## **END-ACCENTED PHRASES:**

# AN ANALYTICAL EXPLORATION

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An important principle of recent rhythmic theory is the distinction between *meter* and *grouping*. Meter is a hierarchical framework of beats—points in time carrying varying levels of implicit accentuation which in itself implies no segmentation. Grouping is a hierarchical structure of segments, which in itself implies no accentuation. This is not to say that meter and grouping do not interact and influence one another (a point I will develop below). In principle, however, meter and grouping are independent structures, which may be aligned with one another in a variety of different ways.<sup>1</sup> Also of central importance to the current study is the distinction between *group* and *phrase*. A group is a unit of grouping structure at any hierarchical level; the term "phrase" refers to a basic, intermediate level of group—roughly four to eight measures in length, though sometimes more or less.<sup>2</sup> My main concern in this paper will be with phrases, though I will sometimes also consider other levels of grouping.

The starting-point of the current study is the distinction between beginning-accented phrases (those in which the strongest beat is at or near the beginning) and end-accented phrases (in which the strongest beat is at or near the end). Following a well-established (though not unanimous) view in recent music theory, I will maintain that beginningaccented phrases are normative in common-practice music; however, end-accented phrases are more frequent and important than some theorists have appreciated. My purpose in this paper is more analytical than theoretical; I will offer no grand theory of the use of beginning- and endaccented phrases (though I will offer some tentative claims about the way they are generally used). My point, rather, is that recognizing the distinction between beginning- and end-accented phrases provides insight into a number of interesting and beautiful musical passages in the common-practice repertoire. As end-accented phrases are the less common case, it is particularly interesting to focus on cases where they play a prominent role.

#### **Beginning- and End-Accented Phrases**

The basic distinction between beginning-accented and end-accented phrases has been acknowledged by several authors. For Lerdahl and Jackendoff, this idea is reflected in the degree to which meter and grouping are "in phase" (1983, 25-29). Three of Lerdahl and Jackendoff's examples are shown in Example 1, along with their grouping and metrical analyses. A highly "in-phase" passage is one in which the strongest beat in each group occurs exactly at the beginning, as in the scherzo of Beethoven's Second Symphony (Example 1a). Note that this observation applies to several levels of grouping; whether one is considering onemeasure, two-measure, four-measure, or even eight-measure groups, in each case the strongest beat in each group is right at the beginning. By contrast, the minuet of Haydn's Symphony No. 104 (Example 1b) is slightly "out of phase" in rhythmic terms, since each group starts slightly before its strongest beat-in other words, there is a short anacrusis. The theme of Mozart's 40th Symphony (Example 1c) is "acutely out of phase," since the strongest beat of each group (in most cases) occurs at or near the end of the group. Again, this applies at multiple levels; at the lowest level (marked as level 1), the strongest beat is on the final melody note of each group (except for the first); at level 3, too, the strongest beat in each group is near the end. (At level 2, by contrast, the strongest beat is near the beginning.) The groups in Examples 1a and 1b are what I propose to call "beginning-accented groups"; those in Example 1c (at levels 1 and 3) are "end-accented groups."

Rothstein (1989, 29–30) presents essentially the same three possibilities as Lerdahl and Jackendoff, and also uses the terms "in phase" and "out of phase," but suggests some additional terminology as well. If a group begins shortly before its strongest beat, this creates an "upbeat pattern"; if it begins just after a strong beat, this creates an "afterbeat pattern." (No term is given for the case where the grouping and the meter exactly coincide.) Rothstein discusses Bach's Invention in C major as an example of afterbeat patterns, showing that they occur at several hierarchical levels (see Example 2). Rothstein's "afterbeat pattern" is not exactly equivalent to my "end-accented group," but in practice they are often the same. Notice that if several afterbeat groups succeed one another in an adjacent, non-overlapping fashion, they will end up being end-accented: if each one begins right after a strong beat, the previous



Example 1. Three examples from Lerdahl and Jackendoff 1983 (a) Beethoven, Symphony No. 2, III, mm. 1–10 (b) Haydn, Symphony No. 104, III, mm. 1–8. (c) Mozart, Symphony No. 40, I, mm. 1–5 (Fred Lerdahl and Ray Jackendoff, *A Generative Theory of Tonal Music*, The MIT Press. Copyright 1983 by the Massachusetts Institute of Technology. Reproduced by permission of the publisher.)



Example 2. From Rothstein 1989. Bach, Invention No. 1 in C major, mm. 1–7 (Used by permission)

group must end at (or just after) a strong beat. The Bach invention is a good example of this.

An important question arises here concerning the normative alignment of meter and grouping. This issue has received a good deal of discussion, particularly regarding the level of the phrase. A number of authors have argued that the normal situation is for meter and grouping to be roughly "in phase" at the phrase level, with the strongest beat in a phrase occurring at or near the beginning.<sup>3</sup> (This view is perhaps implicit in the terms "in phase" and "out of phase.") This view has been endorsed by a range of theorists in the last two decades, including Schachter, Lerdahl and Jackendoff, Kramer, and Rothstein.<sup>4</sup> There has not been universal agreement on this point; Riemann argued that phrases were normally end-accented, and some more recent authors have also taken this position (see Cooper and Meyer 1960; Komar 1971).<sup>5</sup> Lerdahl and Jackendoff (1983, 25-34) argue persuasively, however, that this latter view arises from a confusion between different kinds of accent. The end of a phrase is often the site of a structurally important event such as a cadence, signalling tonal arrival and closure; however, such "structural accents" may or may not coincide with metrical accents (i.e. strong beats). (It should be clear at this point that my terms "beginning-accented" and "endaccented" refer to metrical accent, not structural accent.) My own view is basically in accord with the "beginning-accented" camp. While adherents of the beginning-accented view generally acknowledge that endaccented phrases are possible in principle, and may sometimes occur, relatively little attention has been given to such phrases; my aim in the current study is to remedy this situation. (The disagreement on the issue



Example 3

of normative meter-grouping alignment should serve as a warning: the perception of meter and grouping can be quite subjective. While I will try to offer musical justifications for my analyses, to some extent such interpretations may boil down to personal taste and temperament.)

