## 6 Schoenberg's 'second melody', or, 'Meyer-ed' in the bass

WILLIAM E. CAPLIN

In memory of Leonard B. Meyer (1918–2007)

At the end of a chapter of his Fundamentals of Musical Composition entitled 'Advice for Self Criticism', Arnold Schoenberg admonishes the beginning composer to: 'watch the harmony; watch the root progressions; WATCH THE BASS LINE'.<sup>1</sup> It is no surprise that he would direct the composer to harmony and root motion, the bread and butter of compositional training. But striking is his highlighting of the bass part, in effect saying nothing about the upper voice, to which listeners normally direct their hearing. Indeed, most composition treatises - from Riepel and Koch in the eighteenth century, through Marx, Lobe and Riemann in the nineteenth - employ musical examples that mostly show the soprano melody alone, thus supposing that readers will intuit the bass line on their own. Yet Schoenberg wants to focus on the lowest voice of the musical texture; and in so doing, he taps into another important source of compositional pedagogy, one reflected, for example, by the numerous *partimenti* treatises produced throughout those same two centuries, works that provide stock bass lines for learning improvisation and composition.<sup>2</sup>

Now what does Schoenberg actually want the composer to watch for in the bass line? Earlier in the chapter, he briefly explains:

The bass was previously described as a 'second melody'. This means that it is subject to somewhat the same requirements as the principal melody. It should be rhythmically balanced, should avoid the monotony of unnecessary repetitions, should have some variety of contour and should make full use of inversions (especially of seventh chords).<sup>3</sup>

Schoenberg's remarks are suggestive enough, but they constitute little more than a starting point for understanding how bass lines are structured and, more specifically, how they can attain the status of a 'second melody'.

As important as the bass undoubtedly is, music theorists have been strangely silent on just how to analyse that voice as a melodic construct. The few writings devoted to the topic are pedagogically oriented studies largely concerned with how melodic patterns in the bass relate to the harmonies supported by that line.<sup>4</sup> One would assume, of course, that Schenkerian theory would provide important information about bass-line organization, especially since Schenker defines the outer voices as fundamentally different entities: the upper voice conforms to the demands of the *Urlinie*'s stepwise descent, while the bass supports that descent through an arpeggiation of the essential tones of the overriding tonic. But Schenker tends to associate linear progressions, or *Züge*, arising at later structural levels with motion in the upper voices, and whereas the bass may acquire a melodic contour through embellishments of its fundamental harmonic tones, its *Züge* are typically seen as driven by, or supportive of, those in the upper parts. All too often, important melodic details of the bass are not represented in a Schenkerian graph, except perhaps at the most foreground levels, and Schenker's general characterization of that voice as the *Bassbrechung*, the 'bass-arpeggiation', seems to inhibit him from defining independent principles of bass melody.<sup>5</sup>

Leonard B. Meyer offers a different view of melody.<sup>6</sup> With his emphasis on the manifold *implications* that melodic motions may engender, along with their specific *realizations*, Meyer attends to the individuality of a given melody without necessarily considering its relation – either harmonic or contrapuntal – to the other parts. But Meyer analyses soprano lines almost exclusively, and nothing in his theory suggests that the bass would differ melodically from the upper voices.

In short, theorists have not yet provided a framework for comprehending the bass as a melody in its own right, as a melodic voice distinct from others. This study is a step in that direction. I want to take seriously the idea that the bass line can be heard as an independent object of aesthetic attention, without necessarily referring to its contrapuntal interaction with the soprano. I entirely concede that this is a highly *partial* mode of hearing, but I believe that interesting results can be obtained by such a focused listening experience. I begin by proposing some fundamental models underlying many bass melodies and then illustrate a variety of melodic techniques in selected passages from Haydn, Mozart and Beethoven. I conclude with a brief discussion of how bass-line melodic organization can be thought of as a communication strategy employed by late eighteenth-century composers. As will be obvious, I am influenced throughout both by Schenker's Bassbrechung and by Meyer's ideas of melodic implication and realization, and I employ modified aspects of each of their analytic notations. What I find especially attractive in Meyer's approach is the potential for uncovering relationships that cross over boundaries defined by harmonic or contrapuntal prolongation, thus allowing for the representation of melodic patterning that might be deemed invalid from a strictly Schenkerian perspective.



Example 6.1 Melodic analysis of 'Twinkle, Twinkle'



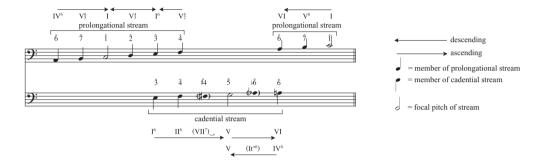
Example 6.2 C major harmony

Let us begin by reviewing some well-known distinctions between *melodic* and *harmonic* relationships. A melodic relationship is established in reference to a *scalar* collection of pitches, and the basic unit of melodic motion is the individual step. If the melodic interval between two pitches exceeds a second, we sense that one or more notes of the scale have been skipped over. Indeed, the 'gap' thus created may then be 'filled-in' by stepwise motion, as in the 'Twinkle, Twinkle Little Star' melody of Example 6.1.<sup>7</sup> A harmonic relationship, on the contrary, is established in reference to a *triadic* collection. Thus the basic units of harmony are the intervals of the fifth and third (and their inversions). Unlike a melodic interval, however, a harmonic one does not necessarily imply the presence of intervening notes: the interval between, say, the root and fifth of a harmony does not create a gap implying a subsequent fill.

