Towards an Analytical Theory of Harmonic Counterpoint

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ABSTRACT: Harmonic counterpoint is to be understood as the counterpoint made up of the melodic patterns of individual voices within chord progressions.

An essential aspect of counterpoint is the hierarchy of structural levels. In particular, it is Schenkerian analysis that arranges all the structural elements of a composition into a hierarchy of structural levels. However, as an analytical theory of harmonic counterpoint, it is not quite satisfactory.

In the theory proposed in this article, the harmonic counterpoint will be analysed, using the method of contrapuntal analysis based on a five-part **voice-leading matrix**, rather than the two-part Schenkerian *Ursatz*, as the high-level structure of tonal counterpoint, and exemplified by the analysis of Chopin's Prelude in C minor (Op. 28, No. 20).

KEYWORDS: *Schenkerian analysis, harmonic counterpoint, voice-leading matrix, Chopin*

HARMONIC counterpoint is to be understood as the counterpoint made up of the melodic patterns of individual voices within chord progressions.

An essential aspect of counterpoint is 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 neighbouring 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 composition into a hierarchy of structural levels. In this hierarchy, certain typical high-level structures are projected onto lower levels.[1]

Although technically Schenkerian analysis seems to be a method of contrapuntal analysis[2], it aims to be something much more – the theory of (tonal) music *per se*.[3] However, as an analytical theory of harmonic counterpoint it is not quite satisfactory. Particularly, its model of the high-level (or background) structure in the form of the two-part *Ursatz* is problematic. It seems to be impossible to analyse adequately the **tonal** counterpoint (unlike some earlier forms of counterpoint) without the equal status attached to all of its voices.

[1] "Schenker assumed that whenever a prototype is transformed, the resulting material will always conform to the same laws as the prototype itself. This idea of preserving laws through transformation is known in mathematics as recursion" (Brown 1998: 117).

[2] According to Matthew Brown, "insofar as explanations require laws, Schenkerian theory is capable of explaining only the contrapuntal and harmonic structure of tonal music" (Brown 1998: 127).

[3] According to Richard Cohn and Douglas Dempster, "[t]he claim [of Schenkerian analysis] that compositions are hierarchical requires not only that the traditional disciplines of harmony, melody, and counterpoint be synthesized into a single model, the prolongational hierarchy [...]; it also requires that extra-prolongational features be accommodated to that hierarchy without undermining it" (Cohn, Dempster 1992: 164).

In what follows, an alternative method of contrapuntal analysis will be proposed and exemplified by the contrapuntal analysis of Chopin's Prelude in C minor (Op. 28, No. 20).

1. VOICE-LEADING MATRIX

As a rule, 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 2008a: 94).

Our method of contrapuntal analysis is based on a five-part **voice-leading matrix** (VLM)[4], rather than the two-part Schenkerian *Ursatz*, as the high-level structure of tonal counterpoint.

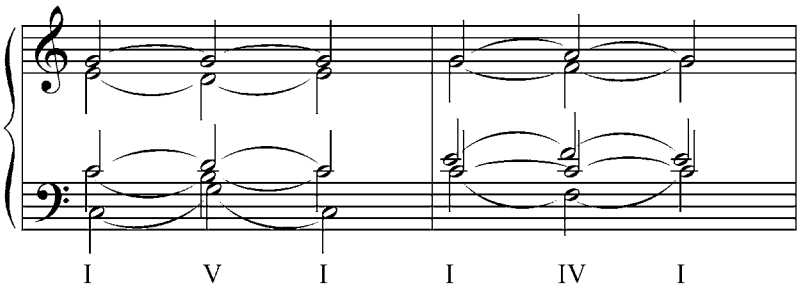
[4] The term is used, for example, by William Renwick. According to him, a voice-leading matrix (as "a fundamental expression of tonal voice-leading, a primal basis for unlimited expansion and development") "works out in full the voice-leading implications of Schenker's $\hat{3}$ - $\hat{2}$ - $\hat{1}$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

The most typical **authentic** VLM corresponds to 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 1, 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 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 1. 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 neighbour-tone figures will be labelled as **primary** VLMs. Example 2 shows the authentic and plagal primary VLMs. In the former (Example 2a), the upper voices have the following melodic patterns:

1. The Mediant Lower-Neighbour Figure (MLNF) $\hat{3}$ - $\hat{2}$ - $\hat{3}$ (in the 'soprano' voice);

2. The Tonic Lower-Neighbour 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-Neighbour Figure (TUNF) $\hat{1}$ - $\hat{2}$ - $\hat{1}$ (in the 'baritone' voice).

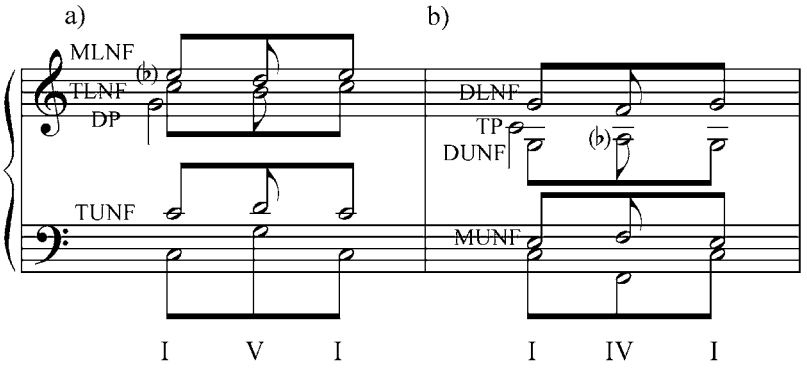
In the plagal primary VLM (Example 2b), the upper voices have the following melodic patterns:

1. The Dominant Lower-Neighbour 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-Neighbour Figure (DUNF) $\hat{5}$ - $\hat{6}$ - $\hat{5}$ (in the 'tenor' voice);

4. The Mediant Upper-Neighbour Figure (MUNF) $\hat{3}$ - $\hat{4}$ - $\hat{3}$ (in the 'baritone' voice).



Example 2. Authentic and plagal primary VLMs.

