Counterpoint of Lines or Voices

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From the very beginning of the development of counterpoint, one of its essential aspects has been the hierarchy of structural levels. In the theory of counterpoint, this becomes evident when comparing "first-species" counterpoint (*punctus contra punctum*) with second- to fifth-species ("diminished") counterpoint. Whereas first-species counterpoint is restricted to consonances, "diminished" counterpoint contains both consonances and dissonances. The latter, known as passing or neighboring tones, suspensions etc., are subordinate to consonances and represent lower levels of the contrapuntal structure, unlike consonances representing higher ones.

In particular, it is Schenkerian analysis – the analytical method created by Heinrich Schenker (1868–1935) – that arranges all the structural elements of a theme or a composition, from the lowest level of detail through the highest level of an entire work, into a hierarchy of structural levels. In this hierarchy, certain typical high-level structures are projected onto lower levels.

Although technically Schenkerian analysis seems to be a method of contrapuntal analysis, it aims to be something much more – the theory of (tonal) music *per se*. However, as an analytical theory of harmonic counterpoint it is not quite satisfactory. In what follows, critical attention will be concentrated on the Schenkerian concept of the *Urlinie* and of "line" in general. Then an alternative method of contrapuntal analysis will be proposed and exemplified by the contrapuntal analysis of the second movement of Mozart's Piano Sonata in D major, K. 576. In conclusion, some related topics of analytical theory will be discussed.

1. Lines or Voices?

1.1. Problems of the $\hat{5}$-Line

In the concluding chapter of his large monograph about Heinrich Schenker's "project", Nicholas Cook claims that "there can be no such thing as Schenkerian analysis, because there is no discovery procedure for the *Urlinie*" (Cook 2007: 294).[1] Obviously it is not easy to follow Schenker's own way to discover the *Urlinie*, described by him as follows: "Every religious experience and all of philosophy and science strive towards the shortest formula; a similar urge drove me to conceive of a musical work only from the kernel of the *Ursatz* as the first composing-out of the tonic triad (tonality); I apprehended the *Urlinie*, I did not *calculate* it" (Schenker 1994: 18–19). Ironically, had he "calculated" it, perhaps he would have avoided some of the contradictions inherent in the concept of *Urlinie* and *Ursatz*.

The "real existence" of the *Ursatz* is somewhat similar to Hugo Riemann's notorious "objective existence of undertones."[2] According to Carl Dahlhaus, the *Ursatz* is a "hypothetical explanation of *Fernhören*, rather than its manifest perceptional content (*Wahrnehmungsinhalt*)" (Dahlhaus 1983: 86).

As we know, the *Urlinie* (fundamental line) constitutes the upper part of the two-part *Ursatz* (fundamental structure) – Schenker's model of the high-level (or background) structure, – the lower part being the *Baßbrechung* (bass arpeggiation). Clearly it has never been difficult to discover the bass arpeggiation, nor has Schenker found anything mystical in it.[3]

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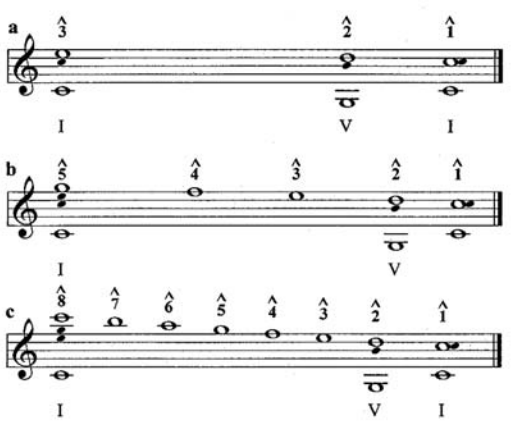
[1] The notion of discovery procedure is discussed in Keiler 1978, Jackendoff, Lerdahl 1979–80 and Keiler 1979.

[2] See Rehding 2003: 33.

[3] According to David Lewin, "it would not be frivolous to regard a I–V–I *Baßbrechung* of a Schenkerian *Ursatz* as Rameau's I–V and V–I root progressions, concatenated in historical time as a Hegelian *Einheit-Gegensatz* followed by a *Gegensatz-Aufhebung*" (Lewin 1978: 10, Note 9).

According to Schenker, the *Urlinie* has three forms: the "3̂-line" 3̂–1̂, "5̂-line" 5̂–1̂ and "8̂-line" or 8̂–1̂ (Example 1). The 5̂-line (as well as the 8̂-line, practically almost never used nowadays) is characterized by an *unsupported stretch* (*Leerlauf*).[4] According to Allen Cadwallader, "[A] 5̂-line may exhibit one of two possible unsupported stretches: 5̂–4̂–3̂ or 4̂–3̂–2̂ [...]" (Cadwallader 1992: 190).[5] Obviously, it is the former that Carl Schachter referred to as follows: "The analyst must keep in mind the possibility that the fundamental line might begin on 3̂ and that the line from 5̂ to 3̂ might be a prolongation belonging to a later level" (Schachter 1981: 125). In the case of the unsupported stretch 4̂–3̂–2̂, the *Urlinie* tones 4̂, 3̂ and 2̂ are usually supported by the pre-dominant, cadential six-four and dominant, respectively.[6]

Example 1. Schenker's three forms of the *Ursatz* from Brown 2005: 73.



Probably any theorist with some experience in Schenkerian analysis has worked out, some way or another, certain "discovery procedures" for the *Urline* or, for that matter, the *Ursatz*. Some years ago, taking, as the point of departure the principle that the deepest level of the contrapuntal structure consists only of the initial tonic, prolonged throughout the form and leading to the concluding cadence,[7] I proposed a procedure based on three *cadence paradigms* (Example 2).[8] Paradigms *a* and *b* (Examples 2a and 2b, respectively) are typical of the 3̂-line, paradigm *c* (Example 2c) – of the 5̂-line. Unlike the 3̂-line, always entirely involved in the cadence, the 5̂-line, when containing the unsupported stretch 5̂–4̂–3̂, is only partly – without its two upper tones (5̂ and 4̂) – involved in the cadence (usually constituting the Paradigm-*b* cadence).[9] In accordance with the aforementioned principle, these two upper tones, being part of the prolongation of the initial tonic, have a lower structural status than the last three tones, and, therefore, do not belong to the background level of structure.

In the case of the unsupported stretch 4̂–3̂–2̂, the situation is quite different: here the *Urlinie* is entirely involved in the cadence. However, the passing status of the cadential six-four, similar to that of the Paradigm-*a* cadence, makes this cadence as a *background* structure very problematic. According to Joel Lester, "a background structure (including a fundamental line) should contain melodic and harmonic interactions that are fully complementary – a melodic pitch qualifies for inclusion in a background structure not only because it is part of a descending line, but also because it is supported in a manner appropriate to a background pitch" (Lester 1992: 203). David Beach wrote in 1990: "On several occasions over

[4] "[T]he 4̂ is dissonant as it passes over the root. [...] In this context the first part of the fundamental line 5̂–4̂–3̂ has more the effect of a transiently filled space of a third; it is not quite like a linear progression of a third that is worked out with the help of a counterpointing bass progression. This creates a certain void, or unsupported stretch, at the very outset of the fundamental line of a fifth, and occasionally gives rise to the question whether the form of the fundamental structure is not actually 3̂–2̂–1̂." (Schenker 1979: 19–20).

[5] Allen Cadwallader, "More on Scale-degree Three and the Cadential Six-four" (*Journal of Music Theory* 36/1, 1992, 187–198), 190.

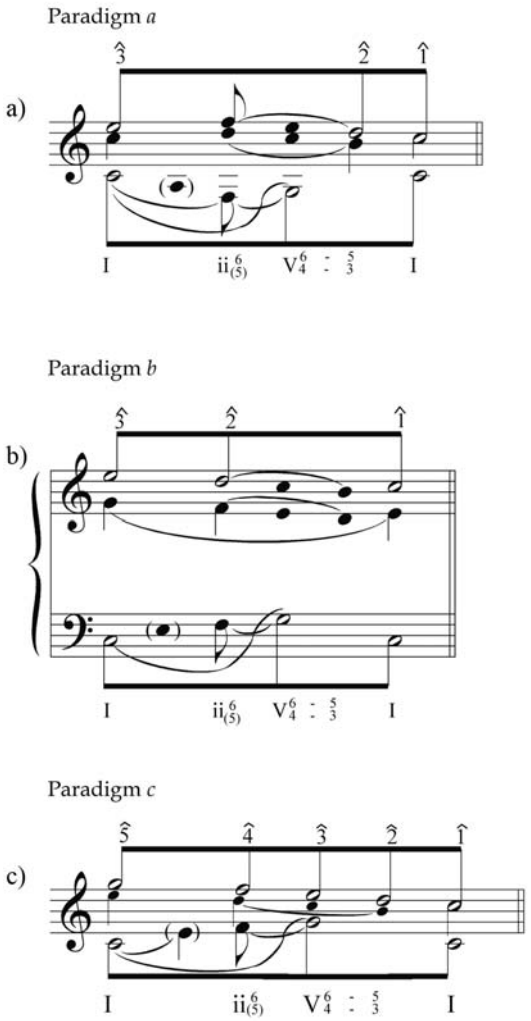
[6] See Schenker 1979, Figures 39.3 (= 120.6a); 76.3; 83.2; 87.3b; 87.5 (= 132.6); 88.4, Ex. b; 100.2b; 104.3; 119.9d; 121.1; 124.6a; 132.1; 136.4; 148.1; 149.1; 154.1.

[7] See Humal 2008: 95.

[8] Humal 2008: 95–96.

[9] See Schenker 1979, Figures 20.1–3; 40.8–9; 42.1; 48.1; 62.9; 73.2; 74.2; 76.3; 76.5; 103.6; 109b; 110a.1–2; 119.1; 119.11; 121.2; 128.6b; 135.2; 136.2; 154.3–4; 156.1.

Example 2. Three cadence paradigms from Humal 2008: 93.



the past few years [...] I have heard individuals make the rather startling statement in public that the only truly feasible descent of the fundamental line is from $\hat{3}$, the main reason being the "weak" support often given to scale degrees 4 and 3 in a descent from $\hat{5}$" (Beach 1990: 99, Note 2).

An examination of cadences in Mozart's piano sonatas shows that, in the case of the non-modulating Paradigm-*a* cadences, there is usually (at least in figuration) either a descending second $\hat{6}$–$\hat{5}$ above the second $\hat{4}$–$\hat{3}$ of the upper voice,[10] or at least one of its tones – either $\hat{6}$ above $\hat{4}$[11] or $\hat{5}$ above $\hat{3}$.[12] This fact suggests another interpretation of scale degree $\hat{5}$: it is essentially a cover tone, embellished by means of the upper-neighbor figure $\hat{5}$–$\hat{6}$–$\hat{5}$, with the last tone possibly transferred into an inner voice, rather than the *Kopfton* of a $\hat{5}$-line. This register transfer suggests that it is an inner, rather than the upper voice that is the "proper" place of this upper-neighbor figure.[13]

In addition to the "unsupported stretch," there are some other serious objections against the $\hat{5}$-line (or, for that matter, the Paradigm-*c* cadence).

