381) to a minor seventh interval (measure 382), and finally, to a perfect octave interval in measure 383.
CHAPTER BIBLIOGRAPHY


CHAPTER III

THE MINOR NINTH CHORD AND INTERVAL

The Minor Ninth Chord in
Die Walküre, Act I

In Die Walküre, Act I, there is only one type of vertical chord structure containing the minor ninth interval above the root: the major-minor-minor ninth chord (Mmm9). All thirty-one of the minor ninth chords analyzed in Die Walküre, Act I are classified as Mmm9 chords, and all are tonally stable, functioning as dominant or secondary dominant minor ninth chords in a given tonality. A majority (58.06 per cent) of these Mmm9 chords are classified as dominant minor ninth chords. Twenty-seven (87.09 per cent) of the thirty-one Mmm9 chords analyzed in Die Walküre, Act I are found in root position (Table IV, column 1).

The Minor Ninth Interval in
Die Walküre, Act I

The most frequent contrapuntal treatment of the minor ninth interval in Die Walküre, Act I is as a non-harmonic tone. Of the total number (thirty-one) of minor ninth intervals analyzed, twenty-two (70.96 per cent) are accorded
<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor ninth chords</td>
<td>31</td>
<td></td>
<td>Minor ninth chords</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Minor ninth chord types:</td>
<td></td>
<td></td>
<td>Minor ninth chord types:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mmm9</td>
<td>31</td>
<td>100.00</td>
<td>Mmm9</td>
<td>75</td>
<td>96.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dmm9</td>
<td>1</td>
<td>1.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ddm9</td>
<td>2</td>
<td>2.56</td>
</tr>
<tr>
<td>Minor ninth chords of</td>
<td>31</td>
<td>100.00</td>
<td>Minor ninth chords of</td>
<td>57</td>
<td>73.08</td>
</tr>
<tr>
<td>tonal stability:</td>
<td></td>
<td></td>
<td>tonal stability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominants (V)</td>
<td>18</td>
<td>58.06</td>
<td>Dominants (V)</td>
<td>43</td>
<td>75.43</td>
</tr>
<tr>
<td>Secondary Dominants</td>
<td></td>
<td></td>
<td>Secondary Dominants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>4</td>
<td>30.77</td>
<td>I</td>
<td>3</td>
<td>27.28</td>
</tr>
<tr>
<td>II</td>
<td>1</td>
<td>7.69</td>
<td>II</td>
<td>5</td>
<td>45.45</td>
</tr>
<tr>
<td>III</td>
<td>2</td>
<td>15.39</td>
<td>III</td>
<td>1</td>
<td>9.09</td>
</tr>
<tr>
<td>VI</td>
<td>6</td>
<td>46.15</td>
<td>VI</td>
<td>1</td>
<td>9.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VII</td>
<td>1</td>
<td>9.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non-dominants</td>
<td>3</td>
<td>5.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ii</td>
<td>2</td>
<td>66.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>iv</td>
<td>1</td>
<td>33.34</td>
</tr>
<tr>
<td>Minor ninth chords in</td>
<td>27</td>
<td>87.09</td>
<td>Minor ninth chords in</td>
<td>75</td>
<td>96.16</td>
</tr>
<tr>
<td>root position:</td>
<td></td>
<td></td>
<td>root position:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor ninth chords in</td>
<td></td>
<td></td>
<td>Minor ninth chords in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>inversion:</td>
<td>4</td>
<td>12.91</td>
<td>inversion:</td>
<td>3</td>
<td>3.83</td>
</tr>
<tr>
<td>First</td>
<td>1</td>
<td>25.00</td>
<td>First</td>
<td>3</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Second</td>
<td>3</td>
<td>100.00</td>
</tr>
<tr>
<td>Third</td>
<td>3</td>
<td>75.00</td>
<td>Third</td>
<td>3</td>
<td>100.00</td>
</tr>
</tbody>
</table>
non-harmonic treatment. The most frequent non-harmonic
treatment is the appoggiatura, which occurs twelve times.
Considering all of the minor ninth intervals found in Die
Walkure, Act I, 90.32 per cent are resolved before a change
of chord (Table V, column 1).

The characteristic features of the minor ninth chord
and interval, as found in Die Walkure, Act I, are as follows:

A. Chordal treatment of minor ninth chord.
   1. Mmm9 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of minor ninth interval.
   2. Resolved before a change of chord.

Typical Usage of Dominant Minor Ninth
Chord in Die Walkure, Act I

In Figure 22, measure 257, a Mmm9 chord is shown in root
position, and is classified as a V-9 chord in a C-minor tonal-
ity. The minor ninth interval (A-flat) above the root (G-
natural) of the V-9 chord is treated as an appoggiatura, and
is resolved before a change of chord.
### TABLE V

**THE MINOR NINTH INTERVAL**

<table>
<thead>
<tr>
<th></th>
<th>Die Walküre, Act I (1)</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor ninth intervals</td>
<td>31</td>
<td>78</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
</tr>
<tr>
<td>Minor ninth intervals used</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>as non-harmonic tones:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passing tone</td>
<td>4</td>
<td>6</td>
<td>18.19</td>
<td>50.00</td>
<td>15.38</td>
<td></td>
</tr>
<tr>
<td>Neighboring tone</td>
<td>2</td>
<td>12</td>
<td>9.09</td>
<td>30.77</td>
<td>10.26</td>
<td></td>
</tr>
<tr>
<td>Suspension</td>
<td>4</td>
<td>2</td>
<td>18.19</td>
<td>5.12</td>
<td>5.12</td>
<td></td>
</tr>
<tr>
<td>Appoggiatura</td>
<td>12</td>
<td>4</td>
<td>54.54</td>
<td>10.26</td>
<td>7.70</td>
<td></td>
</tr>
<tr>
<td>. . . . .</td>
<td>. . . . .</td>
<td>. . . . . .</td>
<td>. . . .</td>
<td>. . .</td>
<td>. . .</td>
<td></td>
</tr>
<tr>
<td>Minor ninth intervals used</td>
<td>9</td>
<td>39</td>
<td>29.04</td>
<td>50.00</td>
<td>39</td>
<td>50.00</td>
</tr>
<tr>
<td>as chord tones:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor ninth intervals resolved</td>
<td>28</td>
<td>62</td>
<td>90.32</td>
<td>79.48</td>
<td>20.52</td>
<td></td>
</tr>
<tr>
<td>before a change of chord:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor ninth intervals resolved</td>
<td>3</td>
<td>16</td>
<td>9.68</td>
<td>20.52</td>
<td>9.68</td>
<td></td>
</tr>
<tr>
<td>with or after a change of chord</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In *Götterdämmerung*, Act I, the most frequent vertical chord structure containing the minor ninth interval above the root is the Mmm9 chord. Of the total of seventy-eight minor ninth chords analyzed in *Götterdämmerung*, Act I, seventy-five (96.16 per cent) are classified as Mmm9 chords. This same percentage (96.16 per cent) of the total minor ninth chords are found in root position. Fifty-seven (73.08 per cent) of all the minor ninth chords are classified as tonally stable, and function as dominant, secondary dominant, or non-dominant chords in a given tonality. Forty-three (75.43 per cent) of these tonally stable minor ninth chords are classified as dominant chords (Table IV, column 2).
The Minor Ninth Interval in
*Götterdämmerung*, Act I

Thirty-nine (50.00 per cent) of the seventy-eight minor ninth intervals analyzed are treated contrapuntally as non-harmonic tones, and thirty-nine (50.00 per cent) are treated as chord tones. The two most frequent non-harmonic treatments of the minor ninth interval are as a neighboring tone, which occurs twelve times (30.77 per cent), and as a pedal point, which also occurs twelve times. Sixty-two (79.48 per cent) of the minor ninth intervals in *Götterdämmerung*, Act I are resolved before a change of chord (Table V, column 2).

The characteristic features of the minor ninth chord and interval, as found in *Götterdämmerung*, Act I, are as follows:

A. Chordal treatment of minor ninth chord.
   1. Mmm9 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of minor ninth interval.
   2. Chord tone.
   3. Resolved before a change of chord.
Typical Usages of Dominant Minor Ninth Chord and Interval in *Götterdämmerung*, Act I

In Figure 24, measure 89, a Mmm9 chord is shown in root position, and is functioning as a V\(^{-9}\) chord in an E-flat minor tonality. The minor ninth interval (C-flat) above the root (B-flat) is treated as an accented upper neighboring tone, and is resolved before a change of chord.

![Mmm9 chord, Götterdämmerung, Act I, scene 3](image1)

In Figure 24, measure 400, a Mmm9 chord appears in root position, and is classified as a V\(^{-9}\) chord in an F-sharp minor tonality. The minor ninth interval (D-natural) above the root (C-sharp) of the V\(^{-9}\) chord acts as an inverted pedal point over the chord progression V\(^{-9}\), #\(^{\text{ii}}\)\(^{7}\), V\(^{-9}\) in measure 400. The minor ninth interval is resolved before a change of chord.
In Figure 25, measure 470, a Mm9 chord appears in root position, and is classified as a V\(^{-9}\) chord in a C-minor tonality. The minor ninth interval (A-flat) above the root (G-natural) of the V\(^{-9}\) chord is treated as a chord tone (prepared as a suspension and resolved by leap). The resolution of the minor ninth interval occurs before a change of chord.

![Musical notation](image)

Fig. 24--Mm9 chord, *Götterdämmerung*, Act I, scene 3

Fig. 25--Mm9 chord, *Götterdämmerung*, Act I, scene 3
The Minor Ninth Interval as Chord Tone in Die Walküre, Act I

Of the thirty-one minor ninth intervals analyzed in Die Walküre, Act I, nine (29.04 per cent) are treated contrapuntally as chord tones. In Figure 26, measure 248, a minor ninth interval (A-flat) is introduced above the root (G-natural) of the $V^9$ chord (Mmm9) in a C-minor tonality. The minor ninth interval is treated as a chord tone (approached from a rest and resolved by step). Resolution of this minor ninth interval occurs before a change of chord.

Fig. 26--Mmm9 chord, Die Walküre, Act I, scene 2

The Secondary Dominant Minor Ninth Chord in Die Walküre, Act I

In Die Walküre, Act I, 41.94 per cent of the total (thirty-one) minor ninth chords analyzed are classified as secondary dominant chords. Of these, 46.15 per cent are
built on the submediant degree (Table IV, column 1). In Figure 27, measure 296, a Mmm9 chord appears in root position, and is classified as a VI$^{-9}$ chord in a G-major tonality.

![Musical notation]

**Fig. 27--Mmm9 chord, Die Walküre, Act I, scene 3**

The minor ninth interval (F-natural) above the root (E-natural) of the VI$^{-9}$ chord is treated as an accented upper neighboring tone, and is resolved with a change of chord. As a point of comparison, the use of the neighboring tone as a minor ninth interval accounts for only 9.09 percent of the total (twenty-two) non-harmonic treatments of minor ninth intervals found in *Die Walküre*, Act I. As to resolutions of the total number of minor ninth intervals analyzed (thirty-one), 9.68 per cent are resolved in the same manner as the Mmm9 chord in Figure 27 (Table V, column 1).
The Secondary Dominant Minor Ninth Chord in Götterdämmerung, Act I

Of the fifty-seven tonally stable minor ninth chords analyzed in Götterdämmerung, Act I, eleven (19.29 per cent) are classified as secondary dominant chords. Of these, the most frequent secondary dominant minor ninth chord is the II$^9$ chord, which occurs five times (Table IV, column 2).

In Figure 28, measure 750, a Mmm9 chord is shown in root position, and is classified as a II$^9$ chord in a C-major tonality.

Although the II$^9$ chord is functioning as a secondary dominant, its appearance in measure 750 is also a result of the melodic bass line in measures 747 through 750. The minor ninth interval (E-flat) above the root (D-natural) of the II$^9$ chord is treated as an escape tone, and is resolved before a change of chord. Of the thirty-nine non-harmonic contrapuntal treatments of the minor ninth interval in Götterdämmerung,
Act I, three (7.70 per cent) are treated as escape tones (Table V, column 2).

The Non-dominant Minor Ninth Chord in Gotterdammerung, Act I

Of the fifty-seven tonally stable minor ninth chords analyzed in Gotterdammerung, Act I, three (5.28 per cent) are classified as non-dominant chords. Two differing non-dominant minor ninth chord types have been analyzed: the diminished-minor-minor ninth chord (dmm9), and the diminished-diminished-minor ninth chord (ddm9).