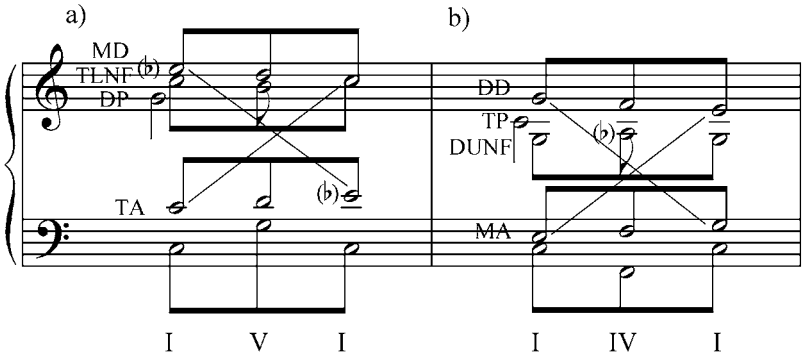
In order to represent directed motion typical of the highest voice, the two neighbour-note figures connecting one of the tones of the *penultima* chord with two different tones of the tonic chord will be transformed into a voice-exchange pattern. This gives rise to two third-progressions – an ascent and a descent. In such a way, the **secondary** VLM (Example 3) is generated whose moving upper voices consist of one neighbour-note figure and two third-progressions. Most of tonal compositions can be analysed using the secondary VLM.

In the authentic secondary VLM (Example 3a), 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-Neighbour 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 3b), 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-Neighbour 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 3. 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 analysed as a combination of a third-progression and a neighbour-note 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 voices may contain many neighbour-tone figures on different levels.

2. PROLONGED, EXPANDED AND MODULATING CADENCES

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

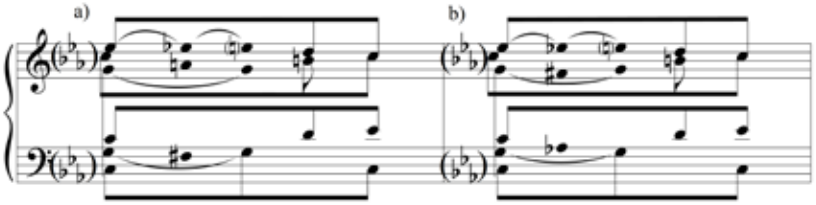
1. Unprolonged cadences (without the pre-dominant chord: I–V–I);
2. Prolonged cadences (with the pre-dominant chord);
3. Expanded cadences.

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.

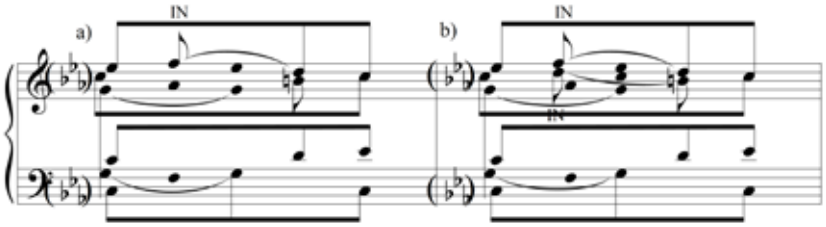
Prolonged cadences can be divided into four paradigms: Paradigm zero (Example 4), Paradigm *a* (Example 5a), Paradigm *a/b* (Example 5b) and Paradigm *b* (Example 6). They arise from the unprolonged cadence as a result of the elaboration of melodic progressions of individual voices. In cadences of Paradigm zero $\left(\text{I - VII}_7^{\circ}/\text{V}\ {}^{6\text{ - }5}_{4\text{ - }3}\text{ - I or I - Ger.}\ {}^{6}_{5}\text{ - V}\ {}^{6\text{ - }5}_{4\text{ - }3}\text{ - I, etc.}\right)$, the $\hat{3}$ of the initial tonic is retained (or chromatically changed) during the pre-dominant chord. In Example 4, showing two forms of such a cadence, DP is doubled in two octaves and embellished by its lower- and upper-neighbour notes in different octaves.



Example 4. Paradigm-zero cadence.

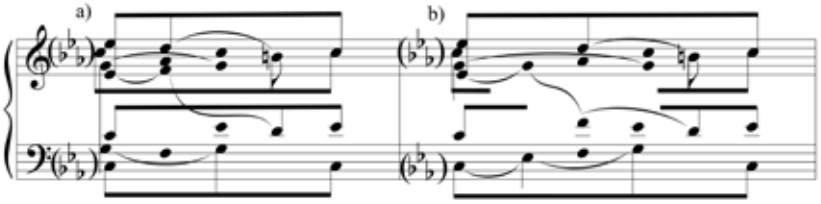
In the Paradigm-*a* (Example 5a) and Paradigm-*a/b* (Example 5b) cadences, DP is also doubled in two octaves and embellished by its lower- and upper-neighbour notes. The pre-dominant chord (the subdominant triad in the case of the Paradigm-*a* cadences, V/V or some of the inversions of the ii_7 in the case of the Paradigm-*a/b* cadences) supports $\hat{4}$ as an incomplete upper neighbour (IN), usually followed by the descending third-progression – Subdominant Descent $(\text{SD}, \hat{4}\text{ - }\hat{3}\text{ - }\hat{2})$ – having the $\hat{3}$ as a passing tone

supported by the cadential six-four. In Paradigm-*a/b* cadence, SD is usually accompanied in the 'alto' 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 (where it appears in the upper voice).