1. In a typical perfect authentic cadence consisting of an initial tonic, a pre-dominant harmony, the dominant and the final tonic (Caplin 2004: 70–71), the pre-dominant harmony obviously belongs to a lower level of structure than the other chords. It functions on the *deep-middleground* rather than *background* level, as an element of the *prolonged* rather than *unprolonged* cadence; the latter consisting only of the three remaining chords. However, unlike cadences of Paradigms *a* and *b*, the Paradigm-*c* cadence cannot be reduced to its unprolonged form, without destroying the upper-voice line. To put it simply: this line contains too many notes.

[10] See K. 279, I, bars 9–10 and 11–12, III, bars 44–46; K. 280, II, bars 19–20; K. 181, I, bar 37, III, bars 65–66; K. 282, III, bars 29–30 and 33–34; K. 283, I, bar 42, II, bar 13; K. 284, I, bar 43, II, bar 16, III, bar 16; K. 309, III bar 130; K. 310, I, bars 33–34 and 44, II, bar 21; K. 331, III, bars 54–55; K. 332, II, bars 17–18; K. 457, I, bar 66, III, bars 6–7 and 14–15; K. 570, III, bars 55–56; K. 576, I, bars 39–40.

[11] See K. 279, I, bars 15–16; K. 181, II, bars 33–34 and 37–38, III, bars 3–4; K. 284, II, bar 8, III, bars 3–4; K. 309, II, bars 7–8 and 15; K. 310, II, bar 7; K. 311, II, bars 3–4 and 7–8, III, bars 47–48; K. 330, II, bar 35, III, bars 6–8; K. 331, I, bars 17–18, III, bars 22–23; K. 332, III, bars 3o–31, 63–64 and 72–73; K. 333, I, bar 37, II, bar 20; K. 457, II, bar 3; K. 545, II, bars 7–8; K. 570, II, bar 2; K. 576, I, bars 50–52.

[12] See K. 283, I bar 9, III, bar 71; K. 576, II, bar 38.

[13] In some analyses, $\hat{6}$ is regarded as "substituting" for $\hat{4}$ of the $\hat{5}$-line. See, for instance, Example 11.1 in Cadwallader and Gagné 1998: 305 where $\hat{6}$ (bar 13) not just "substitutes" for $\hat{4}$ but also is followed by $\hat{5}$ in the next bar, concluding the upper-neighbor figure $\hat{5}$–$\hat{6}$–$\hat{5}$.

2. The problematic nature of the $\hat{5}$-line is inseparably connected with the number of parts (voices) in the background structure. Many years ago, Charles J. Smith asked the question: "Why must the fundamental structure consist of only two voices?" (Smith 1996: 273) It seems to be impossible to analyze adequately the *tonal* counterpoint (unlike some earlier forms of counterpoint as, for example, the 15th-century practice of successively composed voices with its discant-tenor framework; see Dahlhaus 1990: 85) without the equal status attached to all of its voices. According to William E. Benjamin, "it is mistake [...] to embody the harmonic meaning of a passage in a two-part counterpoint of registral voices [...]. Harmony is too full to be so embodied, being a matter, more often than not, of four essential voices. [...] [T]onal harmonic progressions are counterpoints of four pitch-class voices, motion of each of which is determined by motion in one or more of the others." (Benjamin 1982: 40)[14] It seems that the elimination of the inner voices from the background level by the traditional Schenkerian analysis results in serious misunderstanding of its upper voice. Consider once more Example 1b. In the first chord there are two inner voices marked with open note-heads. Whereas the lower one obviously progresses from c^2 to b^1 and then back to c^2, the motion of the higher one (from e^2 on) is unclear. Obviously, a smooth, contrapuntally flawless connection between this e^2 and any subsequent tone is possible only when there is no stepwise descent g^2–c^2 in the upper voice. (For example, it can be imagined that there are simultaneously two descending third-progressions: g^2–e^2 in the upper voice and e^2–c^2 in the inner voice.) Therefore, the $\hat{5}$-line is problematic also from the standpoint of the (implied) inner voices.
3. It is not easy or even possible to construct background structures in sonata forms containing any theme with the $\hat{5}$-line. According to Peter H. Smith, when analyzing the *recapitulation* of the major-mode sonata form (with the $\hat{3}$-line in the first group and the $\hat{5}$-line in the second group), "[t]he analyst must retain the fifth-progression only on the second middleground level and graph its upper two members as part of a prolongation of $\hat{3}$" (Smith 1994: 84). Such a reading is especially problematic in the case of the unsupported stretch $\hat{4}$–$\hat{3}$–$\hat{2}$ (rather than $\hat{5}$–$\hat{4}$–$\hat{3}$) in the second group (not mentioned in *Free Composition* when discussing the sonata recapitulation[15]). The same problem arises in a minor-mode sonata *exposition* (with the tonal plan i–III), having the $\hat{5}$-line in *both* the first and second groups. The possible solution to this problem might be by means of the unfoldings $\hat{3}$–$\hat{5}$–$\hat{4}$–$\hat{2}$ in the recapitulation of the major-mode sonata (Example 3a) or $\hat{5}$–$\hat{7}$–$\hat{6}$–$\hat{4}$ in the exposition of the minor-mode sonata (Example 3b).[16] On the other hand, in sonata expositions with the tonal plan I–V and the $\hat{5}$-line in *both* groups (or in those with the tonal plan i–III, the $\hat{5}$-line in the first group and the $\hat{3}$-line in the second group), the problems of background (caused by the lack of the *Urlinie* descent $\hat{5}$–$\hat{4}$–$\hat{3}$ in the exposition) can be avoided only by graphing the "interruption" (a kind of high-level half cadence I–V with the upper-voice descending second $\hat{3}$–$\hat{2}$[17]) at the end of exposition in an inner voice, as proposed by Ernst Oster in his commentary on § 316 of Schenker 1979: 139; Examples 3c and 3d).[18] Ironically, whereas the *exposition* of the minor-mode sonata (with the tonal plan i–III), having the $\hat{5}$-line in the first group and the $\hat{3}$-line in the second group, is favored by Carl Schachter because here "the unsupported stretch, $\hat{5}$–$\hat{4}$–$\hat{3}$, might lead to a tonicization of III [...] and integrate into the unfolded tonic of the background structure the potentially disruptive tendency of minor to gravitate to III" (Schachter 1981: 126), no general solution has ever been proposed for the background structure of the

[14] See also Neumeyer 1987 and Chew 1983. In the latter, especial emphasis is laid on the lower-neighbor figure embellishing $\hat{1}$ (usually in the "alto" voice) by means of the leading tone.

[15] See Schenker 1979: 138, Note 16 (written by Ernst Oster): "The superposition reads $\hat{3}$ (543) $\hat{2}$ $\hat{1}$."

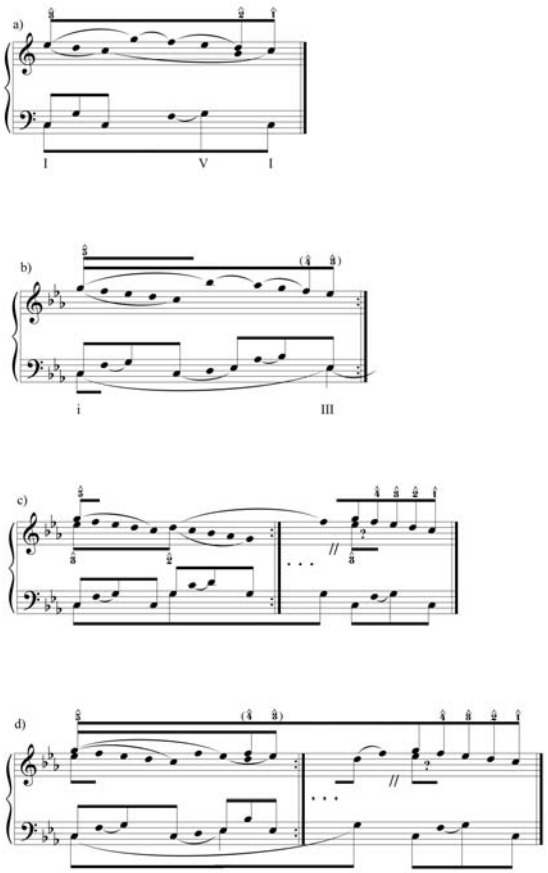
[16] Such a possibility is suggested in Väisälä 2009: 137 (Note 53).

[17] See also section 3.1 below.

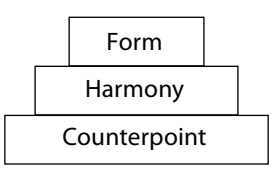
[18] The question marks in Examples 3c and 3d refer to the problem discussed in the previous paragraph.

recapitulation in this case.[19] (The same is true of the recapitulation of the major-mode sonata with the $\hat{5}$-line in the first group and the $\hat{3}$-line in the second group.)

Example 3. Sonata-form backgrounds.



4. In the aforementioned article, I proposed a three-stage pyramid representing the structure of classical music (Humal 2008: 93):



As I wrote, no direct relationship exists between counterpoint and form. They are connected only through harmony (Humal 2008: 93, 108). On the other hand, one can imagine also *melody* as a kind of form: "Melody is already a work of art, even if it only functions as a theme." (Aranovsky 1969: 26) Comparing Examples 1a and 1b, we can see that these cadences (representing the $\hat{3}$- and $\hat{5}$-line, respectively) differ only melodically, rather than harmonically. Therefore their difference is restricted to the highest stage of the pyramid and does not touch its lowest stage – counterpoint.

1.2. Different Meanings of the *Urlinie*

As we know, Schenker arrived at the concept of the *Urlinie* earlier than that of the *Ursatz* (with its bass arpeggiation), as a result of examination of melodic structures (Pastille 1990). Unlike Rameau who claimed that harmony "is generated first, and it is from harmony that the rules of melody must be derived" (Rameau 1971: 152), in Schenker 1954, he wrote that "the principal element in music, even after the addition of the vertical dimension, remains the horizontal line, i.e., the melody itself" (Schenker 1954: 168). However, he continued: "[I]t is the mission of harmony to enhance the planning of ample melodic ideas and, at the same time, to co-ordinate them" (Schenker 1954: 169). In his last years Schenker even denied this coordinating function of harmony: "[I]t is the temporal-horizontal axis of musical motion […], that alone generates musical content and guarantees the latter's organic cohesiveness" (Schenker 1997: 2). Probably he appreciated the concept of the *Urlinie* so highly that either he preferred to ignore the confusion of structural levels (in the form of unsupported stretches) arising in combining $\hat{5}$- and $\hat{8}$-lines with the bass arpeggiation (consisting only of three tones), or else he interpreted the notion of counterpoint in a different way, compared to the classical theory of counterpoint (based on intervals, their connection and the resulting *contrapuntal voices*).

Because it is not the bass arpeggiation but rather the *Urlinie* – as a kind of *line* – that is

[19] In Cadwallader, Gagné 1998: 329–359, the second theme of the first movement of Mozart's Piano Sonata in C minor (K. 457) is analyzed with a $\hat{3}$-line in the exposition and a $\hat{5}$-line in the recapitulation.

the source of inconsistencies in the *Ursatz*, it may be supposed that it is the *counterpoint of lines* rather than that of *voices* that is the main matter of Schenker's analyses. Actually, the bass arpeggiation does function as a voice, rather than line, and in many cases it is also true of the $\hat{3}$-line as the upper part of the *Ursatz*. (Therefore, there is not infrequently a combination of a voice and a line in his fundamental structures.)

