Time–Pitch Isomorphisms in *Die Walküre*

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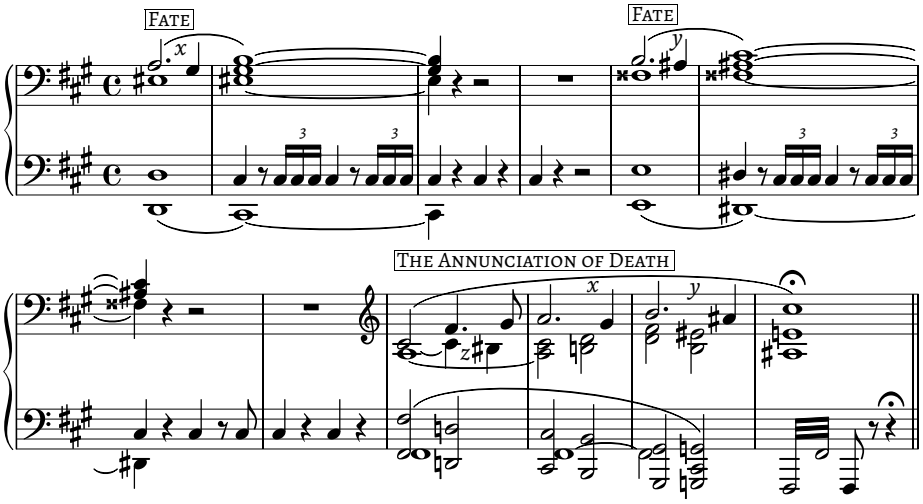
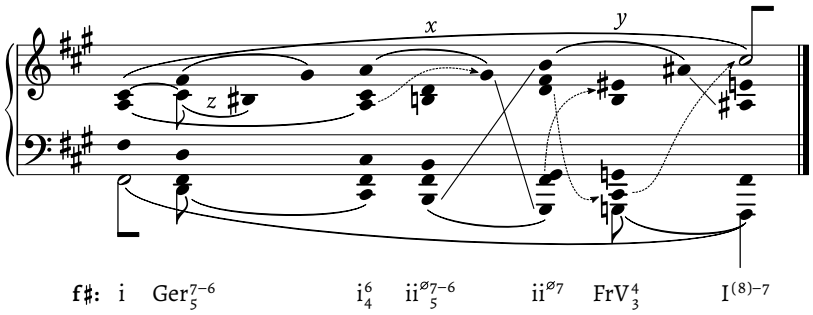
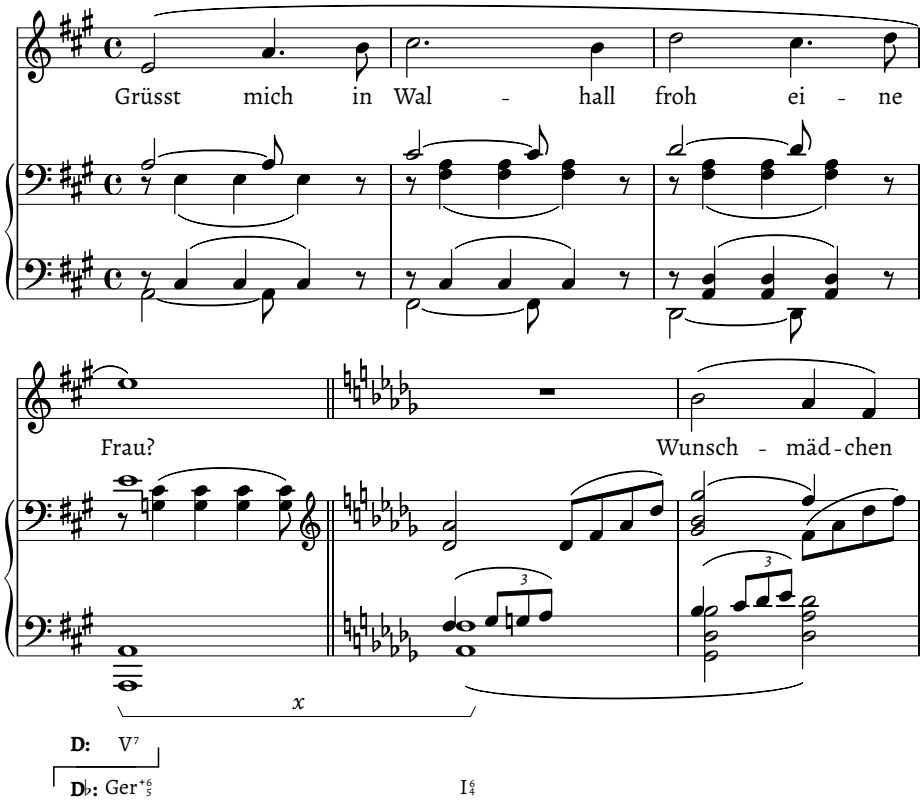