Example 5. Paradigm-*a* and *a/b* cadences.

In the Paradigm-*b* cadence (Example 6), having V/V or some of the inversions of the ii_7, as the pre-dominant chord, 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. In order to obtain $\hat{3}$ of the cadential six-four, the *Leittonterzzug* is usually accompanied in a sixth below by another descending third-progression – the SD.

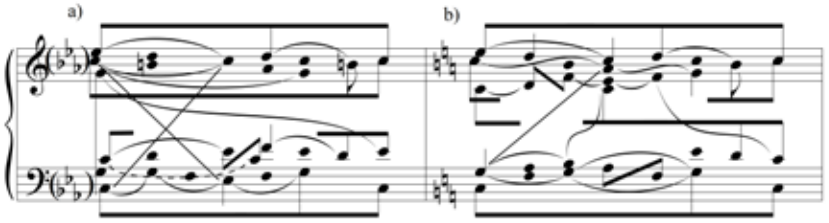


Example 6. Paradigm-*b* cadence.

In **expanded** cadences, the initial tonic harmony is prolonged by means of some specific harmonic-contrapuntal techniques, the most common among them being the **evaded cadence** (in which the dominant is followed by a non-structural, usually first-inversion tonic; see Schmalfeldt 1992: 152) 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 prior to the concluding cadence.

Example 7a presents the most typical form of the evaded cadence, and Example 7b – one of the forms of the interrupted cadence. In Example 7a, as it is typical of an evaded cadence, the initial MD into an inner voice is

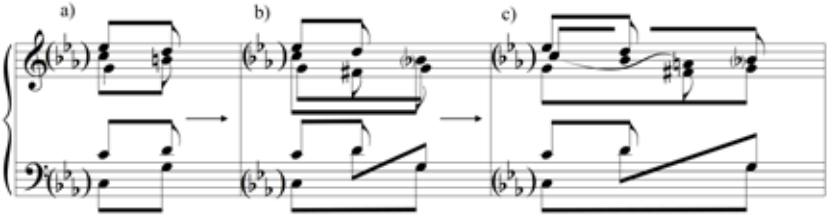
supported by a descending third-progression in the bass ($\hat{5}$ - $\hat{3}$), leading to the first-inversion initial tonic of the concluding cadence. In the case of the interrupted cadence (Example 7b), the initial MD is supported by an upper-neighbour figure in the bass ($\hat{5}$ - $\hat{6}$ - $\hat{5}$), unfolded by its lower third ($\hat{4}$) supporting the pre-dominant harmony of the concluding cadence.



Example 7. Expanded cadences.

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. These can be labelled as **modulating cadences** and analysed on the base of the VLM of the initial tonality.

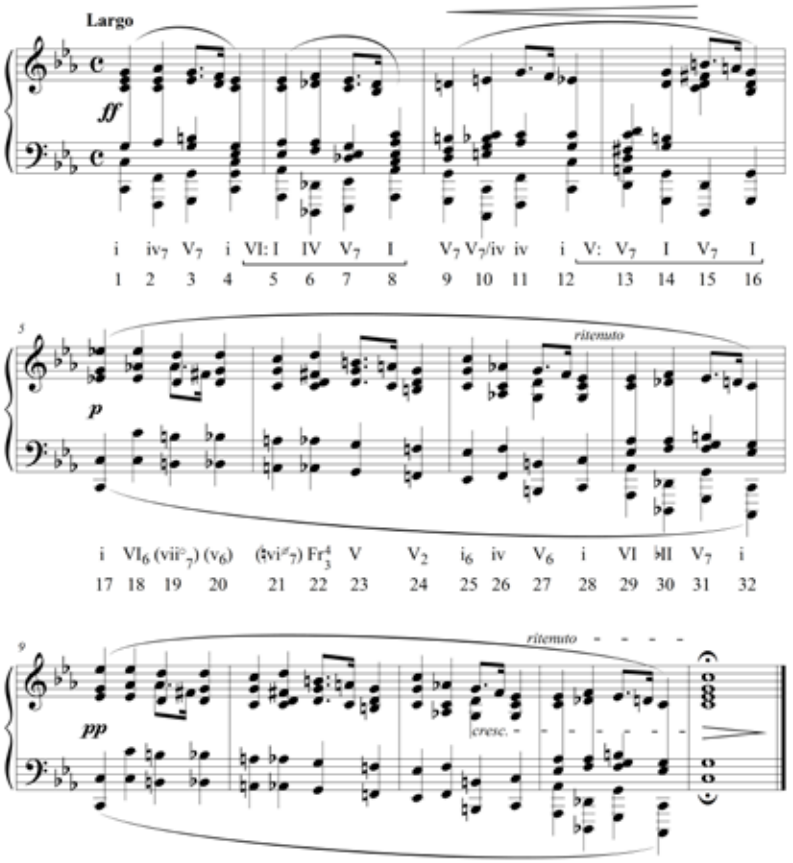
The most common modulating cadence I–V (or i–v) can be regarded as an elaboration of a half cadence (Example 8a), prolonged by V/V rather than a subdominant harmony (Example 8b; to avoid parallel fifths, the fifth A of the V/V is omitted). When further elaborated by means of the cadential six-four (Example 8c), the lower-level third-progression TD (Tonic Descent) c^2 - b^1 - a^1 or c^2 - $b\flat^1$ - a^1 ($\hat{8}$ - $\hat{7}$ - $\hat{6}$ 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.