The difference between voice and line is easiest to realise in the case of the *Urlinie* as the most prominent line in Schenkerian analysis. In traditional Schenkerian analysis, the concept of *Urlinie* has at least three different meanings.

1. In many cases, the $\hat{3}$-*line* (when its second tone is supported by the cadential dominant) functions as a *contrapuntal voice* – as one of the voices of the high-level (or background) contrapuntal structure.
2. Frequently, the *Urlinie*, especially the $\hat{5}$- and $\hat{8}$-line, is derived as a summary of the melodic motion (reflecting the formal structure), or, as Arnold Schoenberg put it: "Schenker's *Urlinie* is, at best, *one* cross-section of the whole" (Dunsby 1977: 30). A typical expression of this way of thinking is Arthur Komar's objection to the backgrounds with short cadential dominants, rather than those in which the location of its basic components reflects the formal structure (Komar 1988: 25). This kind of the *Urlinie* results from the (erroneous, according to our view) interpretation of the contrapuntal background as an idiosyncratic feature of individual compositions.
3. Frequently (especially in the case of a $\hat{5}$-line), the status of the *Urlinie* tones is ascribed to certain descending stepwise progressions, not always in the same voice, interpreted as a kind of motive (that is, a thematic element). Such an interpretation of the $\hat{5}$-line is evident, for example, in Schenker's reading of the subsidiary theme in the first movement of Beethoven's Third symphony (Schenker 1979: 14–23), as well as in the distribution of the *Urlinie* tones between different voices (including the bass; see Schachter 1994; Wen 1999). One of the most drastic examples of such an *Urlinie* is in Timothy L. Jackson's reading of Chopin's Second Ballade, with its entire *Urlinie* descent ($\hat{5}$–$\hat{1}$) occurring in the bass during three bars (bars 166–168; Jackson 2001: 216).

1.3. What Are the Rules of the "Counterpoint of Lines"?

These different meanings attributed to the *Urlinie* (as the basic category of the "counterpoint of lines"), expressing different views of the background structure in general – its idiosyncratic ("expressive," according to Neumeyer 2009) or generalized character (that is, its dependence on, or independence from, the formal or melodic structure of individual works or themes) – make it very difficult to imagine a theory of "counterpoint of lines." What would be the rules of this counterpoint? Perhaps it is in the "counterpoint of lines" where, according to Matthew Brown, the "*Stufe* constraint" "erodes the distinction between consonance and dissonance" (Brown 2005: 51). (The problematic concept of *Stufe*, never exactly defined by Schenker, results from functional harmony with its structural hierarchy of chords. Its origin in Schenker's *Harmonielehre* is explained by Hellmut Federhofer as follows: "Since Schenker, at the time of *Harmonielehre*, still missed the concept of levels, he sought to distinguish different quality ratings of chords in terms of structural coherence, by sparely using scale-degree indications and avoiding them, when a chord could be easily explained on the basis of voice leading"; Federhofer 1981: 60–61.) What is more, refuting Carl Schachter's claim that "Schenker conceives of the fundamental structure as a kind of second-species counterpoint with dissonant passing tones, rather than as a first-species counterpoint restricted to consonances" (Schachter 1981: 126), Matthew Brown considers it important to remember that the *Urlinien* "do not belong to the purely intervallic world of strict counterpoint; on the contrary, they clearly belong to the world of *Stufen*" (Brown 2005: 74).

This "world of *Stufen*" is perhaps similar to Robert Snarrenberg's notion of the "*Ursatz* as a quasi-second species representation of tonal music: a representation of the chord of Nature [*Naturklang*], its extension in time, and the filling of one of its spaces with a descending passing motion" (Snarrenberg 1994: 39). It seems that the interpretation of the background non-dissonant $\hat{2}$/I as an unstable passing sonority (implicitly present in traditional Schenkerian analysis) results from the confusion of harmonic and contrapuntal stability: being harmonically unstable, this chord is contrapuntally stable.

It seems also that, insisting on the problematic concept of *Urlinie*, Schenker was unable to develop consequently, to the end, his idea of structural levels which is, as we know, one of the essential aspects of counterpoint in general. (This results in some arbitrary prescriptions[20] and in frequent confusion of structural levels.)

It can be tempting to align some of the basic notions of Schenkerian theory in the following way: *Naturklang – Stufe – Linie – Ursatz*.[21] From this we might conclude that simultaneously with the rise of the concept of *Stufe* (to be understood as functional harmony), the traditional counterpoint of voices was replaced by the "counterpoint of lines" (perhaps with the distinction between consonance and dissonance "eroded"). However, considering the facts of music history in the light of the aforementioned three-stage pyramid (with counterpoint at the bottom, harmony at the middle and form at the highest stages), this line of reasoning seems to be wrong. On the one hand, we know that the basic rules of counterpoint were established not later than the middle of the 15th century.[22] On the other hand, cardinal changes in harmony during the transition from modal harmony of the Renaissance era to functional harmony of the Baroque era (from around 1600 on) occurred without influence on the deepest essence of the basic rules of counterpoint, which were established much earlier. (In the same way, the transition from the Baroque forms to the classical ones from around 1750 on occurred without influence on the principles of functional harmony, also established much earlier.)

Therefore it seems that it is the new way of using the elements of the lower stages of the pyramid, rather than their radical transformation, that takes place along with the changes on the higher stages of the pyramid.

There are some more general objections against Schenkerian *Ursatz* as a form of the high-level contrapuntal structure. Claiming that classical masterpieces are based on some form of the *Ursatz* and *Urlinie*, Schenker not only ignores historical facts (the trivial fact of absence of any reference to them in the theoretical literature and their essentially imaginary nature,[23] – as well as the use of the very term "line" in the Schenkerian sense not earlier than the 20th century[24]), but also an elementary logic: it is hard to imagine that the "great masters" would have based their tonal structures on, for example, such an imperfect contrapuntal construct as the *Ursatz* with a $\hat{5}$-line.

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In terms of the counterpoint of voices rather than lines, it is obvious that to match the three-note *Baßbrechung*, the range of the stepwise descending progression of the upper voice cannot exceed the third. Therefore, it is only by virtue of the upper-voice descent $\hat{3}$–$\hat{2}$–$\hat{1}$ combined with the bass arpeggiation $\hat{1}$–$\hat{5}$–$\hat{1}$, that the *Ursatz* with a $\hat{3}$-line "embodies many of the stability-making features of the tonal idiom" (Lerdahl, Jackendoff 1983: 249). On the other hand, in view of the subordinate position of counterpoint in the aforementioned pyramid, and in accordance with Rameau's view (quoted in section 1.1 above), "the effect of harmonic progression" (Snarrenberg 1997: 27) seems to be the primary, rather than final effect of harmonic counterpoint.

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[20] According to Herbert L. Riggins, "[l]ower neighbor notes as expansions of the initial tone of the fundamental line are prohibited on the basis of potential confusion with the *interruption* procedure" (Riggins 1982: 4); according to Matthew Brown, "he [Schenker] preferred not to compose out a $\hat{3}$-line with a preliminary descent from $\hat{5}$–$\hat{3}$ since that transformation would create a $\hat{5}$-line descent at the deep middleground" (Brown 2005: 87).

[21] See, for example, Brown 2005.

[22] This state of affairs is expressed by Johannes de Tinctoris who wrote in 1477: "However, what surprises me especially is that only in the last forty years are there compositions which, in the judgement of the specialist, are worth listening to" (Jeppesen 1939: 9).

[23] According to Robert Snarrenberg, "[o]ne could even go so far as to say that inculcating the imaginative faculties required for experience such as concealment and illusion is the primary goal of Schenker's writings" (Snarrenberg 1992: 102–103). See also Note 33 below.

[24] "[Ernst] Kurth, in *Grundlagen* [*des linearen Kontrapunkts*, 1917], is the first to apply consistently the terms *Zug* and *übergeordnete Linie* to phenomena like those described in Schenker's works from around 1920 on" (Rothfarb 1988: 102).

2. Towards an Analytic Theory of Harmonic Counterpoint

2.1. Voice-leading Matrix

In what follows, an attempt will be made to present a revised methodology of contrapuntal analysis as one of the possible ways of further development of the theory of harmonic counterpoint. The latter is to be understood as the counterpoint made up of the melodic patterns of individual voices within chord progressions.

Our method of contrapuntal analysis is based on a five-part *voice-leading matrix* (VLM),[25] rather than the two-part Schenkerian *Ursatz*, as the high-level structure of tonal counterpoint.

As stated above, the highest level of the contrapuntal structure consists only of the initial tonic, prolonged throughout the form and leading to the concluding cadence (this being true not only of the form in general but also of classical theme; see Humal 2008: 94).

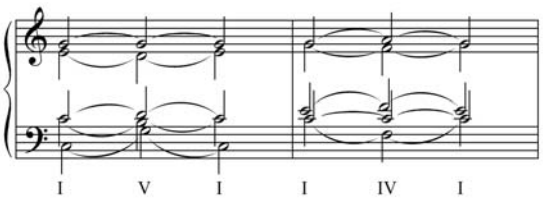
The most typical *authentic* VLM (consisting of the initial tonic, the dominant and the final tonic) corresponds to Allan Keiler's syntactic model of harmony (with its principal harmonic categories Tonic Prolongation, Dominant Prolongation and Tonic completion; see Keiler 1977: 15–17), as well as the "basic form" of Fred Lerdahl – "a description of a common reductional state, reflecting the trajectory from structural beginning to the cadence" (Lerdahl 2001: 25).

William E. Caplin regards the plagal progression I–IV–I as "entirely inadequate" to the task of confirming a tonality (Caplin 2004: 71). However, following the 19th-century traditions of harmonic dualism, the plagal cadence (along with the authentic one) nevertheless can be included among the possible background structures (and hence VLMs).

A VLM can be generated, using the principles of voice-leading parsimony and the rules of classical counterpoint. This is to say that (1) above the harmonic bass, it contains an upper-voice complex in which common tones between chords remain fixed and the other tones move by steps or half-steps, and (2) as a background structure (like a five-part first-species counterpoint but unlike Schenkerian *Ursatzformen* with the fundamental lines $\hat{5}$–$\hat{1}$ and $\hat{8}$–$\hat{1}$), the VLM contains only consonances. The four upper voices of the VLM may be permuted by means of invertible counterpoint.

As shown in Example 4, in the case of typical authentic or plagal cadences (containing either the dominant or subdominant triad, as their *penultima* chord), each tone of the initial or closing tonic triad is uniquely connected with the tones of the *penultima* chords: the harmonic bass (doubling one of the tones of the upper-voice complex) moves by the fourth or fifth ($\hat{1}$–$\hat{5}$–$\hat{1}$ or $\hat{1}$–$\hat{4}$–$\hat{1}$); one of the upper-voice tones remains fixed; one of the two remaining tones has a stepwise connection with *two* tones of the *penultima* chord and the other – with only *one*. Similarly, of the two moving upper-voice tones of the *penultima* chord, one has a stepwise connection with *two* tones of the tonic chord and the other – with only *one*. To represent all these connections, five continuous (structural) voices are needed, all of them connecting the tones of the three chords by means of either the root progression or some specific melodic patterns.

