"Paths of Harmony" in the First Movement of Brahms's Cello Sonata in E minor, Op. 38

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"The paths of harmony are tortuous," wrote Arnold Schoenberg in his manuscript on the musical idea. They lead

> in all directions, approaching a starting point and leaving it again and again, leading astray, as they lend to a different point a momentary meaning that they soon take back again, producing climaxes that they know how to exceed, calling forth gigantic waves that ebb without coming to a standstill. Nevertheless, this seemingly random progress is based on a profound meaning that can be easily verified in music governed by tonality. (1995:309–11)

These words aptly describe Schoenberg's dynamic model of tonality. Harmony creates states of rest and unrest—conditions which Schoenberg described as "centrifugal" and "centripetal" tendencies. He defined these relationships in terms of "distances" from the tonic, which he classified and graphically represented by the "chart of the regions" in *Structural Functions of Harmony* (1954:20,30,68–69).

Schoenberg conceived of musical space in terms of two or more dimensions in which "musical ideas are presented as a unit." Tonal function is multi-dimensional: pitches (i.e., scale-degrees), as well as chords and regions have either centripetal or centrifugal tendencies. They create states of rest or unrest, by either establishing the tonic region or undermining it. Schoenberg did not consider motivic processes as separate from harmony and large-scale tonal form, since a given motive implies certain tonal relationships. Like harmony, motivic development also initiates a dynamic process:

> A motive is something that gives rise to motion. *A motion is that change in a state of rest which turns it into its opposite.* Thus, one can compare the motive with a driving force. . . . *A thing is* termed *a motive* if it is already *subject to the effect of a driving force, has already received its impulse, and is on the verge of reacting to it.* It is comparable to a sphere on an inclined plane at the moment before it rolls away; to a fertilized seed; to an arm raised to strike, etc. . . . *The*

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> *smallest musical event* can become a motive if [it is] permitted to have an effect, even an individual tone can carry consequences. (1994:27)

Motivic and thematic procedures create states of rest and unrest; they work in tandem with the tonal forces mentioned above to present a dynamically changing yet organically unified musical work.

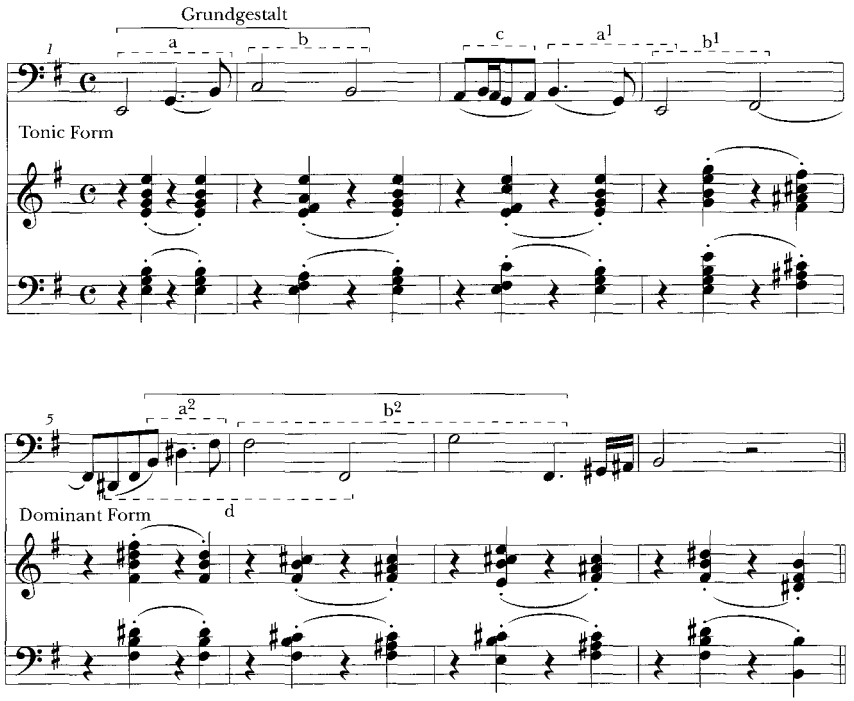
In this essay, I shall demonstrate how this approach to tonality works in an analysis of the first movement of Brahms's Cello Sonata in E minor, op. 38. My goal is both to contribute to an understanding of Schoenberg's unique conception of tonality and to enhance our appreciation of this beautiful composition from what Sir Donald Francis Tovey called the period of Brahms's "first maturity."