The dmm9 Chord in Gotterdammerung, Act I.

The dmm9 chord is found one time (1.28 per cent) in Gotterdammerung, Act I. In Figure 29, measure 750, the dmm9 chord appears in root position and is classified as a ivΟ⁰⁹ chord in a C-major tonality. The appearance of the dmm9 chord in measure 750 is due to the melodic activity of measures 748 through 750. The minor ninth interval (G-flat) above the root (F-natural) of the ivΟ⁰⁹ chord is treated as an appoggiatura, and is resolved before a change of chord.
The ddm9 Chord in Götterdämmerung, Act I

The ddm9 chord is found two times (2.56 per cent) in Götterdämmerung, Act I. In Figure 30, measure 274, the ddm9 chord appears in root position, and is classified as a ii°⁹ chord in an E-flat minor tonality. The minor ninth interval (G-flat) above the root (F-natural) of the ii°⁹ chord is treated as a chord tone (approached from a rest and resolved by leap). The resolution of the minor ninth interval occurs before a change of chord.
The Tonally Unstable Minor Ninth Chord in *Götterdämmerung*, Act I

In *Götterdämmerung*, Act I, 26.92 per cent of all the minor ninth chords analyzed are classified as tonally unstable (Table IV, column 2). In Figure 31, measures 118 and 119, a Mmm9 chord is shown in root position, and is labeled as a #II^−9 chord in an E-flat major tonality. However, the tonally unstable #II^−9 chord in measures 118 and 119 is not functioning as a secondary dominant chord, and its existence is due partly to the melodic activity in the bass line (measures 118 and 119). Another consideration is the #i^d7 chord in measure 120, which is simply the #II^−9 chord minus its root. The #II^−9 chord is a harmonic extension of the #i^d7 chord which follows it, just as in Figure 21, the bVII^9 chord was a harmonic extension of a ii^o7 chord which preceded it.

Fig. 31--Mmm9 chord, *Götterdämmerung*, Act I, scene 1
In the contrapuntal analysis of Figure 31, the minor ninth interval (G-natural) above the root (F-sharp) of the #II\(^{-9}\) chord is treated as a suspension, and is resolved after a change of chord (measure 121). Out of a total of thirty-nine non-harmonic treatments of the minor ninth interval in Götterdämmerung, Act I, only two (5.12 per cent) are treated as suspensions. Concerning the resolutions of all minor ninth intervals found in Götterdämmerung, Act I, 20.52 per cent are resolved with or after a change of chord (Table V, column 2).

The Minor Ninth Chord in Inversion in Die Walküre, Act I

Of the thirty-one Mmm9 chords analyzed in Die Walküre, Act I, four (12.91 per cent) are found in inversion. Of these, one (25.00 per cent) is in first inversion, and three (75.00 per cent) are in third inversion (Table IV, column 1). In Figure 32, measure 382, a Mmm9 chord appears in first inversion, and is classified as a V\(^{-9}\) chord in a G-major tonality. This V\(^{-9}\) chord is partly attributed to the melodic sequence of measures 377 through 383. The minor ninth interval (E-flat) below the root (D-natural) of the V\(^{-9}\) chord is treated as a suspension, and is resolved after a change of chord. The suspension treatment of the minor ninth
interval accounts for 18.19 per cent of all the non-harmonic treatments of minor ninth intervals in Die Walküre, Act I (Table V, column 1).

In Figure 33, measure 492, a Mmm9 chord appears in third inversion, and is classified as a VI-9 chord in a C-major tonality. The VI-9 chord, although functioning as a secondary dominant, is also the result of a dominant pedal point (G-natural).
This VI<sup>-9</sup> chord introduces the melodic and harmonic sequence of measures 492 and 493. The minor ninth interval (B-flat) below the root (A-natural) of the VI<sup>-9</sup> chord is treated as an appoggiatura, and is resolved with a change of chord.

The Minor Ninth Chord in Inversion in *Götterdämmerung*, Act I

Three (3.84 per cent) of the seventy-eight minor ninth chords analyzed in *Götterdämmerung*, Act I, are found in inversion, and of these, all are in second inversion. In Figure 34, measure 47, a Mmm9 chord is shown in second inversion, and is classified as a VI<sup>-9</sup> chord in a B-flat major tonality. The minor ninth interval (A-flat) below the root (G-natural) of the VI<sup>-9</sup> chord is treated as an accented passing tone, and is resolved with a change of chord.

![Fig. 34--Mmm9 chord, Götterdämmerung, Act I, scene 2](image-url)
Of the thirty-nine non-harmonic contrapuntal treatments of minor ninth intervals in *Götterdämmerung*, Act I, six (15.38 per cent) are treated as passing tones (Table V, column 2).

The Minor Ninth Interval as Passing Tone in *Die Walküre*, Act I

Of the twenty-two non-harmonic contrapuntal treatments of the minor ninth interval in *Die Walküre*, Act I, only four (18.19 per cent) are treated as passing tones. In Figure 35, measure 300, a minor ninth interval (B-flat) appears above the root (A-natural) of a V~9 chord (Mmm9) in a D-minor tonality. The minor ninth interval is treated as an accented passing tone, and is resolved before a change of chord.

Fig. 35--Mmm9 chord, *Die Walküre*, Act I, scene 1

Two unusual treatments of a Mmm9 chord in conjunction with a MmM9 chord are discussed and illustrated in Chapter
VIII, Figures 81 and 85. The Mmm9 appears in root position in Figure 81 and is found in second inversion in Figure 85.
CHAPTER IV

THE PERFECT ELEVENTH CHORD AND INTERVAL

The Perfect Eleventh Chord in Die Walküre, Act I

In Die Walküre, Act I, there are two differing types of vertical chord structures, each containing the perfect eleventh interval above the root, which are used most frequently: the major-minor-( )-perfect eleventh chord (Mm( )Pll), and the major-minor-minor-perfect eleventh chord (MmmPll). Of the total of thirty-one perfect eleventh chords found in Die Walküre, Act I, eleven (35.48 per cent) are classified as Mm( )Pll chords, and the same number are classified as MmmPll chords. All of the perfect eleventh chords in Die Walküre, Act I are in root position and are classified as tonally stable, functioning as dominant or secondary dominant chords in a given tonality. A majority (77.41 per cent) of these tonally stable perfect eleventh chords are classified as dominant chords (Table VI, column 1).

The Perfect Eleventh Interval in Die Walküre, Act I

All thirty-one of the perfect eleventh intervals analyzed in Die Walküre, Act I are treated contrapuntally as non-harmonic
<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect eleventh chords</td>
<td>31</td>
<td></td>
<td>Perfect eleventh chords</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Perfect eleventh chord types:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MmMP11</td>
<td>9</td>
<td>29.04</td>
<td>MmMP11</td>
<td>79</td>
<td>66.39</td>
</tr>
<tr>
<td>Mm()P11</td>
<td>11</td>
<td>35.48</td>
<td>Mm()P11</td>
<td>17</td>
<td>14.28</td>
</tr>
<tr>
<td>MmmP11</td>
<td>11</td>
<td>35.48</td>
<td>MmmP11</td>
<td>15</td>
<td>12.61</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>1.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>1.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>1.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>.84</td>
</tr>
<tr>
<td>Perfect eleventh chords of tonal stability:</td>
<td>31</td>
<td>100.00</td>
<td>Perfect eleventh chords of tonal stability:</td>
<td>107</td>
<td>89.91</td>
</tr>
<tr>
<td>Dominants (V)</td>
<td>24</td>
<td>77.41</td>
<td>Dominants (V)</td>
<td>84</td>
<td>71.88</td>
</tr>
<tr>
<td>Secondary Dominants:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>4</td>
<td>57.13</td>
<td>I</td>
<td>7</td>
<td>36.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>17.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>5.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>5.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>5.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>11.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>10.09</td>
</tr>
<tr>
<td>Perfect eleventh chords in root position:</td>
<td>31</td>
<td>100.00</td>
<td>Perfect eleventh chords in root position:</td>
<td>115</td>
<td>96.63</td>
</tr>
</tbody>
</table>
\textbf{TABLE VI--Continued}

<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perfect eleventh chords in</td>
<td>4</td>
<td>3.37</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>inversion:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>First</td>
<td>1</td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Second</td>
<td>1</td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Third</td>
<td>2</td>
<td>50.00</td>
</tr>
</tbody>
</table>
tones, and of these, fourteen (45.16 per cent) are treated as appoggiaturas, and the same number are treated as suspensions. All of these perfect eleventh intervals found in \textit{Die Walküre}, Act I are resolved before a change of chord (Table VII, column 1).

The characteristic features of the perfect eleventh chord and interval, as found in \textit{Die Walküre}, Act I, are as follows:

A. Chordal treatment of perfect eleventh chord.
   1. Mm(7)P11 and MmmP11 chord structures.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of perfect eleventh interval.
   2. Resolved before a change of chord.

Typical Usages of Dominant Perfect Eleventh Chord and Interval in \textit{Die Walküre}, Act I

In Figure 36, measures 295 and 296, a Mm(7)P11 chord appears in root position, and is classified as a V_11 chord in a B-flat tonality. The perfect eleventh interval (B-flat) above the root (F-natural) of the V_11 chord is treated as a suspension, and is resolved before a change of chord. A melodic sequence is observed from measures 295 through 299.
### TABLE VII
THE PERFECT ELEVENTH INTERVAL

<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I, (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfect eleventh intervals</td>
<td>31</td>
<td>...</td>
<td>Perfect eleventh intervals</td>
<td>119</td>
<td>...</td>
</tr>
<tr>
<td>Perfect eleventh intervals as non-harmonic tones:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passing tone</td>
<td>3</td>
<td>9.68</td>
<td>Passing tone</td>
<td>39</td>
<td>47.47</td>
</tr>
<tr>
<td>Appoggiatura</td>
<td>14</td>
<td>45.16</td>
<td>Appoggiatura</td>
<td>17</td>
<td>20.73</td>
</tr>
<tr>
<td>Suspension</td>
<td>14</td>
<td>45.16</td>
<td>Suspension</td>
<td>21</td>
<td>25.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfect eleventh intervals resolved before a change of chord:</td>
<td>31</td>
<td>100.00</td>
<td></td>
<td>117</td>
<td>98.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfect eleventh intervals resolved with or after a change of chord:</td>
<td>2</td>
<td>1.69</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In Figure 3, measure 90, a Mm()P11 chord is shown in root position, and is classified as a V\textsuperscript{11} chord in a B-flat major tonality. The perfect eleventh interval (B-flat) above the root (F-natural) of the V\textsuperscript{11} chord is treated as an appoggiatura, and is resolved before a change of chord.

In Figure 37, measure 305, a AmmP11 chord appears in root position, and is classified as a V\textsuperscript{11} chord in a D-minor tonality. The perfect eleventh interval (D-natural) above the root (A-natural) of the V\textsuperscript{11} chord is treated as a suspension, and is resolved before a change of chord. A melodic sequence is observed from measures 305 through 309.
In Figure 38, measure 441, a MmmPll chord is shown in root position, and is classified as a $V_{11}$ chord in a G-flat major tonality. The perfect eleventh interval (G-flat) above the root (D-flat) of the $V_{11}$ chord is treated as an appoggiatura, and is resolved before a change of chord.
The Perfect Eleventh Chord in
Götterdämmerung, Act I

In Götterdämmerung, Act I, the most frequent vertical chord structure containing the perfect eleventh interval above the root is the major-minor-major-perfect eleventh chord (MmMPll). Of the total of 119 perfect eleventh chords found in Götterdämmerung, Act I, seventy-nine (66.39 per cent) are classified as MmMPll chords. A majority (89.91 per cent) of the total perfect eleventh chords are classified as tonally stable, and function as dominant, secondary dominant, or non-dominant chords in a given tonality. Of these tonally stable perfect eleventh chords, 71.88 per cent are classified as dominant chords. Considering all the perfect eleventh chords found in Götterdämmerung, Act I, 96.63 per cent are found in root position (Table VI, column 2).

The Perfect Eleventh Interval in
Götterdämmerung, Act I

The most frequent contrapuntal treatment of the perfect eleventh interval in Götterdämmerung, Act I is as a non-harmonic tone. Eighty-four (68.90 per cent) of the 119 perfect eleventh intervals found in Götterdämmerung, Act I are treated as non-harmonic tones. Of these non-harmonic treatments of the perfect eleventh interval, the most frequent
is the passing tone, which occurs thirty-nine times (47.47 per cent). One hundred and seventeen of the 119 perfect eleventh intervals analyzed in Götterdämmerung, Act I are resolved before a change of chord (Table VII, column 2).