Harmonic relationships distinguish themselves from melodic ones in another important way, one less often considered by theorists. The pitches of a harmony are normally understood to reside in different *voices*; thus in the C major harmony of Example 6.2, the C and G, comprising the harmonic fifth, reside in the bass and alto voices respectively; the E lies in the tenor, and the doubled C appears in the soprano. Each of these notes has the potential of creating melodic relationships with other notes in the same voice, as one harmony succeeds another, as shown in Example 6.3. Thus the connections of pitches *within* one voice are normally melodic, while those *between* voices are harmonic. But there exists, theoretically, one voice whose pitches are exclusively harmonic: this is Rameau's *basse fondamental*,



Example 6.3 Simple harmonic progression in C major

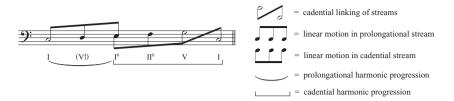


Example 6.4 Prolongational stream and cadential stream under the rule of the octave

which he conceptualizes as a single, distinct voice.<sup>8</sup> But what we have been considering thus far suggests that the pitches of the fundamental bass, as harmonic entities, should logically reside in different voices. In other words, as the fundamental bass progresses, its notes form a series of harmonic connections, and as such, each note can be thought to leap from one voice to another. The fundamental bass, of course, is a theoretical construct. But there does exist a real sounding voice that normally includes elements of the fundamental bass: this is what Rameau calls the *basso continuo*, or, more simply, our regular 'bass voice'.<sup>9</sup>

What I am thus proposing is that the bass voice, as distinct from the upper voices, is, in principle, a *two*-voiced structure.<sup>10</sup> Following Schenker, we can say that the bass is anchored in the harmonic relationship of tonic and dominant. But as harmonic constituents, these two notes can be thought to reside in two different voices, and each note can become the focal point of melodic activity within its own voice. To avoid terminological confusion, I will now refer to these internal voices (within the single bass voice) as *streams*.<sup>11</sup>

Example 6.4, a modified *règle de l'octave*, shows the pitches normally occurring within the two streams. As well, I have indicated typical harmonic progressions associated with ascending or descending melodic motions within each stream. In reference to these harmonies, I label the stream focused around the tonic as *prolongational*; that focused around the



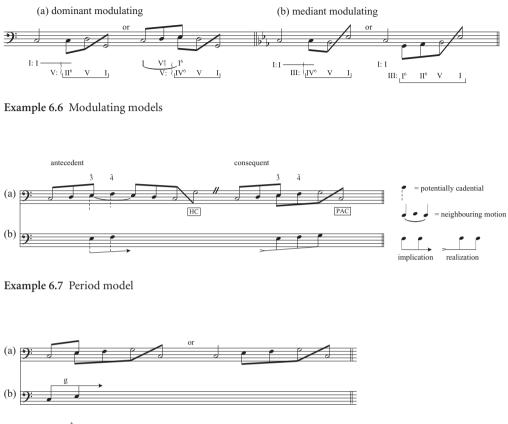
Example 6.5 Basic model

dominant, as *cadential*.<sup>12</sup> Observe that the third, fourth and sixth scaledegrees belong to both streams: they can thus function as pivot notes linking the streams in an apparently melodic manner.

For a given thematic unit within a movement, such as a main theme or a subordinate theme, the bass line behaves roughly as follows. It begins with the tonic and then explores various melodic motions within the prolongational stream. Eventually, it attains the third degree, which then pivots the line into the cadential stream for further ascent to the dominant, the melodic goal of that stream. Bass-line closure is achieved when, in the context of a formal authentic cadence, the dominant leaps back to the tonic, thus creating a harmonic connection linking the two streams and purging the bass of all melodic tendencies that might generate further continuation. The simplest manifestation of this process is shown in Example 6.5, which I offer as a *basic model* for bass melodies.<sup>13</sup>

Comparing this model to the 'Twinkle, Twinkle' configuration of Example 6.1, we see that the melodic activity is entirely different:<sup>14</sup> the soprano line opens up an ascending gap which motivates a subsequent descending fill that brings closure to the line; all of this melodic motion takes place within a *single* voice. By contrast, the linear ascent of the bass traverses *two* streams and closes with a harmonic leap, one that creates no sense of melodic gap for a subsequent fill. To be sure, the ascending motion is so linear that it does not necessarily give the impression of changing from one stream to the other. In actual musical realizations, however, the composer often articulates this shift by means of register, texture, grouping mechanisms, and so forth.

Let me now lay out some variants to the basic model. The first ones arise with themes that modulate to the dominant or mediant regions, as shown in Example 6.6. Another variant, especially common in Mozart, underlies a *periodic* formal design (see Example 6.7).<sup>15</sup> Here, the bass of the antecedent phrase ascends to scale-degree three, which has the potential of shifting the melody into the cadential stream (as indicated by the descending dotted stem); a further rise to scale-degree four reinforces that implication. But the melody returns to the initial tonic to complete a broad prolongation. The



Example 6.8 2-gapped model

line then leaps directly to the dominant, thus bypassing cadential melodic activity, to create a formal half cadence. The consequent phrase reproduces the opening ascent; but this time, the potential for scale-degrees three and four to be cadential is fully realized, and the line continues up to the goal dominant, whose leap back to the tonic creates authentic cadential closure for the period. The notation in staff *b* shows the implication/realization (or I/R) relationships of the third and fourth degrees.<sup>16</sup> Another common variant, shown in Example 6.8, omits scale-degree 2. With this '2̂-gapped' variant, it is often interesting to see whether the lack of the second degree is offset at some point within the theme itself, or, more likely, after the theme has closed.

Let us now consider these abstract models in relation to actual music. Example 6.9 shows the opening of the slow movement of Mozart's Piano Trio in B flat major,  $\kappa 502$ .<sup>17</sup> The bass line of the four-bar antecedent phrase conforms



Example 6.9 Mozart, Piano Trio in B flat major, ĸ502/ii, bars 1-8

entirely to the basic model. Instead of a following consequent, Mozart writes at bar 5 a *continuation*, a phrase conventionally associated with the second half of the sentence (*Satz*) theme-type.<sup>18</sup> The phrase begins with an unusual move from  $\hat{5}$  down to  $\hat{3}$ , which I interpret as operating within the prolongational stream, since nothing of the formal and harmonic context suggests cadence.<sup>19</sup> At bar 6, the bass returns to tonic via the neighbouring leading-tone, and from here to the end of the continuation, we can recognize the dominant-modulating model. Staff *b* of the analysis shows a possible I/R relationship generated by the unusual bass descent of bar 5, whose continuation with the second-degree F, at bar 7, is an essential element of the modulation.