Written in sonata form, the movement's first theme is a sentence, a thematic archetype consisting of "tonic" and "dominant" phrases establishing an opening tonal contrast followed by "reductions" usually culminating with a half-cadence. The dominant phrase is often a sequential repetition of the tonic phrase. This repetition, however, is not initially apparent in the opening movement of the Cello Sonata. As Schoenberg noted, the dominant phrase (ex. 1, mm. 5–8) is a varied repetition of the tonic phrase (ex. 1, mm. 1–4) (1967:79). The arpeggiation of the tonic triad and the embellishment of its fifth by the ♭6 scale degree is transposed to the dominant in mm. 5 and 6. But it is also rhythmically varied, and further elaborated in mm. 5–7 by leaps of an octave and minor ninth. (Compare motives **a** and $\mathbf{a}^2$ and **b** and $\mathbf{b}^2$ in ex. 1.) The first two measures of Brahms's sentence initiate a developmental process beginning with the movement's *Grundgestalt*—Schoenberg's term for a complex of motive forms, both rhythmic and intervallic, that "occurs repeatedly within a whole piece and to which derived *Gestalten* can be traced" (1995:169). It consists of the pitch and rhythmic forms in the first two measures of example 1, including the above-mentioned arpeggiation (motive **a**) and the ♭6 neighbor-note motion (motive **b**).

In a tonal work, according to Schoenberg, a state of tonal balance is challenged and restored. A state of unrest, expressed within a motive, phrase, or theme constitutes what he called a work's "tonal problem."[1]

> The *futherance of the musical idea* . . . may ensue only if unrest—problem—present in the *Grundgestalt* or in the *motive* (and formulated by the *theme* or not, if none has been stated) is shown in all its *consequences.* These consequences are presented through the *destinies* of the motive or the *Grundgestalt.* Just how the *Grundgestalt* is altered under the influence of *forces struggling* within

Example 1: "Tonic" and "dominant" phrases, Brahms Cello Sonata in E minor, op. 38, mvt. 1, mm. 1–8.



> it, how this *motion* to which unrest leads, how the forces again attain a state of rest—this is the *realization of the idea,* this is its *presentation.* (1995:227)

The tonal problem is often first introduced in a composition's first theme, either in the *Grundgestalt* itself or in its continuation. The latter is the case here, where the dominant phrase, which presents the first modification of the *Grundgestalt,* sets up the initial challenge to the tonic. There is a move towards the dominant region and a series of chromatic alterations forming cross-relations—A/A♯, G/G♯, and C/C♯—with the corresponding notes from the previous phrase. (Compare mm. 1–3 and 4–8 in ex. 1.) Another cross relation—D/D♯—emerges after the turn away from the dominant in m. 9 (compare mm. 8 and 10). These half-step relations are all manifestations of what one may term the principal motive (*Hauptmotif*) of the work, the *Grundgestalt*'s motive **b**.[2]

Of course, although the progression towards the dominant does create imbalance, it is not truly unsettling. But the tonal problem established

in the movement's beginning phrases does open pathways to regions which pose substantial "threats" to its tonal balance. We shall see how Brahms realizes and ultimately resolves this unrest.

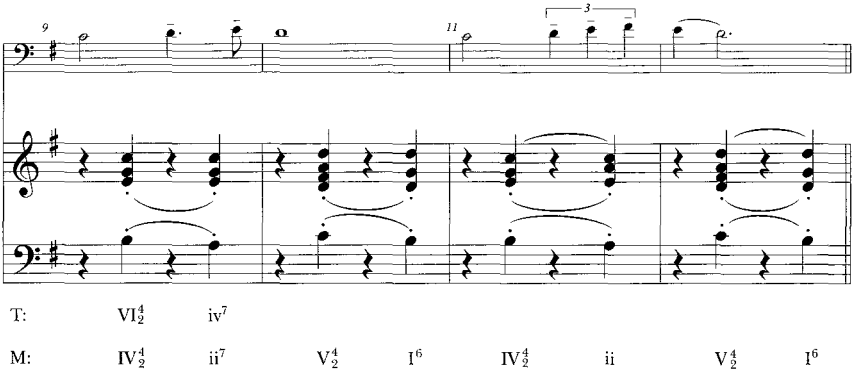
Following the tonic and dominant phrases, the subsequent measures consist of what Schoenberg termed "reductions," a condensation of the theme's motivic elements culminating with an elimination of its characteristic features (1967:58). The reductions (mm. 9–20) largely consist of the rhythm associated with motive **a**, now spanning a linear third, rather than a triad. The piano accompaniment begins with a repeated two bar progression, which locally tonicizes G, the mediant region and the ♭VI of the dominant (mm. 9–12, ex. 2). The progression appears once again in m. 13, but this time the inflection towards G does not occur; an F♯ replaces the G in the tenor in m. 14. The sentence concludes in the piano with ♯vii^{o7} of the tonic rather than a dominant seventh (m. 17); C replaces B (♭6 for 5), the former note doubled by the cello in a high register.