The characteristic features of the perfect eleventh chord and interval, as found in Götterdämmerung, Act I, are as follows:

A. Chordal treatment of the perfect eleventh chord.
   1. MmMP11 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of the perfect eleventh interval.
   2. Resolved before a change of chord.

Typical Usages of Dominant Perfect Eleventh Chord and Interval in Götterdämmerung, Act I

In Figure 39, measures 362 through 364, three MmMP11 chords appear in root position, and are classified as $V^{11}$ chords in an E-flat major tonality. The perfect eleventh intervals (E-flat) above the roots (E-flat) of the $V^{11}$ chords are treated, respectively, as an unaccented passing tone
(measure 362), a chord tone (prepared as an appoggiatura and irregularly resolved by leap) in measure 363, and as an accented passing tone (measure 364). All resolutions of the perfect eleventh intervals in Figure 39 occur before a change of chord.

Fig. 39--MmMPll chords, Götterdämmerung, Act I, prelude

The MmMPll Chord in
Die Walküre, Act I

Of the thirty-one perfect eleventh chords analyzed in Die Walküre, Act I, nine (29.04 per cent) are classified as MmMPll chords. In Figure 40, measure 199, a MmMPll chord is shown in root position, and is classified as a $V_9^{11}$ chord in an F-major tonality. The perfect eleventh interval (F-natural) above the root (C-natural) of the $V_9^{11}$ chord is treated as a suspension, and is resolved before a change of chord.
The Mm(7)P11 Chord in Götterdämmerung, Act I

Seventeen (14.28 per cent) of the 119 perfect eleventh chords analyzed in Götterdämmerung, Act I, are classified as Mm(7)P11 chords. In Figure 41, measure 214, a Mm(7)P11 chord appears in root position, and is classified as a V11 chord in a G-major tonality. The perfect eleventh interval (G-natural) above the root (D-natural) of the V11 chord is treated as an accented passing tone, and is resolved before a change of chord.
The Secondary Dominant Perfect Eleventh Chord in *Die Walküre*, Act I

Of the thirty-one tonally stable perfect eleventh chords analyzed in *Die Walküre*, Act I, seven (22.59 per cent) are classified as secondary dominant chords. The most frequent secondary dominant perfect eleventh chord is the I\textsuperscript{11} chord which occurs four times (Table VI, column 1). In Figure 42, measure 510, a Mm()P11 chord is shown in root position, and is classified as a I\textsuperscript{11} chord in a C-major tonality. The perfect eleventh interval (F-natural) above the root (C-natural) of the I\textsuperscript{11} chord is treated as a suspension, and is resolved before a change of chord.

![Fig. 42--Mm()P11 chord, Die Walküre, Act I, scene 3](image)

The Secondary Dominant Perfect Eleventh Chord in *Götterdämmerung*, Act I

Of the 107 tonally stable perfect eleventh chords analyzed in *Götterdämmerung*, Act I, nineteen (17.10 per cent) are classified as secondary dominant chords. The most
frequent secondary dominant perfect eleventh chord is built on the supertonic degree, and occurs nine times (Table VI, column 2). In Figure 41, measure 213, a MmMP11 chord appears in root position, and is classified as a II 11 chord in a G-major tonality. The perfect eleventh interval (D-natural) above the root (A-natural) of the II 11 chord is treated as a suspension, and is resolved before a change of chord. In Götterdämmerung, Act I, 25.60 per cent of the eighty-two non-harmonic contrapuntal treatments of perfect eleventh intervals are as suspensions (Table VII, column 2).

The Non-dominant Perfect Eleventh Chord in Götterdämmerung, Act I

Four (11.12 per cent) of the 107 tonally stable perfect eleventh chords analyzed in Gotterdammerung, Act I are classified as non-dominant chords. These four non-dominant perfect eleventh chords are of two differing chord structures: the minor-minor-major-perfect eleventh chord (mmMP11), and the minor-minor-(-perfect eleventh chord (mm()P11).

The mmMP11 Chord in Götterdämmerung, Act I

The mmMP11 chord appears two times (1.68 per cent) in Götterdämmerung, Act I. In Figure 43, measure 148, a mmMP11 chord is shown in root position, and is classified as a ii 11.
chord over a tonic pedal point (E-flat) in an E-flat major tonality. The perfect eleventh interval (B-flat) above the root (F-natural) of the ii\textsuperscript{7} chord receives two contrapuntal treatments: as an accented passing tone and as a suspension, both resolutions occurring before a change of chord.

![Musical notation image]

Fig. 43--mmMPll chord, Götterdämmerung, Act I, scene 3

The mm()Pll Chord in Götterdämmerung, Act I

The mm()Pll chord occurs two times (1.68 per cent) in Götterdämmerung, Act I. In Figure 44, measure 556, the mm()Pll chord is shown in root position, and is classified as a ii\textsuperscript{11} chord over a dominant pedal point (E-natural) in an A-major tonality. The perfect eleventh interval (E-natural) above the root (B-natural) of the ii\textsuperscript{11} chord is treated as a chord tone (prepared as a suspension and resolved by leap).
Resolution of this perfect eleventh interval is before a change of chord. Of the total number of perfect eleventh intervals (119) analyzed in Götterdämmerung, Act I, 31.10 per cent are treated contrapuntally as chord tones (Table VII, column 2).

Fig. 44—mm()Pll chord, Götterdämmerung, Act I, prelude

Tonally Unstable Perfect Eleventh Chord Types in Götterdämmerung, Act I

Over 10 per cent of the 119 perfect eleventh chords found in Götterdämmerung, Act I are classified as tonally unstable. Four of these tonally unstable perfect eleventh chords fall into three differing classifications of vertical chord structures:
1. The minor-minor-minor-perfect eleventh chord (mmmPl1).

2. The diminished-minor-( )-perfect eleventh chord (dm()Pl1).

3. The diminished-diminished-( )-perfect eleventh chord (dd()Pl1).

The mmmPl1 Chord in Götterdämmerung, Act I

Two (1.68 per cent) of the 119 perfect eleventh chords analyzed in Götterdämmerung, Act I are classified as mmmPl1 chords. In Figure 45, measure 273, a mmmPl1 chord appears in root position, and is labeled as a ii11 chord in an E-flat minor tonality. The perfect eleventh interval (B-flat) above the root (F-natural) of the ii11 chord is treated as a chord tone (approached and resolved by leap). The resolution of the perfect eleventh interval occurs before a change of chord. A melodic sequence is observed in measures 272 and 273 of Figure 45.

![Fig. 45--mmmPl1 chord, Götterdämmerung, Act I, prelude](image-url)
The dm()Pll Chord in Götterdämmerung, Act I

The dm()Pll chord appears one time (.84 per cent) in Götterdämmerung, Act I. In Figure 46, measure 206, the dm()Pll chord is shown in root position, and is labeled as a viiO11 chord in a G-major tonality. The chromatically descending bass line in measures 205 through 207, and melodic activity in measures 205 and 206 help to establish the dm()Pll chord in measure 206. The perfect eleventh interval (B-natural) above the root (F-sharp) of the viiO11 chord is treated as a chord tone (prepared as a suspension and resolved by leap). Resolution of this perfect eleventh interval occurs before a change of chord.

Fig. 46—dm()Pll chord, Götterdämmerung, Act I, scene 2

The dd()Pll Chord in Götterdämmerung, Act I

The dd()Pll chord is also found only once (.84 per cent) in Götterdämmerung, Act I. In Figure 47, measure 660, the dd()Pll chord is shown in root position, and is labeled as a
vdll chord in a B-minor tonality. This dd()Pll chord in measure 660 appears to be largely the result of melodic activity. Using the same motive sequentially and over the same root, Wagner expands a major sixth interval within the motive (Figure 47, measure 656) to a major seventh interval in measure 660, and thereby creates a dd()Pll chord structure. The perfect eleventh interval (B-natural) above the root (F-sharp) of the Vdll chord is treated as a chord tone (prepared as an appoggiatura and irregularly resolved by leap). Resolution of this perfect eleventh interval occurs before a change of chord.

Fig. 47--dd()Pll chord, Götterdammerung, Act I, scene 2

The Perfect Eleventh Chord in Inversion in Götterdammerung, Act I

Of the 119 perfect eleventh chords found in Götterdämmerung, Act I, only four (3.37 per cent) are found in
inversion. Of these, one is in first inversion, one in second inversion, and two perfect eleventh chords are found in third inversion (Table VI, column 2).

In Figure 48, measure 682, a mm()P11 chord is found in first inversion, and is classified as a ii\textsuperscript{11} chord in a C-major tonality. The perfect eleventh interval (G-natural) above the root (D-natural) of the ii\textsuperscript{11} chord is treated as a chord tone (prepared as an appoggiatura and irregularly resolved by leap). Resolution of this perfect eleventh interval occurs before a change of chord.

![Fig. 48--mm()P11 chord, Götterdämmerung, Act I, scene 2](image)

In Figure 49, measure 100, a MmMP11 chord appears in second inversion, and is classified as a V\textsuperscript{11} chord in an E-flat major tonality. The perfect eleventh interval (E-flat) above the root (B-flat) of the V\textsuperscript{11} chord is treated as
a suspension, and is resolved before a change of chord. It is noted that the major ninth interval (C-natural) appears above the perfect eleventh interval of the $V^{11}$ chord in Figure 49.

![Fig. 49--MmMPll chord, Götterdämmerung, Act I, scene 3](image)

The Perfect Eleventh Chord in Melodic and Harmonic Sequence in Götterdämmerung, Act I

In Figure 50, measures 622 through 625, a harmonic sequence, and with some modification, a melodic sequence is observed. A Mm()Pll chord appears in measure 623 and in measure 625. Both are in root position, and are classified respectively, as $V^{11}$ and $IV^{11}$ chords in a B-minor tonality. Although these Mm()Pll chords are involved in a harmonic sequence, they appear to be functioning as tonally stable dominant and secondary dominant chords. The perfect eleventh intervals (B-natural and A-natural) above the respective
roots (F-sharp and E-natural) of the V\textsuperscript{11} and IV\textsuperscript{11} chords are treated in an identical manner. They both receive "dual" contrapuntal treatments as chord tones (prepared as suspensions and irregularly resolved by leaps), and as suspensions, prepared and resolved. All resolutions of the perfect eleventh interval in Figure 50 occur before a change of chord.

![Diagram of musical notation](image)

**Fig. 50—Mm()P11 chord, Götterdämmerung, Act I, scene 2**

The Perfect Eleventh Interval Used as Passing Tone in Die Walküre, Act I

In contrast to Götterdämmerung, Act I, where the most frequent non-harmonic contrapuntal treatment of the perfect eleventh interval is the passing tone, the reverse is true in Die Walküre, Act I. Of the thirty-one perfect eleventh intervals analyzed, the least frequent non-harmonic contrapuntal treatment is the passing tone, which occurs three times (Table VII, columns 1 and 2).
In Figure 51, measure 243, a perfect eleventh interval (E-natural) is introduced above the root (B-natural) of a \( \text{III}^{11} \) chord (Mm()Pll) in a G-major tonality. The perfect eleventh interval is treated as an accented passing tone, and is resolved before a change of chord.

Fig. 51--Mm()Pll chord, Die Walküre, Act I, scene 3

The Perfect Eleventh Interval as Anticipation in Götterdämmerung, Act I

Of the eighty-two non-harmonic contrapuntal treatments of the perfect eleventh interval in Götterdämmerung, Act I, only three (3.72 per cent) are treated as anticipations. In Figure 52, measures 351 and 352, a perfect eleventh interval (E-flat) is introduced over the root (B-flat) of a \( \text{V}^{9} \) chord (MmMPll) in an E-flat major tonality. This perfect eleventh interval, as well as the major ninth interval (C-natural) are treated as double anticipations. Of special interest is the
unusually low voicing (directly above the root and below the major ninth) of the perfect eleventh interval in measure 352.