The period model is well illustrated by the opening of the finale of Mozart's Piano Sonata in B flat major,  $\kappa 281$  (Example 6.10). The antecedent begins with a double neighbour-note configuration embellishing the initial tonic of the prolongational stream.<sup>20</sup> The leap to  $\hat{3}$  at the end of bar 2 can be heard to



Example 6.10 Mozart, Piano Sonata in B flat major, K281/iii, bars 1-8

initiate the cadential stream, and the continuation up to  $\hat{4}$  further supports that presumption. But when  $\hat{4}$  returns to  $\hat{3}$ , which then pushes back down to  $\hat{1}$ , we recognize that all of this melodic activity actually takes place within the prolongational stream. The leap to the dominant at bar 4 supports the half cadence that closes the phrase. The opening of the consequent brings back the same basic pitches of the antecedent, but now with some upperthird embellishments (labelled motive *x*). The second embellishment in bar 6 achieves  $\hat{3}$ , whose repetition and ascent to  $\hat{4}$  fully realizes the cadential implications from the prior phrase; staff *b* shows this I/R relationship. As seen in staff *c*, the consequent exhibits the  $\hat{2}$ -gapped variant of the basic model. But when we take the double-neighbour note configuration into account (see staff *d*), we can discern a latent expression of the *complete* basic model.<sup>21</sup> Finally, staff *e* highlights a number of gap-fill relationships that arise in the course of the theme.

Another example of the period model, this time in Beethoven's Bagatelle in E flat major, Op. 126 No. 3, shows a more complex interaction of prolongational and cadential streams (Example 6.11). Following a long



Example 6.11 Beethoven, Bagatelle in E flat major, Op. 126 No. 3, bars 1-16

pedal, the tonic is briefly embellished by its lower neighbour. The line then begins its ascent, one that leads up an entire octave to restore the tonic prior to leaping down to  $\hat{4}$  at bar 7, as pre-dominant for the half cadence.<sup>22</sup> Let us consider this octave line in greater detail. The quick rise from  $\hat{1}$  to  $\hat{3}$  at the end of bar 4 is obviously prolongational, but the lingering on  $\hat{3}$  in bar 5 strongly signals the start of an *expanded cadential progression* (abbreviated E. C. P.), which is continued by the IV and V7 harmonies of bar 6.<sup>23</sup> It is odd, of course, for the dominant seventh to be placed on the weak third beat, and when IV6 arrives on the final semiquaver of the bar, we recognize that the dominant is functioning not so much cadentially, but rather as a passing chord prolonging the subdominant. IV6 could have returned to a cadential dominant, but instead, it presses up to v6/5, in order to regain a root-position tonic just prior to the half cadence, as called for in the model. Whereas the bass line traverses the cadential stream from  $\hat{3}$  up to  $\hat{5}$ ,  $\hat{6}$  provides the pivot for restoring the prolongational stream in its rise up to  $\hat{1}$ .

Thus within this broad ascent, which, on the surface, presents a unified melodic gesture, we can recognize a subtle shifting in and out of the prolongational and cadential streams. In the consequent, the arrival on  $\hat{3}$  at bar 13 again proposes an expanded cadential progression. But this one is now fully accepted when the cadential dominant is shifted to the downbeat of bar 15 and holds its root position until resolving to tonic for the perfect authentic cadence.<sup>24</sup>

Example 6.12 reveals how elements of the period model can enter into a non-periodic formal design. The bass line opening Haydn's String Quartet in G major, Op. 54 No. 1, begins with the tonic and its neighbouring leading-tone. At bar 4, the bass shifts up to  $\hat{3}$  and ascends very quickly to  $\hat{6}$ , thus running through pitches typical of the cadential stream. But this extended anacrusis in no way suggests cadential function, and so it is not surprising that the next two bars see the bass moving back down, in an entirely prolongational manner. The arrival on  $\hat{3}$  at the end of bar 6, however, strongly signals an impending cadence, and the theme could have continued with bars 7 and 8 bringing a standard cadential progression, say 116-v7-1, thus allowing the bass to ascend again, this time fully expressing the cadential stream. But Havdn does not let the theme take its standard course; instead, the bass leaps back down to the leading-tone for further elaborations of the tonic in bars 7–10. This restoration of 1 after a strong implication for cadence reminds us of what happens in the antecedent of the period model.

Bars 7–10 now build a high degree of tension: having thwarted an expected cadence and now seeming to get stuck on root-position tonic so late in the game, the theme seems desperately in need of closure. So a great sense of release obtains when the bass finally leaps down to 3 in the middle of bar 10 to initiate an expanded cadential progression, which closes the theme at bar 13.<sup>25</sup> Apparently sensing that even this expanded cadence was insufficient to balance the preceding ten bars of tonic prolongation, Haydn repeats the cadential phrase in bars 14–16 and even brings a one-bar codetta to conclude the main theme as whole. Note how register plays a supporting role in helping to differentiate the streams. Though the basic model shows the cadential stream lying above the prolongational one, many basses leap *down* to capture the essential pitches of the cadential stream.

The underlying structure of this main theme's bass line features the 2gapped variant of the basic model, as shown in staff *b*. Indeed, scale-degree two is absent from the bass line of the entire theme. In that light, it is interesting to observe what happens at the beginning of the transition, at bar 17. After four bars of tonic pedal at a *piano* dynamic, the bass dramatically





PAC

Example 6.12 Haydn, String Quartet in G major, Op. 54 No. 1/i, bars 1-23

ascends at bar 21, with a *forte* outburst, directly to 2, now supporting a v of v harmony to signal a modulation to the dominant region. Though the progression from 1-2 appears in the background structure of many modulating transitions, such an explicit move directly at the foreground is rather unusual and can perhaps be attributed to the conspicuous avoidance of the second degree throughout the preceding main theme. Staff *c* in the analysis shows two local gaps between 1 and 3, whose implied fills are deferred until the transition; such details help motivate the prominent appearance of the passed-over supertonic.<sup>26</sup>

I want now to turn to a theme in which, like the  $\hat{2}$  of the previous example, the fate of an individual pitch of the underlying model – this time  $\hat{4}$  – generates interesting compositional play. The slow movement of Mozart's Piano Sonata in C major,  $\kappa$ 330, shown in Example 6.13, opens with a four-bar antecedent, whose disjunct bass line is most complex.<sup>27</sup> As staff *b* shows, I see here a variant of the  $\hat{2}$ -gapped model, in which  $\hat{6}$ , D, replaces  $\hat{4}$ , Bb. Note how  $\hat{6}$  is already emphasized prior to its appearance in the half cadence (see the asterisks in staff *a*). The following continuation phrase resides entirely in the dominant key of C major and clearly projects the basic model in that new key.<sup>28</sup> As a result, scale-degree four (of the home key), Bb, does not appear here, just as it was largely absent in the prior phrase.