Brahms further exploits the implications of his opening materials in the bridge section (mm. 21–57). Beginning with a return to the first theme, this time played in octaves by the piano, the harmony touches briefly upon the flat submediant major and Neapolitan regions (ex. 3). These regions play an important role in the movement, most immediately with a re-statement of the first phrase of the first theme in the flat submediant beginning in m. 34. The augmented-sixth harmony accompanying the ♭6–5 (now transposed to A♭–G) in mm. 35–37 is yet another manifestation of the opening half-step motive (ex. 4). The progressions toward the Neapolitan and flat submediant regions incorporate enharmonic reinterpretations of the cross-relations in the tonal problem: the enharmonic re-spelling of the A/A♯ to A/B♭ opens the door to the Neapolitan region (ex. 3, mm. 26–29); the change from G/G♯ to G/A♭ accompanies the move to the flat submediant (ex. 4, m. 35).

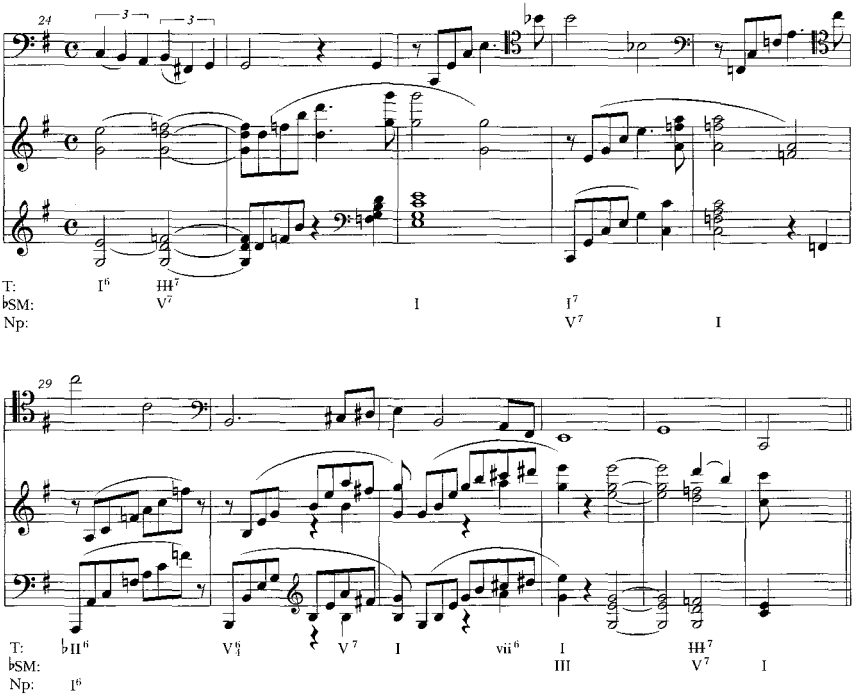
Following an aborted cadence (m. 42), the bridge once again moves toward the Neapolitan region before returning to the submediant (ex. 5); the voice-leading in the cello in mm. 42 and 44 respectively re-interpret the opening half-step as 1–7 in the two regions (F/E♮ in m. 42, C/B♮ in m. 44). Beginning in m. 46, the half-step motive in the cello is joined by the same interval in the left hand of the piano (ex. 6). The outer voices in this passage move in sixths, another manifestation of the *Grundgestalt*'s emphasis upon the sixth scale degree. A chromatic descent in the bass leads to an F♯ dominant pedal (mm. 50–57) which resolves in m. 58, at the beginning of the second theme in B minor.

We have seen above how the functional implications of the *Grundgestalt*'s ♭6–5 effect a tonal progression culminating with the arrival of the second theme. This process works in tandem with Brahms's "developing variations."

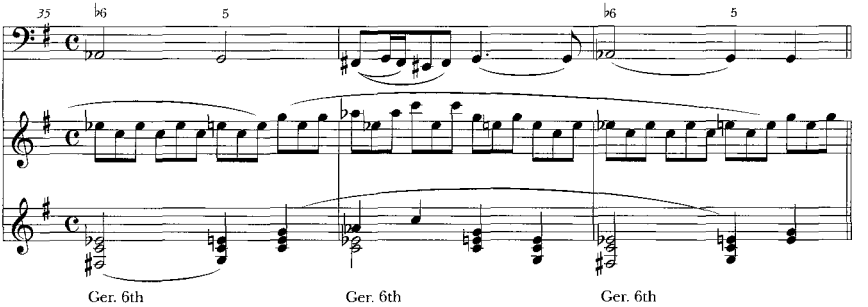
Example 2: Tonicization of the mediant region, mm. 9–12.



Example 3: Harmonic motion through the flat submediant major and Neopolitan regions, mm. 29–34.



Example 4: Augmented-sixth harmony as manifestation of half-step motive, mm. 35–37.