Example 4. Authentic and plagal cadences.



VLMs are of two basic categories: primary and secondary.

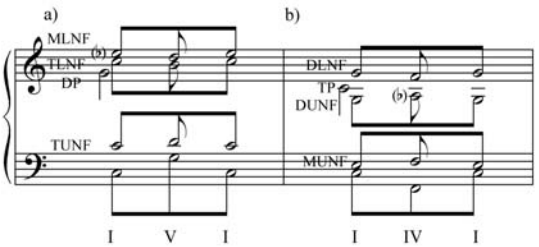
Those VLMs in which all the moving voices (except for the bass) consist of neighbor-tone figures will be labeled as *primary* VLMs. Example 5 shows the authentic and plagal primary VLMs. In the former (Example 5a), the upper voices have the following melodic patterns:

[25] The term is used, for example, by William Renwick. According to him, a *voice-leading matrix* (as "a fundamental expression of tonal voice-leading, a primal basis for unlimited expansion and development") "works out in full the voice-leading implications of Schenker's $\hat{3}$–$\hat{2}$–$\hat{1}$ fundamental structure, utilizing root motion in the bass and scalar and common-tone connections in the upper parts" (Renwick 1995: 81).

1. The Mediant Lower-Neighbor Figure (MLNF) $\hat{3}$–$\hat{2}$–$\hat{3}$ (in the "soprano" voice);
2. The Tonic Lower-Neighbor Figure (TLNF) $\hat{8}$–$\hat{7}$–$\hat{8}$ (in the "alto" voice);
3. The Dominant Pedal (DP) $\hat{5}$ (in the "tenor" voice);
4. The Tonic Upper-Neighbor Figure (TUNF) $\hat{1}$–$\hat{2}$–$\hat{1}$ (in the "baritone" voice).

In the plagal primary VLM (Example 5b), the upper voices have the following melodic patterns:
1. The Dominant Lower-Neighbor Figure (DLNF) $\hat{5}$–$\hat{4}$–$\hat{5}$ (in the "soprano" voice);
2. The Tonic Pedal (TP) $\hat{1}$ (in the "alto" voice);
3. The Dominant Upper-Neighbor Figure (DUNF) $\hat{5}$–$\hat{6}$–$\hat{5}$ (in the "tenor" voice);
4. The Mediant Upper-Neighbor Figure (MUNF) $\hat{3}$–$\hat{4}$–$\hat{3}$ (in the "baritone" voice).

Example 5. Authentic and plagal primary VLMs.

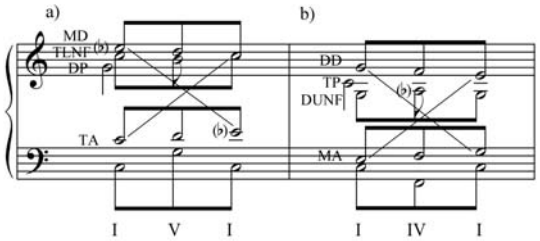


In order to represent directed motion typical of the highest voice, the two neighbor-note figures connecting one of the tones of the *penultima* chord with two different tones of the tonic chord will be transformed into a voice-exchange pattern. This gives rise to two third-progressions – an ascent and a descent. In such a way, the *secondary* VLM (Example 6) is generated whose moving upper voices consist of one neighbor-note figure and two third-progressions. Most of the tonal compositions can be analyzed using the secondary VLM.

In the authentic secondary VLM (Example 6a), the upper voices have the following melodic patterns:
1. The Mediant Descent (MD) $\hat{3}$–$\hat{2}$–$\hat{1}$ (in the "soprano" voice);
2. The Tonic Lower-Neighbor Figure (TLNF) $\hat{8}$–$\hat{7}$–$\hat{8}$ (in the "alto" voice);
3. The Dominant Pedal (DP) $\hat{5}$ (in the "tenor" voice);
4. The Tonic Ascent (TA) $\hat{1}$–$\hat{2}$–$\hat{3}$ (in the "baritone" voice).

In the plagal secondary VLM (Example 6b), the upper voices have the following melodic patterns:
1. The Dominant Descent (DD) $\hat{5}$–$\hat{4}$–$\hat{3}$ (in the "soprano" voice);
2. The Tonic Pedal (TP) $\hat{1}$ (in the "alto" voice);
3. The Dominant Upper-Neighbor Figure (DUNF) $\hat{5}$–$\hat{6}$–$\hat{5}$ (in the "tenor" voice);
4. The Mediant Ascent (MA) $\hat{3}$–$\hat{4}$–$\hat{5}$ (in the "baritone" voice).

Example 6. Authentic and plagal secondary VLMs.



The concept of VLM is connected with that of *chordal scale* and *imaginary continuo* proposed by William Rothstein. According to Rothstein,

> Lerdahl's concept of the "triadic scale" might be extended into a *chordal scale* by relating it not only to the tonic p[itch] c[lass] but to any chordal root, and by including chords other than triads, especially seventh chords [...] A further degree of abstraction may be introduced by considering not only the basso continuo but also the *imaginary continuo* [...] Briefly, the imaginary continuo is a continuo "accompaniment" abstracted from a composition that does not actually call for one. The imaginary continuo generates enormous numbers of implied tones, since every chord calls forth its entire chordal scale – all of its constituent p[itch] c[lasse]s in all registers between bass and soprano, and to a lesser degree in outlying registers as well. (Rothstein 1991: 296–298)

On lower levels of structure, these implied tones create possibilities for various doublings and octave transfers of individual voices of the VLM.

In addition to the five continuous voices of the VLM, a tonal composition exhibits a great number of brief lower-level progressions, connecting like stairs the continuous voices. These progressions fill basically the interval of a third (a fourth-progression will be analyzed as a combination of a third-progression and a neighbor figure, a fifth-progression usually as a combination of two third-progressions). Of the voices of a VLM, the bass possesses the greatest melodic freedom; its initial $\hat{1}$ can be elaborated by means of various skips and stepwise progressions. The two high-level third-progressions of the upper-voice complex (MD and TA in the authentic, DD and MA in the plagal VLM) are usually preceded in the same voices by similar third-progressions on lower levels. Moreover, all the upper voices may contain many neighbor-tone figures on different levels.

2.2. Prolonged and Expanded Cadences

In what follows, only authentic cadences will be discussed. Structurally, they can be divided into:

1. Unprolonged cadences (without the pre-dominant chord: I–V–I);
2. Prolonged cadences (with the pre-dominant chord);
3. Expanded cadences.

Tonally, cadences can be divided into:

1. Non-modulating cadences (concluding in the initial key);
2. Modulating cadences (concluding in a new key).

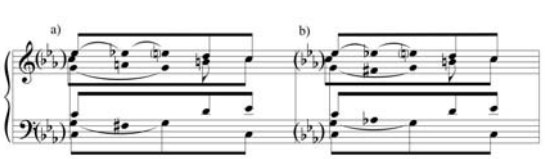
The authentic VLM represents the most typical *unprolonged* cadence. Omitting the final tonic, all types of full cadences can be turned into half cadences.

Prolonged cadences can be divided into four paradigms: Paradigm zero (Example 7), Paradigm *a* (Example 8a), Paradigm *a/b* (Example 8b) and Paradigm *b* (Example 9). These arise from the unprolonged cadence as a result of the elaboration of melodic progressions of its individual voices.

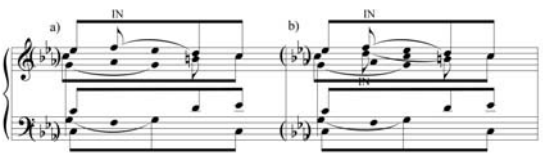
In Cadences of Paradigm zero (I–VII$_7$°/V$\frac{6-5}{4-3}$–I or I–Ger.$\frac{6}{5}$–V$\frac{6-5}{4-3}$–I, etc.), the $\hat{3}$ of the initial tonic is retained (or chromatically changed) during the pre-dominant chord. In Example 7, showing two forms of such a cadence, DP is doubled in two octaves and embellished by its lower- and upper-neighbor notes in different octaves.

In the Paradigm-*a* (Example 8a) and Paradigm-*a/b* (Example 8b) cadences, DP is also doubled in two octaves and embellished by its lower- and upper-neighbor notes. The pre-dominant chord (the subdominant triad in the case of the Paradigm-*a* cadence, V/V or some of the inversions of the ii$_7$ in the case of the Paradigm-*a/b* cadence) supports $\hat{4}$ as an incomplete upper neighbor, usually followed by the descending third-progression – Subdominant Descent (SD, $\hat{4}$–$\hat{3}$–$\hat{2}$) – having the $\hat{3}$ as a passing tone supported by the cadential six-four. In the Paradigm-*a/b* cadence, SD is usually accompanied in the "alto" voice a third below by another descending third-progression – the so-called *Leittonterzzug* ($\hat{2}$–$\hat{1}$–$\hat{7}$; see Plum 1979: 47), especially typical of the Paradigm-*b* cadence.

Example 7. Paradigm-zero cadence.



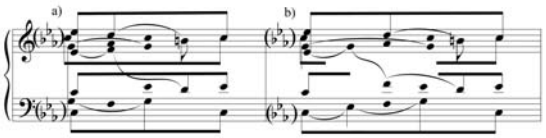
Example 8. Paradigm-*a* and -*a/b* cadences.



In the Paradigm-*b* cadence (Example 9), having V/V or some of the inversions of the ii$_7$, as the pre-dominant chord, the initial tonic may be in root position (Example 9a) or in first inversion (Example 9b). In both cases, the upper-voice $\hat{2}$ supported by the pre-dominant chord is usually followed by the *Leittonterzzug*, with the $\hat{1}$ as a passing tone supported by the cadential six-four. DP is again embellished by its lower- and upper-neighbor notes in the case of the root-position initial tonic (Example 9a), but only with its upper-neighbor note in the case of the second-inversion initial tonic (Example 9b). The *Leittonterzzug* is accompanied

in a sixth below by another descending third-progression – the SD. The $\hat{3}$ of the upper-voice MD is doubled in a lower octave and connected by the aforementioned inner-voice SD with the second tone of the TA ($\hat{1}$–$\hat{2}$–$\hat{3}$) of the "baritone" voice. In the case of the second-inversion initial tonic, the lower-octave doubling of the $\hat{3}$ is first (before the $\hat{4}$) followed by the ascending third-figure $\hat{3}$–$\hat{5}$, to avoid parallel octaves with the bass.[26]

Example 9. Paradigm-*b* cadence.



In expanded cadences, the initial tonic is prolonged by means of some specific harmonic-contrapuntal techniques. The most common among them are the evaded cadence (in which the dominant is followed by a non-structural, usually first-inversion tonic; see Schmalfeldt 1992) and the interrupted (deceptive) cadence. Their main feature is a deep-middleground MD ($\hat{3}$–$\hat{1}$) into an inner voice reaching $\hat{1}$ at the moment of the re-establishment of tonic harmony or some of its substitutes (for example, the submediant, as in Example 10b, or V/IV, as in the case of the tonicized subdominant, following the first dominant) prior to the concluding cadence.