Example 1: Opening of Act II, Scene 4, 152/4/1–152/5/6 (mm. 1462–1473)

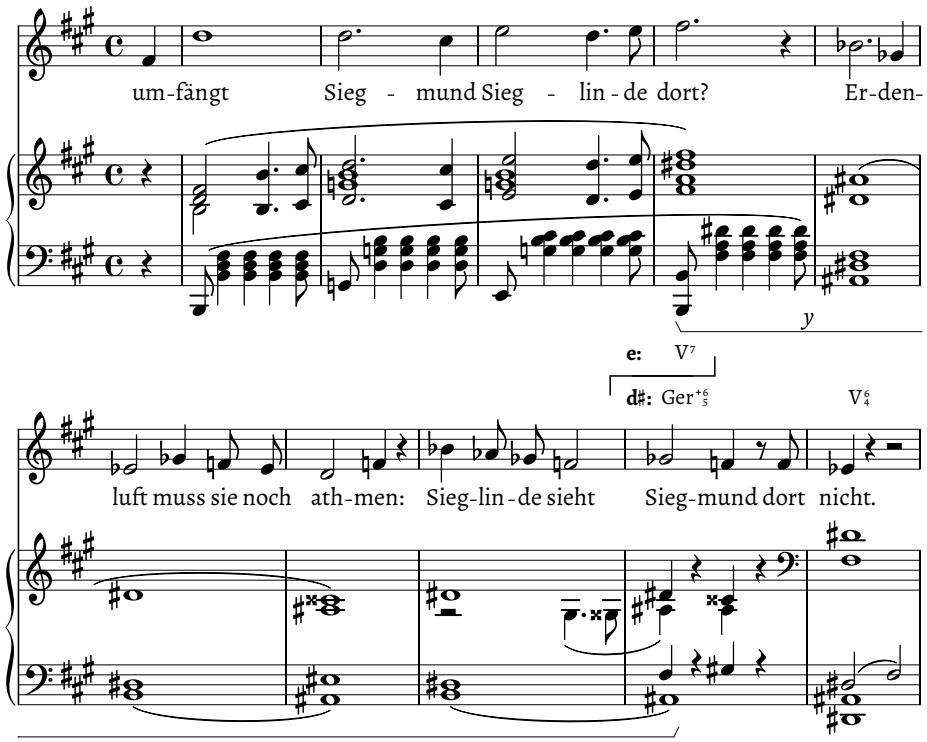
*The paper, handout, and slideshow are all available at https://www.sambivens.com/research. Please include a direct link when citing this paper; a sample is given in the bibliography. Measure numbers are in reference to the widely available Schirmer vocal score, arranged by Karl Klindworth, in the format page/system/measure. Thus 152/4/1 indicates the first measure on the fourth system of page 152.



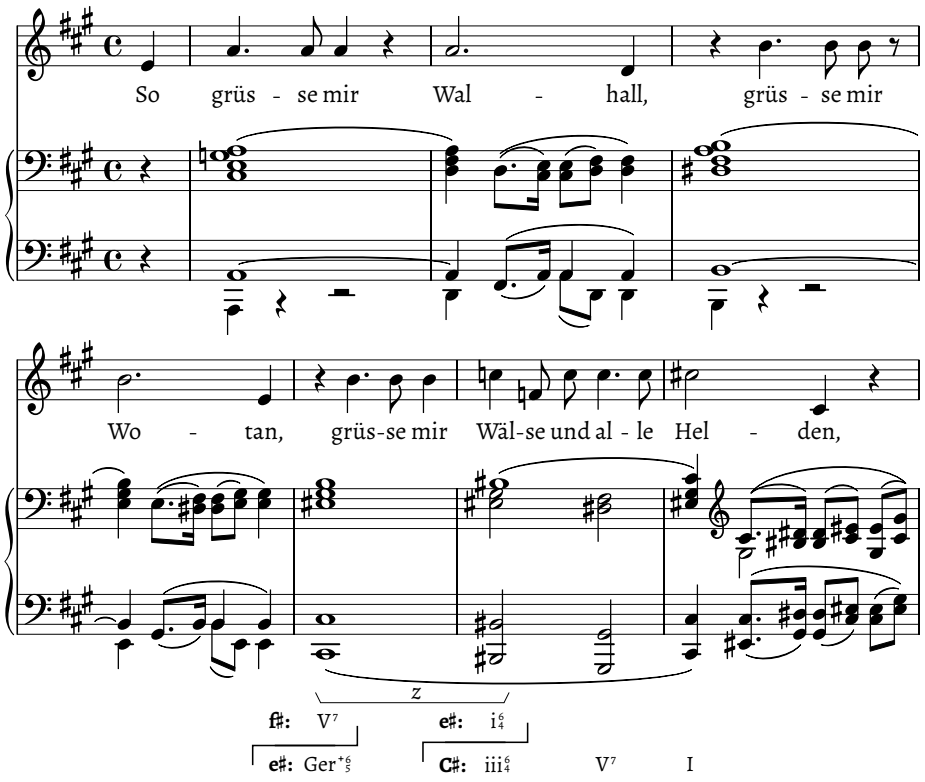
Example 2: Voice-leading reduction of the initial Annunciation of Death *Leitmotiv*, 152/5/3–152/5/6 (mm. 1470–1473)