Following the double barline, the second part of the theme brings a series of descending lines leading from dominant back to tonic and followed by a brief half-cadence at bar 12. As suggested in staff b, this phrase can be seen to express the  $\hat{2}$ -gapped model, though  $\hat{2}$  does appear as an upper neighbour to the initial tonic. Within these bars, 4 emerges from its prior obscurity to find a role in the structure of the bass line. But a more dramatic exposure of this degree is yet to come: for bars 13-14 see the bass climb back up to Bb in a broad ascending sweep that counterbalances the prior descending motions. The v4/2 harmony supported by this Bb temporarily pushes it back down to A, in the following bar. But with this A now supporting a v6/5 of IV, the bass is forced up again to Bb at bar 16. Scale-degree four thus appears here with considerable emphasis and in a manner that fully compensates for its absence in the first part of the theme. As shown in my analysis, I read the melodic activity of bars 13-16 as residing in the cadential stream, and following the subdominant harmony of that last bar, we could very well expect the bass to rise up to the cadential dominant. But in the following bars, Mozart surprises us by having the bass line leap into the prolongational stream for further melodic action around the tonic. Finally, bar 19 sees a leap back to the cadential dominant to bring authentic cadential



Example 6.13 Mozart, Piano Sonata in C major, K330/ii, bars 1-20

closure for the theme. Since it is difficult to interpret the sudden shift to the prolongational stream in terms of our bass-line models, I regard the passage from bar 17 to the downbeat of bar 19 as parenthetical, thus interrupting the broad cadential line begun with 3 in bar 15.<sup>29</sup> It is especially in complicated cases like this, that the differentiation of a bass melody into two streams proves to be of particular analytical utility.

Up to now, I have identified the basic models underlying Example 6.13 at the level of the various phrases making up the theme, as shown in staff *b*.

We might speculate, though, that the entire theme is anchored in the basic model; see staff *d*. Here,  $\hat{2}$  is brought in conjunction with the modulation to the dominant, somewhat akin to what we saw in the prior Haydn quartet example (at bar 21). Scale-degree three is then picked up at bar 15, while the remainder of the model continues as already discussed. Whether it is legitimate and useful to extend the basic model to such a broad-scale level of analysis is a topic for further research and reflection.

A set of examples from the slow movement of Beethoven's Piano Sonata in E flat major, Op. 7, shows how unusual features of a bass melody can play themselves out over the course of an entire movement. Let us begin with the main theme (Example 6.14), which takes the form of a small ternary. The bass line begins normally enough with lower-neighbouring motion around the tonic, after which the bass would typically begin its ascent. In a striking departure from the norm, however, the line suddenly leaps down a tritone to  $\# \hat{4}$  in bar 3, a pitch that almost always appears within the cadential stream, as indicated by the dotted downward stem. But instead of resolving up to the dominant, the F<sup>#</sup> presses down to F<sup>\*</sup>, which, by supporting a v4/2, must itself move down to  $\hat{3}$  at bar 5. Descending motion continues back to the opening tonic, thus suggesting that the entire linear descent is best interpreted as prolongational. Insofar as the leap from C to F# initially transfers motion from the prolongational to the cadential stream, a melodic fill is not necessarily implied by that gap. Yet since the line continues to descend in a prolongational manner, the possibility arises that this gap may eventually be filled. At bar 6, the bass leaps up to  $\hat{4}$  to signal the cadential progression that closes the theme. As shown in staff *b*, the underlying bass motion of the A section omits both scale-degrees two and three of the basic model. We might wonder, then, whether the *complete* model may yet appear at some later point in the movement.

The B section of the ternary form prolongs dominant via the upperneighbour  $\hat{6}$ . Note the I/R relationship shown in staff *c*, suggesting that the motion from  $\hat{6}-\hat{b}\hat{c}-\hat{5}$  continues the linear descent initiated by the move from  $\hat{1}$  to  $\hat{7}$  at the opening of the piece. Perhaps we could even perceive here the intimation of a filling-in of the initial C–F $\sharp$  gap.

The subsequent A' section develops materials of the A section in such a way as to forge a bass line that is entirely different and considerably more complex. Following the opening embellishment of tonic in bar 15–16, the line now forgoes the descending leap and instead strives chromatically upwards to  $\hat{6}$ . The harmonies supported by this ascent are decidedly sequential, though for our purposes here, I have analysed the line as belonging to the prolongational stream.<sup>30</sup> The cadential stream takes over at bar 19 with  $\sharp \hat{4}$ 



Example 6.14 Beethoven, Piano Sonata in E flat major, Op. 7/ii, bars 1-24

as pre-dominant for what then becomes, at bar 20, a deceptive cadence, whose sixth degree is initially substituted by its upper neighbour, Bb. Further sequential activity, with emphasis on the supertonic, leads eventually to a final run at the cadence. Note that this second time, the pre-dominant at bar 22 is supported by  $\natural \hat{4}$ , which neutralizes the prior alteration of that degree: we thus see how the local F $\sharp$ -F $\natural$  prolongational connection from early in the A section is now transferred to a broader, cadential level of structure (see the downward pointing arrows on staff *a*). As for the underlying organization of A' itself, staff *b* shows that we could discern elements of the complete basic



Example 6.15 Beethoven, Piano Sonata in E flat major, Op. 7/ii, bars 25-8, 36-43

model; yet the powerful sense of sequence associated with scale-degrees two and three somewhat obscures a full expression of that model, and so we might still expect a more obvious appearance of it at some later point.