Fig. 52--MmMP11 chord, Götterdämmerung, Act I, prelude

The Perfect Eleventh Interval as Changing Tone in Götterdämmerung, Act I

Uses of the perfect eleventh interval as a changing tone, as well as the previously discussed anticipation, are found only in Götterdämmerung, Act I (Table VII, column 2). The one example of the perfect eleventh interval being treated non-harmonically as a changing tone is shown in Figure 53, measure 653. The perfect eleventh interval (B-natural) appears above the root (F-sharp) of the V<sup>11</sup> chord (Mm()P11) in a B-minor tonality. The perfect eleventh interval is treated as part of a rare changing tone figure (G-sharp, B-natural), and is resolved before a change of chord. It is observed that the perfect eleventh interval (B-natural) and
the major third interval (A-sharp) of the $V^{11}$ chord are sounding simultaneously in measure 653.

![Musical notation](image)

Fig. 53—$\text{Mm(}P\text{)}^{11}$ chord, *Götterdämmerung*, Act I, scene 2

Unusual Usage of Perfect Eleventh Chord and Interval in *Götterdämmerung*, Act I

In Figure 54, measure 344, a $\text{Mmm}^{11}$ chord is shown in root position, and is classified as a $V^{12\frac{1}{9}}$ chord in an A-flat minor tonality. The perfect eleventh interval (B-flat), as well as the minor ninth interval (G-flat) above the root (F-natural) of the $V^{12\frac{1}{9}}$ chord are treated as double anticipations. It is observed in measure 344 that because of the anticipatory treatment of the perfect eleventh interval (B-flat), the major third interval (A-natural) assumes the function of an "escape tone," although it is a true chord member of the $V^{12\frac{1}{9}}$ chord.

Figure 54 is of particular interest, as it shows the evolutionary aspect of the escape tone in the confines of...
Götterdämmerung, Act I. The contrast of the harmonic accompaniment to the motive (B-flat, A-natural, C-natural) in measure 18, compared to the harmonic background of the same motive in measure 344, is quite pronounced. Measure 18 comes early in the prelude of Götterdämmerung, Act I, and measure 344 comes in the middle of scene 3. A fuller analysis of measure 344 is discussed with Figure 70.

Fig. 54--MmmPl1 chord, Götterdämmerung, Act I, scene 3
CHAPTER V

THE AUGMENTED ELEVENTH CHORD AND INTERVAL

The Augmented Eleventh Chord and Interval in Die Walküre, Act I

In Die Walküre, Act I, there is one example of a vertical chord structure containing the augmented eleventh interval above the root: the major-minor-( )-augmented eleventh chord (Mm()All). In Figure 55, measure 284, the Mm()All chord appears in root position, and is classified as a secondary dominant VI+11 chord in the B-minor tonality. The augmented eleventh interval (C-sharp) above the root (G-natural) of the VI+11 chord is treated as an accented passing tone, and is resolved before a change of chord.

Fig. 55--Mm()All chord, Die Walküre, Act I, scene 3
The Augmented Eleventh Chord in 
Götterdämmerung, Act I

In Götterdämmerung, Act I, two differing types of vertical chord structures containing the augmented eleventh interval above the root have been analyzed: the Mm(All) chord, and the major-minor-major-augmented eleventh chord (MmMA11). The most frequent augmented eleventh chord is the MmMA11 type, which occurs ten times (71.42 per cent). Of the fourteen augmented eleventh chords analyzed in Götterdämmerung, Act I, twelve (85.71 per cent) are classified as tonally stable, and function as dominant or secondary dominant chords in a given tonality. Of these tonally stable augmented eleventh chords, ten (83.33 per cent) are classified as dominant chords. A majority (57.14 per cent) of the fourteen augmented eleventh chords in Götterdämmerung, Act I are in root position (Table VIII).

The Augmented Eleventh Interval 
in Götterdämmerung, Act I

The most frequent contrapuntal treatment of the augmented eleventh interval in Götterdämmerung, Act I is as a non-harmonic tone. Of the fourteen augmented eleventh intervals analyzed in Götterdämmerung, Act I, nine (64.28 per cent) are treated as non-harmonic tones, and of these, three (33.33 per cent) are treated as neighboring tones, and the same number
are treated as passing tones. A majority (92.85 per cent) of the augmented eleventh intervals in Götterdämmerung, Act I are resolved before a change of chord (Table IX).

**TABLE VIII**

THE AUGMENTED ELEVENTH CHORD

<table>
<thead>
<tr>
<th>Götterdämmerung, Act I</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented eleventh chords</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Augmented eleventh chord types:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MmMAll</td>
<td>10</td>
<td>71.42</td>
</tr>
<tr>
<td>MmA (All)</td>
<td>4</td>
<td>28.58</td>
</tr>
<tr>
<td>Augmented eleventh chords of tonal stability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominants (V)</td>
<td>12</td>
<td>85.71</td>
</tr>
<tr>
<td>Secondary dominants (II)</td>
<td>10</td>
<td>83.33</td>
</tr>
<tr>
<td>Augmented eleventh chords of tonal instability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Augmented eleventh chords in root position:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Augmented eleventh chords in inversion:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>6</td>
<td>42.86</td>
</tr>
<tr>
<td>Second</td>
<td>1</td>
<td>16.67</td>
</tr>
<tr>
<td>Fifth</td>
<td>2</td>
<td>33.33</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>50.00</td>
</tr>
</tbody>
</table>

The characteristic features of the augmented eleventh chord and interval, as found in Götterdämmerung, Act I, are as follows:

A. Chordal treatment of augmented eleventh chord.
   1. MmMAll chord structure.
2. Tonally stable: dominant.

3. Root position.

B. Contrapuntal treatment of perfect eleventh interval.


2. Resolved before a change of chord.

It should be noted that the most frequent chordal and contrapuntal treatments of the augmented eleventh chord and interval in *Götterdämmerung*, Act I do not coincide.

**TABLE IX**

THE AUGMENTED ELEVENTH INTERVAL

<table>
<thead>
<tr>
<th>Götterdämmerung, Act I</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented eleventh intervals</td>
<td>14</td>
<td>...</td>
</tr>
<tr>
<td>Augmented eleventh intervals as non-harmonic tones:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passing tone</td>
<td>9</td>
<td>64.28</td>
</tr>
<tr>
<td>Neighboring tone</td>
<td>3</td>
<td>33.33</td>
</tr>
<tr>
<td>Appoggiatura</td>
<td>3</td>
<td>33.33</td>
</tr>
<tr>
<td>Changing tone</td>
<td>2</td>
<td>22.22</td>
</tr>
<tr>
<td>Augmented eleventh intervals as chord tones:</td>
<td>5</td>
<td>35.72</td>
</tr>
<tr>
<td>Augmented eleventh intervals resolved before a change of chord:</td>
<td>13</td>
<td>92.85</td>
</tr>
<tr>
<td>Augmented eleventh interval resolved with or after a change of chord:</td>
<td>1</td>
<td>7.15</td>
</tr>
</tbody>
</table>
Typical Usage of Dominant Augmented Eleventh Chord in *Götzterdämmerung*, Act I

In Figure 56, measure 333, a MmMAll chord appears in root position, and is classified as a $V^9$ chord in a B-flat major tonality. The augmented eleventh interval (B-natural) above the root (F-natural) of the $V^9$ chord is treated as part of a rare changing tone figure (B-natural, D-natural), and is resolved before a change of chord.

![Figure 56, MmMAll chord, Götzterdämmerung, Act I, prelude](image)

The Mm()'All Chord in *Götzterdämmerung*, Act I

Of the fourteen augmented eleventh chords analyzed in *Götzterdämmerung*, Act I, four (28.58 per cent) are classified as Mm()'All chords. In Figure 57, measure 480, a Mm()'All chord is shown in root position, and is classified as a $V^{+11}$ chord in a D-major tonality. The augmented eleventh interval (D-sharp) above the root (A-natural) of the $V^{+11}$ chord
receives two contrapuntal treatments: as an accented passing tone, and as an appoggiatura. Both resolutions occur before a change of chord. As a point of comparison, the appoggiatura treatment of the augmented eleventh interval accounts for only 22.22 per cent of the total (nine) non-harmonic treatments of augmented eleventh intervals in Götterdämmerung, Act I (Table IX).

Fig. 57—Mn() All chord, Götterdämmerung, Act I, prelude

The Augmented Eleventh Chord in Inversion in Götterdämmerung, Act I

Of the fourteen augmented eleventh chords analyzed in Götterdämmerung, Act I, six (42.86 per cent) are found in inversion. One augmented eleventh chord is found in first inversion, two in second inversion, and three augmented eleventh chords are found in fifth inversion (Table VIII).
In Figure 58, measure 370, a Mm(\theta)All chord appears in second inversion, and in measure 372, a Mm(\theta)All chord is shown in first inversion. Both Mm(\theta)All chords are labeled as VII^{+11} chords in an E-flat major tonality. However, due mainly to the melodic sequences observed in measures 370 through 373, and the roving, chromatic bass line (measures 369 through 373), the VII^{+11} chords are classified as the only tonally unstable augmented eleventh chords found in Götterdämmerung, Act I (Table VIII).

Fig. 58--Mm(\theta)All chord, Götterdämmerung, Act I, prelude

Concerning the contrapuntal aspect, both augmented eleventh intervals (G-sharp) above the roots (D-natural) of the VII^{+11} chords are treated as accented passing tones (measures 370 and 372). The augmented eleventh interval in measure 372 also receives contrapuntal treatment as an
appoggiatura. All resolutions of the augmented eleventh intervals in Figure 58 occur before a change of chord.

In Figure 59, measure 183, a $\text{MmMAll}$ chord appears in fifth inversion, and is classified as a $V_9$ chord in an A-flat major tonality. The augmented eleventh interval $(A\text{-natural})$ below the root (E-flat) of the $V_9$ chord is treated as an accented lower neighboring tone, and is resolved before a change of chord.

![Fig. 59--MmMAll chord, Götterdämmerung, Act I, scene 1](image)

**Unusual Usage of Augmented Eleventh Chord in Götterdämmerung, Act I**

In Figure 60, measure 527, a $\text{MmMAll}$ chord is shown in root position, and is classified as a $II_9$ chord over a dominant pedal point (E-flat) in an A-flat major tonality. It is observed that the E-flat pedal point in measure 527 occurs both in the bass line and internally. The augmented eleventh interval (E-natural) above the root (B-flat) of the
II$^+^{11/9}$ chord is considered to be a chord tone in measure 527, since it acts as the resolution tone of an E-flat ritardation, and is resolved by step with a change of chord. This type of resolution involving the augmented eleventh interval is found only once in Götterdämmerung, Act I (Table IX).

Fig. 60--MmMMAll chord, Götterdämmerung, Act I, scene 2
CHAPTER VI

THE MAJOR THIRTEENTH CHORD AND INTERVAL

The Major Thirteenth Chord in Die Walküre, Act I

In Die Walküre, Act I, only one type of vertical chord structure containing the major thirteenth interval above the root has been analyzed: the major-minor-\( (\quad)\)-major thirteenth chord \( (\text{Mm}()) (\text{M}13) \). Fourteen examples of the \( \text{Mm}()()\text{M}13 \) chord have been found in Die Walküre, Act I, and all are classified as tonally stable dominant chords, which are all in root position.

The Major Thirteenth Interval in Die Walküre, Act I

All of the fourteen major thirteenth intervals found in Die Walküre, Act I are treated contrapuntally as non-harmonic tones. The most frequent non-harmonic treatment is as a suspension, which occurs eight times (57.14 per cent). All of the major thirteenth intervals in Die Walküre, Act I are resolved before a change of chord (Table X, column I).

The characteristic features of the major thirteenth chord and interval, as found in Die Walküre, Act I, are as follows:
### TABLE X

THE MAJOR THIRTEENTH INTERVAL

<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major thirteenth intervals</td>
<td>14</td>
<td>...</td>
<td>Major thirteenth intervals</td>
<td>38</td>
<td>...</td>
</tr>
<tr>
<td>Major thirteenth intervals as non-harmonic tones:</td>
<td>14</td>
<td>100.00</td>
<td>Major thirteenth intervals as non-harmonic tones:</td>
<td>32</td>
<td>84.21</td>
</tr>
<tr>
<td>Suspension</td>
<td>8</td>
<td>57.14</td>
<td>Suspension</td>
<td>11</td>
<td>34.37</td>
</tr>
<tr>
<td>Appoggiatura</td>
<td>3</td>
<td>21.43</td>
<td>Appoggiatura</td>
<td>13</td>
<td>40.62</td>
</tr>
<tr>
<td>Neighboring tone</td>
<td>3</td>
<td>21.43</td>
<td>Anticipation</td>
<td>3</td>
<td>9.38</td>
</tr>
<tr>
<td></td>
<td>...</td>
<td>...</td>
<td>Changing tone</td>
<td>1</td>
<td>3.13</td>
</tr>
<tr>
<td></td>
<td>...</td>
<td>...</td>
<td>Passing tone</td>
<td>4</td>
<td>12.50</td>
</tr>
<tr>
<td>Major thirteenth intervals resolved before a change of chord:</td>
<td>14</td>
<td>100.00</td>
<td>Major thirteenth intervals resolved before a change of chord:</td>
<td>35</td>
<td>92.10</td>
</tr>
<tr>
<td></td>
<td>...</td>
<td>...</td>
<td>Major thirteenth intervals resolved with or after a change of chord:</td>
<td>3</td>
<td>7.90</td>
</tr>
</tbody>
</table>
A. Chordal treatment of major thirteenth chord.
   1. Mm(\(\cdot\))M13 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of major thirteenth interval.
   2. Resolved before a change of chord.