Variation, according to Schoenberg, occurs when certain features of a *Gestalt* are maintained, while others are not. Variation entails a process based upon "change":

> In a change, that which is to be *altered* is partly maintained; otherwise, it would be something different and not something changed. I can cut off pieces from an apple, I can hollow it out and stuff it with other things, but I cannot make a pear out of it (I can give it the shape of a pear, but I can write no piece "in the form of a pear" as the good joke by Satie pretends to do.)
>
> *Changing* thus means repeating, but repeating only in part. The parts that are not repeated can be replaced by something else. (1995:227–29)

Variation entails changing one or more characteristics of a theme. Such changes create variety, but ultimately serve only an embellishing or an ornamental purpose. Developing variation is a more dynamic process that produces new *Gestalten* from old (1995:231). As exemplified by the connection between the first and second themes in a sonata-form movement, "the changes proceed more or less toward the goal of allowing new ideas to arise" (1994:38–39). Just as the introduction of foreign elements within the context of a given tonal region produces unrest, so may the juxtaposition of dissimilar thematic components yield a similar effect and a propensity for dynamic motion and change. The relationship between these seemingly unrelated parts reveals itself as the work progresses, just as the unfolding of a composition gradually reveals how distant tonal elements relate to the tonic.

Scholars have often failed to recognize the fact that Schoenberg con-

sidered developing variations as a goal oriented, large-scale formal procedure. Walter Frisch, for example, explains that for Schoenberg, "developing variation means the construction of a theme (usually of eight bars) by the continuous modification of the intervallic and/or rhythmic components of the initial idea."[3] This view results from Schoenberg's habit of restricting his application of the concept to individual themes.[4] As Frisch notes, Schoenberg's most extensive published analysis, a discussion of Brahms's song "O Tod" (the third of his *Four Serious Songs*, Op. 121), only focuses on the first twelve measures (Frisch 1984:18).[5]

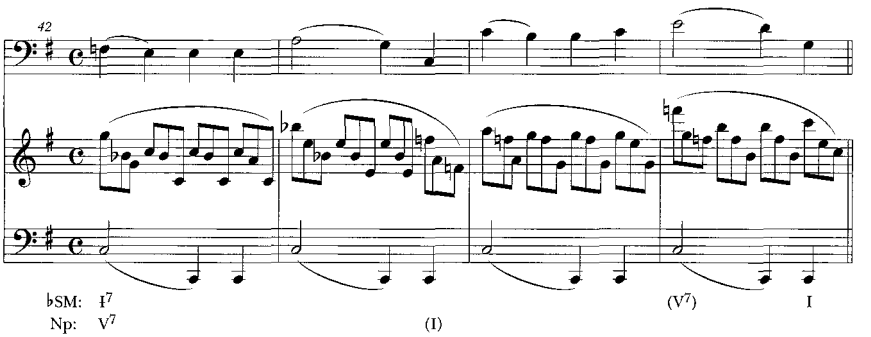
Considering developing variations on a small scale tells us much about the construction of Brahms's themes. As we have seen above, the technique applies to the first theme of the Cello Sonata. Similarly, as illustrated by example 7, the second theme exhibits a coherence based upon a gradual melodic unfolding stemming from the opening two notes: the initial fourth (motive **f**) takes on a dotted quarter and eighth-note rhythm (motive $\mathbf{a}^3$) then evolves first into a triadic figure (motives $\mathbf{d}^3$ and $\mathbf{d}^2$) and next into a larger figure (motive $\mathbf{d}^1$), joining with a series of dotted quarter and eighth-note rhythms (motives $\mathbf{a}^4$, $\mathbf{a}^5$, $\mathbf{a}^6$, and $\mathbf{a}^7$).[6]

The relationship between the first and second themes is more striking than their internal consistency. A comparison of examples 1 and 7 shows that both themes share similar motivic materials. The dotted quarter and eighth-note rhythm in the second theme (motives $\mathbf{a}^3$ through $\mathbf{a}^{10}$) also appears in the first theme as segments of motive **a**, $\mathbf{a}^1$, and $\mathbf{a}^2$. Motives $\mathbf{d}^3$, $\mathbf{d}^2$, and $\mathbf{d}^1$ in the second theme look back to the initial statement of motive **d** at the beginning of the first theme's second phrase (m. 5). Similarly, motive $\mathbf{c}^1$ in the second theme initially occurs in the first theme's third measure (motive **c**).