Example 3: First enharmonic reinterpretation of V^7, 156/4/3–157/1/2 (mm. 1561–1566)



EXAMPLE 4: Second enharmonic reinterpretation of V^7, 158/1/3–158/3/1 (mm. 1591–1600)



EXAMPLE 5: Third enharmonic reinterpretation of V^7, 158/4/2–158/5/2 (mm. 1607–1613)

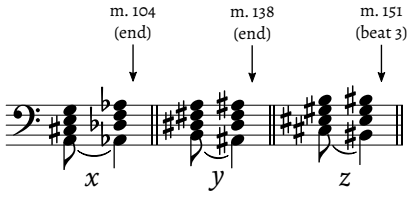


FIGURE 1: Bassline motivic parallelism with enharmonic dominant seventh resolutions

Point	Schirmer Measure	Calibrated Measure	Libretto Text	Time Point
p	Beginning of 152/4/1	Beginning of m. 1	n/a	0
x	End of 157/1/1	End of m. 104	**Wunsch**mädchen	104
y	End of 158/2/5	End of m. 138	Siegmund dort **nicht.**	138
z	Beat 3 of 158/5/1	Beat 3 of m. 151	Wälse und **al**le	150.5
q	End of 159/1/1	End of m. 156	zu **ih**nen	156

TABLE 1: Outer boundaries (*p* and *q*) and completed motivic parallelism appearances (*x*, *y*, and *z*) matched with measure numbers and the libretto

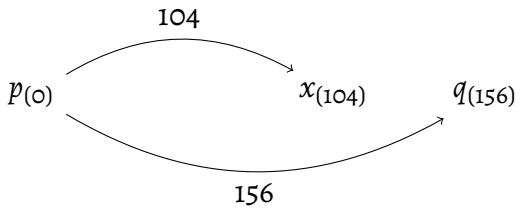


FIGURE 2: Conceptual-time network relating time-points p, x, and q

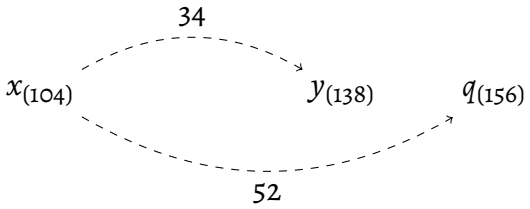


FIGURE 3: Conceptual-time network relating time-points x, y, and q

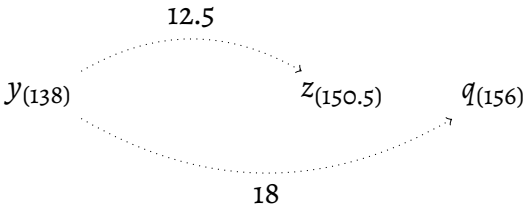


FIGURE 4: Conceptual-time network relating time-points y, z, and q

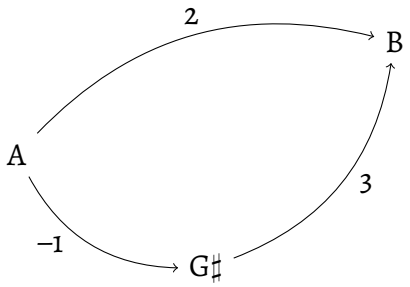


FIGURE 5: Reproduction of Figure 8.7.b from Lewin (1987, 185)

