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The Six-Four as Tonic Harmony, Tonal Emissary, and Structural Cue

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Abstract. I explore several uses of the $^6_4$ chord that have not been widely acknowledged or studied. The harmonic $^6_4$ is a chord that seems, by its local features and larger context, to be functioning harmonically; the goal $^6_4$ is a special kind of harmonic $^6_4$, preceded by V and acting as a local goal of motion. The big cadential $^6_4$ is a highly emphasized chord that heralds large-scale cadential closure; resolution to V may be delayed or absent. And the emissary $^6_4$ is a chord that acts as the sole representative of its key and projects a strong tonal implication.

Keywords and phrases: Harmony, six-four chord, Mendelssohn, tonicization, chordal inversion.

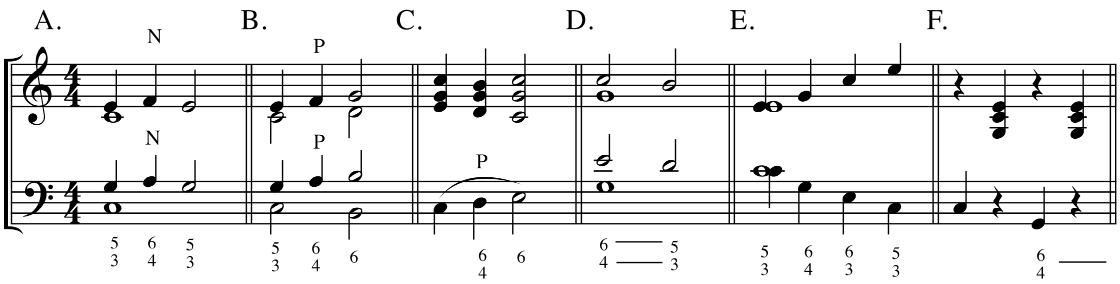
Introduction

Perusal of modern music theory textbooks reveals general consistency in their treatment of the $^6_4$ chord. The presentation of the topic in Aldwell and Schachter's *Harmony and Voice Leading* (3rd edition) is broadly representative.[1] In a chapter entitled "$^6_4$ Techniques," Aldwell and Schachter classify uses of the $^6_4$ as either dissonant or consonant. The dissonant uses are further classified into "three main types": the neighbor $^6_4$, the passing $^6_4$ (which may occur over either a held bass or a changing bass), and the accented $^6_4$ (see Example 1). (A special case of the accented $^6_4$ is the cadential $^6_4$; Aldwell and Schachter make clear that the latter is the most important use of the chord, devoting a separate chapter to it earlier in the book.) Consonant uses of the $^6_4$ are further classified into arpeggiating and oscillating $^6_4$s; in both of these cases, the $^6_4$ is adjacent to other chords of the same nominal root and arises from motion in the bass, either in an arpeggio pattern or oscillating between $\hat{1}$ and $\hat{5}$. Most other recent textbooks reflect a similar approach to the $^6_4$, sometimes with slight variations.[2]

In this article, I propose a reappraisal of the $^6_4$ chord. Common-practice music features a variety of uses of the $^6_4$ that are not acknowledged by undergraduate theory texts—uses that are not merely anomalous curiosities but well-developed conventions, frequent enough to deserve recognition as important elements of the common-practice language. I will not offer statistical evidence for the frequency of these uses, but will attempt to demonstrate it informally by pointing to instances of them in a number of the most well-known pieces in the repertoire. I should note, also, that all of the examples that I will cite are from before 1850. It would not be surprising if the $^6_4$ were used with somewhat greater freedom in the late nineteenth century, given the general weakening of common-practice norms during that period. For the ex-

[1] Aldwell and Schachter (2003, 305–326). The aspects of the book (conceptual content and musical examples) that I discuss here are mostly retained in the newest (4th) edition (Aldwell et al. 2011); for that reason, it seems most accurate to attribute them to Aldwell and Schachter alone.

[2] See Gauldin (2004), Kostka and Payne (2009), Laitz (2012), Piston (1987), and Roig-Francolí (2003). In some books, such as Laitz (2012), the neighbor $^6_4$ and passing $^6_4$ with a sustained bass are grouped together as the "pedal $^6_4$."



Example 1. Types of $^6_4$ chords. (A) Neighbor, (B) passing over sustained bass, (C) passing over changing bass, (D) accented, (E) arpeggiating, (F) oscillating. All examples are from Aldwell and Schachter (2003, 306) except (D) (here I show a cadential accented $^6_4$ whereas they show a non-cadential one) and (F).

amples in this essay, however, this explanation is untenable.

