J.S. Bach’s Prelude in a minor, *WTC II* (BWV 889)
An Extension to Cohn’s *Voice-Leading Zone Analysis*

Cohn’s *Audacious Euphony* (2012) provides a definitive summary of the current state of neo-Riemannian theory, and provides a few developments to the analytical practice.\(^1\) Though issues of dualism, syntax, and unification arise,\(^2\) Cohn convincingly employs many voice-leading tools to identify underlying hexatonic cycles, Weitzmann regions, and transformations in a multitude of nineteenth-century chromatic passages. In an elegant step, Cohn advances a slightly annotated version of Douthett’s “Cube Dance” to display *voice-leading zones* (*VLZ*), merging previous ideas of triad equivalency and their transformations in a simple visual display.\(^3\) Moves between two adjacent zones necessitate a single hexatonic transformation (*L*, *P*, or *H*), and a move from a triad to another two zones away requires a single Weitzmann transformation (*R*, *N*, or *S*).

Cohn chooses to employ this new technology on a curious example that displays “triadic disjunction”: a two-measure excerpt from Bach’s Prelude no. 20 in a minor from *The Well-Tempered Clavier*, II (BWV 889). I was initially intrigued by the choice for two reasons. First, this lone Baroque composition, situated just above four measures of Wagner’s *Parsifal*, seems out of place in a section that engages with “one of the central tropes of Romantic aesthetics” in a

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\(^2\) Cohn addresses attacks of “dualism” on pages 37-39 and engages with multiple syntaxes in his final chapter.

\(^3\) Cohn is very careful to spell out what “equivalence” is in this case. He simply means that those triads that share a voice leading zone “can freely substitute for each other in the fulfillment of a voice-leading trajectory.” (102) He also explains that the difference between two zones will represent the voice-leading distance between the two (except when a hexatonic pole is involved.) See Douthett and Steinbach (1998) for the original introduction of the Cube Dance.
book that is concerned primarily with nineteenth-century harmonic practices. Second, I have always found this particular prelude fascinating in its severe chromaticism. After summarizing Cohn’s analysis, I will expand on it to gain a bit more insight into the beginning of the piece.

Cohn’s Figure 5.24. The twelve voice-leading zones. (p. 104)

Cohn first determines the harmony (and thus the VLZ, represented by an underlined number below the score) in each eighth-note beat. Fortunately, each one is a consonant triad, and he is able to map the VLZs quite easily. Cohn notes the diametrically-opposed triads combined with their hexatonic poles (8,7 across from 2,1; 5,4 from 11,10). The result is a journey through all VLZs (besides the augmented triads of 0, 3, 6, and 9).

Cohn’s Figure 5.25, measures 8-9 of BWV 889. (p. 107)

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4 Cohn, Audacious Euphony, 106.
5 Also of importance is the chromatic saturation in each measure, a natural outcome of using four triads with no pitch-class overlap.
The order of the first four chords (1\-8\-7\-2) justifies Cohn’s selection of the Bach; this “four chord complex became a trope of disjunction” for later composers.\(^6\) But the musical context suggests a coherent unit of a full measure, not of an extracted four-chord section. The last beat and a half of measures 8 and 9 may not introduce any new VLZs, but they do provide some bit of tonal resolution. Also, Cohn has left me wondering if this is the only two measure phrase of the Prelude that exhibits hexatonic pole transformations or zone-diametric triads. Since the movement is highly fugal, perhaps Cohn figured these properties would hold true for other thematic statements and combinations. I decided to investigate the music leading up to this moment to determine if these properties develop from something prior or if they are inherent within the chromatic theme itself.\(^7\)

I have copied the first six measures of the prelude in Figure 1 below. A problem surfaces almost immediately. On the fourth eighth-note beat of measure 1, a diminished triad is spelled (G\(^\#\), B\(^\flat\), E). These pop up frequently over the first few measures, and are not readily slotted into VLZs.\(^8\) In order to conform to Cohn’s consonant-triadic universe, I’ll take a few liberties in my reading of the harmonies and diminutions. For the diminished triad mentioned above, I understand the B\(^\flat\) of the “alto” to be passing, a composing-out of the voice leading between the B and the A of that voice. The result is a move from E\(^+\) to e\(-\) in this beat, a P transformation realized in the bass from VLZ 11 to 10. Similarly, the G\(#\) in in the “alto” above the F\(#\) in the bass in measure 1 can be understood as a neighbor note, with another P move from D\(^+\) to d\(-\).

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\(^6\) Cohn, *Audacious Euphony*, 108.

\(^7\) Perhaps similar investigations into VLZs could shed light onto Schoenberg’s ideas of *developing variation* and *unraveling* in tonal music as well, even though he couched these is motivic rather than harmonic terms.

\(^8\) Julian Hook (2002) and Tymoczko (2012), following prior work, both seek to build models to explain voice leading between major-minor and half-diminished seventh chords. Though well beyond the scope of this essay, their ideas might help explain the role of the diminished triads in examples like the Bach under discussion.
In addition to my compensation for diminished triads, I have included a few parenthetical $VLZ$ interpretations below the score. In each case, the harmony literally present over the eighth-note bass, given in parentheses (the $g^\#$ on the third eighth-note of measure 1 for instance), is actually a composing out of a diminution (the $C^\#$ as lower neighbor to D in the “soprano”) in a manner similar to my understanding of the diminished chords. Though this may seem a brash assumption, it allows for an easy comparison of $VLZ$ motion to Cohn’s analysis of measures 8-9. The result is another pair of diametric zone pairs (11, 10; 5,4), with zone adjacencies traversed by $P$ transformations instead of the $H$ operations that Cohn found in measures 8 and 9.\(^9\)

This very brief look into the first few measures confirms that diametric $VLZ$s play at least some role in the composition more generally. Additionally, the transformation between $VLZ$ adjacencies might help describe the qualitative function of a given statement of the fugal theme presented in the opening, measure 4, and measures 8 and 9. As Rings points out in his analysis of

\(^9\) The chromatic saturation found in measures 8 and 9 is only fulfilled with the diminutions that I chose to ignore. Also of note is that the material from measure 1 is transposed up by a fifth ($T_7$) in measure 4, the same transposition level that transformed measure 8 into measure 9, allowing the two iterations of the “trope of disjunction” to traverse each $VLZ$. 

Figure 1. The first 6 measures from Bach’s BWV 889.
Schubert’s G♭ Impromptu, neo-Riemannian analysis often takes the more remarkable fabrics of tonal tapestries as its launching point, but only to show their coherence. “One thus begins to wonder,” he contemplates, “what the relationship is between the sound and the analysis. Is the ‘coherence’ that the method detects responsible for what it is that makes these disorienting passages so aurally captivating?”

Rings uses a fusion of neo- and “paleo”-Riemannian techniques and introduces a qualitative dark/bright axis to a Tonnetz in an attempt to answer the question. Perhaps a further investigation into the chromatic anxiety and relative tonal-stability of the Bach example could reveal a similar “perceptual” axis in the contrapuntal contexts of Cohn’s prototypical “trope of disjunction.” Even if not, the VLZ clock seems to be a very useful and coherent way of understanding voice leading work and transformations of chromatic passages.

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