The development section, which immediately follows the main theme, shows that we do not have to wait long for the basic model to appear.<sup>31</sup> For the opening phrase in Example 6.15 brings an unembellished form of the model, albeit in the submediant key of A flat major. Further elaboration of this material eventually leads to the home-key dominant at bar 37, at which point  $\hat{5}$  is embellished by its upper and lower chromatic neighbours. In bars 41–2, F $\sharp$  moves down to F $\natural$ , thus seeming to reproduce that unusual move from the beginning of the movement. Here, however, the melodic progression is actually somewhat different, because the F $\sharp$  now functions enharmonically, and cadentially, as Gb, whose resolution to F, as a cadential dominant, leads the music into B flat major, for a false recapitulation.



Example 6.16 Beethoven, Piano Sonata in E flat major, Op. 7/ii, bars 72-end

I skip over the rest of the development section along with most of the real recapitulation in order to consider the magnificent coda (see Example 6.16). Eliding with the cadence of the A' section at bar 74, the coda begins by recapitulating the opening phrase of the development. This not only fulfils a compensatory formal function, but also, finally, realizes the basic model in the home key, though, to be sure, leading only so far as the half cadence at bar 78. From here to the end of the piece, the bass line exhibits a broad descending motion, perhaps to complement the upward progressions featured throughout the A' section of the recapitulation and the opening of the coda. The line first moves prolongationally from 4 down to 1. After

repeating this move in bars 81-2, the line shifts to the cadential stream for an authentic cadence at bar 84. Note that the cadential progression features the bass motion  $\hat{6}$ - $\hat{b}\hat{6}$ - $\hat{5}$ , thus referencing the prior half cadence, as well as some earlier appearances of that motive, which I have labelled as x. When the cadence is followed by a one-bar codetta, which is immediately repeated, we could well believe that the piece is finished at this point.<sup>32</sup> But one unresolved detail of the bass line has yet to be worked through, namely, the gap between C and F<sup>#</sup> from the beginning of the piece. So at bar 86, Beethoven realizes the implication that this gap could be filled in, by leading the bass down chromatically to F<sup>#</sup>, whose arrival is emphasized by the fortissimo-piano dynamic. This is not, of course, a standard 'gap-fill' of the type we have seen thus far, whereby the fill reverses the direction of the gap; rather, it is what might be called a *unidirectional* fill, a melodic technique observable in other examples from the literature. What allows us especially to connect this fill back to the opening gap is the manner in which Beethoven allows the chromatically descending bass to support a final return of the main theme's opening material.

Finally, the coda closes with one of the most unusual cadences in the classical literature: having arrived on  $\sharp \hat{4}$  at the end of bar 88, which brings the pre-dominant v6 of v, the bass descends to F $\natural$  to support another pre-dominant – 116. When these pre-dominants are used together, 116 almost always precedes the secondary dominant, so that  $\natural \hat{4}$  becomes chromatically raised on its way to the dominant. That Beethoven unconventionally reverses the harmonies is owing, of course, to his creating a final appearance of the unusual F $\sharp$ -F $\natural$  motive. But more than just referencing this motive, he assimilates it entirely to the cadential stream, thus allowing the F $\sharp$  to realize a major implication arising from its very first appearance in bar 3.

Can we say that the theoretical approach to bass-line melodies developed in this study reflects a communication strategy for eighteenth-century instrumental music? Given the highly implicative nature of the melodic processes represented in the models, a likely answer would be yes. The evidence from the analyses above suggests that once a bass line begins to move melodically, particular pitches (or pitch-classes) are expected to occur as continuations of that melodic motion, be they linear continuations or the filling-in of an opened gap. Such pitches may appear exactly at the point they are expected, and these *immediate* realizations – for example, when the motion from 1 to 2 is followed directly by  $3^{-1}$  are so numerous as not to require further discussion. But when an implied pitch is thwarted in its appearance, its realization may then be *deferred* to some later, indeterminate point in time.<sup>33</sup>

Such longer-term realizations were observed in a number of the examples discussed earlier.<sup>34</sup> For instance, the gap opened up between  $\hat{1}$  and  $\hat{3}$  early on in the Haydn quartet (see Example 6.12, bar 4) is neither filled-in immediately nor at any other point within the main theme; only when the transition is already under way does the move from  $\hat{1}$  to  $\hat{2}$  (bars 20–1) bring the long-expected scale degree. Similarly, when  $\hat{6}$  replaces  $\hat{4}$  within the basic model underlying the opening phrase of Mozart's  $\kappa$ 330/ii (see Example 6.13, bars 1–4), expectations are aroused that the omitted degree will arise at some later point in time, though just where that melodic completion will occur cannot be predicted.

The various immediate and deferred realizations just cited are part and parcel of Meyer's general implication–realization approach to melodic analysis. But the dual-stream construct hypothesized here for bass melodies gives rise to implications that are not inherent in Meyer's model; namely, that the bass line will move between streams in the course of a theme. For example, a potential for compositional play is strongly engendered by our expectation that a prominent arrival on  $\hat{3}$  will shift the bass melody from the prolongation stream to the cadential one. But this potential can be initially thwarted and then eventually achieved in many ingenious ways, as discussed in connection with both the Beethoven Bagatelle (Example 6.11) and the Haydn quartet (Example 6.12). In another case, the opening of Beethoven's piano sonata (Example 6.14) leads to the expectation that the leap from  $\hat{1}$ to  $\sharp \hat{4}$  would witness a transfer in streams, but the realization is deferred to the very end of the movement, when  $\sharp \hat{4}$  finally fulfils its normal role within the cadential stream.