In an undergraduate common-practice theory text, it is natural to focus on the most common and basic elements of the style. I admit that the uses of the $^6_4$ chord in Example 1—at least, the cadential $^6_4$—are more frequent than those that I will present here, and also more easily understood; in addition, the uses that I will discuss derive their meanings partly from the more traditional ones. (For this reason, I will refer to the uses of the $^6_4$ introduced here as "secondary" uses, as opposed to the well-known "primary" uses shown in Example 1.) From this perspective, the treatment of the $^6_4$ in undergraduate texts—viewed as a deliberately oversimplified introduction to the topic—is defensible, and I will not suggest that it be radically changed.[3] But this presupposes that there is a more advanced, complete theory of $^6_4$ usage that remedies the deficiencies of the introductory one. To my knowledge, no such theory is currently available; it is this lacuna that I hope to address. I do not wish to suggest, however, that the current study owes nothing to modern music theory; it takes inspiration from the work of several recent theorists, notably William Caplin, Robert Hatten, and Matthew Bribitzer-Stull.

As well as defining the secondary categories of $^6_4$ chord usage, I will also explore the functions that they serve within the common-practice style. In some cases, I will argue, a $^6_4$ chord can act as a structural cue, helping the listener to orient themselves in relation to an unfolding conventional form. By evoking the cadential $^6_4$, a $^6_4$ chord can indicate that a cadence is imminent, even if the conventional resolution of the chord is nowhere to be found. A $^6_4$ chord can also give a strong implication of a tonality, often stronger than that of root-position or first-inversion chords, even when no other chords of that tonality are in the vicinity; and these implications are often important in the tonal narrative of the piece. My aim, then, is not merely to *describe* the way the $^6_4$ chord is used, but also to *explain* why it is used in specific contexts and in specific ways.

1. The $^6_4$ as Tonic Harmony

At the end of Aldwell and Schachter's chapter on $^6_4$ techniques is a short section entitled "Some Special Cases." The first of these is the passage shown in Example 2. (The textbook shows only the excerpt enclosed in the box.) The authors describe the $^6_4$ in m. 13 as arising from "a kind of double voice exchange," serving a passing function within an extended IV.[4] This analysis is reflected in their annotation of the score, which is shown in the example. The $^6_4$ chord is nominally a second-inversion tonic triad, but in Aldwell and Schachter's example, it is not labeled as I^6_4 nor with any other Roman numeral label. I will argue here that this chord *does* deserve a label, and that the appropriate label for it is I^6_4.

The issue of whether something deserves a Roman numeral label is complex. We must first address the Schenkerian perspective on this question. As is well known, Schenker maintained that many apparent harmonies are to be understood contrapuntally—"mere chance products of free voice-leading," not truly possessing harmonic status.[5] Only true harmonies—what Schenker calls *Stufen*, usually translated as "scale-steps"—merit Roman numerals. The idea of *Stufen* remains central to Schenkerian thought; for example, Cadwallader and Gagné endorse it in their

[3] Whether the treatment of the $^6_4$ in undergraduate texts is *intended* as an oversimplified introduction is not always clear. Kostka and Payne write that any $^6_4$ that is not cadential, passing, pedal, or arpeggiating "would probably be considered an incorrect usage in this style" (2009, 143), seemingly closing the door to any exceptions. By contrast, Aldwell and Schachter—to their credit—do acknowledge that some uses of the $^6_4$ may fall outside of their five-category system, and give two examples from the repertoire; I will return to these examples later in the article.

[4] Aldwell and Schachter (2003, 322).

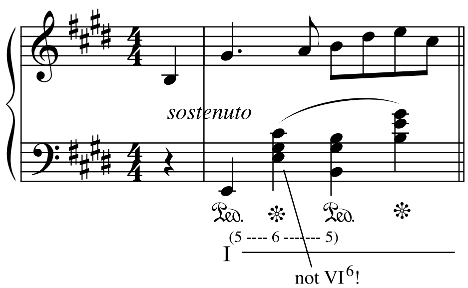
[5] Schenker, *Harmony* (1906/1954, 151).