Lerdahl and Jackendoff (1983, 75–76) go as far as to say that the normative status of beginning-accented phrases is an important principle of perception; one of their "Metrical Preference Rules" (a set of criteria involved in the perception of meter) is that we prefer for the strongest beat in a phrase to be near the beginning. To my mind, this rule accords well with intuition. Given a simple pattern such as Example 3, the most natural hearing places the strongest beats on the first note in each three-note group (though the final note in each group is, in a sense, the *longest*).<sup>6</sup> This follows naturally from Lerdahl and Jackendoff's rule: given that the notes form three-note groups, there is then a tendency to hear the strongest beat on the first note of each group. However, this is not to say that groups will *always* be beginning-accented; as noted earlier, Lerdahl and Jackendoff themselves give examples where this is not the case. If other factors give enough support to an end-accented hearing, it may be preferred.

The idea of beginning-accented and end-accented phrases requires some clarification and refinement. Consider the abstract structures shown in Example 4; grouping and metrical structures are indicated in the conventional manner. Vertical bars indicate bar lines—thus the lowest metrical level represented here is the one-measure level. All groups are shown here as beginning right at the bar line, for the sake of consistency, though this assumption is not necessary for the points that follow. Note also that most of the examples consist of *two* phrases; this again is not essential to the argument, but it is appropriate, as themes in common-practice music often consist of some kind of pairing of phrases.

Examples 4a and 4b are unproblematic cases of beginning- and endaccented structures; the strongest beat is at the beginning of the phrases in Example 4a, at (or near) the end in Example 4b. It is generally agreed, however, that intuitions of meter become less strong as we move to higher and higher levels. In some cases we might have a strong sense of a two-measure level of meter, but not a four-measure level; examples of this are shown in Examples 4c and 4d. Even in cases such as this, however, it seems reasonable to call Example 4c beginning-accented and Example 4d end-accented, on the grounds that the first beat at the one-



Example 4. Abstract rhythmic structures



measure level in Example 4c is stronger than the last, whereas in Example 4d the reverse is true.

A problem arises here, and is illustrated by Example 4e. By the definition just given, Example 4e is end-accented at the one measure-level (the last one-measure beat is stronger than the first), but beginningaccented at the two-measure level (the first beat at this level is stronger than the last). To prevent confusion, then, when describing a phrase as beginning- or end-accented, we must make it clear which metrical level is at issue.<sup>7</sup> This problem rarely seems to arise in practice, however; this is because, at least at relatively high metrical levels, structures such as Example 4e are extremely rare. Much more common are structures such as Examples 4a and 4b, which are either end-accented at multiple levels, or beginning-accented at multiple levels. The excerpts from Lerdahl and Jackendoff cited earlier (Example 1) provide examples of this kind of parallelism between levels.

Example 4f illustrates a further kind of problematic case: some phrases are neither clearly beginning- or end-accented, even at a given metrical level. In the first phrase of Example 4f, the first and last beats at the onemeasure level are both weak; in the second phrase, they are both strong. While "center-accented" structures such as the first phrase in Example 4f appear to be quite rare, structures such as the second are more common; they often occur in cases of phrase overlap, where the final strong beat is simultaneously the beginning of a new phrase.

A final issue is illustrated by Example 4g. We must remember that not only meter, but grouping as well, is hierarchical. While the eight-measure phrase here is beginning-accented at the one-measure level, it divides irregularly into four smaller segments, two of which are end-accented at the one-measure level. In deciding whether a passage is composed of endaccented segments, then, it may depend on which level of grouping is at issue. (It is all very well to say that we are concerned only with the "phrase" level, but in some cases it is not entirely clear what level this is.) Once again, however, this rarely occurs in practice; much more common is a case such as Example 4h, where a beginning-accented four-measure unit divides into two beginning-accented two-measure units, or the analogous case in Example 4i, where both levels of grouping are end-accented.

The important point to be taken from this discussion is this: to be absolutely precise, when describing a group as beginning- or end-accented (or when describing a passage or theme as composed of beginning- or end-accented groups), one must be clear about the level of meter at issue, and also the level of grouping. In many cases, a theme will either be beginning-accented at multiple levels of meter and grouping, or end-accented at multiple metrical and grouping levels. Nevertheless, to avoid confusion, it is best to be precise about what level is under consideration. For the most part, we will be concerned in this paper with intermediate levels of grouping—at the level of the phrase or thereabouts—and metrical patterns at the level of the measure or higher.