Finally, an even more abstract expectation involves the appearance, or lack thereof, of the entire bass-line model. As discussed in connection with the Beethoven sonata, the main theme does not conform to the basic model or to any of its variants. Only at the beginning of the development section does the basic model first appear (Example 6.15, bars 25–8), and even then, in the wrong key. It is not until the coda (Example 6.16, bars 74–8) that the basic model finally appears in the home key, albeit not fully complete.

One final example summarizes well the various types of implications and realizations arising from the analysis of bass melody. The opening theme for variations of Mozart's Piano Sonata in A major,  $\kappa$ 331 (Example 6.17) – perhaps the most widely analysed passage in the entire classical repertory – is constructed as a small ternary (A–B–A'), whose A section takes the form of a period.<sup>35</sup> The bass line of the opening antecedent already presents a rather complicated set of melodic implications.<sup>36</sup> The initial ascent



Example 6.17 Mozart, Piano Sonata in A major, K331/i, bars 1-18

from  $\hat{1}$  to  $\hat{3}$  in bar 1 opens up a gap whose fill ( $\hat{2}$ ) is very briefly deferred until the second half of bar 2, and whose return to  $\hat{1}$  is further delayed until the downbeat of bar 4 (see staff *b*). At a broader level of motion, the move from  $\hat{1}$  to  $\hat{7}$  on the downbeats of bars 1 and 2 would most likely imply a return to  $\hat{1}$ , since this lower-neighbour configuration is highly typical of opening bass-melodic gestures (see Examples 6.11, 6.12 and 6.14). But as shown in staff *c*, the return to tonic is deferred until the downbeat of bar 4, when the leading-tone is embellished by its own lower neighbour ( $\hat{6}$ ).<sup>37</sup> At the same time, the opening descent from 1 to 7 implies a linear continuation, one that is immediately realized at the level of crotchet motion by the appearance of  $\hat{6}$  on the downbeat of bar 3 (see staff *d*).<sup>38</sup> Further descent to  $\hat{5}$  is implied, but then deferred until the second half of bar 4. A similar melodic implication arises in the course of the B section, when the move from 1 to 7 proposes a descent to  $\hat{6}$ , which is quickly realized in bar 12 and continued on to  $\hat{5}$  in that same bar.<sup>39</sup> Here, however, another level of expectation – one involving the two streams – comes into play, namely, the expectation that  $\hat{6}$  would eventually participate in the cadential stream, as support for a pre-dominant harmony. In the earlier descent (bars 1–3),  $\hat{6}$  could only be interpreted as prolongational; at bar 12, its function as cadential is fully realized.

Beyond the various complexities of melodic implication arising within the antecedent phrase is the curious fact that the entire A section bears no relation to the 'period model' found in most of Mozart's period forms: neither the antecedent nor the consequent allude to the basic model, in that a structural ascent from 1 to 3 is entirely missing from both phrases. Moreover, the bass melody of the consequent phrase conforms almost identically to the antecedent, which, as discussed earlier, is atypical of period forms.<sup>40</sup> The absence of both basic and period models from the A section provokes powerful expectations that elements of one or both models will appear later. Following the B section,<sup>41</sup> the opening phrase of the A' section conforms entirely to the consequent of the A section, thus avoiding yet again the basic model (or any variant thereof). The imperfect authentic cadence closing this phrase motivates an extension in bars 17–18, and it is only here that the bass line finally brings the complete basic model in its simplest, unembellished form. As a result, this extension, rather than being a mere appendage, becomes a central structural element of the theme.<sup>42</sup>

We thus see that this theme, despite its extensive use in the analytical literature as a representative of 'normal' practice, is actually quite deviant from the perspective of bass melody developed in this study.<sup>43</sup> One would like to believe that Mozart's 'ideal' listener would perceive (albeit at an intuitive, unconscious level of experience) the absence of the basic model throughout the theme and would then relish its last-minute appearance in the extension. If so, then we can confidently speak of a powerful communicative strategy at play on the part of the composer.

The theory of bass melody proposed in this study is still at a nascent stage of development. A number of important issues touched upon here call for additional research. Let me conclude by outlining five topics that require further work. (1) The role of register needs to be made considerably more precise: at times, the analysis needs to respect the exact pitch of a bass note, especially when helping to clarify the different streams; at other times, however, it seems that a 'pitch-class' representation makes the melodic relationships more evident. (2) It remains unclear into which stream the bass notes of sequential harmonic progressions should be placed. Since sequences normally play no role in cadential articulations in the classical style (though they sometimes do so in romantic styles), their supporting bass notes would seem not to belong to the cadential stream. Unless we are to posit a separate, third stream to hold these pitches, they seem best to belong to the prolongational stream. (3) More work needs to be done to clarify just what constitutes a bass motive and how such motives might function within the line. On the basis of preliminary research, motivic play appears infrequently in works by Mozart, somewhat more often in those by Haydn, and is decidedly more present in Beethoven. The validation and significance of this observation obviously requires additional study. (4) Basses with considerable leaping motion do not assimilate well to my models, so more satisfactory ways of accounting for such melodies need to be found. I have observed some situations in which leaping bass lines can be seen to use up, in a systematic way, the seven pitches of the diatonic scale. Perhaps some modified notion of 'aggregate completion' could be a useful concept to invoke in such cases.<sup>44</sup> (5) Limitations of space prevented me from presenting and illustrating a second basic model one that features descending motion in the prolongational stream (from 1 down to  $\hat{5}$ ). Such a model seems particularly appropriate to bass lines of baroque styles, though some classical works exhibit features of this model as well.45

I opened with Schoenberg's advice to the budding composer and used his remarks as a stimulus for exploring an avenue of research largely ignored by music theorists. Let me close with my own brief words for the budding theorist: allow yourself at times to become 'Meyer-ed' in the bass line; and always keep a watchful eye on that 'second melody'.<sup>46</sup>

## Notes

- 1 Arnold Schoenberg, *Fundamentals of Musical Composition*, ed. Gerald Strang and Leonard Stein (London: Faber and Faber, 1967), 118.
- 2 Important research on *partimenti* treatises of earlier centuries is currently being conducted by Robert O. Gjerdingen, Giorgio Sanguinetti and Ludwig Holtmeier. Gjerdingen has already begun a large-scale project of collecting

these treatises on a dedicated website (http://faculty-web.at.northwestern.edu/ music/gjerdingen/index.htm).