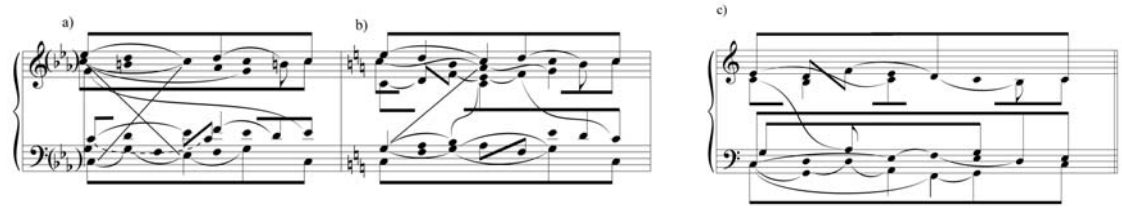
Example 10a presents the most typical form of the evaded cadence, and Example 10b – one of the forms of the interrupted cadence. In Example 10a, as it is typical of the evaded cadence, the initial MD into an inner voice is supported by a descending third-progression (or skip) in the bass ($\hat{5}$–$\hat{3}$), leading to the first-inversion initial tonic of the concluding cadence and followed by the Paradigm-*b* cadence (cf. Example 9b). In the case of the interrupted cadence (Example 10b), the initial MD is supported by an upper-neighbor figure in the bass ($\hat{5}$–$\hat{6}$–$\hat{5}$), unfolded by its lower third ($\hat{4}$) supporting the pre-dominant harmony of the concluding cadence and followed by the Paradigm-*b* cadence (cf. Example 9a).

Insertion of the supertonic chord between the dominant and submediant of the interrupted cadence in the major key gives rise to a kind of the rising circle-of-fifth progression I–V–ii–vi (which therefore can be regarded as an elaborated version of the interrupted cadence), usually followed by the subdominant, as in the case of the interrupted cadence.[27] As shown in Example 10c, also in this case, there is a MD into an inner voice, the passing $\hat{2}$ being unfolded by $\hat{4}$, from which another third-progression – SD – descends to the $\hat{2}$ of the concluding cadence, again modelled according to Paradigm *b*.

2.3. Modulating and Auxiliary Cadences

Structures lacking an opening root-position tonic have been analyzed by Schenker as "auxiliary cadences." The main feature of an auxiliary cadence is the conclusion by means of an unambiguous cadence in the main key. Therefore it is most logical to build up a VLM of an auxiliary

Example 10. Expanded cadences.



[26] For the same reason, this third figure (before the $\hat{4}$) is very typical of the upper voice of the Paradigm-*a* and Paradigm-*a/b* cadences with the first-inversion initial tonic.

[27] See, for example, Beethoven's Bagatelle in C major, Op. 33/2, bars 1–15, where the submediant has the major third.

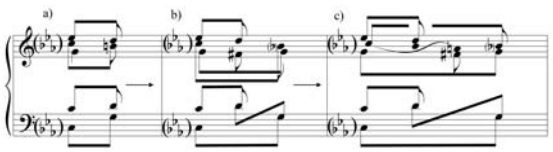
cadence on the base of its *concluding* tonality. On the other hand, in almost any classical form there are cadences ending in a subsidiary key (usually in the dominant, mediant or submediant), lacking the initial tonic of that key. As a rule, these cadences are eventually followed by the concluding cadence in the home key. Although these cadences are similar to auxiliary cadences, we shall label them as *modulating cadences*, to be analyzed on the base of the VLM of the *initial* tonality.

The modulating cadences I–V or i–v can be regarded as an elaboration of a half cadence (Example 11a), prolonged by means of V/V rather than a subdominant harmony (Example 11b; to avoid parallel fifths, the fifth A of the V/V is here omitted). When further elaborated by means of the cadential six-four (Example 11c), the lower-level third-progression TD c^2–b^1–a^1 ($\hat{1}$–$\hat{7}$–$\hat{6}$ of the home key) descends in the "alto" voice to the second tone of the DUNF, as one of the most typical features of the cadences modulating to the dominant (as well as those modulating to the submediant). In the new key, this third-progression corresponds to the SD (typical of the cadences of Paradigms *a* or *a/b*), which, however, is *not* preceded by the $\hat{3}$ of this key. Therefore, there is an *incomplete* MD – without its first tone – in the new key (as well as an incomplete DUNF in the "soprano" voice). As we will see, there is no TA in the new key, its tonic third (B) being reached by the figure $\hat{4}$–$\hat{3}$ (of the new key) in the "alto" voice.

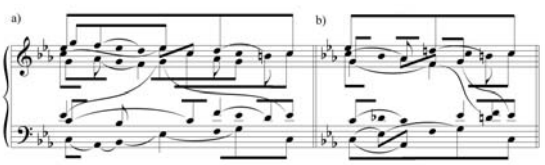
Example 12a presents a prolonged modulating cadence I–iii or i–III[28] and Example 12b – an unprolonged modulating cadence I–vi or i–VI. Both of them are followed by the concluding cadence in the home key.[29] Unlike the previous case, here the MD of the new key is *complete*, descending from $\hat{1}$ (in the "alto" voice, Example 12a) and from $\hat{5}$ (in the upper voice, Example 12b) of the home key, respectively. On the other hand, from the standpoint of the new key, the DUNF (typical of the prolonged cadences) in the former case (in the "baritone" voice), and TLNF in the latter case (in the "tenor" voice), are incomplete (without their first tone). In neither case, there is no TA in the new key, its tonic third being reached by an upper-neighbor figure (g^1–$a\flat^1$–g^1 in Example 12a and c^1–$d\flat^1$–c^1 in Example 12b).

Examples 13–16 present several auxiliary cadences. An unprolonged auxiliary cadence V–I or V–i (Example 13) consists only of the contrapuntal elements of a VLM, all of them (except for the DP) being incomplete (without their first tone). In the auxiliary cadences of Examples 14 and 15, in addition to the elements of the VLM, there are

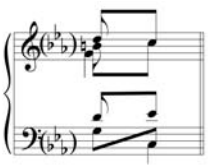
Example 11. Modulating cadence I–V (I–v).



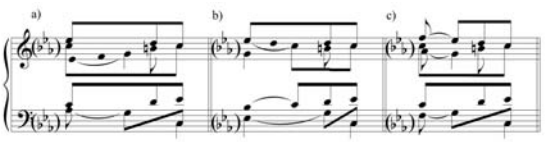
Example 12. Modulating cadences i–III and I–VI.



Example 13. Auxiliary cadence V–I (V–i).



Example 14. Auxiliary cadences vi–I (VI–i), iii–I (III–i) and IV–I (iv–i).



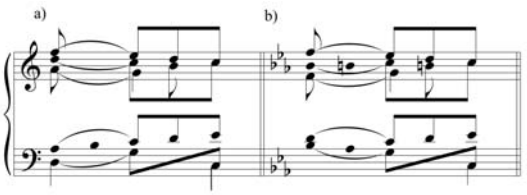
[28] In the unprolonged cadence modulating to the mediant, it is difficult to avoid parallels.

[29] In Example 12a, the modulating cadence is followed by the initial tonic of the concluding cadence, by means of the interval progression 5–6; in Example 12b, it is followed by the subdominant of the concluding cadence, its bass continuing the descending chain of thirds.

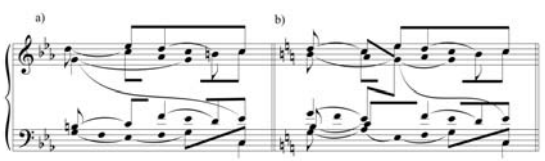
some other notes. In the cadences vi–I or VI–i (Example 14a), iii–I or III–i (Example 14b) and IV–I or iv–i (Example 14c), some of the voices of the VLM are present from the outset, the others entering not before the second chord. On the other hand, in the cadences ii–I (Example 15a) and VI–i (Example 15b), no element of the VLM is present in the first chord.

Example 16 presents two special auxiliary cadences, which can be labelled as *compound* auxiliary cadences. Both of them are further elaborations of the auxiliary cadence V–I or V–i (Example 13), by means of either the evaded (Example 16a) or interrupted cadence (Example 16b), and contain, after the solution of the initial dominant (to I_6 or vi, respectively), the full VLM (except for the bass, beginning with the $\hat{3}$, rather than $\hat{1}$). In view of the tonal hierarchy, it would be wrong to regard the chords between the two dominant of these cadences as their prolongation.[30] Actually, the unstable character of the initial dominant will be resolved by the chord that follows it and functions as the initial tonic of the concluding cadence. Therefore, these auxiliary cadences are similar to those beginning with the first-inversion tonic, with a preparatory dominant added before their first chord.

Example 15. Auxiliary cadences ii–I and VII–i.



E**xample 16.** Compound auxiliary cadences.



2.4. An Example

Example 17 presents an analysis of the second movement of Mozart's Piano Sonata in D major, K. 576. This *Adagio* in A major is written in the large ternary form *ABA* in which the unchanged recapitulation (bars 44–59) is followed by a short coda (bars 59–67, not analyzed in Example 17). The first, tonally closed part *A* (bars 1–16) is written in the small ternary (or rounded binary) form consisting of four 4-bar phrases. The non-modulating initial period (phrases a_1 and a_2, bars 1–8) is followed by a 4-bar midsection modulating to the dominant (phrase *b,* bars 9–12), and an abbreviated recapitulation (phrase a_3, bars 13–16). Also part *B* (F♯ minor, bars 17–41) is tonally closed and written in the small ternary form, its initial period (bars 17–24, 4-bar phrases c_1 and c_2) modulating to the submediant D major and confirmed by a small codetta (bars 24–26). The midsection of part *B* (phrase *d*, bars 26–33) modulates back to F♯ minor and concludes on its dominant. The repetition of phrase c_1 (bars 33–35) is followed by another non-modulating phrase c_2 (bars 36–39) and the codetta, now in F♯ minor (bars 39–41).[31] The recapitulation of part *A* is preceded by a transition modulating to the home key (bars 41–43).

Examples 17a–17g show the gradual generation of the contrapuntal structure (in the form of seven structural levels) from the VLM (level 1, Example 17a).