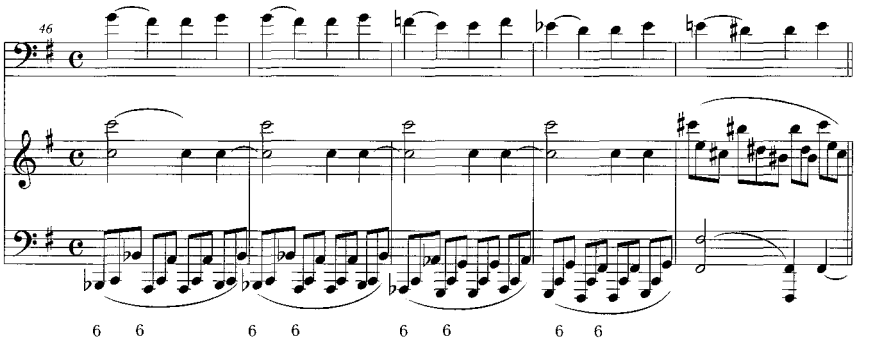
The associations between the two themes are founded upon varied repetitions of shared motivic elements, in which certain features of the first theme remain in the second theme, while others do not. This relationship emerges as part of a gradual process of developing variations. The critical link between the two themes, motive **d**, appears in mm. 25–29, just after the beginning of the bridge (ex. 8). Following the return of the first theme in the flat submediant region (m. 34), Brahms continues to explore possible functional implications of the *Grundgestalt*'s half-step motive in mm. 42–53 (as illustrated in exx. 5 and 6). Apart from the presence of this crucial relationship, features of the first theme disappear; through a process that Schoenberg called "liquidation," the theme is reduced to a series of undifferentiated quarter notes. Yet another form of motive **d** appears in mm. 54–57 (ex. 9) preparing the entrance of the second theme in m. 58.

As was the case with the first theme, the second theme proceeds to a

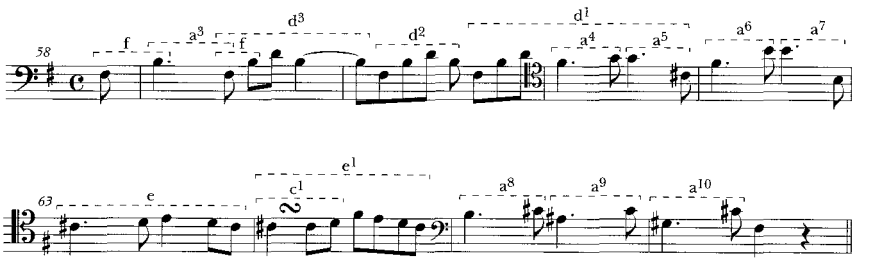
Example 5: Move to Neopolitan region, mm. 42–45.



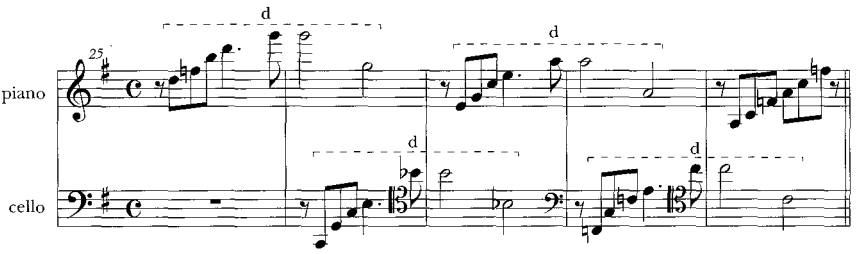
Example 6: Half-step motive in the cello and piano (left hand), mm. 46–50.



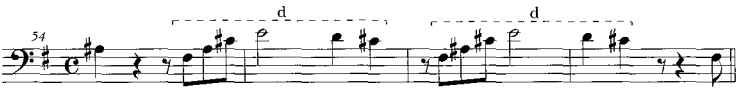
Example 7: Second theme, mm. 58–65.



Example 8: Motive **d** linking the first and second theme, mm. 25–29.



Example 9: Entrance of second theme as prepared by motive **d**, mm. 54–57.



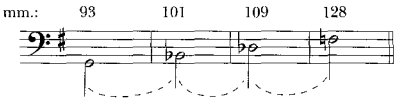
tonicized dominant in m. 65. Its reductions emphasize the *Grundgestalt*'s ♭6–5 in the dominant region. (Note the F♯–G in the piano [left hand, mm. 66–70; right hand, mm. 76–77] and in the cello [mm. 68–69].) The closing section (mm. 78–90) introduces new material based upon the second theme's *Kopfmotif*, motive **f**, the ascending fourth F♯–B (ex. 7). As one might expect, the closing section paves the way for a return to the beginning of the exposition by embellishing the dominant in the tonic region with its ♭6 (in the piano [left hand, mm. 88–90]).

Schoenberg objected to the term "development" to designate the middle section of a sonata-form movement, arguing that:

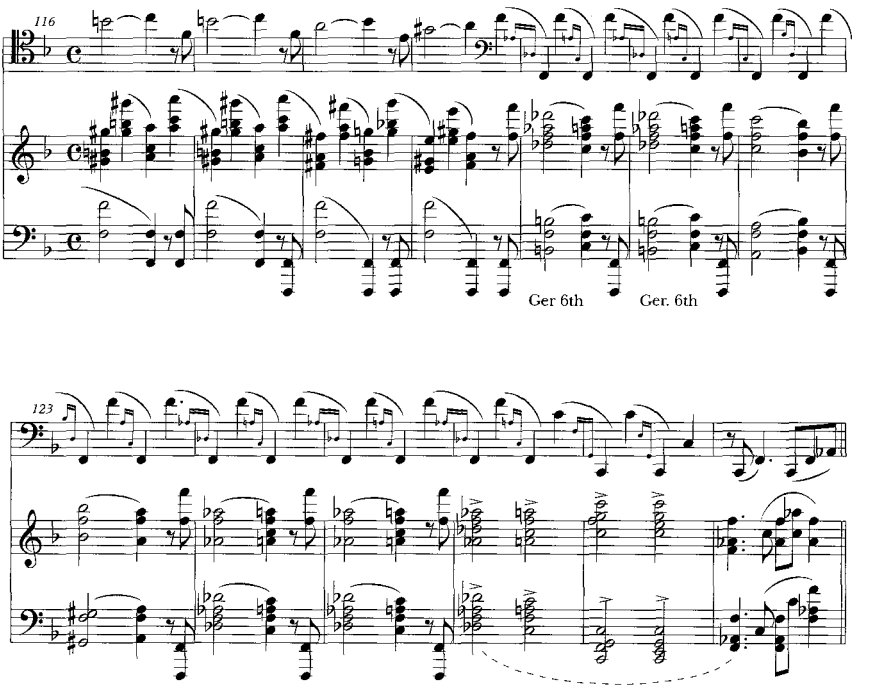
> The customary term, "development," for this section, is a misnomer. It suggests germination and growth which rarely occur. The thematic elaboration and modulatory "working out" (*Durchfürhung*) produce some variations and place the musical elements in different contexts, but seldom lead to the development of anything new. (1967:200, n.1)

This description certainly holds for the first movement of the Cello Sonata. Brahms's "elaboration" consists of further "working out" of themes from the exposition. The opening of the elaboration concentrates on the

Example 10: Large scale motion by thirds.



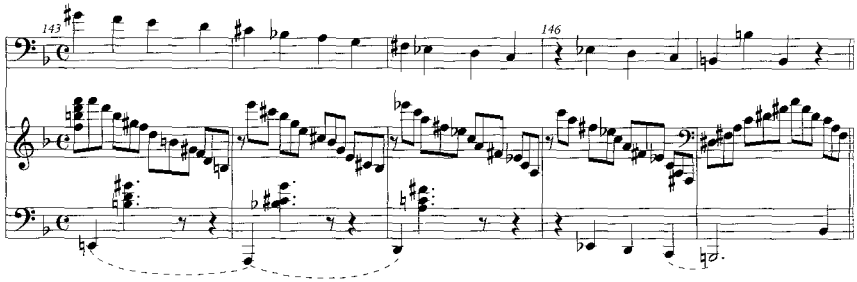
Example 11: Chromatically inflected F major triad and F minor approached from D♭.



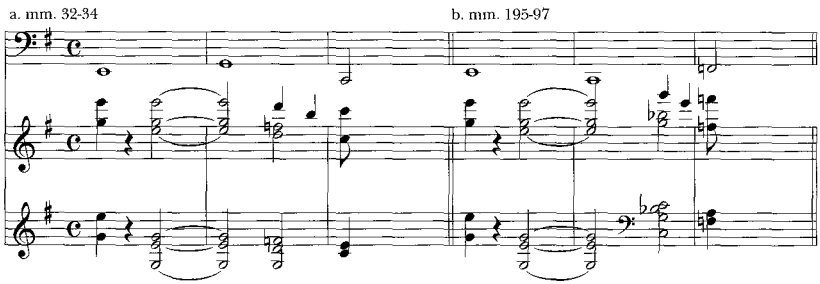
first theme (mm. 93–127). It then turns to the second theme (mm. 128–42) and concludes with elements from the closing section (mm. 150–63). However, what the elaboration lacks in thematic development, it makes up in further explorations of the *Grundgestalt*'s functional implications.

The elaboration begins in the mediant major/minor, approached by enharmonically re-interpreting D♯ to E♭ (the tonal problem's D/D♯ cross relation becomes D/E♭) and substituting C for B in the dominant harmony at the close of the exposition (compare mm. 90 and 92), resulting in a leading-tone seventh chord in the new region (F♯–[A]–C–E♭). This initiates a series of harmonic shifts by thirds, transposing the *Grundgestalt*

Example 12: Structural dominant approached through a series of dominant minor-ninth chords and its ♭6, mm. 143–47.