#### **End-Accented Phrases and Closing Themes**

Before proceeding to analytical discussions, I wish to present one general observation about the use of beginning- and end-accented



Example 5. Haydn, Sonata H. XVI:37, I, mm. 33-43



Example 6. Mozart, Sonata for Violin and Piano K. 454, I, mm. 48-58

phrases. Despite the general prevalence of beginning-accented structures, I will argue, there is one kind of situation in which end-accented phrases are common and perhaps even normative.<sup>8</sup>

Examples 5, 6, and 7 show three themes. Each consists of two or more end-accented phrases, as shown above the staff; the relevant levels of meter and grouping are indicated in the customary way. Example 5 features a repeated two-measure idea, the second occurrence of which is



Example 7. Beethoven, Sonata Op. 10, No. 3, I, mm. 91-105

ornamented; each two-measure segment is end-accented at the half-measure level (meaning that the last half-measure beat is stronger than the first), and at the one-measure level as well. (One could also argue that these phrases were end-accented at the quarter-note level. In this case, as in the cases to follow, I will focus on one or two levels that seem most important.)<sup>9</sup> In Example 6, a four-measure phrase is heard twice; each phrase is end-accented at the half-measure and one-measure level. In Example 7, a four-measure melodic idea is heard three times (the first time in the right hand, the second two times in the left); each phrase is end-accented at the one-measure level, and, I would argue, at the twomeasure level as well.<sup>10</sup>

It can be seen that these three end-accented themes have several things in common. In terms of their internal structure, each is comprised of a repeated phrase, ending in strong authentic cadence. The themes are also similar in their context: each one is a closing theme, occurring near the end of a sonata exposition. Like many closing themes, each of these three themes immediately follows what Caplin (1987) has called an "expanded cadential progression": a highly emphasized cadence which is clearly the primary authentic cadence in the second key area of the exposition. This brings us to an important fact about end-accented themes: a great many end-accented themes are closing themes, and a great many closing themes are end-accented.<sup>11</sup> The themes are similar, also, with regard to the factors causing this "end-accented" hearing to arise. The most important factor is context; in each case, the previous cadence, ending in a hypermetrically strong cadential tonic, establishes a metrical framework which then persists through the closing theme. (The importance of context can be demonstrated by removing the context. For example, if one heard Example 5 in isolation, starting at the second beat of m. 35, one might well hear it as beginning-accented at the half-measure level.) Texture can also be a factor in some cases; in Example 7, the change of texture at the downbeat of m. 93 draws attention to this point and reinforces it as hypermetrically strong. One might also argue that this very change of texture suggests an alternative grouping, with a phrase starting on the cadential tonic (overlapping with the previous phrase); to my mind, however, this grouping is clearly secondary to that implied by the melody.<sup>12</sup>

The numerous similarities between the themes in Examples 5, 6, and 7 suggest that what we are dealing with here is a kind of *schema*—a pattern defined as a cluster of musical features, which tend to occur together (although not all features need to be present in every occurrence of the schema). (See Gjerdingen 1988 for an extensive study of schemata in the classical period.) I will henceforth refer to this as the "closing-theme schema."

Another situation where end-accented phrases are sometimes found is illustrated by Example 8. This passage is similar to the previous three examples in some ways. We have a four-measure phrase repeated, ending in an authentic cadence; each phrase is end-accented at the measure level as well as the two-measure level (considering only the first-violin melody). (The cello is also playing a kind of melody-its initial rising seventh clearly referring back to the opening theme-but it recedes into the background as soon as the first violin enters.) The theme also follows a strong perfect cadence; this cadence concludes the second (considerably expanded) phrase of the two-phrase period that begins the movement. In all of these respects, then-its structure of two short phrases ending in authentic cadences, and its position following an emphatic perfect cadence-the theme in Example 8 resembles the closing themes discussed earlier; it might very well be considered a kind of "first-group closing theme"-a category which has not been proposed before, to my knowledge. While first-group closing themes are certainly less common



Example 8. Beethoven, String Quartet Op. 18, No. 3, I, mm. 25-35

than second-group ones, they are not infrequent; and, like second-group closing themes, they are often end-accented.<sup>13</sup>

The connection between end-accentedness and closing themes extends beyond sonata form. Consider Example 9, from Chopin's Etude op. 25, no. 9. While this would normally be described as a "coda," it is clearly similar to previous examples in both its internal characteristics (a pair of phrases ending in authentic cadences) and its location (following an emphatic, expanded cadence—in this case the main cadence of the piece), and thus might well merit inclusion in the general category of "closing theme." Like the other closing themes considered above, it is clearly endaccented, at both the half-measure and one-measure levels.<sup>14</sup> Example 10, from Mendelssohn's Song Without Words op. 67, no. 4, presents another similar example: two-four measure phrases, ending on cadences, and end-accented at the half-measure and one-measure level. (In this case, the prior context sets up the preceding cadential tonic—in m. 80—as hypermetrically weak, not strong. Even so, the force of this tonic arrival accompanied by the change of texture there makes this measure seem strong as soon as it is heard. This is an example of what Rothstein [1989, 52–56] would call "metrical reinterpretation.") This case is particularly notewor-



Example 9. Chopin, Etude Op. 25, No. 9, mm. 35-45



Example 10. Mendelssohn, Song without Words Op. 67, No. 4, mm. 79–88

thy since the closing theme is directly related to the opening theme of the piece—the first six notes of the melody are identical; however, the opening theme is beginning-accented (at half-measure and one-measure levels) rather than end-accented. For some reason, in adapting this theme as a closing theme, Mendelssohn chose to change its accentual structure. The change in the left-hand accompaniment pattern halfway through mm. 82 and 84 gives a slight hint of metrical accent at these points, favoring the beginning-accented hearing, but not enough to tip the balance.