Typical Usage of Dominant Major Thirteenth Chord and Interval in *Die Walküre*, Act I

In Figure 61, measure 77, a Mm(\(\cdot\))M13 chord appears in root position, and is classified as a V\(^{13}\) chord in a C-major tonality. The major thirteenth interval (E-natural) above the root (G-natural) of the V\(^{13}\) chord is treated as a suspension, and is resolved before a change of chord.

---

Fig. 61--Mm(\(\cdot\))M13 chord, *Die Walküre*, Act I, scene 3

The Major Thirteenth Chord in *Götterdämmerung*, Act I

In *Götterdämmerung*, Act I, six differing types of vertical chord structures containing the major thirteenth
interval above the root have been analyzed:

1. The Mm()()Ml3 chord.
2. The major-minor-major-( )-major thirteenth chord (MmM()Ml3).
3. The major-minor-minor-perfect-major thirteenth chord (MmmPML3).
4. The major-minor-augmented-perfect-major thirteenth chord (MmAPl3).
5. The major-minor-major-perfect-major thirteenth chord (MmMPML3).
6. The major-minor-( )-augmented-major thirteenth chord (Mm()AML3).

The most frequent major thirteenth chord found in Götterdämmerung, Act I is the MmM()Ml3 chord, which occurs nineteen times out of a total of thirty-eight major thirteenth chords analyzed. A majority (89.47 per cent) of all the major thirteenth chords found in Götterdämmerung, Act I are classified as tonally stable, and function as dominant or secondary dominant chords in a given tonality. Of these tonally stable major thirteenth chords, 91.17 per cent are classified as dominant chords. Thirty-four (89.48 per cent) of the thirty-eight major thirteenth chords analyzed in Götterdämmerung, Act I are found in root position (Table IX).
The Major Thirteenth Interval in
Gotterdammerung, Act I

The most frequent contrapuntal treatment of the major thirteenth interval in Gotterdammerung, Act I is as a non-harmonic tone. Of the thirty-eight major thirteenth intervals found in Gotterdammerung, Act I, thirty-two (84.21 per cent) are treated as non-harmonic tones, the most frequent being the appoggiatura, which occurs thirteen times. A majority (92.10 per cent) of all the major thirteenth intervals analyzed in Gotterdammerung, Act I are resolved before a change of chord (Table X, column 2).

The characteristic features of the major thirteenth chord and interval, as found in Gotterdammerung, Act I, are as follows:

A. Chordal treatment of major thirteenth chord.
   1. MmM()M13 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of major thirteenth interval.
   2. Resolved before a change of chord.

The most frequent chordal and contrapuntal treatments of the major thirteenth chord and interval in Gotterdammerung, Act I do not coincide.
Typical Usages of Dominant Major Thirteenth Chords in Götterdämmerung, Act I

In Figure 62, measure 334, a $\text{MmM}()\text{M13}$ chord appears in root position, and is classified as a $V_{9}^{13}$ chord in a B-flat major tonality. In measure 336, the second most frequent major thirteenth chord ($\text{Mm}()()\text{M13}$) is also introduced in root position, and is classified as a $V_{13}^{13}$ chord in the same B-flat major tonality. $\text{Mm}()()\text{M13}$ chords account for 34.21 per cent of the total (thirty-eight) major thirteenth chords analyzed in Götterdämmerung, Act I (Table XI).

Fig. 62--$\text{MmM}()\text{M13}$, $\text{Mm}()()\text{M13}$ chords, Götterdämmerung, Act I, prelude.

Of particular interest in Figure 62 is the contrapuntal aspect of the major thirteenth intervals involved. The major thirteenth intervals (D-natural) above the roots (F-natural) of their respective $V_{9}^{13}$ and $V_{13}^{13}$ chords receive two differing contrapuntal treatments: as part of a rare
changing tone figure (B-natural, D-natural) in measure 334, and as a chord tone (prepared as an appoggiatura and irregularly resolved by leap) in measure 336. Both resolutions occur before a change of chord.

TABLE XI

THE MAJOR THIRTEENTH CHORD

<table>
<thead>
<tr>
<th>Götterdämmerung, Act I</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major thirteenth chords</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Major thirteenth chord types:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MmM()M13</td>
<td>19</td>
<td>49.99</td>
</tr>
<tr>
<td>Mm()()M13</td>
<td>13</td>
<td>34.21</td>
</tr>
<tr>
<td>MmAPM13</td>
<td>2</td>
<td>5.26</td>
</tr>
<tr>
<td>MM()AM13</td>
<td>2</td>
<td>5.26</td>
</tr>
<tr>
<td>MmMPM13</td>
<td>1</td>
<td>2.64</td>
</tr>
<tr>
<td>MmmPM13</td>
<td>1</td>
<td>2.64</td>
</tr>
<tr>
<td>Major thirteenth chords of tonal stability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominants (V)</td>
<td>31</td>
<td>89.47</td>
</tr>
<tr>
<td>Secondary dominants</td>
<td>3</td>
<td>8.83</td>
</tr>
<tr>
<td>I</td>
<td>1</td>
<td>33.34</td>
</tr>
<tr>
<td>II</td>
<td>2</td>
<td>66.66</td>
</tr>
<tr>
<td>Major thirteenth chords of tonal instability:</td>
<td>4</td>
<td>10.53</td>
</tr>
<tr>
<td>Major thirteenth chords in root position:</td>
<td>35</td>
<td>92.10</td>
</tr>
<tr>
<td>Major thirteenth chords in inversion:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>3</td>
<td>7.90</td>
</tr>
<tr>
<td>Sixth</td>
<td>2</td>
<td>66.66</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>33.34</td>
</tr>
</tbody>
</table>
The Major Thirteenth Interval as Suspension
in Götterdämmerung, Act I

The suspension treatment of the major thirteenth interval accounts for 34.37 per cent of the total non-harmonic treatments of major thirteenth intervals in Götterdämmerung, Act I (Table X, column 2). In Figure 63, measure 65, a major thirteenth interval (D-sharp) appears over the root (F-sharp) of a V13 chord (Mm()()M13) in a B-major tonality. This major thirteenth interval is treated as a suspension, and is resolved before a change of chord.

Fig. 63—Mm()()M13 chord, Götterdämmerung, Act I, prelude

The MmPM13 Chord in Götterdämmerung, Act I

Of the thirty-eight major thirteenth chords found in Götterdämmerung, Act I, only one (2.64 per cent) is classified as a MmPM13 chord. In Figure 64, measure 521, a MmPM13 chord is shown in root position, and is classified as a V chord in an A-flat major tonality. The MmPM13 chord is
partly a result of the modified melodic sequence observed in measures 518 through 521, and the descending chromatic bass line of measure 520, both of which cause a shift in tonality from D-flat major to A-flat major. The major thirteenth interval (C-natural) above the root (E-flat) of the $\text{V}^{13}_\text{G}$ chord is treated as an anticipation, and leaps to the minor ninth interval (F-flat) before a change of chord.

![Diagram of chords](image)

**Fig. 64**—MmAPM13 chord, *Götterdammerung*, Act I, scene 2

The MmAPM13 and MmMPM13 Chords in *Götterdammerung*, Act I

Two (5.25 per cent) of the thirty-eight major thirteenth chords analyzed in *Götterdammerung*, Act I are classified as MmAPM13 chords. In Figure 65, measure 324 (beat three) and measure 325 (beat one), two MmAPM13 chords appear in root position, and are classified as $\text{V}^{13}_\text{G}$ chords in a B-flat major
tonality. The major thirteenth intervals (D-natural) above the roots (F-natural) of the $V_{13}^{11}$ chords are both treated as appoggiaturas, and are resolved before a change of chord.

Also in Figure 65, on beat three of measure 325, the only $MmMPM13$ chord found in *Götterdämmerung*, Act I is shown in root position, and is classified as a $V_{13}^{11}$ chord in a B-flat major tonality. The major thirteenth interval (D-natural) above the root (F-natural) of the $V_{13}^{11}$ chord is also treated as an appoggiatura, and is resolved before a change of chord.

Fig. 65--$MmAPM13$, $MmMPM13$ chords, *Götterdämmerung*, Act I, scene 1.

The Major Thirteenth Interval as Appoggiatura in *Die Walküre*,
Act I

While the appoggiatura treatment of the major thirteenth interval is the most frequent non-harmonic contrapuntal treatment encountered in *Götterdämmerung*, Act I, it is one of the
less frequent usages found in *Die Walküre*, Act I. Only three out of fourteen major thirteenth intervals analyzed in *Die Walkure*, Act I are treated non-harmonically as appoggiaturas (Table X, column 1 and 2).

In Figure 66, measure 289, a major thirteenth interval (A-sharp) appears above the root (C-sharp) of a $V_{13}^1$ chord ($Mm()()M_{13}$) in an F-sharp major tonality. This major thirteenth interval is treated as an appoggiatura, and is resolved before a change of chord.

![Musical notation](image)

Fig. 66—$Mm()()M_{13}$ chord, *Die Walküre*, Act I, scene 1

The Major Thirteenth Interval as Neighboring Tone in *Die Walküre*, Act I

The major thirteenth interval is treated as a neighboring tone only in *Die Walküre*, Act I. Of the fourteen non-harmonic usages of the major thirteenth interval in *Die Walküre*, Act I
only three are treated as neighboring tones (Table X, column 1 and 2).

In Figure 67, measure 99, a major thirteenth interval (B-natural) is introduced above the root (D-natural) of the $V^{13}$ chord ($Mm()(M13)$ in a G-major tonality. The major thirteenth interval is treated as an unaccented upper neighboring tone, and is resolved before a change of chord.

![Musical notation](image)

Fig. 67--$Mm()()M13$ chord, *Die Walküre*, Act I, scene 3

The Major Thirteenth Interval as Passing Tone in *Götterdämmerung*, Act I

The major thirteenth interval receives non-harmonic contrapuntal treatment as a passing tone only in *Götterdämmerung*, Act I. Passing tone treatment is accorded the major thirteenth interval for 12.50 per cent of the total (thirty-two) non-harmonic usages (Table X, column 2).
In Figure 68, measure 577, a major thirteenth interval (G-natural) is introduced over the root (B-flat) of a $I_{13}$ chord ($Mm()()M13$) in a B-flat major tonality. This major thirteenth interval is treated as an accented passing tone, and is resolved before a change of chord.

The Major Thirteenth Chord in Inversion in Götterdämmerung, Act I

Of the thirty-eight major thirteenth chords analyzed in Götterdämmerung, Act I, three (7.90 per cent) are found in inversion. Of these three inverted major thirteenth chords, two are found in second inversion, and one major thirteenth chord appears in sixth inversion (Table XI).

In Figure 69, measure 136, a $MmM()M13$ chord appears in sixth inversion, and is classified as a $V_{9}$ chord in a B-major tonality. This $MmM()M13$ chord structure is essentially
the result of a melodic ostinato figure in the upper voices (measures 134 through 137), accompanied by a descending diatonic bass line. The major thirteenth interval (D-sharp) temporarily replaces the missing root (F-sharp) of the $V^{13}$ chord, and is treated as an appoggiatura, resolving with a change of chord. Of all the major thirteenth intervals (thirty-eight) analyzed in Götterdämmerung, Act I, 7.90 per cent are resolved with or after a change of chord (Table X, column 2).