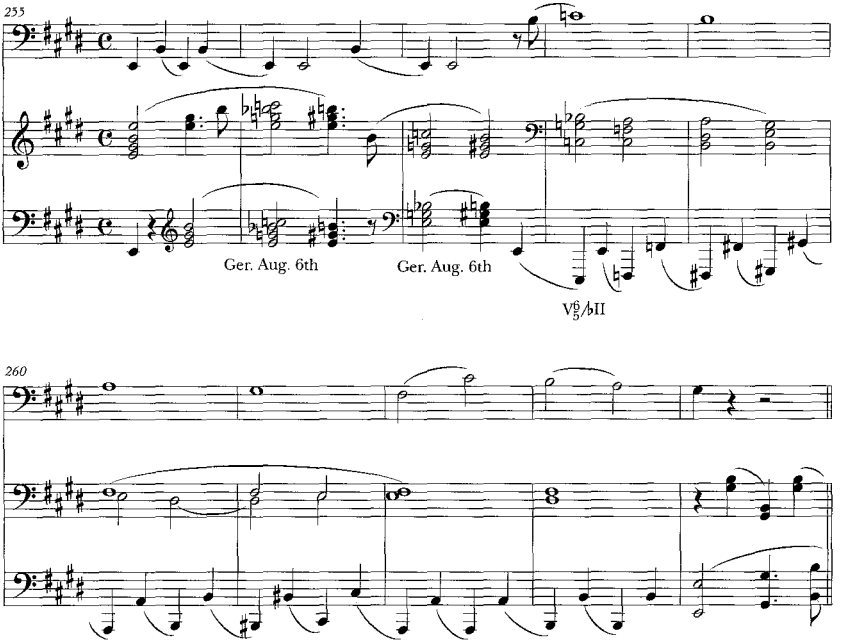
Example 13: Return of the first theme in Neopolitan region, mm. 195–97.



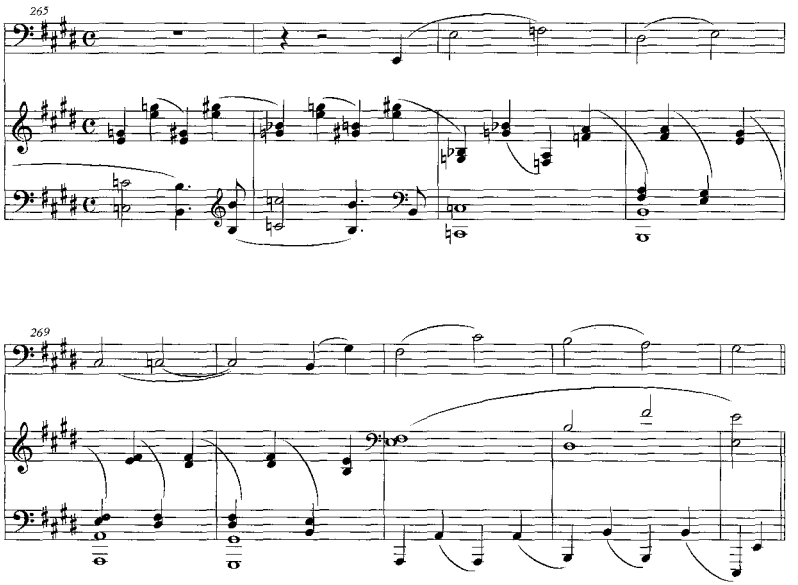
from G to B♭ (m. 101) to D♭ (m. 109), and finally arriving at a return of the second theme in F minor (m. 128). The large-scale motion by thirds (ex. 10) derives from the *Grundgestalt*'s arpeggiation (ex. 1, motive **a**). In addition, as indicated by the dotted slur in example 11 (mm. 126–28), F minor is approached from D♭, its ♭6 (ex. 1, motive **b**). The tonal problem's C/C♯ cross relation appears as C/D♭ in both D♭ and F (the sharp submediant and the Neapolitan regions). The alternation of B♭♭–A♭ and B♭–A♭, ♭6–5 and ♮6–5 in D♭ major in mm. 109–12, a modification of the *Grundgestalt*'s motive **b**, also exploits one of the opening cross-relations: A/A♯ becomes B♭♭/B♭.

With the arrival of F minor, the Neapolitan minor, which Schoenberg classified as "distant," Brahms pushes the movement's tonality to its furthermost limits. A repeated chromatically inflected F-major triad (mm. 116ff., see ex. 11) precedes the cadence in F minor at m. 128. The harmonic tension becomes particularly acute in mm. 120 and 121, as the same triad, now in second inversion, is embellished by an inverted augmented-

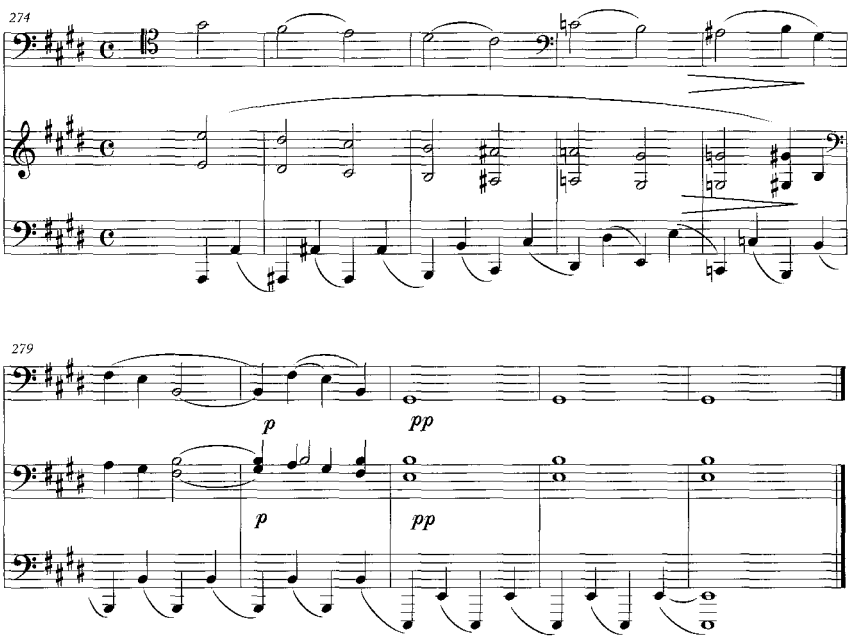
Example 14: Grundgestalt's ♭6 accompanied by dominant seventh chord, mm. 255–64.