The evidence presented above suggests that our earlier generalization about the preponderance of beginning-accented themes might be refined. While end-accented themes are less common generally, they do occur quite commonly as closing themes (assuming a relatively broad definition of "closing theme," as suggested above); beginning-accented themes, conversely, are particularly common in other situations such as first and second themes (where end-accented themes are extremely rare—though not unheard of, as I will discuss). To cite a small body of evidence readily at hand, the first themes of the three movements cited in Examples 5, 6 and 7 are all clearly beginning-accented at the one-measure level and at immediately lower and higher levels as well; the same is true of the pieces quoted in Examples 8, 9, and 10 (as already observed with regard to the Mendelssohn Song without Words).<sup>15</sup>

If we accept that end-accentedness tends to be associated with closing themes, this raises the question of why such a correlation occurs. One simple explanation suggests itself. Closing themes (broadly defined) tend to follow an expanded cadential progression, which normally ends in a hypermetrically accented I chord.<sup>16</sup> At the moment of arrival on the I chord, the cadence is complete; yet now we are at the beginning of a new hypermeasure. Rather than waiting until the next hypermeasure for the closing theme to begin (and thus leaving the hypermeasure essentially empty), it seems more appropriate to begin it somewhat earlierperhaps very soon after the hypermetrical downbeat that just occurred. (It is then appropriate, also, to end the first closing theme phrase on a hypermetrical downbeat, in the interest of parallelism-so that the following phrase can begin at a place metrically parallel to the first.) This, then, may be one reason why closing themes are so often end-accented. Another line of reasoning is possible as well. If a theme is a closing theme, functioning as the end of something, it is perhaps appropriate for it to be internally end-accented. In this way, the internal structure of the theme symbolizes its large-scale structural function, and may therefore provide the listener with a useful cue as to what is happening in the piece. (I have attempted to develop this argument elsewhere; see Temperley 1996.) While both of these arguments may have merit, I will not attempt to resolve this question conclusively here, but leave it as a problem for the future.

#### Some Interesting Cases

The discussion so far has put forth several general observations about phrase structure. It was suggested, first, that phrases are normally beginning-accented. End-accented phrases do occur commonly in one situation, however, namely closing themes. I have also proposed a norm regarding the internal structure of end-accented phrases: such phrases are generally end-accented at more than one level, and frequently break down evenly into smaller units which are also end-accented at some level. One reason for positing norms, of course, is that it makes us more aware and appreciative of cases which stretch or break these norms. Let us consider several such cases.

Example 11 shows the closing theme from the first movement of



Example 11. Schubert, String Quintet in C major, I, mm. 136–46 (reduction)

Schubert's String Quintet in C major. In several respects this theme adheres to the closing theme "schema" reflected in the examples discussed earlier. The theme follows immediately after a strong perfect cadence; it consists of two four-measure phrases, the second a close variant of the first, both ending in authentic cadences. Each four-measure phrase is end-accented at the measure level (that even-numbered measures are strong here is clear from the previous context), and also at the half-measure level. The theme is more unusual, however, in its harmonic shape. After an opening I6 chord, it moves to a B-major harmony, V/vi (this functional interpretation is suggested by the G's and the A in m. 139); from here we move not to the expected vi, but rather to V7/IV, and then, more conventionally, to IV and to the cadence. Adding to the striking effect of this progression is the unusual segmentation of the passage. As noted earlier, the norm is for end-accented phrases to fall into two roughly equal end-accented sub-phrases, and there are some factors in favor of such a segmentation here. The repeated B's in the cellos, changing half-way through m. 140, slightly favor a sub-phrase boundary at this point; the abrupt change of harmony there contributes to this hearing. However, the parallelism between the first and second halves of m. 140 (the two half-note chords, with grace-note third-progressions going up to each melody note) discourages us from separating them with a group boundary. Yet placing a group boundary at either the beginning or the end of m. 140 would be strongly contradicted by the harmony. The result of these conflicting segmentation cues is that the entire four-measure phrase

emerges a single indivisible unit. (The harmonic rhythm of the passage is also of interest. The move to B major on the downbeat of m. 139 gives a certain accent to this downbeat—though not enough, to my mind, to change its status as a weak measure. The result is a subtle kind of syncopation: the B-major harmony begins on a weak measure and carries over to the beginning of the next strong measure. Syncopation is present at a lower metrical level as well—most obviously in the sforzando G-major chord on beat 2 of m. 138, but also in m. 141, where one could well hear a move to the cadential 6/4 on beat 2 of the measure.<sup>17</sup>)

A similar kind of complexity in the internal grouping structure of endaccented phrases is seen in the second theme from the first movement of Mozart's Piano Quartet K. 478, shown in Example 12. (Example 12 shows a reduction. The theme is played primarily by the piano, though the strings join in for the second phrase at m. 61.) This theme has been the subject of considerable discussion and debate. Schoenberg (1975, 436–37) proposed two possible metrical interpretations for it, both of them highly irregular, as shown in Example 13; Yeston (1976, 130–39) also proposes a metrically irregular hearing. Cone (1963, 206–8) and Mitchell (1963, 210–11) favor a regular hearing, but one that is a half-measure out-ofphase with the notated meter; this is shown as hearing A in Example 12.





Example 12. Mozart, Piano Quartet K. 478, I, mm. 56-65 (reduction)