Example 8. Modulating cadence I–V (i–v).

3. AN EXAMPLE

Example 13 presents a contrapuntal analysis of Chopin's Prelude in C minor, Op. 28 No. 20 (Example 9). This piece is written in the form of a non-parallel period *ab* consisting of the antecedent phrase *a*, modulating to the dominant G major (bars 1–4), and the consequent phrase *b*, concluding in the home key (bars 5–8), with the repetition of the consequent phrase (bars 9–12), followed by the repeated tonic chord (bar 13).



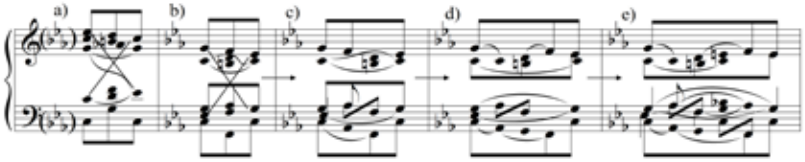
Example 9. Chopin, Prelude in C minor, Op. 28 No. 20.

Example 9 contains the harmonic analysis of the Prelude consisting of 32 chords (numbered below the analysis).[5] Example 13 shows the gradual generation of the harmonic-contrapuntal structure of the Prelude, in the form of six structural levels, from the authentic VLM of Example 13a (**level 1**) containing chords 1, 31 and 32 and consisting of the root-progression $\hat{1}$ - $\hat{5}$ - $\hat{1}$ (C - G - C), MD ($\hat{3}$ - $\hat{2}$ - $\hat{1}$: e♭^{1} - d^1 - c^1), TLNF ($\hat{1}$ - ♮$\hat{7}$ - $\hat{1}$: c^1 - b - c^1), DP ($\hat{5}$: g), and TA ($\hat{1}$ - $\hat{2}$ - $\hat{3}$: c - d - e♭). The **harmonic structure** of the Prelude is characterized by five cadential progressions and an evaded cadence. Harmonically, bar 1 consists of a prolonged imperfect authentic cadence

[5] Chords having only passing function are marked in parentheses.

of Paradigm zero (with iv_7 as the pre-dominant chord) in the home key, followed by a similar Paradigm-*a* cadence (with IV as the pre-dominant chord) in the submediant key (A♭ major). On a higher level, bars 1–3 present a prolonged plagal cadence with its initial tonic elaborated by means of the sequence descending by thirds in the form of the aforementioned two imperfect authentic cadences.

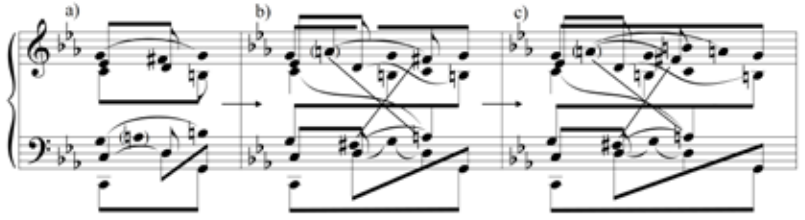
Example 10 shows the generation of this plagal cadence. Analogously to the authentic VLM which can be modified by the inclusion of the DUNF ($\hat{5}$ - $\hat{6}$ - $\hat{5}$) and DD ($\hat{5}$ - $\hat{4}$ - $\hat{3}$) as lower-level contrapuntal elements, to produce the dominant ninth and seventh, respectively (Example 10a), the plagal VLM of Example 3b can include the TA ($\hat{1}$ - $\hat{2}$ - $\hat{3}$) and TLNF ($\hat{1}$ - $\hat{7}$ - $\hat{1}$) which make the *penultima* chord identical to the $vii^{\circ}\,{}^{4}_{3}$ (Example 10b). In Example 10c, the downward fifth in the bass of Example 10b is arpeggiated, producing a iv_6, preceding the $vii^{\circ}\,{}^{4}_{3}$. In Example 10d, the iv_6 is replaced by the VI (corresponding to bar 2 of Chopin's Prelude), and a passing chord (G - f - b♮ - d^1) appears between chords 2 and 3 of Example 10c. In Example 10e, a lower-level V_7/iv is added between chords 3 and 4.



Example 10. Generation of the plagal cadence in Chopin's Prelude in G major, Op. 28 No. 3.

Example 11 shows the generation of the modulating cadence at the end of the antecedent phrase. The V/V of Example 8b is preceded by an implied $ii\,{}^{6}_{5}$ (Example 11a)[6], rather than the cadential six-four (as in Example 8c), and it is elaborated by means of the voice-exchange and the bass alternation between $\hat{2}$ and $\hat{5}$ (Example 11b). This produces a low-level passing tonic triad on the second beat of bar 4. A voice-leading detail different from Example 8 is the appearance of the DA (Dominant Ascent, $\hat{5}$ - ♮$\hat{6}$ - ♮$\hat{7}$: g - a - b), connecting the 'alto'and the 'tenor' voices, after the voice-exchange. In Example 11c, the upper-voice ♮$\hat{6}$ is embellished by the lower-level upper-neighbour figure ♮$\hat{6}$ - ♮$\hat{7}$ - ♮$\hat{6}$.