![Fig. 69--MmM()M13 chord, Götterdämmerung, Act I, scene 1](image)

Unusual Usage of Major Thirteenth Chord and Interval in Götterdämmerung, Act I

Two (5.26 per cent) of the thirty-eight major thirteenth chords analyzed in Götterdämmerung, Act I are classified as MmM()AM13 chords. In Figure 70, measures 342 and 343, a MmM()AM13 chord appears in root position, and is labeled as a VI$^{13}$ chord in an A-flat minor tonality. This MmM()AM13
chord structure is the result of sequential melodic activity in the upper voices and an ascending chromatic bass line (measures 342 through 344), both of which cause a shift in tonality from A-flat minor to B-flat minor. Due to these attendant factors, the MM()AM13 chord in measure 343 is classified as one of four tonally unstable major thirteenth chords found in Götterdämmerung, Act I (Table XI).

Fig. 70--MM()AM13 chord, Götterdämmerung, Act I, scene 3

Concerning the contrapuntal aspect of Figure 70, the major thirteenth interval (D-flat), as well as the augmented eleventh interval (B-flat) above the root (F-flat) of the VI⁺[13] chord are treated as double anticipations. The anticipatory treatment of the major thirteenth interval accounts for only 9.38 per cent of the total non-harmonic treatments of these intervals, as found in Götterdämmerung, Act I (Table X, column 2).
CHAPTER VII

THE MINOR THIRTEENTH CHORD AND INTERVAL

The Minor Thirteenth Chord in 
Die Walküre, Act I

In Die Walküre, Act I, two differing types of vertical chord structures containing the minor thirteenth interval above the root have been analyzed: the major-minor-minor-( )-minor thirteenth chord (Mmm()ml3), and the major-minor-( )-( )-minor thirteenth chord (Mm()()ml3). Of the total of eight minor thirteenth chords analyzed, five (62.50 per cent) are classified as Mmm()ml3 chords, and three (37.50 per cent) are classified as Mm()()ml3 chords. Five (62.50 per cent) of the eight minor thirteenth chords analyzed are classified as tonally stable, and function as dominant or secondary dominant chords in a given tonality. Four of these tonally stable minor thirteenth chords are classified as dominant chords. All of the minor thirteenth chords found in Die Walküre, Act I are in root position (Table XII, column 1).
### TABLE XII

**THE MINOR THIRTEENTH CHORD**

<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor thirteenth chords</td>
<td>8</td>
<td>...</td>
<td>Minor thirteenth chords</td>
<td>23</td>
<td>...</td>
</tr>
<tr>
<td>Minor thirteenth chord types:</td>
<td></td>
<td></td>
<td>Minor thirteenth chord types:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mmm()ml3</td>
<td>5</td>
<td>62.50</td>
<td>Mmm()ml3</td>
<td>5</td>
<td>21.73</td>
</tr>
<tr>
<td>Mm()()ml3</td>
<td>3</td>
<td>37.50</td>
<td>Mm()()ml3</td>
<td>18</td>
<td>78.27</td>
</tr>
<tr>
<td>Minor thirteenth chords of tonal stability:</td>
<td></td>
<td></td>
<td>Minor thirteenth chords of tonal stability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominants (V)</td>
<td>4</td>
<td>80.00</td>
<td>Dominants (V)</td>
<td>14</td>
<td>63.63</td>
</tr>
<tr>
<td>Secondary dominant III</td>
<td>1</td>
<td>20.00</td>
<td>Secondary dominant III</td>
<td>8</td>
<td>36.37</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>6</td>
<td>74.99</td>
</tr>
<tr>
<td>Minor thirteenth chords of tonal instability:</td>
<td></td>
<td></td>
<td>Minor thirteenth chords of tonal instability:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor thirteenth chords in root position:</td>
<td></td>
<td></td>
<td>Minor thirteenth chords in root position:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>100.00</td>
<td></td>
<td>23</td>
<td>100.00</td>
</tr>
</tbody>
</table>
The Minor Thirteenth Interval in
Die Walküre, Act I

In Die Walküre, Act I, the most frequent contrapuntal
treatment of the minor thirteenth interval is as a non-
harmonic tone. Five (62.50 per cent) of the eight minor
thirteenth intervals analyzed are treated as non-harmonic
tones, and of these, four (80.00 per cent) are treated as
suspensions. All of the eight minor thirteenth intervals
analyzed in Die Walküre, Act I are resolved before a change
of chord (Table XIII, column I).

The characteristic features of the minor thirteenth chord
and interval, as found in Die Walküre, Act I, are as follows:

A. Chordal treatment of minor thirteenth chord.
   1. Mmm(3)m13 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of minor thirteenth interval.
   2. Resolved before a change of chord.

The most frequent chordal and contrapuntal treatments of the
minor thirteenth chord and interval do not coincide.
### TABLE XIII

**THE MINOR THIRTEENTH INTERVAL**

<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Total</th>
<th>%</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor thirteenth intervals</td>
<td>8</td>
<td>...</td>
<td>Minor thirteenth intervals</td>
<td>23</td>
<td>...</td>
</tr>
<tr>
<td>Minor thirteenth intervals as non-harmonic tones:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspension</td>
<td>5</td>
<td>62.50</td>
<td>Suspension</td>
<td>17</td>
<td>73.91</td>
</tr>
<tr>
<td>Anticipation</td>
<td>4</td>
<td>80.00</td>
<td>Anticipation</td>
<td>8</td>
<td>47.06</td>
</tr>
<tr>
<td>...</td>
<td>1</td>
<td>20.00</td>
<td>Passing tone</td>
<td>4</td>
<td>23.53</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>Appoggiatura</td>
<td>3</td>
<td>17.65</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>Escape tone</td>
<td>1</td>
<td>5.88</td>
</tr>
<tr>
<td>Minor thirteenth intervals as chord tones:</td>
<td>3</td>
<td>37.50</td>
<td>Minor thirteenth intervals as chord tones:</td>
<td>6</td>
<td>26.09</td>
</tr>
<tr>
<td>Minor thirteenth intervals resolved before a change of chord:</td>
<td>8</td>
<td>100.00</td>
<td>Minor thirteenth intervals resolved before a change of chord:</td>
<td>21</td>
<td>91.30</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>Minor thirteenth intervals resolved with or after a change of chord:</td>
<td>2</td>
<td>8.60</td>
</tr>
</tbody>
</table>
Typical Usage of Dominant Minor Thirteenth Chord in Die Walküre, Act I

In Figure 71, measure 258, a $M_{\text{mm}}()m_{13}$ chord is shown in root position, and is classified as a $V_{-13}$ chord in a C-minor tonality. The minor thirteenth interval (E-flat) above the root (G-natural) of the $V_{-13}$ chord is treated as a chord tone (approached from a rest and resolved stepwise). Resolution of the minor thirteenth interval is before a change of chord.

Fig. 71--$M_{\text{mm}}()m_{13}$ chord, Die Walküre, Act I, scene 2

The Minor Thirteenth Chord in Götterdämmerung, Act I

In Götterdämmerung, Act I, two differing types of vertical chord structures containing the minor thirteenth interval above the root have been analyzed: the $M_{\text{mm}}()m_{13}$ and $M_{\text{m}}()m_{13}$ chords, which are the identical minor thirteenth chord structures found in Die Walküre, Act I. Of the total
of twenty-three minor thirteenth chords found in Götterdämmerung, Act I, eighteen (78.27 per cent) are classified as Mm()()ml3 chords, and five (21.73 per cent) are classified as Mmmm()ml3 chords. A majority (95.65 per cent) of all the minor thirteenth chords are classified as tonally stable, and function as dominant or secondary dominant chords in a given tonality. Of these tonally stable minor thirteenth chords, 63.63 per cent are classified as dominant chords. All of the minor thirteenth chords analyzed in Götterdämmerung, Act I are in root position (Table XII, column 2).

The Minor Thirteenth Interval in Götterdämmerung, Act I

The most frequent contrapuntal treatment of the minor thirteenth interval in Götterdämmerung, Act I is as a non-harmonic tone. Seventeen of the twenty-three minor thirteenth intervals found in Götterdämmerung, Act I are treated as non-harmonic tones, and of these, the most frequent is the suspension, which occurs eight times. A majority (91.30 per cent) of all the minor thirteenth intervals analyzed in Götterdämmerung, Act I are resolved before a change of chord (Table III, column 2).
The characteristic features of the minor thirteenth chord and interval, as found in *Götterdämmerung*, Act I, are as follows:

A. Chordal treatment of the minor thirteenth chord.
   1. Mm0m13 chord structure.
   2. Tonally stable: dominant.
   3. Root position.

B. Contrapuntal treatment of the minor thirteenth interval.
   2. Resolved before a change of chord.

Typical Usage of Dominant Thirteenth Chord and Interval in *Götterdämmerung*, Act I

In Figure 72, measure 99, a Mm0m13 chord appears in root position, and is classified as a V-13 chord in an E-flat minor tonality. The minor thirteenth interval (G-flat) above the root (B-flat) of the V-13 chord is treated as a suspension, and is resolved before a change of chord.

Fig. 72--Mm0m13 chord, *Götterdämmerung*, Act I, prelude
The Secondary Dominant Minor Thirteenth Chord in Götterdämmerung, Act I

Of the twenty-two tonally stable minor thirteenth chords analyzed, eight (36.37 per cent) are classified as secondary dominant chords. The most frequent of these is the minor thirteenth chord built on the mediant degree (III), which occurs six times (Table XII, column 2). In Figure 73, measure 102, a Mm()()m13 chord is shown in root position, and is classified as a III−13 chord in an E-flat major tonality. The minor thirteenth interval (E-flat) above the root (G-natural) of the III−13 chord is treated as a chord tone (prepared as a suspension and resolved by leap). Resolution of the minor thirteenth interval occurs before a change of chord. Six (26.09 per cent) of the twenty-three minor thirteenth intervals analyzed in Götterdämmerung, Act I are treated contrapuntally as chord tones.

Fig. 73—Mm()()m13 chord, Götterdämmerung, Act I, scene 3
The Minor Thirteenth Interval as Appoggiatura in Götterdämmerung, Act I

Appoggiatura treatment of the minor thirteenth interval accounts for 17.65 per cent of all the non-harmonic contrapuntal treatments of this interval in Götterdämmerung, Act I, and does not occur in Die Walküre, Act I (Table XIII, column 1 and 2). In Figure 74, measure 159, a minor thirteenth interval (E-flat) appears over the root (G-natural) of a $V^{13}_3$ chord (Mmm()ml3) in a C-minor tonality. This minor thirteenth interval is treated as an appoggiatura, and is resolved before a change of chord.

Fig. 74--Mmm()ml3 chord, Götterdämmerung, Act I, scene 1

The Minor thirteenth Interval as Anticipation in Die Walküre, Act I and Götterdämmerung, Act I

The minor thirteenth interval is treated non-harmonically as an anticipation only one time in Die Walküre, Act I,
and once in *Götterdämmerung*, Act I (Table XIII, column 1 and 2). In Figure 75, measures 213 and 214 (*Die Walküre*, Act I), a minor thirteenth interval (A-flat) is introduced above the root (C-natural) of a V\(^{-13}\) chord (Mm()()m13) in an F-minor tonality. The minor thirteenth interval is treated as an anticipation.

![Fig. 75--Mm()()m13 chord, Die Walküre, Act I, scene 2](image)

In Figure 76, measures 504 and 505 (*Götterdämmerung*, Act I), a minor thirteenth interval (D-natural appears over the root (F-sharp) of a V\(^{-13}\) chord (Mmm()m13) in a B-minor tonality. Although this minor thirteenth interval is approached by leap, it is considered to be an anticipation due to its brief rhythmic duration.
The Minor Thirteenth Interval as Passing Tone in Götterdämmerung, Act I

Contrapuntal treatment of the minor thirteenth interval as a passing tone occurs only in Götterdämmerung, Act I, and accounts for 23.53 per cent of the total non-harmonic treatments of this interval (Table XIII, column 2). In Figure 77, measure 78, a minor thirteenth interval (B-flat) is introduced over a root (D-natural) of a III\textsuperscript{-13} chord (Mm()ml3) in a B-flat major tonality. This minor thirteenth interval is treated as an accented passing tone, and is resolved before a change of chord.
The Minor Thirteenth Interval as Escape Tone in Götterdämmerung, Act I

Of all the contrapuntal treatments of minor thirteenth intervals, only one example is treated non-harmonically as an escape tone, and this occurs in Götterdämmerung, Act I. In Figure 78, measure 190, a minor thirteenth interval (F-natural) appears above the root (A-natural) of a III$^{-13}$ chord (Mm()()ml3) in an F-major tonality. The minor thirteenth interval is treated as an escape tone, and is resolved with a change of chord. Considering the resolutions of all (twenty-three) minor thirteenth intervals analyzed in Götterdämmerung, Act I, 8.60 per cent resolve in a similar manner to the Mm()()ml3 chord of Figure 78 (Table XIII, column 2).
Fig. 78---Mm(\triangleright)ml3 chord, Götterdämmerung, Act I, scene 1.