Example 13. Two analyses by Schoenberg of the Mozart melody in Example 12

Wittlich (1977, 369-70) and Lester (1986, 81-82), by contrast, emphasize the effect of the previous context, suggesting (though neither one makes it entirely clear) that they would favor the metrical structure implied by the notated meter (hearing B in Example 12); I would agree. (One might well go further and posit a two-measure hypermetrical level as well, with odd-numbered measures strong, but I will concentrate on the onemeasure level here.) Hearing B may initially seem odd, and there are indeed factors arguing against it. By this hearing, the theme is constructed of two four-measure phrases, both end-accented at (at least) the half-note level; and as I have noted repeatedly, we generally prefer to avoid endaccented phrases, favoring to locate the strongest beat of a phrase near the beginning. It is worth noting, also, that this theme has little in common with the "closing-theme" schema proposed earlier. The theme does in fact follow an expanded cadential progression, but it is located quite early in the second theme group; it is also unlike a typical closing theme in that the two phrases are in an antecedent-consequent relationship (the first ending in a half-cadence, the second in a perfect cadence), rather than both ending in perfect cadences. In short, because this theme is not much like a closing theme, it is not a situation where we would expect to find end-accented phrases; and this may affect our perception as well. The primary factor in favor of hearing B-as Wittlich and Lester suggest-is the preceding context: notated downbeats are clearly established as strong by the preceding cadence, and it is natural to continue this hearing, if possible, in what follows. We might also consider which hearing is more strongly implied by the internal construction of the phrase; however, this does little to settle the issue. The change of harmony (to IV) at the midpoint of m. 58 (treating the D and F# as ornamental) favors hearing A; on the other hand, the move back to I at the downbeat of m. 60 is more pronounced and less ambiguous, and this favors hearing B. (One could also hear the move to V on the second beat of m. 59 as an anticipation of a "real" change of harmony at the midpoint of the measure, but I find this dubious.) While I can entertain either hearing, I find hearing B most attractive; it makes the theme unusual in one sense (since second themes are rarely end-accented), but also fits perfectly with both the preceding and following context, as a single hypermeter is maintained throughout.<sup>18</sup>

If we accept hearing B, the accentual status of lower-level groups within each phrase is interesting to consider as well. The pedal point and uniform texture from m. 57 to the downbeat of m. 60 suggests a division of the phrase into two uneven units, 3+1. Alternatively, one could also divide the phrase into three units, as shown in Example 14 (dividing the phrase, essentially, as 2+1+1). Under this analysis, each sub-phrase is end-accented (though the first is a highly unusual end-accented group in that no melodic event occurs on the final strong beat). The parallelism is particularly strong between the first group and the second; the second is almost a rhythmic diminution of the first, though not quite. Note that this parallelism does *not* emerge under hearing A.

Example 15 shows another Mozart passage which, like Example 12, is enriched and complicated by the possibility of multiple metrical hearings. The opening theme of the movement (not shown here) features an antecedent-consequent structure-an eight-measure phrase ending on a half-cadence, followed by a varied repeat, extended, and ending on a strong perfect cadence in m. 20; I consider m. 20 to be metrically strong (though this is perhaps debatable).<sup>19</sup> The following eight measures, mm. 21-28, then emerge as a fairly typical "first-group closing theme": two four-measure phrases, each one ending on a perfect cadence, and each one end-accented at the measure level. This "even-strong" hearing can then be continued through the following six-measure phrase (shown as hearing A); by this hearing, mm. 29-34 emerge as a second closing theme, again end-accented at the measure-level and ending in a strong perfect cadence. There is an alternative possibility, however, suggested by the one-measure idea repeated three times in mm. 28-31. Given this parallelism, and given the fact that the remainder of the phrase can readily be heard as a three-measure cadential gesture, one possibility is to hear a triple hypermeter here, shown as hearing B in the figure. This latter possibility is reinforced by what follows: the phrase in mm. 29-34 is repeated, but in a harmonically varied form, ending (in mm. 39-40) with what one expects to be a cadence in F# minor, though the F#-minor chord is replaced by V4/3 of E; this leads to a repeat of the three-measure cadential gesture, ending with a half-cadence in E major. Given the clear



Example 14. A low-level grouping analysis of the melody in Example 12



Example 15. Mozart, Sonata for Violin and Piano K. 526, I, mm. 18-43

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parallelism between mm. 41–43 and 38–40, a triple hypermeter is almost irresistible here; the even-strong duple hearing I proposed earlier becomes untenable somewhere around m. 40. Mm. 29–34, however, remain ambiguous between hearings A and B; I feel that both of these hearings are present in my experience of the passage.<sup>20</sup> Whichever hearing we choose, we should take note of Mozart's ingenious use of the closing-theme schema. As noted earlier, mm. 21–28 fit the schema almost perfectly; mm. 29–34 initially lead us to expect a further closing theme (despite the unconventional six-measure length), but what starts out as the expected repeat of this phrase then turns into the transition.

Example 16 shows a most unusual case, in which the main theme of a movement is constructed from end-accented phrases. An insightful discussion of this passage is provided by Rothstein (1989, 48-50). Rothstein proposes a two-measure level of grouping with each group ending on a downbeat (shown as the highest level of grouping in Example 16), and further argues for a two-measure level of hypermeter with the first and third measures strong; thus the phrases emerge as end-accented (or "afterbeat" phrases by Rothstein's terminology).<sup>21</sup> I basically agree with Rothstein's hearing, regarding both the grouping and the meter. We could go further, in my opinion, and posit one-measure end-accented groups as well, as shown in the figure; this is particularly reinforced by the piano part, which reaches a strong tonal arrival on the downbeat of m. 2 followed by a change of register. However, what complicates the situation is-once again-a subtle element of metrical ambiguity. Rothstein's claim that odd-numbered measures are strong here is not unexceptionable; there is such a strong sense of arrival on the downbeat of m. 2 that one might well hear the entire first measure as an anacrusis. (By this hearing, the