Example 2. Mozart, Sonata K. 330, III, mm. 1–16. The box indicates the portion shown by Aldwell and Schachter (2003, 322) and shows their annotations.

text on Schenkerian analysis, noting that a *Stufe* progression frequently consists of "an initial tonic and a concluding V–I cadence; the V is often preceded by an intermediate harmony."[6] The idea that only *Stufen* merit Roman numerals, however, is *not* widely accepted today. Cadwallader and Gagné themselves note that other chords besides *Stufen* "may also be assigned Roman numerals for identification and other purposes," and they frequently do so.[7] Similar practices are reflected in most undergraduate theory texts, even those heavily influenced by Schenkerian thinking. Aldwell and Schachter, for example, analyze the opening ten-measure phrase of Beethoven's opus 24 ("*Spring*") violin sonata as I–vi–ii–V^7–I^6–vi–ii^6–V^7–I; surely some of these

[6] Cadwallader and Gagné (1998, 81). Other discussions reflect a similar view of the *Stufe*, reserving it for the initial and cadential harmonies of a phrase; see Jonas (1982, 126), and Salzer (1962, Vol. 1, 10–14, and Vol. 2, 2). The concept of *Stufen* is itself hierarchical, in that an event that is assigned a Roman numeral at one level may be treated as purely contrapuntal at a higher level. But Schenker, Jonas, and Salzer make it clear that the non-*Stufen* chords in their analyses are not simply lower-level *Stufen*, but rather, not *Stufen* at all.

[7] Cadwallader and Gagné (1998, 67). In an analysis of a Bach chorale phrase, for example (pp. 52–53), a two-level representation indicates (and the text confirms) that the opening I and concluding ii^6_5, V, and I chords are the *Stufen*, but other harmonies (vi, IV, and I^6) are also assigned Roman numerals, albeit at a lower structural level.



Example 3. Chopin, Nocturne Op. 62, No. 2, m. 1, showing Aldwell and Schachter's annotations (2003, 300).

chords—such as the two vi chords and the initial ii–V^7–I^6—are not *Stufen*.[8]

Stufen, then, are not the issue. What *is* at issue, I submit, is the application of a concept that is often implicit in modern music theory but rarely defined explicitly: what we might call a surface-level harmony, or (hereafter) simply a harmony.[9] This is a span of music that is deserving of a harmonic symbol—a Roman numeral label—as opposed to being a purely linear elaboration; generally, this implies that the chord projects the root indicated by the Roman numeral.[10] The distinction between harmonic and non-harmonic chords is frequently invoked in music theory texts, and seems to be applied fairly consistently (though there may be some differences). Example 3, from Aldwell and Schachter's textbook, shows a case in point: what might seem to be a vi^6 chord on the second beat of the measure—a C♯ minor triad in an E major context—is said to be only "apparent," "result[ing] from a neighboring motion," and thus not deserving of a Roman numeral (as reflected in their annotation).[11] Contrast this with their analysis of the *Spring* sonata, discussed earlier, in which two chords are labeled as vi without any qualification.

What is the basis for this distinction? How do we decide whether a chord is a harmony or not? (I will use the term "chord" as a theoretically non-committal way of referring to the musical segments under consideration.) From the examples discussed above and many others, in textbooks and elsewhere, one can glean certain criteria that music theorists use to makes these decisions. I present six of these criteria below. The first two are, I believe, uncontroversial:

Criterion 1 (Voice-leading). *If a chord is not a harmony, it should be explicable as a linear elaboration of surrounding harmonies: in particular, its notes should make stepwise connections to a following harmonic chord (unless they are part of that harmony). (They should normally be approached by step as well, though this is less decisive.)*

Criterion 2 (Progression). *If a chord is a harmony, it should (in combination with the surrounding harmonies) follow the conventions of common-practice root motion; likewise, if it is not a harmony, the resulting progression (the progression that results from leaving it out) should follow these conventions as well. (While there is some room for disagreement as to the "conventions of common-practice root motion," most cases are clear-cut: for example, ii–V and V–I are "good" harmonic progressions, ii–I and V–IV are not.)*

When distinctions are drawn between harmonic and non-harmonic chords, these two criteria often seem to be decisive. Aldwell and Schachter's analysis of Example 3 is a case in point. The C♯ in the left hand is linearly connected to the following B by stepwise motion; in addition, the progression that would result from treating the C♯ minor chord as harmonic, I–vi–I, is not especially "good." Another illustration of these criteria is seen in the modern treatment of the cadential $^6_4$ as a non-harmonic elaboration of the following V^5_3. The sixth and fourth above the bass are almost always resolved by step, thus justifying the treatment of the chord as non-harmonic by Criterion 1. In addition, the cadential $^6_4$ is very often approached by a pre-dominant harmony such as ii^6 or $vii^{\circ 7}$/V, harmonies that are generally not supposed to move to I. By contrast, if the $^6_4$ is subsumed to the following V chord, then the usual norm of motion from pre-dominants to dominants is maintained. Beach, in arguing for the non-harmonic treatment of the cadential $^6_4$, makes this argument explicitly, pointing out that a harmonic interpretation of the cadential $^6_4$ following a $vii^{\circ 7}$/V would disrupt "the strong harmonic movement towards the dominant."[12] In this sense, the "V^6_4" analysis of the cadential $^6_4$ is quite consistent with the general assumptions of modern tonal theory, and I will not challenge it here.[13]