Unusual Usage of Minor Thirteenth Chord
and Interval in Götterdämmerung, Act I

In Figure 79, measures 179 through 182, a melodic sequence, and with some modification, a harmonic sequence is observed. In measure 179, a Mmm(\triangleright)ml3 chord is shown in root position, and is classified as a \( V_{\frac{13}{2}} \) chord in a C-sharp minor tonality. A modulation occurs in measure 180 from C-sharp minor to a F-sharp minor tonality. In measure 181, a Mm(\triangleright)ml3 chord is introduced in root position, and is classified as a \( V_{-13} \) chord in the F-sharp minor tonality.

Concerning the contrapuntal aspect of Figure 79, both minor thirteenth intervals (E-natural and A-natural) above their respective roots (G-sharp and C-sharp) of the \( V_{\frac{13}{2}} \) and \( V_{-13} \) chords (measures 179 and 181) are treated as chord tones.
(prepared as suspensions and irregularly resolved by leaps).

Resolutions of both minor thirteenth intervals occur before a change of chord.

Fig. 79—Mmm()ml3, Mm()()ml3 chords, Götterdämmerung, Act I, scene 3.
CHAPTER VIII

MISCELLANEOUS USAGES OF NINTH, ELEVENTH, 
AND THIRTEENTH CHORDS AND INTERVALS

The Augmented Ninth Chord in
Die Walküre, Act I

The major-minor-augmented ninth chord (MmA9) is found
one time in Die Walküre, Act I. In Figure 80, measure 458,
a MmA9 chord appears in root position, and is classified as
a V+9 chord in an E-flat major tonality. The augmented ninth
interval (C-sharp) above the root (B-flat) of the V+9 chord
receives two differing contrapuntal treatments: accented
passing tone and appoggiatura. Both resolutions occur before
a change of chord. The MmA9 chord in measure 458 appears to
be the result of two factors: an ascending chromatic line
(E-flat, E-natural, F-natural, F-sharp) in measures 456
through 459, and the gradually expanding melodic intervals of
an augmented fourth (measure 456), perfect fifth (measure 457),
augmented fifth (measure 458), and finally, a minor sixth
interval in measure 459.
In Figure 81, measures 169 and 170, a Mmm9 chord appears in root position, and is classified as a $V^9$ chord in a C-major tonality. The minor ninth interval (A-flat) above the root (G-natural) of the $V^9$ chord is treated as a chord tone (approached and left by leap) in an arpeggiated figure. This minor ninth interval is resolved before a change of chord.

In measure 171, a MmM9 chord is introduced in root position, and is classified as a $V^9$ chord in a C-major tonality. The major ninth interval (A-natural) above the root (G-natural) of the $V^9$ chord receives three differing contrapuntal
treatments: as an arpeggiated chord tone (approached and left by leap), as a chord tone (approached from a rest and resolved stepwise), and as an accented passing tone. The arpeggiated chord tone is resolved before a change of chord, and the two other resolutions occur with a change of chord.

Fig. 81--MmM9, MmM9 chords, Götterdämmerung, Act I, prelude.
Concerning this unusual illustration of major and minor ninth chords, Ward (1, p. 181) states that "Wagner often introduces a chord in its chromatically altered form, then resolves the chromatic tone . . . to the diatonic form of the same chord before resolving it." Therefore, the sequence of chord progression in Figure 81 is (a) altered (V-9), (b) unaltered (V9), and (c) resolution (v97).

Unusual Usage of Perfect Eleventh Chord and Interval in Götterdämmerung, Act I

Of the total number of perfect eleventh chords (119) analyzed in Götterdämmerung, Act I, 15 (12.61 per cent) are classified as MmmPll chords. In Figure 82, measure 176, a MmmPll chord appears in root position, and is labeled as a VI11 chord in a G-major tonality. However, due to the melodic sequence observed in measures 175 through 178 of Figure 82, the VI11 chord is not functioning as a secondary dominant in measure 176, and is classified as tonally unstable. The perfect eleventh interval (A-natural) above the root (E-natural) of the VI11 chord receives two contrapuntal treatments: as a chord tone (prepared as a suspension and irregularly resolved by leap), and as an appoggiatura. Both resolutions occur before a change of chord.
On the second half of beat three of measure 176, a MmMPl1 chord appears in root position, and is labeled as a VI\textsuperscript{11} chord in a G-major tonality. The perfect eleventh interval (A-natural) above the root (E-natural) of the VI\textsuperscript{11} chord also receives two contrapuntal treatments: as an accented passing tone, and as an escape tone. However, both of these resolutions occur with a change of chord. As in Figure 81, Wagner again resolves the chromatically altered minor ninth interval to the diatonic major ninth, before resolving the perfect eleventh chord in Figure 82.

![Fig. 82--MmMPl1 and MmMPl1 chords, Götterdämmerung, Act I, scene 2.](image)

The Perfect and Augmented Eleventh Chords and Intervals Combined in Götterdämmerung, Act I

In Figure 83, measure 341, a MmMAll chord is shown in root position, and is classified as a V\textsuperscript{11} chord in an E-flat
major tonality. This MmMAll chord, which appears on the second half of beat four in measure 341, is superimposed on a MmMP11 chord, which sounds for all four beats of measure 341. The augmented eleventh interval (E-natural) above the root (B-flat) of the V chord is treated as a chord tone (approached and resolved by leap), while the perfect eleventh interval (E-flat) above the root (B-flat) of the MmMP11 chord (V11) is treated as an appoggiatura.

![Musical notation image]

Fig. 83—MmMAll, MmMP11 chords, Götterdämmerung, Act I, prelude.

The Major and Minor Thirteenth Chords in Die Walküre, Act I

In Figure 84, measures 114 through 119, a melodic sequence, and with some modification, a harmonic sequence is observed. In measure 115, a Mm()M13 chord appears in root position, and is classified as a V13 chord in a C-major
tonality. In measures 117 and 119, two $\text{Mm()()ml3}$ chords appear in root position, and are labeled respectively, as a $\#\text{IV}^{13}$ chord and as an $\text{III}^{13}$ chord in a C-major tonality. The $\#\text{IV}^{13}$ chord in measure 117 is one of three tonally unstable chords found in Die Walküre, Act I. The $\text{III}^{13}$ chord in measure 119 is the only secondary dominant minor thirteenth chord analyzed in Die Walküre, Act I (Table XII, column 1).

Fig. 84--Mm()()M13, Mm()()ml3 chords, Die Walküre, Act I, scene 3.

The major thirteenth interval (E-natural) above the root (G-natural) of the $\text{V}^{13}$ in measure 115 is treated as a
suspension, and is resolved before a change of chord. This contrapuntal treatment also applies to the two minor thirteenth intervals (D-natural and C-natural) above the roots (F-sharp and E-natural) of their respective #IV-13 and III-13 chords (measures 117 and 119).

Linear Derivations of Ninth, Eleventh, and Thirteenth Chords in Götterdämmerung, Act I

Wagner's use of melodic motives, which in turn produce many varieties of ninth, eleventh and thirteenth chord structures, is a unique characteristic of Götterdämmerung, Act I. In Figure 85, a sequential melodic motive is introduced over a dominant pedal point (C-natural) in an F-major tonality. The following chord structures appear as a result of the angularity of this motive:

1. MmM9 chord in second inversion (II9), measures 688 through 691.
2. Mmm9 chord in second inversion (II-9), measure 691.
3. Mmm()M13 chord in second inversion (II-9), measure 691.
4. Mm()All chord in second inversion (II11), measure 693.
5. Mm()()M13 chord in second inversion (II13), measures 694 and 695.
Fig. 85—MmM9, Mmm9, Mmm()M13, Mm()A11, Mm()()M13, Mm()P11 chords, Götterdämmerung, Act I, prelude.
6. Mm()Pll chord in third inversion (II\textsuperscript{ll}), measures 696 and 697.

It is observed that all of the ninth, eleventh, and thirteenth chord structures analyzed in Figure 85 are either in second or third inversion. They have all been classified as secondary dominant chords (II) in the F-major tonality. The only secondary dominant augmented eleventh chord found in Götterdämmerung, Act I is shown in Figure 85 (Table IX). The two major thirteenth chords appearing in Figure 85 represent 66.66 per cent of all the secondary dominant major thirteenth chords found in Götterdämmerung, Act I (Table XI).

All of the ninth, eleventh, and thirteenth intervals analyzed in Figure 85 appear over the same chord root (G-natural). Concerning the contrapuntal treatments of these intervals, the major ninth interval (A-natural) in measures 688 through 691 is an unprepared chord tone and resolves stepwise to the minor ninth interval (A-flat), which in turn is treated as an escape tone. The major thirteenth intervals (both E-naturals) are treated respectively as a chord tone (approached and left by leap) in measure 691, and as an appoggiatura in measures 694 and 695. The treatment of the major thirteenth interval as a chord tone in Götterdämmerung, Act I accounts for 15.79 per cent of the total major
thirteenth intervals analyzed. In non-harmonic treatments of the major thirteenth interval, the appoggiatura is the most frequently employed in Götterdämmerung, Act I (Table X).

In Figure 85, measure 693, the augmented eleventh interval (C-sharp) is treated as a chord tone (approached and left by leap). This treatment is accorded five of the fourteen augmented eleventh intervals found in Götterdämmerung, Act I (Table IX). The perfect eleventh interval (C-natural) in measures 696 and 697 is treated as one of seventeen appoggiaturas analyzed in Götterdämmerung, Act I (Table VII, column 2). All of the ninth, eleventh, and thirteenth intervals appearing in Figure 85 are resolved before a change of chord.

**Exhibit Two**

In Figure 86, measure 342, a melodic motive is introduced on the major third interval (D-natural) of a $Mm(\text{I})M13$ chord ($V13$) in an E-flat major tonality. As a result of the linear character of this motive, a $MmM9$ chord ($V9$) also appears in measures 342 and 343. This same motive is also introduced on other scale degrees, forming additional varieties of ninth, eleventh, and thirteenth chords of dominant, secondary dominant, or non-dominant quality.
1. Chapter III, Figure 34: motive begins on chord root and Mmm9, mmMPll chords result.

2. Chapter IV, Figure 47: motive begins on diminished fifth interval above the root and dd()Pll chord results; motive begins on minor seventh interval above the root and MmM9, MmMPll chords result.

3. Chapter V, Figure 56: motive begins on major ninth interval above the root and MmMPll, MmMAll, MmM()M13 chords result.

4. Chapter IV, Figure 52: motive begins on perfect eleventh above the root and MmMPll chord results.

\[
\begin{align*}
\text{Eb: } \text{V}^3 & \quad \text{V}^9
\end{align*}
\]

Fig. 86—Mm()()M13, MmM9 chords, Götterdämmerung, Act I, prelude.
Rhythmic Duration of Ninth, Eleventh, and Thirteenth Intervals as Non-Harmonic Tones in Die Walküre, Act I and Götterdämmerung, Act I

Uleha (2, p. 45) states that "most non-harmonic tones are equal in time value or shorter than their tones of resolution. The exception may be the appoggiatura . . . ." Exceptions virtually become the rule in Wagner's non-harmonic contrapuntal treatments of ninth, eleventh, and thirteenth intervals. In Die Walküre, Act I, not only the appoggiatura (Figure 66), but also the suspension and neighboring tone (Figures 37 and 27) are frequently of longer rhythmic duration than their tones of resolution. This type of non-harmonic treatment of ninth, eleventh, and thirteenth intervals is greatly increased in Götterdämmerung, Act I, with the addition of the passing tone, changing tone, and pedal point to the list of "exceptional" usages (Figures 29, 19, 23, 17, 53, and 24).