Example 16. Brahms, Violin Sonata Op. 100, II, mm. 1-5

two-measure melodic groups would no longer be end-accented, though the one-measure groups still would be.) Consider also the half-note metrical level: that is to say, which are strong, odd-numbered quarter-note beats (as notated—shown in the example as hearing A) or even-numbered ones (hearing B)? If we heard the violin melody alone, we would probably favor a beginning-accented hearing (hearing B)-this is the case with other end-accented themes we have considered as well. Unlike previous cases, however, there is no prior context reinforcing an end-accented hearing (though there is undoubtedly a preference to hear a strong beat at the very beginning of the piece). Even with the accompaniment added, hearing B is plausible, so that altogether the passage is delicately balanced between the two. A further factor here, subtle but important, also favors hearing B. There is strong motivic parallelism between the first and third one-measure groups in the violin melody: they are rhythmically identical and have the same pitches as endpoints (both begin on C5 and end on F5-C5). However, the second note of each group (occurring on the second quarter-note beat of the notated measure) is different; in a subtle way, this emphasizes the second quarter-note beat of m. 3, again favoring hearing B. (Moreover, the harmony differs between the two groups at this point: while the second beat in m. 1 merely prolongs the previous tonic harmony, the second beat in m. 3 features a striking viiº7 over a tonic pedal-the A in the melody being an appoggiatura, which resolves down to G.) If forced to choose, I would agree with the notated meter and with Rothstein's assertion of odd-numbered measures as strong, but I feel that there is a significant degree of ambiguity here-which is perhaps, in part, what gives this theme its incomparable richness.<sup>22</sup>

The last example, Schubert's "An die Musik," is not one that particularly features end-accented phrases, but it does show an exceptionally creative and effective manipulation of the alignment between meter and grouping. (Example 17 shows the entire first verse of the song.) The meter of the poem is perfectly regular-composed of four-line verses in iambic pentameter-and could easily have been set in a highly regular fashion. Indeed, a clear four-measure hypermeter is evident throughout the song; a basic structure of four-measure phrases is also evident, each one beginning and ending on a tonic harmony-except the last, which ends on I but begins (essentially) on IV. However, subtle differences between the phrases make each one structurally unique. The first three phrases might be described as "unaccented" at the two-measure level: each one begins after a four-measure "hyperdownbeat" and end before the following one, thus containing no beat at this level. The first phrase divides weakly into two sub-phrases, as shown in the example; in the second phrase, not even a weak subdivision can be found. The second phrase is in some ways the most extraordinary one in the song. Most unusually, it reaches its cadence (a tentative V6/5-I cadence, with the third degree in



Example 17. Schubert, "An die Musik," mm. 3–19

the melody) on the fifth and sixth half-note beats of the hypermeasure, leaving an empty measure at the end; the accompaniment fills this measure with dominant harmony, linking the tonic of m. 9 with that of m. 11. (Another subtle feature here is the remarkable parallelism between the segments marked with dotted brackets; this tends to make us want to hear the second one as metrically parallel to the first-that is to say, it subtly favors even-numbered half-note beats as strong, as shown in parentheses under the vocal line. Added to the unusual placement of the cadencewhich also seems to favor even-numbered half-note beats as strongthere is a considerable degree of metrical instability here, though to my mind it is heard only as syncopation and is not enough to actually alter the perceived meter.) The third phrase, in mm. 11-14, is somewhat similar to the first in its rhythmic structure. In this case, the division into two sub-phrases is more pronounced, especially given the melodic and harmonic parallelism between them; each one moves, essentially, from D5 down to F#4, over a I-V-I harmonization. (The dominant harmony in the last three beats of m. 12 has the effect of linking the two sub-phrases, much as the dominant harmony in m. 10 links the phrases on either side.) The harmonic shape of these two sub-phrases makes them seem analogous to the first two four-measure phrases (which also begin and end on I). The second of these two sub-phrases is the more stable of the two, as it begins just before a beat at the two-measure level; it is therefore the first group in the song (phrase or sub-phrase) to be both tonally complete and rhythmically normal.

The unaccented structures of the first three phrases create a feeling of tentativeness—of holding back—to which the final phrase provides a powerful release. This phrase contains not one but *two* beats at the four-measure level, that is, it begins just before the beginning of a four-measure hypermeasure and overlaps the beginning of the following one; the fact that it is the first phrase to begin on a non-tonic harmony heightens its impact. (The phrase as a whole is in fact a large cadential gesture—whether one sees it as a prolonged predominant harmony from mm. 15–17 followed by V-I, or, as I prefer, as an attempted cadence in mm. 15–17, ending on vi, followed by a second try finally attaining I.) Like the first and third phrases, the fourth falls clearly into two sub-phrases, though in this case, the first sub-phrase is the longer of the two; the first sub-phrase extends to the beginning of m. 17 (and is thus "overlapping" at the two-measure level), while the second is end-accented, ending squarely on a four-measure downbeat and thus providing the maximum closural effect.<sup>23</sup>

In this essay I have presented some general claims about the way endaccented phrases are normally used, and also some specific examples of how composers transcend these norms. Some important questions remain, however. In particular, it would be nice to know more about the *function* of end-accented phrases: what effect do they have in and of themselves, and what is their role in relation to the surrounding context? Some tentative answers suggest themselves. First, end-accented phrases simply provide variety—a bit of relief from the monotony of uniformly beginning-accented phrase structures. The issue of stability is important, too. While end-accented phrases are in one sense unstable (due to the "out-of-phase-ness" of meter and grouping), they also allow the possibility of a metrically-accented ending, and, therefore, a high degree of closure and arrival (the final sub-phrase of "An die Musik" is a good illustration of this). But there is surely more to be said about this issue.