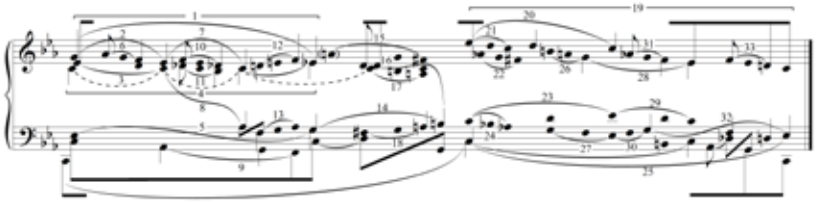
[6] As in Example 8b, Chopin omits the fifth of chord 13 (it appears only in chord 15). In Examples 10c–10f, to avoid parallel fifths and octaves, this implied tone is added before the V/V, thus producing the implied $ii\,{}^{6}_{5}$.



Example 11. Generation of the modulating cadence in Chopin's Prelude in G major, Op. 28 No. 3.

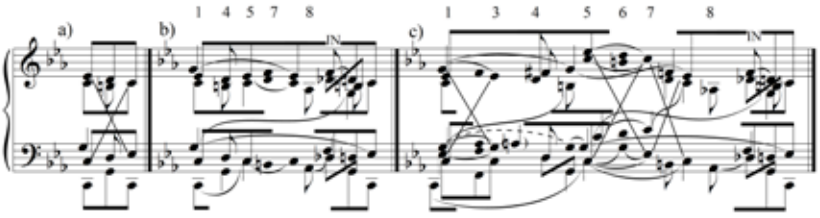
On the middleground level of the consequent phrase, there is an evaded cadence in bars 5–7 (including the French $\frac{4}{3}$ as the pre-dominant chord), following the model of a Paradigm-*b* cadence (cf. Example 7a). The concluding cadence (bar 8) represents a Paradigm-*a*/*b* authentic cadence (with the 'Neapolitan' ♭II as the pre-dominant chord).

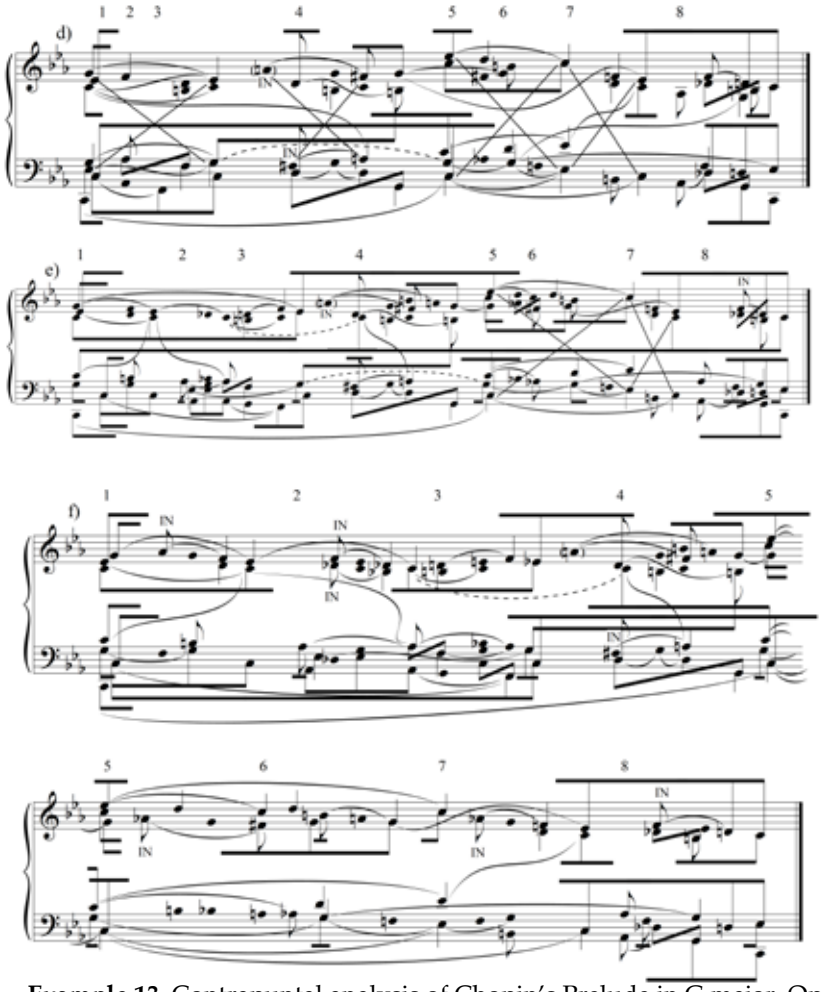
The **contrapuntal structure** of the Prelude is characterized by an intricate system consisting of 33 descending or ascending third-progressions (some of them chromatically filled-in), arising on each structural level, presented (along with the bass line) and numbered in Example 12. The two highest-level third-progressions contained in the VLM (Example 13a) are included in Example 12 as progressions 19 and 25.



Example 12. System of third-progressions in Chopin's Prelude in G major, Op. 28 No. 3.

On **level 2** (Example 13b), the initial tonic of the VLM is prolonged by means of the dominant (chord 16, bar 4**)**, corresponding to the *ultima* chord of the antecedent phrase's concluding cadence and followed by the returning tonic (chord 17, bar 5). On the deep-middleground level, the initial tonic of the consequent phrase is prolonged by means of two descending third-progressions – DD (progression 28, $\hat{5}$ - $\hat{4}$ - $\hat{3}$: g^1 - f^1 - e♭^{1}) and MD (progression 29, $\hat{3}$ - $\hat{2}$ - $\hat{1}$: e♭^{1} - d^1 - c^1), accompanied by the TLNF ($\hat{1}$ - ♮$\hat{7}$ - $\hat{1}$: c - B - c), and producing chords 27–28. The final cadence is prolonged by means of the aforementioned 'Neapolitan' ♭II (chord 30, bar 8), preceded (to avoid parallels between the roots and fifths of i and ♭II), by the VI (chord 29, bar 8) and followed by the V_7, giving rise to the *third*-progression 32 (DD $\hat{5}$ - $\hat{4}$ - $\hat{3}$: g - f - e♭).