Rhythmic Duration of Ninth, Eleventh, and Thirteenth Intervals as Chord Tones in Die Walküre, Act I and Götterdämmerung, Act I

In contrast to the frequent long rhythmic durations of ninth, eleventh, and thirteenth intervals as non-harmonic tones, their contrapuntal treatment as chord tones is primarily
the reverse. In *Die Walküre*, Act I, the contrapuntal treatment of minor ninth and minor thirteenth intervals as chord tones is often equal in time value to their tones of resolution (Figures 26 and 71), although the chord tone treatment of major ninth intervals is frequently of longer rhythmic duration than their tones of resolution (Figure 1). In *Götterdämmerung*, Act I, while the chord tone treatment of the minor thirteenth interval (Figure 79) is similar to that of the major ninth interval in *Die Walküre*, Act I, the major and minor ninth, perfect eleventh, and major thirteenth intervals often receive chord tone treatment of equal or shorter rhythmic duration than their tones of resolution (Figures 10, 30, 48, and 62).


Ottman (3, pp. 208 and 217) states that

The principle of chord construction by the addition of thirds can be continued past the triad and the seventh chord to include the ninth chord, the eleventh chord, and the thirteenth chord . . . .

Chords of the eleventh containing a ninth, and chords of the thirteenth containing an additional ninth or eleventh, are comparatively rare. Most vertical sonorities containing an eleventh or thirteenth above the bass will prove to be simply a triad or seventh chord above which is a non-harmonic tone . . . .
The chordal status of ninth, eleventh, and thirteenth intervals is considered by Uleha (2, pp. 46-7):

The duration of this tone within the vertical sound must be long enough for the listener to identify the complete upward tertial ladder of chord members. Upon hearing this complete chord, all members deserve recognition, even though a resolution to a simpler chord may also take place, on a comparatively short rhythmic value.

Even when considering the factors of contrapuntal treatment and rhythmic duration of ninth, eleventh, and thirteenth intervals, an analysis problem arises in determining the boundary of what is, or is not a ninth, eleventh, or thirteenth chord. For example, in *Die Walküre*, Act I, a minor ninth interval of a Mmm9 chord is treated as a chord tone of short rhythmic duration (Figure 26), and in *Götterdämmerung*, Act I, a minor ninth interval of a Mmm9 chord is treated as a non-harmonic tone of long rhythmic duration (Figure 23). Although both of these minor ninth intervals are resolved before a change of chord, the chord tone treatment of the minor ninth interval in Figure 26 sounds for a much shorter duration within its chord structure than does the non-harmonic treatment accorded the minor ninth interval in Figure 23. Similar comparisons with MmmPl1 and Mmm()ml3 chords and intervals are illustrated in Figures 37 and 71 (*Die Walküre*, Act I), and in Figures 82 and 74 (*Götterdämmerung*, Act I).
Piston (4, p. 262), in discussing the final stage in the evolution of a chord in which the ninth, eleventh, or thirteenth interval is contrapuntally unresolved, states that it is "essential . . . that the character of these higher factors, as contrapuntal tones whose resolution is not sounded but implied, be recognized." Dual contrapuntal treatments of the same interval in the same chord, where non-harmonic and/or chord tone treatments are combined, is a unique characteristic of *Götterdämmerung*, Act I.

In Figure 13, Wagner treats a major ninth interval as an appoggiatura (prepared and resolved), and a chord tone (prepared as an appoggiatura and irregularly resolved by leap); in Figure 50, a perfect eleventh interval is treated simultaneously as a suspension (prepared and resolved), and as a chord tone (prepared as a suspension and irregularly resolved by leap); in Figure 79, Wagner treats a minor thirteenth interval as a chord tone (prepared as a suspension and irregularly resolved by leap).

The evolutionary stages of ninth, eleventh, and thirteenth intervals, in progressing from non-harmonic tones to chord tones, appear to be as follows:
1. Ninth, eleventh, or thirteenth interval treated contrapuntally as a non-harmonic tone.

2. Ninth, eleventh, or thirteenth interval prepared as a non-harmonic tone and irregularly resolved.

3. Ninth, eleventh, or thirteenth interval unprepared and/or unresolved or irregularly resolved (chord tone).
CHAPTER BIBLIOGRAPHY


CHAPTER IX

CONCLUSIONS

Considering the time span of more than twenty years from the start of Die Walküre until the completion of Götterdämmerung, several distinct similarities and differences in Wagner's use of ninth, eleventh, and thirteenth chords and intervals become quite apparent. In appraising all three divisions of ninth, eleventh, and thirteenth chords and intervals, it is established that the total number of examples found in Götterdämmerung, Act I exceeds the total number found in Die Walküre, Act I by a ratio of at least two to one.

Ninth, Eleventh, and Thirteenth Chords in Die Walküre, Act I and Götterdämmerung Act I

The diversification of differing ninth, eleventh, and thirteenth chord structures in Götterdämmerung, Act I is much greater than in Die Walküre, Act I. In addition, the frequency of particular chord types is also at a wide variance in Götterdämmerung, Act I and Die Walküre, Act I (Table XIV).
TABLE XIV

FREQUENCY OF NINTH, ELEVENTH, AND THIRTEENTH CHORD TYPES

<table>
<thead>
<tr>
<th>Die Walküre</th>
<th>Most Frequent</th>
<th>Götterdämmerung</th>
<th>Most Frequent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act I (1)</td>
<td></td>
<td>Act I (2)</td>
<td></td>
</tr>
<tr>
<td>Major ninth chord type:</td>
<td>MmM9</td>
<td>Major ninth chord type:</td>
<td>MmM9</td>
</tr>
<tr>
<td>Minor ninth chord type:</td>
<td>Mmm9</td>
<td>Minor ninth chord type:</td>
<td>Mmm9</td>
</tr>
<tr>
<td>Augmented ninth chord type:</td>
<td>MmA9*</td>
<td>Augmented eleventh chord type:</td>
<td>MmA11</td>
</tr>
<tr>
<td>Perfect eleventh chord type:</td>
<td>Mm()P11</td>
<td>Perfect eleventh chord type:</td>
<td>MmP11</td>
</tr>
<tr>
<td>Augmented eleventh chord type:</td>
<td>Mm()A11*</td>
<td>Major thirteenth chord type:</td>
<td>MmM()M13</td>
</tr>
<tr>
<td>Major thirteenth chord type:</td>
<td>Mm()()M13</td>
<td>Minor thirteenth chord type:</td>
<td>Mm()()m13</td>
</tr>
<tr>
<td>Minor thirteenth chord type:</td>
<td>Mmm()m13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*One example only.

Although a minority of minor thirteenth chords are classified as tonally unstable in Die Walküre, Act I, all of the ninth, eleventh, and major thirteenth chords are considered to be tonally stable. In Götterdämmerung, Act I, a majority of all ninth, eleventh, and thirteenth chords are classified as tonally stable, with a minority of tonally unstable examples found in each division. The tonally stable
ninth, eleventh, and thirteenth chords in *Die Walküre*, Act I and *Götterdämmerung*, Act I function primarily as dominant (V) chords.

Next in frequency are the tonally stable ninth, eleventh, and thirteenth chords which function as secondary dominants. Of all the possible secondary dominant major ninth chords in *Die Walküre*, Act I and *Götterdämmerung*, Act I, the most frequent is built on the supertonic scale degree (II\textsuperscript{9}). Considering all of the secondary dominant minor ninth, eleventh, and major thirteenth chords analyzed in *Götterdämmerung*, Act I, the secondary dominant chord built on the supertonic degree is also the most frequent in each of these divisions (Table XV).

Several examples of tonally stable ninth and perfect eleventh chords which function as non-dominants occur only in *Götterdämmerung*, Act I, and are usually built on the supertonic degree (ii). One example of a dominant augmented ninth chord is found only in *Die Walküre*, Act I.

While the majority of ninth, eleventh, and thirteenth chords in *Die Walküre*, Act I and *Götterdämmerung*, Act I are found in root position, examples of ninth, eleventh, and major thirteenth chords in inversion appear in *Götterdämmerung*, Act I, and the minor ninth chord is found in inversion in *Die Walküre*, Act I. The use of major ninth and minor thirteenth
TABLE XV

FREQUENCY OF SECONDARY DOMINANT NINTH, ELEVENTH, AND THIRTEENTH CHORDS

<table>
<thead>
<tr>
<th>Die Walküre, Act I (1)</th>
<th>Most Frequent</th>
<th>Götterdämmerung, Act I (2)</th>
<th>Most Frequent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary dominant major ninth chord:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary dominant minor ninth chord:</td>
<td>II</td>
<td>Secondary dominant major ninth chord:</td>
<td>II</td>
</tr>
<tr>
<td>Secondary dominant perfect eleventh chord:</td>
<td>VI</td>
<td>Secondary dominant perfect eleventh chord:</td>
<td>II</td>
</tr>
<tr>
<td>Secondary dominant augmented eleventh chord:</td>
<td>I</td>
<td>Secondary dominant augmented eleventh chord:</td>
<td>II</td>
</tr>
<tr>
<td>Secondary dominant major thirteenth chord:</td>
<td>VI*</td>
<td>Secondary dominant major thirteenth chord:</td>
<td>II</td>
</tr>
<tr>
<td>Secondary dominant minor thirteenth chord:</td>
<td>. . .</td>
<td>Secondary dominant minor thirteenth chord:</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*One example only.
chords in harmonic sequence is observed in Die Walküre, Act I, and Götterdämmerung, Act I. However, the use of the perfect eleventh chord in harmonic sequence is found only in Götterdämmerung, Act I.

Ninth, Eleventh, and Thirteenth Intervals in Die Walküre, Act I and Götterdämmerung, Act I

Concerning Wagner's contrapuntal treatments of ninth, eleventh, and thirteenth intervals, it is noted that while the non-harmonic treatments of the suspension, appogiatura, passing tone, neighboring tone, and anticipation are employed in Die Walküre, Act I and Götterdämmerung, Act I, the treatments of the escape tone, pedal point, and changing tone are restricted to Götterdämmerung, Act I. The major ninth interval is treated primarily as a chord tone in Die Walküre, Act I. Although the minor ninth and minor thirteenth intervals receive a minority of chord tone treatments in Die Walküre, Act I, the augmented ninth, perfect and augmented eleventh, and major thirteenth intervals are treated solely as non-harmonic tones. The minor ninth interval is treated equally as a chord tone and as a non-harmonic tone in Götterdämmerung, Act I, and the major ninth, perfect and augmented eleventh, and major and minor thirteenth intervals are treated most
frequently as non-harmonic tones, with a minority of chord tone treatments.

Most minor ninth intervals, and all major and augmented ninth, eleventh, and thirteenth intervals in *Die Walküre*, Act I are resolved before a change of chord. In *Götterdämmerung*, Act I, most ninth, eleventh, and thirteenth intervals are similarly resolved, with a minority of resolutions occurring with or after a change of chord.

Since Wagner has generally reversed the factor of rhythmic duration concerning the non-harmonic tones and chord tones, vertical identification of the ninth, eleventh, and thirteenth chord structures in *Die Walküre*, Act I and *Götterdämmerung*, Act I becomes an ambiguous process. Although the ninth intervals are treated in a similar manner in *Die Walküre*, Act I and *Götterdämmerung*, Act I, the gradual emancipation of the eleventh and thirteenth intervals, from their status as non-harmonic tones to chord tones, is quite evident in *Götterdämmerung*, Act I.

Melodic sequence, in which the major and minor ninth, perfect eleventh, and minor thirteenth intervals are involved, is found in *Die Walküre*, Act I. The use of melodic sequence in *Götterdämmerung*, Act I involves the major ninth, perfect
and augmented eleventh, and major and minor thirteenth intervals.

In his use of the ninth, eleventh, and thirteenth intervals in *Die Walküre*, Act I and *Götterdämmerung*, Act I, Wagner has clearly shown the immense variety of vertical chord structures that may be created through linear activity. In spite of the increasing tonal instability, particularly in *Götterdämmerung*, Act I, Wagner maintains his perspective of tonality by demonstrating the continuing logic of traditional harmony at its extreme extension.

In summary, the major differences in Wagner's use of ninth, eleventh, and thirteenth chords and intervals are due to a gradual evolvement in certain factors of style, which is begun in *Die Walküre*, Act I and continued through *Götterdämmerung*, Act I. The principle changes in style from *Die Walküre*, Act I to *Götterdämmerung*, Act I are as follows:

A. Chordal

1. Greater diversification of chord structures.

2. Increased tonal instability.

3. Increased use of the secondary dominant chord built on the supertonic scale degree (II).

4. Greater frequency of inversion.
B. Contrapuntal

1. Increased treatments as chord tones.

2. Greater number of resolutions occurring with or after a change of chord.

3. Increased use of long rhythmic duration of non-harmonic tones and short rhythmic duration of chord tones.

4. Increased use in melodic sequence.
GENERAL BIBLIOGRAPHY


Music