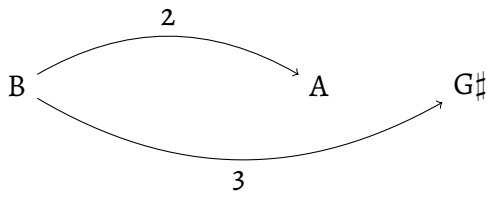
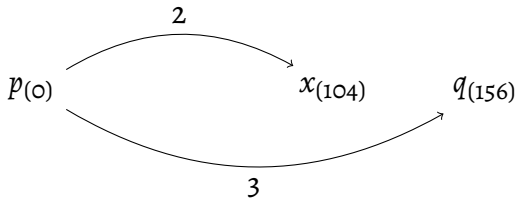
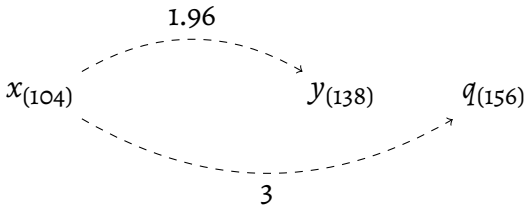


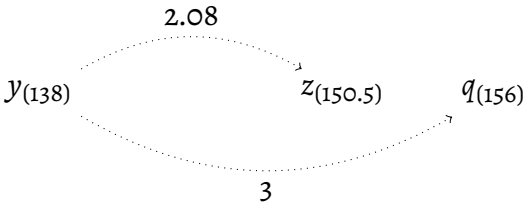
FIGURE 6: Revised network of Figure 5



(A) Revised Figure 2



(B) Revised Figure 3



(C) Revised Figure 4

FIGURE 7: Revised networks of Figures 2–4

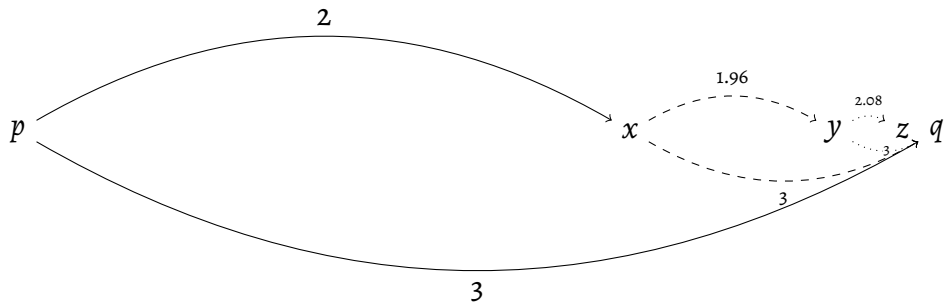


FIGURE 8: Nested conceptual-time networks in mm. 1462–1617 (some labels omitted for clarity)

Point	Schirmer Measure	Calibrated Measure	Libretto Text	Time Point
a	Beginning of 172/5/1	Beginning of m. 1	n/a	0
b	Beginning of 175/4/1	Beginning of m. 66	n/a	247
c	Beginning of 177/1/3	Beginning of m. 94	**Weh**walt!	359
d	Beginning of 180/3/4	Beginning of m. 144	n/a	554
e	Beat 2 of 183/5/4	Beat 2 of m. 213	n/a	831

TABLE 2: Outer boundaries (*a* and *e*) and select dramatic events (*b*, *c*, and *d*) of Act II, Scene 5