Example 13. Contrapuntal analysis of Chopin's Prelude in G major, Op. 28 No. 3.

On **level 3** (Example 13c), the aforementioned plagal cadence (bars 1–3) as the deep-middleground prolongation of the initial tonic is added in the antecedent phrase (cf. Example 3b), producing chords 11 and 12, as well as third-progressions 1 and 5 (DD: g^1 - f^1 - $e\flat^1$, and MA: $e\flat$ - f - g, respectively). The antecedent phrase's concluding cadence (bar 4) is elaborated by the addition of its *penultima* chord (V/V, chord 13, bar 4), along with the aforementioned third-progression 14 (DA $\hat{5}$ - $\flat\hat{6}$ - $\flat\hat{7}$: g - a - b, cf. Example 11b). On the middleground level, the initial tonic of the consequent phrase is elaborated by means of the aforementioned evaded cadence (according to the model of Example 7a), producing chords 22 and 25, third-progressions 20 and 23 (MD: $e\flat^2$ - d^2 - c^2, and TA: c^1 - d^1 - $e\flat^1$, respectively), as well as two voice-exchange patterns.

On **level 4** (Example 13d), the initial tonic of the plagal cadence of bars 1–3 is prolonged, according to the model of Example 10c, giving

rise to third-progression 4 (TA: c^1 - d^1 - $e\flat^1$), TLNF c^1 - b - c^1 and the bass arpeggiation c - A♭ - F. The antecedent phrase's concluding cadence is further elaborated by the addition of chords 14 and 15 (cf Example 11b) and third-progressions 15–18 ♮$\hat{6}$ - $\hat{5}$ - ♯$\hat{4}$: a^1 - g^1 - $f\sharp^1$, $\hat{2}$ - $\hat{1}$ - ♮$\hat{7}$: d^1 - c^1 - b, $\hat{1}$ - ♮$\hat{7}$ - ♮$\hat{6}$: c^1 - b - a, and ♯$\hat{4}$ - $\hat{5}$ - ♮$\hat{6}$: f♯ - g - a, respectively). The evaded cadence of bars 5–7 is elaborated by means of the pre-dominant Fr. $\frac{4}{3}$ (chord 22), and the downward third g - e♭ in the bass (bars 6–7) is filled in, producing chord 24 and third-progression 27 (DD: g - F - e♭, bars 6–7).

On **level 5** (Example 13e), the initial tonic of the plagal cadence of bars 1–3 is prolonged by the two aforementioned imperfect authentic cadences (in the unprolonged form), producing chords 3, 4, 7 and 8, as well as third-progressions 2, 3, 7 and 8 (DD: g^1 - f^1 - $e\flat^1$ and MD: $e\flat^1$ - d^1 - c^1, bar 1, as well as MD: $e\flat^1$ - $d\flat^1$ - c^1 and TD: c^1 - b♭ - a♭, bar 2, respectively). The subsequent chords of the plagal cadence are elaborated, according to the model of Example 10d, producing chord 9 and third-progression 9 ($\hat{6}$ - $\hat{5}$ - $\hat{4}$: A♭ - G - F, bars 2–3). On the foreground level, the initial tonic of the consequent phrase is embellished by means of third-progressions 21 and 24 (MD: $e\flat^2$ - d^2 - c^2, and TD: c^1 - b♭ - a♭, respectively, bars 5–6), giving rise to chord 20.

On **level 6** (Example 13f), the pre-dominant chords (chords 2 and 6) are added to the imperfect authentic cadences of bars 1–2, producing lower-level third-progressions 6, 10 and 11 ($\hat{6}$ - $\hat{5}$ - $\hat{4}$: $a\flat^1$ - g^1 - f^1, bar 1; $\hat{4}$ - $\hat{3}$ - ♭$\hat{2}$: f^1 - $e\flat^1$ - $d\flat^1$ and ♭$\hat{2}$ - $\hat{1}$ - ♭$\hat{7}$: d♭ - c^1 - b♭, bar 2, respectively), descending to the second note of higher-level third-progressions 2, 7 and 8, respectively. Similar third-progressions 21 and 33 in the consequent phrase $\hat{6}$ - $\hat{5}$ - $\hat{4}$: $a\flat^1$ - g^1 - f^1, bar 7, and $\hat{4}$ - $\hat{3}$ - $\hat{2}$: f^1 - $e\flat^1$ - d^1, bar 8) suggest an idea of bars 7–8 as a concealed reprise of bars 1–2. (Third-progression 21, along with another low-level third-progression 30: $\hat{3}$ - $\hat{4}$ - $\hat{5}$: e♭ - f - g, gives rise to chord 26). What is more, such a combination of two descending third-progressions on different levels, characteristic of these bars, becomes the main motivic feature of this Prelude.

The plagal cadence of bars 1–3 is further elaborated, according to the model of Example 10e, giving rise to chord 10, as well as third-progressions 12 and 13 ($\hat{2}$ - ♮$\hat{3}$ - $\hat{4}$: d^1 - e^1 - f^1, and $\hat{4}$ - $\hat{5}$ - $\hat{6}$: f - g - a♭, respectively, bar 3). In the consequent phrase, third-progression 24 (bars 5–6) is elaborated by means of chromatic passing tones (b♮ and a♮) and accompanied by third-progression 22 ($a\flat^1$ - g^1 - $f\sharp^1$) connecting the upper and lower neighbour-notes of g^1 and giving rise to chords 18, 19 and 21. Another lower-level third-progression 26 (♮$\hat{7}$ - ♮$\hat{6}$ - $\hat{5}$: b^1 - a^1 - g^1) connects the third and root of the dominant chords 23–24 (bar 6).