Example 15: Dominant seventh chord functioning as German augmented sixth, mm. 265–73.



Example 16: Close of first movement, mm. 274–83.



sixth harmony, a manifestation of the *Grundgestalt*'s ♭6 previously exploited in the bridge section (ex. 4, mm. 35–37). The ♭6 also plays a role in the progression to the final dominant pedal at the close of the elaboration. Beginning in m. 143, Brahms approaches the elaboration's structural dominant through a series of dominant minor-ninth chords (ex. 12). The added minor ninths enhance the descending-fifth progression; the ninth is the ♭6 of each dominant seventh's tonic region. Moreover, the final move to the dominant in m. 147 proceeds directly from the E-minor tonic's ♭6, the C in the bass in m. 146.

A question remains: after Brahms has projected the tonality as far as the distant Neapolitan minor, how is balance restored? This process is played out in the recapitulation. Beginning in m. 196, the bridge section (mm. 184–220) is transposed up a perfect fourth, eventually allowing for a statement of the second theme in the tonic (mm. 220ff.). Instead of proceeding to the flat-submediant, the return of the first theme is stated in the Neapolitan region (compare mm. 32–34 and 195–97, exx. 13a and 13b), thus directing the listener's attention to the relationship between the two regions.

The end of the movement reveals a functional relationship between the Neapolitan and the flat-submediant and, at the same time, integrates

the tonal problem's cross relations into a diatonic framework. In the coda (mm. 255–283) a dominant-seventh chord accompanies the *Grundgestalt*'s ♭6 (ex. 14, mm. 256 and 257). This harmony, spelled as if in the Neapolitan region, functions as a German augmented sixth (with A♯ instead of B♭), one of Schoenberg's functionally ambiguous "vagrant" harmonies. Measure 258 (ex. 14) presents the same harmony as dominant seventh of ♭II in the tonic. In mm. 266–67 (ex. 15) both interpretations of the chord in m. 256 return again. In addition, the G/G♯ (mm. 265–66) as well as the C/C♯ (m. 269) cross relations also proceed smoothly in the tonic. Finally, as shown in example 16, Brahms re-spells the B♭ as A♯ in m. 278; the final progression contains all of the tonal problem's chromatic elements, most notably the A/A♯ cross relation, placed within a prominent stepwise descent from E to G♮, doubled in octaves in the piano (mm. 274–78). Balance is restored and the movement comes to an end with the cello's neutral G♯, joined by a stable open fifth in the piano. Brahms has successfully manipulated the work's harmonic and motivic materials in articulating an organically unified whole. To be sure, the "paths of harmony" followed in his Cello Sonata have not merely played a supporting role in this process. For, as Schoenberg states, "everything that happens in a piece through motivic development, variation, elaboration, and thematic work results not only from the effect of harmony, but in particular as a direct consequence of its function" (1995:309).

Notes

1. For a detailed discussion of Schoenberg's "tonal problem" including an analysis of the tonal problem in Schubert's *Der Wegweiser*, see Neff (1993).

2. As a complex of motive forms, the *Grundgestalt* may contain a motive which has precedence over the others. See Schoenberg (1995:357–58).

3. Frisch, however, does consider large-scale motivic development on his own terms. See, for example, his analysis of Brahms's String Quintet, op. 34 (1984:83–86).

4. Schoenberg's most comprehensive discussion of developing variation, which takes into account large-scale form (the bridge section in the first movement of Mozart's "Dissonant" Quartet, K. 465), appears in his 1917 manuscript, *Zussamenhang, Kontrapunkt, Instrumentation, Formenlehre* (1994:41–43); see also the editor's discussion of this passage (1994:lxiv–lxviii). The analysis also appears in Schoenberg (1995:253–55); see also the editor's commentary (1995:54–59).

5. Schoenberg's analysis of "O Tod" appears in his essay "Brahms the Progressive" (Schoenberg 1984:431–34).

6. Example 7 is an adaptation of Schoenberg's analysis of this theme (1967:80).

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