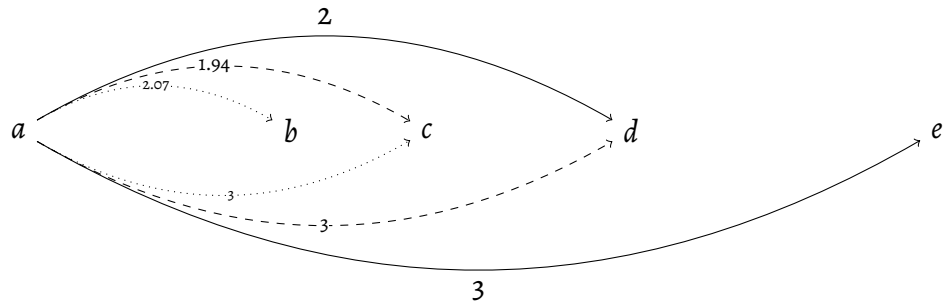
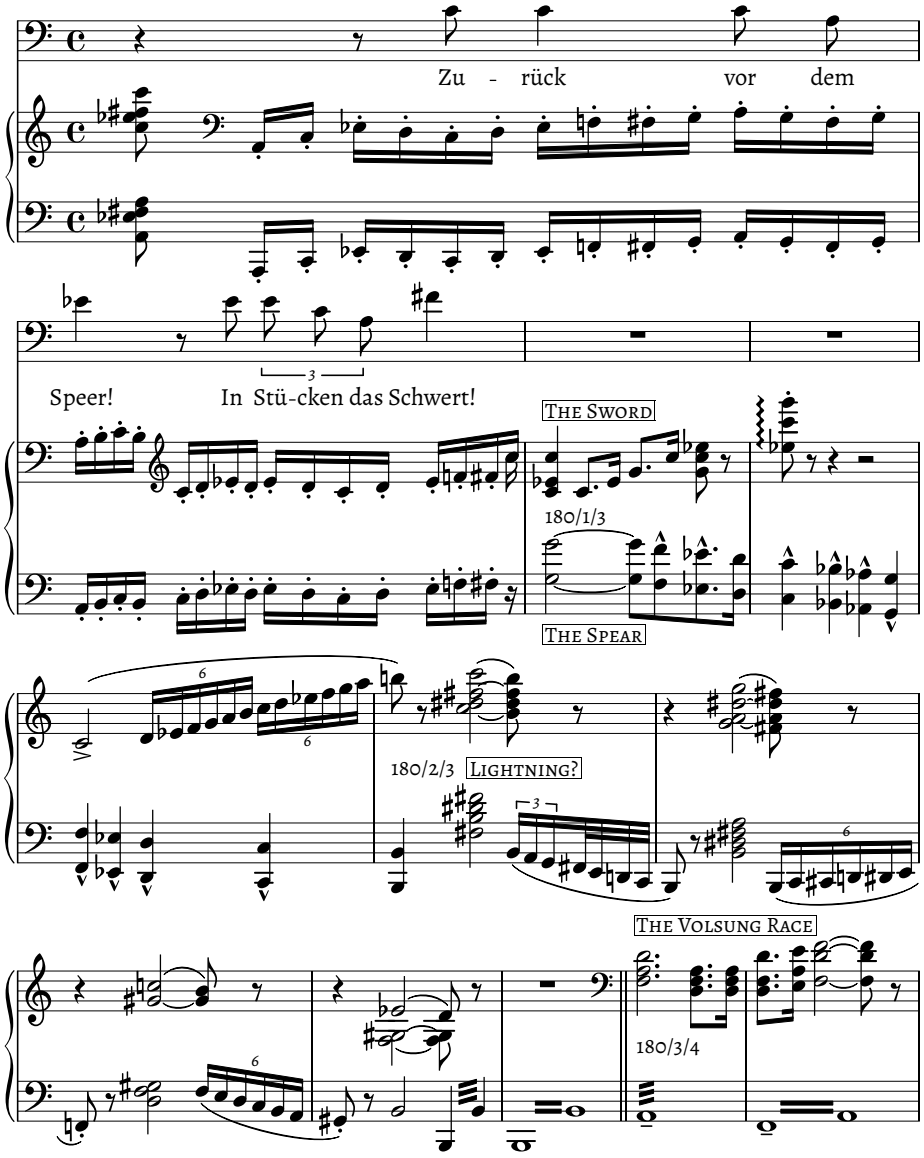


FIGURE 9: Nested conceptual-time networks in Act II, Scene 5 (some labels omitted for clarity)



Example 6: Siegmund's death, 180/1/1–180/4/1 (mm. 1986–1997)

Producer	Conductor	Orchestra	Year	Moment of Death
Patrice Chéreau	Pierre Boulez	Bayreuth	1980	ca. 181/5/1 (m. 2023)
Nikolaus Lehnhoff	Wolfgang Sawallisch	Bavarian State Opera	1989	ca. 181/3/2 (m. 2014)
Otto Schenk	James Levine	Metropolitan Opera	1989	ca. 180/3/1 (m. 1993)
Harry Kupfer	Daniel Barenboim	Bayreuth	1992	180/3/4 (m. 1996)
Robert Lepage	James Levine	Metropolitan Opera	2011	181/5/1 (m. 2023)
Frank Castorf	Marek Janowski	Bayreuth	2016	ca. 180/4/2 (m. 1998)

Table 3: Interpretations of Siegmund's death in six productions

Point	Ratio (to 3)	Difference (from 3)	Fuzziness
Act II, Scene 4			
p	n/a	n/a	
x	**2**	**0**	
y	1.96	0.04	increasing ↓
z	2.08	0.08	
q	n/a	n/a	
Act II, Scene 5			
a	n/a	n/a	
b	2.07	0.07	
c	1.94	0.06	decreasing ↓
d	**2**	**0**	
e	n/a	n/a	

Table 4: Changes in conceptual-network fuzziness in Scenes 4 and 5

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