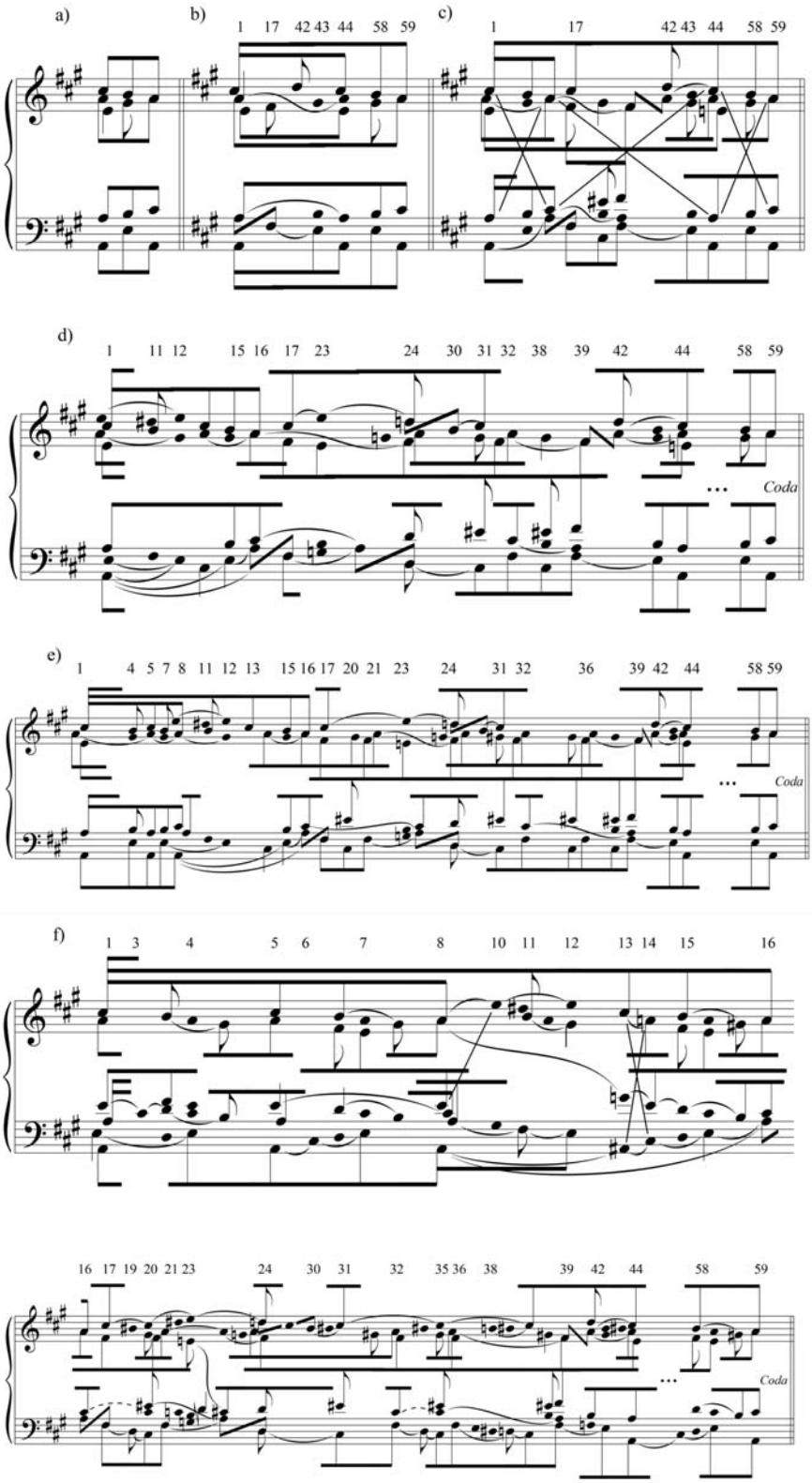
Level 2 (Example 17b) represents the large ternary form of the movement with its two main key areas. The initial tonic of the VLM is prolonged by means of the submediant (corresponding to part *B*), followed by the return to the home key (corresponding to the transition, bars 41–43).

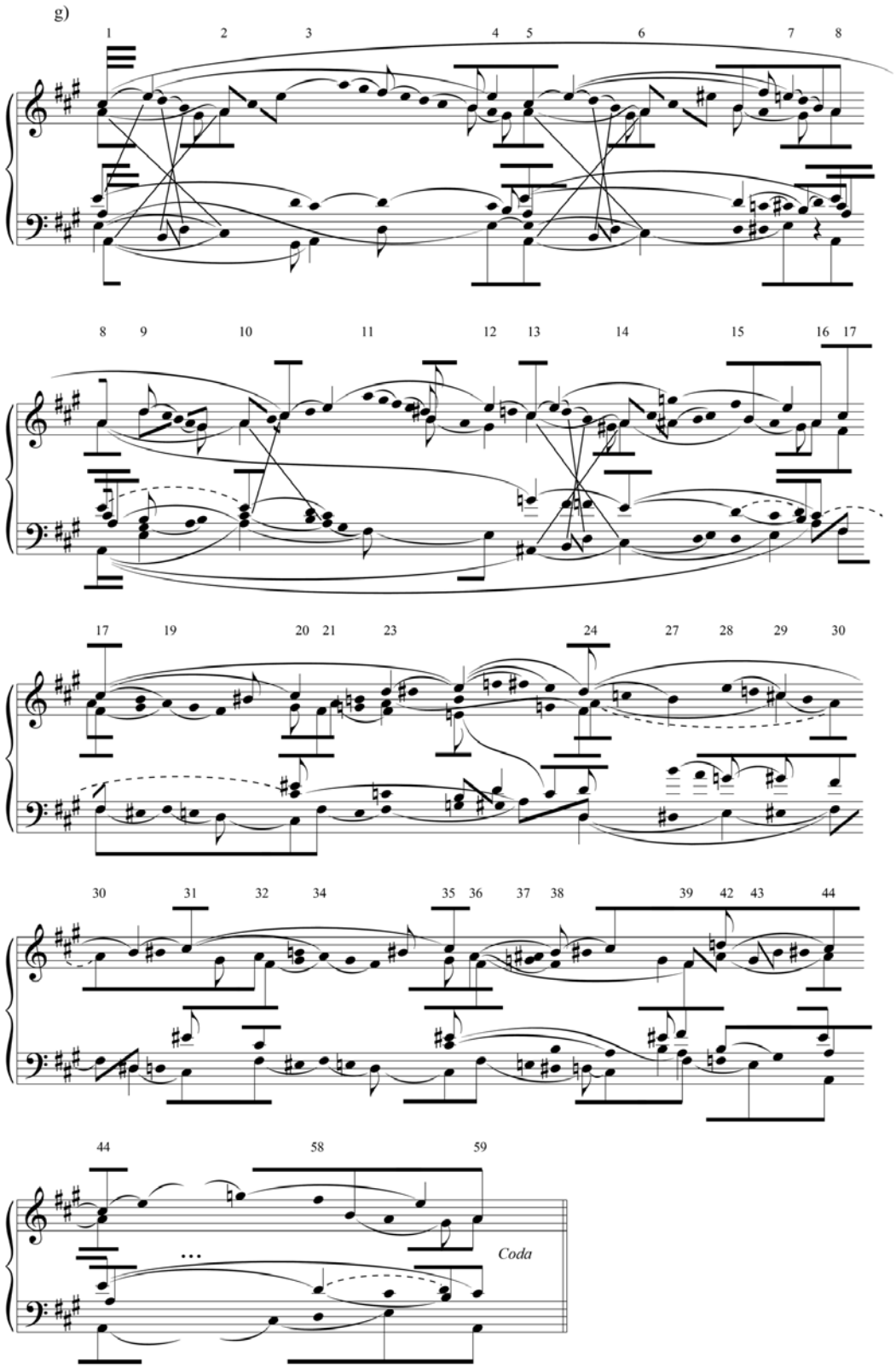
On level 3 (Example 17c), concluding cadences of parts A_1 and *B* are added in the form of unprolonged VLMs. As we see, the VLM of part *B* (in F♯ minor) is somewhat irregular, owing to the doubled tonic fifth (C♯), rather than the trebled tonic root, typical of the normal VLM (this doubling is necessary for the smooth voice-

[30] Particularly, it is hard to imagine the initial tonic (or some of its substitutes) of a cadence being part of a dominant prolongation (see also section 3.3 below).

[31] The twofold statement of the codetta (in the subordinate and main key) imparts a feature of sonata form to part *B*. By its formal structure this *Adagio* can be regarded as a possible model for the second movement of Brahms's First Piano Concerto.

Example 17. Contrapuntal analysis of Mozart, Piano Sonata in D major, K. 576, II.




g)
Coda

leading by connection of parts *A* and *B*) and the placement of the tonic fifth (as a "cover tone") in the upper voice. For that reason, the third (A) of its concluding tonic is reached only by the lower-level DD ($c\sharp^1$–b–a), rather than TA.

The interrelation of levels 4 and 5 is similar to that of levels 2 and 3. Level 4 (Example 17d) represents the tonal plan of the two small ternary forms contained in the main parts of the movement. The initial tonic of part *A* is prolonged by means of the cadence modulating to the dominant (bars 11–12). The initial tonic of part *B* (F♯ minor) is prolonged by means of the submediant (D major), followed by the return to F♯ minor.

On level 5 (Example 17e), all the cadences of phrases are included in their unprolonged form, except for two modulating cadences (F♯ minor–D major in phrase c_2 and D major–F♯ minor in phrase *d*) whose pre-dominant chords are added, to avoid parallel fifths and octaves (by means of interval progressions 5–6–5 and 8–6–8, respectively).

On level 6 (Example 17f), all the cadences of level 5 are prolonged by means of pre-dominant chords. As we see, phrases a_1, a_2 and a_3 conclude with Paradigm-*b* cadences, according to the model of Example 9a in phrase a_1 (half cadence, bars 3–4) and to that of Example 9b in phrases a_2 and a_3 (bars 6–8 and 14–16). The non-modulating cadences of part *B* (in phrases c_1 and c_3) represent Paradigm zero, with the German sixth as the pre-dominant chord (half cadences in bars 19–20 and 34–35, as well as the full cadence in bars 38–39).

All the three typical modulations discussed earlier (to the dominant, mediant and submediant) are represented in this movement. Phrase *b* (bars 9–12) modulates to the dominant, ending, however, without a normal cadence, the dominant seventh chord being in the second inversion. Therefore the typical TD ($\hat{8}$–$\hat{7}$–$\hat{6}$ of the main key, bars 10–11) sounds in bass, rather than an inner voice. (As frequently in the cadences modulating to the dominant, the TLNF e^2–$d\sharp^2$–e^2 is transferred to the upper voice.) Phrase c_2 (bars 21–24) concludes with a modulating cadence i–VI (F♯ minor–D major). Unlike Example 12b, here the TD is divided between two voices (the second $f\sharp^1$–e^1, $\hat{1}$–$\hat{7}$ of the F♯ minor sounds in an inner voice as part of the lower-neighbor figure $f\sharp^1$–e^1– $f\sharp^1$, the second e^2–d^2, $\hat{7}$–$\hat{6}$ of the F♯ minor – in the upper voice, as part of the large-scale upper-neighbor figure d^2–e^2–d^2). The transition consists of an elided modulating imperfect cadence i–III (F♯ minor–A major, bars 39–44), with the MD and TA registrally exchanged, the former being in an inner voice and the latter in the upper voice; this gives rise to a large-scale voice-exchange between bars 8 and 44 (see Example 17c). Phrase c_3 (bars 36–39), modulating back from D major to F♯ minor, concludes with the modulating half cadence i–V/iii (similar to the traditional Phrygian cadence). Because of the German sixth as the pre-dominant chord, it is similar to the aforementioned cadences of Paradigm zero.

Whereas the VLM of part *B* as a whole has the aforementioned irregularities, its midsection in D major (phrase *d*) can be analyzed by means of the normal VLM with the trebled root, sounding, however, in both of the outer voices. This results in parallel octaves between bars 24 and 31, emended by the upper-voice figure d^2–$c\sharp^2$–b^1–$c\sharp^2$.[32]

An idiosyncratic feature of this *Adagio* (shown in Examples 17f and 17g) is the beginning of phrase a_3 (bars 13–16) with the VII_7°/ii, rather than the tonic chord. The bass a♯ of this chord is analyzed as the chromatic passing tone between the tonic root, prolonged on a deeper level across the midsection (bars 9–12), and $\hat{2}$ (the latter being itself a passing tone in the TA $\hat{1}$–$\hat{2}$–$\hat{3}$).