- 3 Schoenberg, Fundamentals, 117.
- 4 Reed J. Hoyt, 'Harmonic Function and the Motion of the Bassline', *Journal of Music Theory Pedagogy* 4 (1990), 147–90; David Pacun, 'Scanning Bass Patterns: A Middleground Path to Analysis', *Journal of Music Theory Pedagogy* 17 (2003), 59–77.
- 5 I am referring here to Schenker's mature theory, as normally practised by theorists today. Schenker's conception and analysis of the bass line evolved over time, however. As William Rothstein notes (in a personal communication): 'In the Teens and early Twenties, Schenker's paradigm of bass motion is the *Stufengang*, the literal or implied chain of harmonic roots – essentially a fundamental bass – that derives from Rameau via Sechter. From the middle Twenties, his underlying model becomes increasingly the *Bassbrechung*, as described in *Free Composition*. In *Der Tonwille*, which is where the two conceptions rub against each other, Schenker seems closest to your [Caplin's] way of thinking about bass lines.' A full study of Schenker's views on bass melody would make a fascinating research topic of its own.
- 6 Meyer presents the basics of his theory of melody in 'Part Two Explorations: Implication in Tonal Melody', *Explaining Music: Essays and Explorations* (Berkeley: University of California Press, 1973).
- 7 The notion of 'gap-fill' melodic organization is advanced prominently in Meyer's melodic theory; see *Explaining Music*, 145–57. A recent perceptual/cognitive study has challenged the validity of the concept as a model for melodic classification (Paul von Hippel, 'Questioning a Melodic Archetype: Do Listeners Use Gap-Fill to Classify Melodies?' *Music Perception* 18 (2000), 139–53), but this work does not necessarily invalidate the use of gap-fill principles in the *analysis* (as opposed to the *classification*) of melodic structures.
- 8 Throughout his writings, Rameau notates the fundamental bass as a series of pitches residing in a single staff; see, for instance, Example 11.10 from Jean-Philippe Rameau, *Treatise on Harmony*, trans. Philip Gossett (New York: Dover Publications, 1971), 86.
- 9 The example cited in the previous note clearly distinguishes *basso continuo* from fundamental bass as separate voices.
- 10 The idea of a single voice projecting multiple implied voices is akin to the notion of *compound melody*, as exemplified by the subject of the C minor Fugue in Bach's *Well-Tempered Clavier*, book 1. Most instances of compound melody see the line regularly leaping back and forth from one implied voice to the next, as in this fugue subject. The kind of two-voiced structure I propose for the bass, however, sees a less frequent alternation between the implied voices compared to most compound melodies.
- 11 Though there are some similarities, my use of 'stream' does not refer to how that term is employed by Albert Bregman in his theory of 'auditory stream

segregation' (*Auditory Scene Analysis: The Perceptual Organization of Sound* (Cambridge, MA: The MIT Press, 1990)).

- 12 This labelling conforms to a fundamental distinction, which I have been promoting throughout my writings on musical form, between prolongational harmonic progressions, used to begin thematic units, and cadential progressions, used to close such units. (A third category includes *sequential* harmonic progressions.) See William E. Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven* (New York: Oxford University Press, 1998), ch. 2; William E. Caplin, 'The Classical Cadence: Conceptions and Misconceptions', *Journal of the American Musicological Society* 57 (2004), 69–70.
- 13 This model of bass melody resembles some of the first-level middleground patterns of bass motion given by Schenker in *Free Composition*, trans. and ed. Ernst Oster (New York: Longman, 1979), Figure 14.2. Schenker's figure suggests that the melodic motion in the bass is an embellishment of a more structural bass arpeggiation  $(\hat{1}-\hat{3}-\hat{5})$ . Furthermore, the figure does not distinguish between the motion  $\hat{1}-\hat{3}$  (as, say, prolongational) and  $\hat{3}-\hat{5}$  (as cadential).
- 14 That the two patterns stand in a retrograde relation to each other seems, to me, incidental, though perhaps there is some further theoretical significance to this relationship that others may wish to explore.
- 15 My definition of period form, derived from Schoenberg, can roughly be stated thus: an *antecedent* phrase with weak cadential closure (usually a half cadence) is followed by a *consequent* phrase, which begins like the antecedent, but which closes with a stronger cadence, usually a perfect authentic cadence; see Caplin, *Classical Form*, ch. 4.
- 16 That the bass line of the antecedent differs considerably from that of the consequent reveals that the two phrases are not as parallel in construction as they often appear to be when focusing attention on the soprano melody alone. The model also reveals that the half cadential progression of the antecedent is normally shorter than the authentic cadential progression of the consequent; see *Classical Form*, 53.
- 17 In the examples that follow, a basic analysis of the bass-line melody is placed below the musical score; this analysis is reproduced, along with additional bass-line analyses where necessary, in separate staves (lettered a, b, etc.).
- 18 Unlike a consequent, which brings back the opening two-bar *basic idea* of the antecedent (thus suggesting a repeat of that earlier phrase), a continuation typically brings a combination of characteristics including fragmentation into shorter units (usually one-bar groups), an acceleration of the harmonic rhythm, faster surface durational patterns and sequential harmonic progression; *Classical Form*, 40–2. The combination of an opening antecedent phrase with a following continuation creates a *hybrid* theme-type (one that combines elements of both period and sentence); see *Classical Form*, ch. 5.