Finally, it is appropriate to return to a larger question which has been somewhat evaded by the current study: the normative rhythmic structure of the phrase. While we have been assuming a norm of beginningaccented phrases, a number of theorists-as noted earlier-have argued for end-accented structures as normative. Is this simply an undecidable matter of opinion and taste, or can arguments be made for one position or the other? I suggested earlier that this disagreement might be due, in part, to differences in the kind of accent under consideration. Those in the beginning-accented camp (including myself) generally admit that phrases are normatively end-accented in a certain sense, but distinguish between the structural accent of a cadence (normally at the end of the phrase) and the metrical accent of a hypermetrical downbeat (normally at the beginning). But there is another argument to be made in favor of the current view-that is, the view that phrases are normally beginning-accented but sometimes end-accented. If we assume that phrases are always endaccented-that cadences are metrically strong by definition-then all phrases are, in a sense, rhythmically the same. But if we view the placement of accent in a phrase as a compositional choice, this allows an element of freedom to the composer, and an element of variety for the listener-and, I believe, accounts for an important aspect of our perception. For example, it explains why the first theme and the closing theme of Mendelssohn's op. 67, no. 4 (Example 10) seem so different in their rhythmic effect, as they surely do. Viewed in this way, the accentual structure of a phrase becomes not a rigid axiom of composition or perception, but rather a source of variety and contrast-one which contributes greatly to the rhythmic interest and richness of common-practice music.

### NOTES

- This basic view has been endorsed by several theorists. The formulation presented here most closely resembles that of Lerdahl and Jackendoff (1983, see especially 25–30). A similar perspective is found in the writings of Schachter (1976, 1980, 1987), who provides many interesting examples of the diverse ways that meter and phrase structure can be aligned. See also Kramer 1988 (especially 83) and Rothstein 1989 (especially 5–11, 13).
- 2. Rothstein, whose ideas have greatly influenced the current study, proposes an understanding of the term "phrase" somewhat different from mine (and, I believe, from the conventional usage). For Rothstein, a phrase is any group which contains significant tonal motion (1989, 4–5). By this definition, intermediate (4- or 8-measure) and higher levels of grouping can generally be considered phrases, though not always; very low levels generally cannot (Rothstein sometimes describes these as "subphrases").
- 3. Here the distinction between phrase and group is important. At very low levels, end-accented groups (such as those in level 1 of Example 1c) are quite common and do not seem particularly unstable.
- 4. See Schachter 1980, 205, and 1986, 7; Rothstein 1989, 28–30. Regarding Lerdahl and Jackendoff, the normativeness of beginning-accented phrases seems implicit in their Metrical Preference Rule 2, stating a preference for strong beats to occur near the beginning of groups (1983, 75–76; this is discussed further below). Kramer (1988, 81–98) considers three possible accentual structures for a four-measure phrase (strong-weak-weak-strong, strong-weak-strong-weak, and weak-strong-weak-strong), and discusses advantages and disadvantages of each; however, he suggests that in terms of *metrical* accent, the view of phrases as normally beginning-accented is the most plausible one (see p. 91 and p. 96).
- 5. See Rothstein 1989, 27, for discussion of Riemann's ideas on this point.
- 6. As remarked in note 3, this rule applies most strongly to higher levels of the rhythmic hierarchy. If we imagine Example 3 at a much lower rhythmic level (think of the notes as sixteenths rather than half-notes), an "end-accented" hearing might well be preferred. (Of course, those who consider end-accented structures to be normative may not agree with me about Example 3.)
- 7. Another way of defining beginning-accented and end-accented would be this: for a beginning-accented phrase, the first beat (at the metrical level of interest) is closer to the beginning than the last beat is to the end; for end-accented phrases the reverse is true. By this criterion, we would say that Example 4e is beginningaccented at the four-measure level, end-accented at the two-measure level. In most cases this yields the same results as the first definition (though the metrical level referred to in the second definition is one level higher; compare the two characterizations of Example 4e). However, it is problematic. Given a certain metrical and grouping structure, determining the accentual status of a phrase under the first definition is easy: simply compare the metrical strength of the first and last beat (at a given level). By the second definition, however, end-accentedness depends on the relative distance of certain beats to the beginning and end of the group, which is more difficult to measure (and may depend on very precise definitions of group boundaries, which the first definition generally does not).
- 8. This section builds on an earlier paper of mine (Temperley 1996). In that paper, I

argued that closing themes are often hypermetrically ambiguous, suggesting both beginning-accented and end-accented hearings at once. While I still believe this to be true, I am focusing here on closing themes which are unambiguously end-accented.

- 9. Of course, what ultimately matters in this case—as in all the other examples in this paper—is not the metrical structure that is notated, but rather what is heard. In the great majority of cases, the metrical notation agrees with our perceptions—at least, up to the highest level that is notated (i.e. the level of the measure). However, this may not always be the case; see the discussion of Examples 12 and 16 below.
- 10. The hypermeter of Example 7 has been discussed by Imbrie (1973) and Rothstein (1995). Both authors essentially endorse the metrical analysis proposed here: that is, they identify hypermetrical downbeats at mm. 93, 97, 101, and 105. (Rothstein finds a secondary or "shadow" meter with strong beats on m. 94 etc., but makes it clear that this is not the "true or governing hypermeter"). The opening theme of the movement is more controversial. Imbrie suggests an end-accented hearing (first proposed by Tovey) with strong beats on m. 4 and m. 10, but also considers a beginning-accented hearing with mm. 1 and 5 strong. Rothstein favors the beginning-accented hearing, as do I.
- Other examples of closing themes composed of end-accented phrases at one or more high metrical levels include Haydn, String Quartet op. 20, no. 4, I, mm. 99–107; Haydn, String Quartet op. 33, no. 1, IV, mm. 51–58; Mozart, Sonata K. 333, I, mm. 50–59; Mozart, Clarinet Quintet K. 581, mm. 65–75; Mozart, Clarinet Concerto K. 622, I, mm. 49–53; Beethoven, Sonata op. 2, no. 1, I, mm. 41–48; Beethoven, Sonata op. 10, no. 2, I, mm. 55–63; and Beethoven, String Quartet op. 18, no. 4, I, mm. 70–77.
- 12. In a case such as Example 7, it could be argued that the melody implies one meter (with even-numbered measures strong) and the accompaniment implies another (with odd-numbered measures strong). (A similar claim could be made for some other end-accented closing themes.) This would then be a example of "melody-accompaniment conflict"—a phenomenon investigated in some depth by Kamien (1993). I am somewhat doubtful about this, however. While I would agree that the melody alone in Example 7 might imply a meter different from that of the accompaniment, in fact the melody is *not* heard alone, and the important question is surely how it is heard in context. In this case, the metrical implications of the melody alone do not seem strong enough to seriously challenge those of the accompaniment and the larger context.
- 13. Some might prefer the term "codetta" for these themes—a term sometimes used for second-group closing themes as well. Other examples of end-accented firstgroup closing themes include Mozart, Symphony No. 36, I, m. 42 ff.; Mozart, String Quartet K. 575, I, mm. 17–25; and Mozart, Violin Sonata K. 526, I, m. 20 ff. (discussed below).
- 14. See also Chopin's Etude op. 10, no. 4, mm. 71–75, and his Prelude op. 28, no. 12, mm. 65–73.
- 15. Beethoven's op. 18, no. 3 (quoted in Example 8) is an exception with regard to the two-measure level. The first phrase of the main theme (mm. 1–10) arguably begins with a two-measure anacrusis; by this hearing, both m. 1 and m. 9 are weak at the two-measure level, thus the phrase is neither beginning- nor end-accented.