Example 17g shows the foreground level 7, with many voice-leading details characterizing, in each phrase, the prolongation of its tonic prior to the cadence and including many low-level voice-exchanges (bars 1–2, 5–6, 9–11, 13–14, 42–43), as well as chromatic passing tones (bars 5–7: e^2–$e\sharp^2$–$f\sharp^2$ and d–d♯–e; bars 13–14: $f\sharp^1$–$f\natural^1$–e^1 and a^1–$a\sharp^1$–b^1; bars 24–30: d–d♯–e–e♯–f♯, bars 36–38: a^1–$a\sharp^1$–b^1–$b\sharp^1$–$c\sharp^2$ and e–d♯–d♮; bars 39–43: f♯–f♮–e and b^1–$b\sharp^1$–$c\sharp^2$).

One of the most prominent features of these prolongations is the DP transferred to the upper voice in all the phrases of part *A*. In phrases a_1, a_2 and *b*, it is embellished by its upper- or lower-neighbor tones, in phrase a_3 – by ascending and descending thirds (e^2–g^2–$f\sharp^2$–e^2, bars 13–15).

[32] Ernst Oster has shown that this upper-voice line is a vastly enlarged version of the turn-figure from bar 1 of this movement (Oster 1977: 57–58).

3. Related Topics

In 1993, Allan Keiler characterized the situation in Schenkerian research as follows:

> Within any research paradigm [...], normal progress is usually reflected in a series of stages of advancement and replacement, in which certain principles are overturned and replaced, others are retained and elaborated. After a number of such stages, older insights and methods may hardly be recognizable in their original form. A paradigm that is "alive and well" is thus one in which the original intent, and the questions posed at the outset, are mostly still in force, yet the formal and substantive content, even concepts and notation, continue to change as progress is made. I do not think that the present Schenkerian research paradigm is in any way normal or for that matter healthy. [...] In the "orthodox" Schenkerian paradigm, we have instead all the signs of obsessive expansionism, coupled with fetishistic and idealizing attempts to preserve intact the work of the founder. (Keiler 1993: 1048–1049)

That the situation is somewhat similar nowadays becomes evident, for example, in the concluding sentence from David Beach's response to Olli Väisälä's review-essay of his book on Bach's partitas and suites: "What Olli Väisälä outlines is not Schenkerian analysis, but his own system based on a misinterpretation of Schenker's ideas" (Beach 2008: 221). This is to say that traditional Schenkerian analysis is still something like religion, where results of the research are evaluated not according to their scientific truth but rather according to their correspondence or non-correspondence to its dogmas.[33]

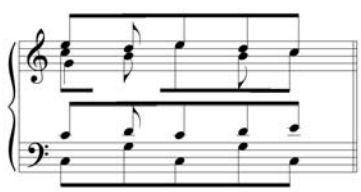
It is easy to believe in something that is logical. However, traditional Schenkerian analysis presupposes believing not only in what is logical but also in what is inconsistent and illogical. From the standpoint of the theory of harmonic counterpoint outlined above, the concept of *Urlinie* is not the only "analytical fiction" (to use Marion A. Guck's notion; see Guck 1994). We can list at least three other such topics.

3.1. Concept of Interruption

Describing the strict use of analytic notation, Steve Larson wrote: "When a linear progression [...] is interrupted at $\hat{2}$ […] the result is always an incomplete passing tone. In strict use, the incomplete passing tone is indistinguishable from a suffix incomplete neighbor note" (Larson 1996: 64).

In other words, it means that the incomplete passing tone is contrapuntally indistinguishable from the neighbor note. Then why not to call it neighbor note? What is more: in terms of counterpoint, in the case of a typical parallel period (or, for that matter, sonata form), it is complete, rather than incomplete neighbor note that concludes the first part of the interrupted structure in upper voice.[34] In view of the five-part VLM having a medial half cadence (Example 18), obviously the contrapuntal function of the "soprano" voice cannot be other than that of the "alto" which accompanies it in parallel third below (except the final note), and nobody has ever denied the function of leading tone as lower neighbor-note of the tonic (at least in an unprolonged cadence).

Example 18. VLM with the mediant half cadence.



[33] The ideological background of Schenker's writings has a distinct religious colouring. According to Eugene Narmour, "[a]s one might imagine, the *Ursatz* is to music what God is to nature. Although this statement sounds hyperbolic, Schenker actually proclaims in the foreword to *Der freie Satz* that because a work "confesses but one background cause, it is arranged monotheistically." And he believes that since all coherence is designed by God, including the *Ursatz*, and since this cause is unchanging, an art-monotheism theory is obligatory." (Narmour 1977: 36)

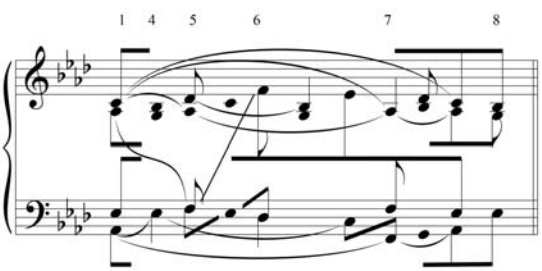
[34] In principle, almost any neighbor-note is in a sense an incomplete passing tone. However, what sense does it make to regard a complete thing as an incomplete form of another thing?

3.2. Consonant Passing Note

A short root-position tonic chord between the subdominant and the cadential dominant is regarded by the traditional Schenkerian analysis as an "apparent tonic," supporting the consonant passing note (usually $\hat{3}$ between $\hat{4}$ and $\hat{2}$ in the melody).[35] This concept is perhaps connected with the notion of the subdominant (along with other chords, except for the tonic and dominant) being a harmonic, rather than contrapuntal chord only as a "member of a progression coming from I and proceeding to V" (Salzer 1962: 15). However, being part of the prolonged, rather than unprolonged cadence, the subdominant is always essentially a contrapuntal chord prolonging the tonic: the bass $\hat{4}$, usually supporting it, is either the lower-neighbor tone of the tonic fifth (conceptually in an inner voice) or a passing tone in the third-progression $\hat{3}$–$\hat{4}$–$\hat{5}$. Therefore it is immaterial whether it is the dominant or the tonic that follows the subdominant. Example 19 presents a reading of the first eight bars of Beethoven's Piano Sonata in A♭ major, Op. 26, with the tonic prolongation up to end of bar 7.[36]

There is another kind of "apparent tonic" – the first-inversion tonic as the "variant of the cadential six-four" (Cadwallader 1992: 193–194, Example 6 – Brahms's Intermezzo Op. 76, No. 7, bar 31), also appearing between the subdominant and the cadential dominant. However, such a reading disregards the fundamental difference between the I_6 as a tonic-prolonging chord (a possible initial tonic of a cadence) and the cadential six-four as "a collection of nonharmonic tones on the arrival on the dominant" (Lester 1992: 199).

Example 19. Contrapuntal analysis of Beethoven, Sonata in A♭ major, Op. 26, I, bars 1–8.



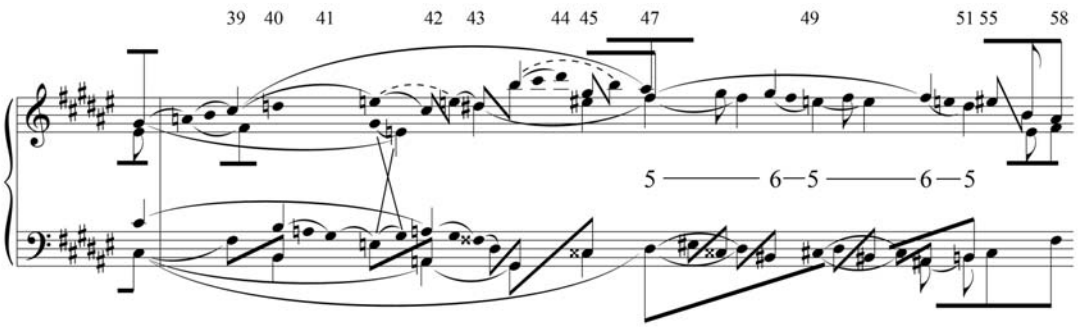
3.3. Dominant Prolongation in Midsections of the Ternary Forms

According to the traditional Schenkerian view, in midsections of the ternary forms (especially in those with the first sections modulating to the dominant, as the major-mode sonata exposition), it is the dominant harmony that is prolonged at the deep-middleground level during this section (see Laufer 1991). On the other hand, one of the basic assumptions of the theory of harmonic counterpoint might be that the tonic harmony can be prolonged by the dominant, but not the other way around (except for some foreground events). Therefore it seems to be contrary to the principles of tonal hierarchy and the dynamic nature of sonata-form development sections to regard always the dominant as being prolonged throughout this section. Some years ago, I proposed the concepts of *evaded-cadence form* and *interrupted-cadence form* for the contrapuntal structure of the *binary* dance or song forms (without recapitulation), based on its similarity to that of the aforementioned forms of the expanded cadence. In these forms, the concluding dominant of the first section (followed shortly in the second section either by the first-inversion tonic or the submendiant) is part of the prolongation of the initial tonic (see Humal 2007: 140–143). However, it seems possible to use these concepts also for analyzing the *ternary* forms (including the sonata form), regarding their midsections (prior to the deep-level dominant, preceding the recapitulation) as prolonging the tonic, rather than the dominant harmony at the deep-middleground level. This results in a multilevel hierarchy of dominants: at the highest level as the *penultima* harmony of the whole form, at the deep-middleground level as the closing chord of the development section, and at the lower middleground level as that of the exposition.

[35] See, for example, the initial themes of Mozart's piano sonatas K. 310 (third movement), K. 311 (second movement), K. 332 (2nd movement). For Schenker's view, see Drabkin 1996.

[36] As we see, here the initial tonic is elaborated in bars 4–5 by means of the specific interrupted cadence V–IV_6, and in bars 5–6 by means of the chord progression vii $^{4\,\varnothing}_{3}$–I_6, similar to that of the evaded cadence (V_2–I_6).

Example 20. Contrapuntal analysis of Beethoven, Sonata in F# major, Op. 78, I, bars 38–58.



Example 20 presents the voice-leading structure of the development section of the first movement of Beethoven's Piano Sonata in F♯ major, Op. 78. This section can be analyzed, according to the model of the interrupted-cadence form: the dominant, reached at the end of the exposition, resolves to the submediant in bar 47, followed by the large-scale bass unfolding $\hat{6}$–$\hat{4}$ (typical of the interrupted cadence, bars 47–51) and the deep-middleground dominant (bar 55).