- 19 Though 5 normally appears in the cadential stream, it may sometimes participate in prolongational activity when supporting a passing chord between the harmonies placed over 4 and 6 or when supporting a tonic harmony in second inversion (as here).
- 20 The opening Bb, though not literally present in the score, is obviously implied as the bass support for the initial F in the soprano voice.
- 21 Note that the linear relationship between  $\hat{2}$  and  $\hat{3}$  shown on staff *d* clearly crosses over a natural prolongational boundary (as shown on staff *c*), an issue I alluded to in the introduction. Observe, furthermore, that if the double-neighbour configuration had been inverted, that is, Bb–A–C–Bb, then there would be no directed motion from  $\hat{1}$  to  $\hat{2}$  that would imply a continuation to  $\hat{3}$ . Perhaps this is why the opening double neighbour of so many classical bass lines is  $\hat{1}-\hat{2}-\hat{7}-\hat{8}$ and not the inverse.
- 22 The use of a pre-dominant prior to the dominant of the half cadence represents a variant of the period model shown in Example 6.7.
- 23 On the formal significance of an expanded cadential progression, see William E. Caplin, 'The "Expanded Cadential Progression": A Category for the Analysis of Classical Form', *Journal of Musicological Research* 7 (1987), 215–57.
- 24 Note that the voicing of the passing v7 appearing on the third quaver of bar 6 and the cadential v7 on the downbeat of bar 15 are practically identical, thus allowing us to hear a strong connection between these chords despite their differing harmonic functions.
- 25 The formal organization of this theme is based on a *hybrid* theme-type, one consisting of a *compound basic idea* followed by continuation; see Caplin, *Classical Form*, 61. Had the theme cadenced in bar 8, as proposed above, it would have conventionally realized this theme-type. But the extension of continuation function in bars 7–10 and the expansion of the cadential function in bars 10–13 render the theme considerably looser and less conventional in design.
- 26 All modern editions of this quartet indicate that bars 24–5, which follow the passage shown in Example 6.12, bring back the two-bar idea from the opening bars of the piece, which is then followed by a variant of bar 3, now harmonized with v7 of v. As a result, the bass line reproduces, indeed reinforces, the effect of bars 17–21, where 1 moves directly to 2. But in a personal communication, James Webster, editor of this quartet for the *Joseph Haydn Werke* (Munich: Henle Verlag), reveals that the original autograph (as well as many contemporary prints) brings the note E, as a series of quavers, in the violoncello part of bars 24–5 (instead of G, as in the modern editions); thus the bass motion would see a more conventional foreground move from 6 to 2. This 'original' version is not entirely unproblematic, however, since it results in a rather unusual reharmonization (with v1) of the opening two-bar melodic idea, such that it is understandable that subsequent editions could be seen to correct a perceived mistake of the original.

- 27 Staff *b* suggests a broad prolongation of 1 throughout bars 1–2 until the leap to  $\hat{3}$  at bar 3. Within these opening three bars, it may also be possible to discern elements of a Romanesca (or 'Pachelbel canon') bass-line pattern, as shown in staff *c*.
- 28 See Caplin, *Classical Form*, 59–60 (Example 5.1), for a formal analysis of the opening eight bars of Example 6.13 as a hybrid theme.
- 29 I am considering this parenthesis largely from the melodic perspective of the bass line itself; interpreting the whole of bars 17–18 as parenthetical is less compelling, though a direct connection can be made by changing the downbeat of bar 19 into a cadential six-four and linking the music from this point back to the end of bar 16.
- 30 I briefly return to the issue of sequential progressions in the conclusion to this study.
- 31 The overall movement is in *large-ternary* form (see Caplin, *Classical Form*, ch. 14); the second part, which typically is formed as an *interior theme* (*Classical Form*, 212–13), is replaced by a genuine *development* section (*Classical Form*, ch. 10).
- 32 Though everything is concluded from a purely formal point of view, we might be dissatisfied that the movement is ending in such a high register, given its much lower opening registral position.
- 33 Of course, a given implication for continuation might never be realized within the musical work; see Meyer, *Explaining Music*, 117.
- 34 I thank Danuta Mirka for pointing out (in a personal communication) this distinction between what I am calling immediate and deferred realizations. She further speculates that this distinction may be rooted in different modes of music cognition.
- 35 Like Wye Allanbrook (in her essay in this volume), I believe that much can still be said about this theme; and like her, though for different reasons to be explored below, I regard the theme as an exceptional representative of the 'period' theme-type and hardly to be taken as a model.
- 36 In order to avoid an overly detailed description, I am overlooking the embellishing upper-neighbour motions in the first half of bars 1 and 2.
- 37 This deferral can be related to the influence of the siciliano topos, as identified by Allanbrook.
- 38 The passage features other immediate realizations, such as the resolution of the leading-tone to tonic on the downbeat of bar 4 and the cadential move from  $\hat{4}$  to  $\hat{5}$  in that same bar. Such realizations, however, are so direct as to attract little attention. For that reason, immediate realizations are less a source of communication than deferred ones.
- 39 To be sure, the expectation of  $\hat{7}$  moving to  $\hat{6}$  is conceived here from a purely melodic point of view. When the broader harmonic context is taken into account, the v6/5 supported by  $\hat{7}$  demands resolution to 1, which immediately occurs, thus fulfilling the stronger expectation that  $\hat{7}$  will return to  $\hat{1}$ .

- 40 Recall again that unlike the soprano melody, whose consequent more or less repeats the antecedent, the bass line of most periods is usually altered in the consequent relative to the earlier phrase.
- 41 The B section is also unusual in that it emphasizes tonic in the bass, rather than dominant (see Caplin, *Classical Form*, 75).
- 42 Indeed, this extension then goes on to play a major role in the following variations. For Mozart frequently sets up a textural and dynamic contrast between the antecedent and consequent phrases of the A section, which he then matches with a comparable contrast between the opening phrase of the A' section and the extension (see Variations 1, 2, 3 and 6).
- 43 See Allanbrook's essay for an extensive discussion of the use of  $\kappa$ 331 as an analytical paradigm.
- 44 James Baker develops the idea that aggregate completion can play a role in music of this style period; see 'Chromaticism in Classical Music', in *Music Theory and the Exploration of the Past*, ed. David Bernstein and Christopher Hatch (Chicago: University of Chicago Press, 1993), 233–307.
- 45 See, for example, Mozart, Piano Sonata in A minor, κ310/i, bars 1–9.
- 46 Support for this research was provided by the Social Sciences and Humanities Research Council of Canada. I want to thank Erin Helyard for his help in preparing the musical examples.