The main theme of Beethoven's op. 10, no. 3 (whose closing theme is shown in Example 7) seems beginning-accented to me, but not all authors have agreed; see note 10.

- 16. This in itself (the fact that expanded cadential progressions tend to end on hypermetrically strong tonics) is an interesting phenomenon—as yet hardly explored. It probably relates to the fact that giving metrical strength to an event makes it seem stable and important; for the cadential tonic of an expanded cadential progression—generally a moment of important tonal arrival—metrical accentuation is thus appropriate. (See Schachter 1976, 305, and 1980, 219–20, for insightful discussion of the effect that metrical strength can have on the weight and impact of a cadential tonic; Georgiades [1951] also addresses this issue.) Also, of course, in a case where the progression is greatly expanded—so that for example each cadential harmony receives two measures—then every harmony will be hypermetrically strong.
- 17. One could also hear this 6/4 as merely passing to the IV6 on the last sixteenth of the beat, but I find this less attractive.
- 18. Samarotto (1999) uses the term "shadow meter" to refer to cases where one perceives a secondary meter, out of phase with the primary one; this would nicely characterize my hearing of Example 12 (hearing A being the shadow meter).

Some authors who have discussed the meter of this passage, notably Schoenberg and Cone, have attached importance to the sforzandi. To my mind, however, this is not a decisive factor—either as an influence on our hearing, or as a clue to Mozart's intent. (It tends to be assumed that Mozart was more likely to put sforzandi on beats that he considered metrically strong, but this is not obviously true.) Stress accents can be a factor in the perception of meter, but they are a relatively minor one; consider the case of organ or harpsichord music, where no stress accents are possible but meter can still be quite readily inferred.

- 19. The end of the consequent phrase features a repeated three-measure sub-phrase; mm. 15–17 are repeated in varied form in mm. 18–20. M. 15 is clearly strong, which makes m. 18 strong due to parallelism. If one assumes a triple hypermeter here, however, this would mean that m. 20 was the weak third measure of a threemeasure hypermeasure; m. 21 then emerges as strong. It is, in fact, possible to hear mm. 21–28 with odd-numbered measures strong; however, it is not possible, in my view, to continue this hearing much further—m. 33 *must* be weak. (This may be because it feels so unnatural to put the strongest beat on the V in a ii6-V-I cadence.)
- 20. This brings to mind Imbrie's (1973) distinction between "conservative" hearings, in which an established metrical structure is maintained as long as possible, and "radical" hearings, in which the meter is adjusted to accommodate current (or even future) events. In the present case, hearing A is the conservative hearing, hearing B the radical one.

Yet another hearing is possible too: A triple hypermeter with strong measures at mm. 28, 31, 34, 37, 40, and 43. This hearing creates the sense of a series of three-measure sub-phrases (mm. 29–31, 32–34, 35–37, 38–40, and 41–43), all end-accented at the one-measure level.

21. Rothstein argues that the first phrase of the melody ends with the A on the downbeat of m. 3; the following phrase then begins with the eighth-note C. (Rothstein discusses, but eventually rejects, the possibility of considering this as a phrase overlap.) But in that case, which group contains the sixteenth-note C in between? I am inclined to group it with the first phrase, though I am not certain. The indeterminacy of the grouping here adds another element of ambiguity, along with the metrical ambiguity discussed below.

- 22. Another subtle factor is that at the quarter-note level, we find non-tonic harmonies, IV and ii, on the second and fourth eighth-note beats of m. 2 (though over a tonic pedal). This gives emphasis to these beats, as the harmony has been almost entirely tonic up to that point; combined with the low notes in the bass, there is significant pressure to hear the second and fourth beats of m. 4 as strong at the eighth-note level (just as the change of harmony halfway through m. 3 favors that as a strong beat at the quarter-note level).
- 23. The issue of normative rhythmic structure in music with text requires comment. The norm of beginning-accented phrases, posited here mainly with instrumental music in mind, may be less prevalent in vocal music, especially given the tendency in many languages for the primary stress of a phrase or sentence to be at the end. For example, with regard to Mozart's arias, Webster (1991) has argued for a normative structure of two-measure segments leading from a weak measure to a strong measure.

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