• • •

Referring to William Rothstein's insight that "Schenkerism in America may be stuck on a fundamental contradiction between fixed ideological principles and the compromises needed for more general acceptance," David Neumeyer and Julian L. Hook claim that "so long as the *Ursatz* – the heart and soul of Schenker's ideology – remains, the specter of compromise will hover over every practitioner and pedagogue. The only solution is to reject the assumptions that gave rise to the paradox in the first place: either abandon the *Ursatz* or abandon the notion that Schenker's method constitutes a theory." (Neumeyer, Hook 1997: 219)

We chose the first option. It is doubtful, whether "[t]he costs of abandoning the *Ursatz* and of severing Schenker's analytical methods from his main theoretical tenets are enormous; they amount to giving up the first recursive theory of tonality," as Matthew Brown put it (Brown 1998: 132).[37] According to David Beach, "[t]here is common thread among all the attempts to formalize Schenker's work, namely that his ideas are inadequate as presented and thus require some modification to rid them of any ambiguities and inconsistencies" (Beach 1985: 297). Substitution of the concept of voice-leading matrix for that of *Ursatz* as the background structure and, more generally, that of the analytic theory of harmonic counterpoint for that of traditional Schenkerian analysis, can be one of these modifications.

[37] To call Schenkerian analysis a theory of tonality seems to be misleading. For example, traditional German terms for Schenkerian analysis – *Schichtenlehre* and *Stimmführungsanalyse* – do not confirm this claim. After all, tonality is rather a harmonic than contrapuntal phenomenon.

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Liinide või häälte kontrapunkt

Mart Humal

Juba päris kontrapunkti arengu algusest peale kuulub selle mõiste olemusse struktuuritasandite hierarhia. Kontrapunktiõpetuses ilmneb see üleminekul lihtsast „noot noodi vastu" kontrapunktist nn. diminueeritud kontrapunktile. Viimases kõlavad ühe hääle ühe noodi ajal teises hääles mitu erinevat nooti, millest ainult osa konsoneerivad esimese häälega. Just need konsoneerivad helid esindavad struktuuri kõrgemaid tasandeid, neile allutatud dissoneerivad helid – läbiminevad, abi- ja pidehelid – aga selle madalamaid tasandeid. Kontrapunktiline analüüs asetab struktuuritasandite hierarhiasse kõik teose struktuuri elemendid, alates madalamast, detaili tasandist kuni kõrgeima, tervikteose tasandini.

Kuigi Schenkeri analüüsimeetod sarnaneb tehniliselt kontrapunktilise analüüsiga, püüab see olla midagi enamat – (tonaalse) muusika kõikehõlmav teooria. Kuid nn. harmoonilise kontrapunkti – akordijärgnevuste üksikute häälte liikumisest moodustuva kontrapunkti – analüüsi meetodina ei ole see täiesti rahuldav. Näiteks on küsitav kahehäälne *Ursatz* süvatasandi (tagaplaani) struktuurina. Tundub võimatuna analüüsida adekvaatselt tonaalset kontrapunkti (erinevalt varasemate ajastute kontrapunktist), ilma et selle kõigile häältele oleks omistatud võrdne tähtsus.

Teatavasti jõudis Schenker meloodiastruktuuride uurimise tulemusena algul *Urlinie* (telgliini – süvatasandi meloodiahääle) ja alles hiljem bassihäält (Schenkeri järgi *Baßbrechung* – „bassimurd") sisaldava *Ursatz*'i mõisteni. Tema kolm telgliini vormi (näide 1) laskuvad astmeliselt kas ülatoonikalt, dominandilt või toonika tertsilt alatoonikale, moodustades vastavalt oktavi-, kvindi- ja tertsiliini. Kuna nende kõigi saatehääleks on kolmeheliline bassiliikumine I–V–I, tekib oktavi- ja kvindiliini puhul „tühijooks" (*Leerlauf*) – bassihääle poolt toetamata läbiminevad helid, mis loogiliselt võttes ei saa kuuluda süvatasandisse. Nähtavasti hindas Schenker *Urlinie* mõistet nii kõrgelt, et kas ignoreeris „tühijooksust" tingitud struktuuritasandite segiminekut, või siis tõlgendas kontrapunkti mõistet erinevalt klassikalisest teooriast, mis lähtub intervallidest, nende ühendamisest ja selle tulemusena tekkivaist kontrapunktihäältest.

Kuivõrd *Ursatz*'i puhul ei ole vastuoluline mitte selle ala-, vaid ülahääl – *Urlinie* kui teatud liiki liin –, võib oletada, et Schenker ei analüüsi mitte häälte, vaid liinide kontrapunkti. Tegelikult funktsioneerib *Ursatz*'i alahääl ja paljudel juhtudel ka tertsi ulatusega ülahääl ühtlasi kui kontrapunktihääl, mistõttu tema süvatasandid moodustavad sageli hääle ja liini ühenduse.

Schenkeri idee, et kõik klassikalised meistriteosed tuginevad mingile *Urlinie* või *Ursatz*'i kujule, ei lähe vastuollu mitte ainult ajaloo faktidega (mis tahes viidete puudumine neile teoreetilises kirjanduses ja „liini" mõiste kasutamine Schenkeri tähenduses alles alates 20. sajandi algusest), vaid ka elementaarse loogikaga: on raske kujutleda, et „suured meistrid" oleksid rajanud oma tonaalstruktuurid nii ebatäiuslikule kontrapunktilisele alusele, nagu seda on kvindiliiniga *Ursatz*.

Mõningaid Schenkeri põhimõisteid on sageli reastatud järgmiselt: *Naturklang – Stufe – Linie – Ursatz*. Sellest võiks järeldada, et samaaegselt „astme" (*Stufe*) ehk sisuliselt funktsionaalharmoonia tekkimisega asendus traditsiooniline häälte kontrapunkt liinide omaga. Kuid kui kujutada klassikalise muusika parameetrite subordinatsiooni kolmeastmelise püramiidina, mille aluseks on kontrapunkt, keskel harmoonia ja tipus vorm, osutub see mõttekäik vääraks. Ühelt poolt sõnastati kontrapunkti põhireeglid juba hiljemalt 15. sajandi keskel, teiselt poolt aga ei avaldanud 1600. aasta paiku, üleminekul renessansiaja modaalharmoonialt barokiajastu funktsionaalharmooniale toimunud otsustavad muutused harmoonia valdkonnas olulist mõju kontrapunktireeglitele. (Samuti toimus üleminek barokkvormidelt klassikalistele 1750. aasta paiku ilma oluliste muutusteta funktsionaalharmoonias.)

Seega näib, et liikumisel eelmainitud püramiidi madalamatelt „korrustelt" kõrgematele kaasneb pigem madalamate „korruste" elementide uudne rakendamine kui nende radikaalne ümberkujundamine.

Traditsioonilise Schenkeri analüüsi asemel tutvustab käesolev artikkel alternatiivset kontrapunktilise analüüsi meetodit – harmoonilise kontrapunkti analüütilist teooriat, kus tagaplaani ei moodusta mitte kahehäälne *Ursatz*, vaid viiehäälne häältejuhtimismaatriks.

Enamasti sisaldab kontrapunktiehituse kõrgeim tasand üksnes kogu vormi vältel prolongeeritud algustoonikat ja lõpukadentsi. Lihtsaima, nn. prolongeerimata kadentsi häältejuhtimismaatriks koosneb

kolmest akordist – algustoonikast ning lõpukadentsi *penultima* ja *ultima* akordidest (autentses kadentsis vastavalt dominant ja toonika, vt. näited 5a ja 6a, plagaalses kadentsis vastavalt subdominant ja toonika, vt. näited 5b ja 6b). Prolongeeritud kadentsides lisandub toonika ja dominandi vahel mingi subdominant- või dominandi dominantfunktsiooni akord. Näidetes 7–16 on kujutatud mitmesuguste harmooniliste struktuuride tüüpilist häältejuhtimist. Näited 7, 8 ja 9 kujutavad prolongeeritud autentse kadentsi kolme erinevat tüüpi. Kadentsid, kus nimetatud lisaakordi ajal püsib toonika terts paigal, esindavad nn. null-tüüpi (näide 7). Ülejäänud prolongeeritud kadentsid esindavad *a*- ja *b*-tüüpi (vastavalt näited 8 ja 9).[1] Näites 10 on kujutatud kolme laiendatud kadentsi – nn. välditud kadentsi (*evaded cadence*, näide 10a), katkestuskadentsi (näide 10b) ja viimasega sarnanevat tõusva kvindiringiga (I–V–II–VI) algavat kadentsi (näide 10c).[2] Näidetes 11–12 on kujutatud moduleerivaid kadentse tonaalse plaaniga I–V (näide 11), I–III (näide 12a) ja I–VI (näide 12b). Näidetes 13–16 on kujutatud erineva tonaalse plaaniga nn. abikadentse:[3] V–I (näide 13), VI–I (näide 14a), III–I (näide 14b), IV–I (näide 14c), II–I (näide 15a) ja VII–I (näide 15b). Näide 16 kujutab kahte nn. liitabikadentsi, mis ühendavad kas välditud (näide 16a) või katkestuskadentsi (näide 16b) näites 13 kujutatud abikadentsiga V–I.

Näites 17 on analüüsitud Mozarti klaverisonaadi *D*-duur (KV 576) teise osa (*Adagio A*-duur) kontrapunktilist struktuuri seitsmel eri tasandil. Osa on kirjutatud episoodiga kolmeosalises liitvormis (*ABA* + kooda), selle esimene lõik (*A*-duur) omakorda repriisiga kaheosalises lihtvormis aa_1ba_2, teine lõik (*fis*-moll) aga kolmeosalises lihtvormis cc_1dcc_2. 1. tasand (näide 17a) moodustab osa häältejuhtimismaatriksi. 2. tasand (näide 17b) kajastab osa üldstruktuuri selle kahe põhilise helistikualaga (*A*-duur ja *fis*-moll). 3. tasandil (näide 17c) on lisatud *A*- ja *B*-osa lõpukadentsid prolongeerimata häältejuhtimismaatriksite kujul. 4. tasand (näide 17d) kujutab kummagi põhiosa alalõikude (aa_1ba_2 ja cc_1dacc_2) tonaalset plaani. 5. tasandil (näide 17e) on lisatud kõikide lausete kadentsid prolongeerimata häältejuhtimismaatriksite, 6. tasandil (näide 17f) aga subdominant- või dominandi dominantakordide abil prolongeeritud kadentside kujul. 7. tasand (näide 17g) kujutab struktuuri esiplaani, kus kadentsidele on lisatud lausete algustoonikate prolongatsiooni tähistavad rohkearvulised häältejuhtimisdetailid.

Artikli viimases osas („Lähivaldkonnad") on lühidalt käsitletud mõningaid kontrapunktilise analüüsi probleeme, mida harmoonilise kontrapunkti teooria käsitleb erinevalt traditsioonilisest Schenkeri analüüsist: poolkadents ehk nn. „katkestus",[4] Schenkeri järgi nn. „näivtoonikat" sisaldav järgnevus IV–I–V (näide 19 – Beethoveni klaverisonaadi *op*. 26 esimese osa algus) ja sonaaditöötluse süvakeskplaani struktuur (näide 20 – Beethoveni klaverisonaadi *op*. 87 esimese osa töötlus).

[1] Vt. Humal 2007: 14.

[2] Laiendatud kadentsidest vt. Humal 2007: 21–24.

[3] Abikadentsist vt. Humal 2007: 32.

[4] Vt. Humal 2001.