As we have seen in Examples 12 and 13, most of the third-progressions are descending; only progressions 4, 5, 12–14, 18, 23, 25 and 30 are ascending. Whereas there are descending progressions beginning on each scale-degree, the ascending ones begin only on scale-degrees 1–5. The most

frequent third-progressions are MD (progressions 3, 7, 19–21 and 29), DD (progressions 1, 2, 27, 28 and 32), SMD (Submediant Descent; progressions 6, 9, 15, 22 and 31), TA (progressions 4, 23 and 25), and TD (progressions 8, 17 and 24). Characteristically, their initial scale-degrees ($\hat{6}, \hat{1}, \hat{3}, \hat{5}$) constitute a continuous chain of thirds with the tonic at its centre.

Example 13f contains practically all the tones of the melody, except for some tone repetitions, the most remarkable one being the appoggiatura g^1 in bar 3, repeating the first tone of third-progression 1. As a rule, the melody can be regarded as a concatenation of overlapping third-progressions and neighbour-note figures. In bars 1, 2 and 8, it consists of the aforementioned combination of two descending third-progressions in different levels (progressions 2 and 6, 7 and 10, as well as 19 and 32). The same is true of bar 7, except for its first note c^2, belonging to another, higher-level third-progression (progression 20), the motivic combination of the two third-progressions (progressions 28 and 31) beginning at the last beat of the previous bar 6.

Both in bars 2 (beat 4), 3 and 5–7 (beat 1), the melody consists of different combinations of three third-progressions. Bars 2–3 contain two ascending progressions at different levels (progressions 4 and 12), combined in the way somewhat similar to those in bars 1, 2 and 8. In addition, each of these progressions concludes with the note (f^1 and $e♭^1$, respectively), also belonging (along with the aforementioned appoggiatura g^1 in bar 3) to the descending deep-middleground third-progression 1 – DD of the plagal cadence of bars 1–3. In bars 5–7, the middleground progression 20 – MD $e♭^2 - d^2 - c^2$ – has two lower-level descending progressions embeddid in it, the first of them (progression 21) issuing from its initial note $e♭^2$, and the second (progression 26) being inserted between its last two notes.

Finally, the melody of bar 4 – arpeggiated G-major triad with one passing tone ($d^1 - g^1 - b♮^1 - a♮^1 - g^1$) – contains elements of three neighbour-note figures and one third-progression. It is framed by the tones of the lower-neighbour figure $e♭^1 - d^1 - e♭^2$ (measures 1–5), embedding the last two tones of the upper-neighbour figure $[a♮^1] - b♮^1 - a♮^1$ (bar 4) and the last one of the lower-neighbour figure $g^1 - f♯^1 - g^1$ (bars 1–4), as well the second tone of third-progression 15 ($[a♮] - g^1 - f♯^1$).

These overlapping third-progressions and neighbour-note figures, making up the melody, arise on different levels of the harmonic-contrapuntal structure, most of them on levels 5 and 6 (on level 5: progressions 2, 7, 21 and the neighbour-note figure $[a♮^1] - b♮^1 - a♮^1$ in bar 4; on level 6: progressions 6, 10, 12, 26, 31 and 33). On level 4 arise progressions 2 and 15, on level 3 – progressions 1 and 20, as well as the neighbour-note figure $g^1 - f♯^1 - g^1$ (bars 1–4), on level 2 – progression 28 and the neighbour-note figure $e♭^1 - d^1 - e♭^2$ (bars 1–5), and on level 1 – progression 19.

4. ON STRUCTURAL LEVELS

According to Schenker, "[i]t is impossible to generalize regarding the number of structural levels, although in each individual instance the number can be specified exactly" (Schenker [1935] 1979: 26). In our analysis, six structural levels were needed, in order to exhaustively demonstrate the hierarchy of its harmonic-contrapuntal structure.

Since the highest level of the contrapuntal structure consists only of the initial tonic, prolonged throughout the form and leading to the concluding cadence, it is obvious that almost the entire contrapuntal structure of a form originates in the prolongation of the initial tonic harmony. Whereas it is unprolonged in the VLM (on level 1), it is very differently prolonged on the lower levels.

Being the initial tonic both of the form and the concluding cadence, that of the VLM seems to function simultaneously in at least three forms:

1. As the initial tonic of the whole form;

2. As that of its last section;

3. As that of the concluding cadence.

These functions of the initial tonic, indistinguishable in the VLM, are separated on level 2. As the initial tonic of the whole form, that of the VLM is prolonged usually by means of the medial cadence; in the case of the Chopin's Prelude discussed, in the form of a half cadence (cf. Example 8a). As the initial tonic of the last section of the form, it is here prolonged by means of the bass TLNF, accompanied by third-progressions 28 and 29. As the initial tonic of the concluding cadence, it is here prolonged by the Neapolitan ♭II, with its preparing VI (to avoid parallel fifths).

In the first part of the form (prior to the medial cadence), the initial tonic, by its turn, functions simultaneously in at least two forms:

1. As the initial tonic of the whole form;

2. As that of the medial cadence.

These functions, indistinguishable on level 2, are separated on level 3. As the initial tonic of the first part of the form, that of the VLM is here prolonged by means of the plagal cadence of bars 1–3. As that of the medial cadence, it is here prolonged by means of the V/V, turning the half cadence of level 2 to the modulating one (according to the model of Example 11). At the same time, the initial tonic of the last section also functions in two forms on level 3: on the deep middleground (here as that of the aforementioned prolongation by means of the the TLNF of bass on levels 2–6) and at the middleground (here as that of the evaded cadence of bars 5–8 on levels 3–6).

Since in the Prelude discussed, both plagal cadence of bars 1–3 and evaded cadence of bars 5–8 are unprolonged on level 3, their initial tonics will be prolonged on subsequent levels, in the former, according to model of Example 10 (levels 4–6) and by the further elaboration of the initial tonic and submediant chords, by means of two imperfect authentic cadences (unprolonged on level 5 and prolonged on level 6), and in the latter, by means of the Fr. $\frac{4}{3}$ (levels 4–6), as well as third-progressions 21, 22 and 24 (levels 5–6). On the other hand, in the medial cadence, it is the dominant, rather than the tonic, that is prolonged on levels 4–6 (according to the model of Examples 12b–12c).

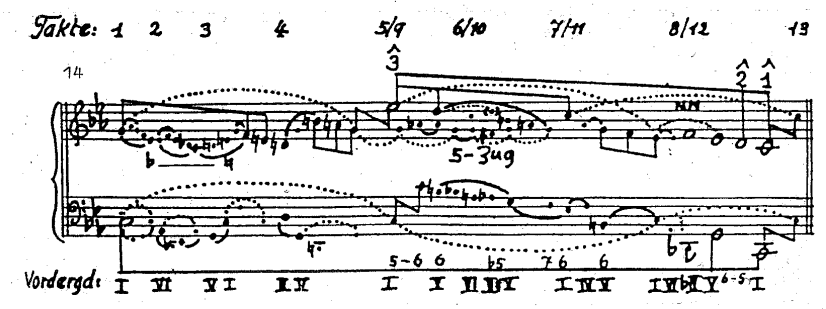
As we see, the content of each lower level is increasingly more individual. It is also evident that the number of structural levels depends on the type and size of the form analysed, and, particularly, on the number of cadences it contains.

* * *

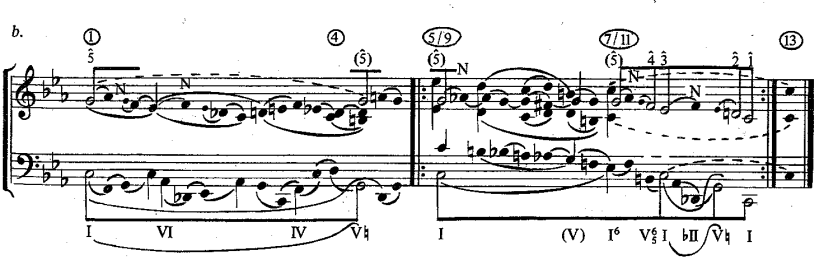
Examples 14 and 15 present two traditional Schenkerian readings of this Prelude – the foreground graph by Schenker's student Felix-Eberhard von Cube (1903–1988; see Cube 1987: 331) and that by Allen Forte and Steven E. Gilbert (1982: 225), respectively. Whereas von Cube's reading is somewhat similar to ours in terms of the high-level structure (owing to the upper-voice $\hat{3}$ - line $\hat{3}$ - $\hat{2}$ - $\hat{1}$) and some middleground details (especially those of bars 1–2[7] and 5–7), that by Forte and Gilbert is more different both in terms of the overall structure[8] and details (cf. bars 3–4 and 7).

[7] Also in Allen Forte's and Steven E. Gilbert's (1982) reading these measures are similar to ours.

[8] As the background structure, this reading uses the upper-voice $\hat{5}$-line ($\hat{5}$ - $\hat{4}$ - $\hat{3}$ - $\hat{2}$ - $\hat{1}$), incompatible with the concept of VLM. For more detail, see Humal 2008b: 35–41.



Example 14. Cube's reading of Chopin's Op. 28/3.



Example 15. Forte's and Gilbert's reading of Chopin's Op. 28/3.

5. CONCLUSION

An analytical theory of harmonic counterpoint based on the five-part VLM rather than the two-part Schenkerian *Ursatz* possesses a number of advantages, compared to the traditional Schenkerian analysis. Unlike Schenkerian *Ursätze*, a VLM is a directly audible phenomenon rather than abstract prototype and, therefore, functions both on the background and foreground levels. Whereas there has always been a mystical aura hovering over the concept of *Ursatz* (and *Urlinie* as its upper voice)[9], a VLM, rather than unfolding the mystical 'chord of nature', represents cadential models firmly rooted in the tonal harmony and, therefore, can accommodate both to authentic and plagal cadences, in accordance with the traditions of harmonic dualism.

[9] Schenker himself claimed: "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 [1926] 1994: 18–19).

Having essentially only one rather than three forms, the VLM makes it possible to avoid conflicting background structures of themes by analysing polythematic forms (including the sonata form; see Humal 2008b: 40, Note 27).

However, the greatest advantage of the new theory is the fact that the VLM contains five individual continuous voices (each of them having an exact contrapuntal content) rather than two continuous outer voices and an indefinite number of fragmentary inner voices. Whereas the traditional Schenkerian analysis makes it possible, at best, to connect each tone of the melody and the bass line, through a definite number of transformations, with the background structure, our theory of contrapuntal analysis extends this possibility to the tones of any of the voices. Since Schenkerian analysis has, in this sense, stopped halfway in disclosing the hierarchical structure inherent in the counterpoint, the theory proposed may be one of the ways onward towards its total description.

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