8 Aldwell and Schachter (2003, 160).

9 This terminology is not ideal; Cadwallader and Gagné use "harmony" to refer only to *Stufen* (1998, 81). But no other suitable term comes to mind.

10 "Carrying a harmonic symbol" and "projecting a root" are certainly closely related, but not equivalent. An arpeggiating $^6_4$ chord presumably carries some implication of its own root; this is what makes it such a natural way of expanding a $^5_3$ chord of the same root. (This reasoning is apparent in Aldwell and Schachter's presentation of the arpeggiating $^6_4$ [2003, 320].) Yet it is not usually considered to merit a Roman numeral. Conversely, augmented sixth chords are often assigned harmonic symbols, such as "Ger^6," but do not imply any root.

11 Aldwell and Schachter (2003, 299).

12 Beach (1967, 13).

13 Schenker's view of the $^6_4$ as non-harmonic is presented in *Harmony* (1906/1954, 229). Beach (1967) finds antecedents for this view in earlier authors, notably Kirnberger. Another factor favoring this interpretation is the fact that the cadential $^6_4$ almost always falls on a strong beat. If one considers the $^6_4$ as part of the following V chord, the preference for strong-beat placement of the $^6_4$ can be explained as arising from the avoidance of "weak-strong" harmonic motion (Aldwell and Schachter 2003, 93–94, 148).

The third criterion incorporates rhythmic and textural considerations:

Criterion 3 (Rhythmic stability). *If a chord is rhythmically treated like a goal of motion—led into with a phrasing slur, and/or followed by a rest—this argues for it as being a harmony.*

The idea that harmonic events tend to be points of stability is so well established as to require little defense. This reasoning is most often invoked in a negative way: when a chord is treated as non-harmonic, this is frequently justified by describing it as unstable and mobile—*not* a goal. (This is reflected in Aldwell and Schachter's discussion of the cadential $^6_4$; in this case, they observe, $\hat{1}$ serves as an *unstable* tone, in contrast to its usual stable function.[14]) It seems clear, also, that rhythmic considerations can be a factor in such decisions (though certainly not the *only* factor). When a composer follows a chord with a rest or a break in phrasing, this perhaps indicates their view of it as a harmonic event, and encourages us to hear it that way as well. Returning to Example 3, the fact that the chord on beat 2 is connected to the following chords by a phrasing slur is another argument for a non-harmonic interpretation of it.

The fourth and fifth criteria are of a rather different character:

Criterion 4 (Parallelism). *If a chord elsewhere in the piece is motivically (melodically, rhythmically, texturally) similar to the current chord, and clearly is a harmony, this argues for considering the current chord as a harmony as well.*

Criterion 5 (Schemata). *If a chord is used in a conventional pattern or schema which normally features an unquestionable harmony in the corresponding position, this argues for considering the chord as a harmony.*

These two criteria adopt similar reasoning—an appeal to consistency. If a chord X occurs in a similar context as another chord Y that is clearly harmonic, this is a reason to treat chord X as harmonic as well. The "similar context" might be another passage within the same piece (Criterion 4), or it might be a schema that occurs frequently in many pieces (Criterion 5). Following Robert Gjerdingen, I use "schema" to mean a conventional pattern that is defined by a set of features, of which there may be more or less typical instances.[15] Criteria 4 and 5 are clearly quite subjective; it might be debatable whether two contexts are "similar," and even if they are, whether the rule should apply. In some cases, a motivic idea may be first presented in a harmonic context and later reinterpreted by the composer in what is clearly a non-harmonic context—and this can be an interesting and beautiful thing. But as general desiderata, Criteria 4 and 5 seem unobjectionable.[16]

These criteria may not always be in agreement, and none of them is decisive. Consider a cadential $^6_4$, approached and resolved in the conventional way, but separated from the following V^5_3 by a rest. In this case, Criterion 3 argues for a harmonic treatment and Criteria 1 and 2 for a linear one; usually, in such situations, the linear interpretation is given priority.[17] There may also be further criteria besides these. Here is one possible one:

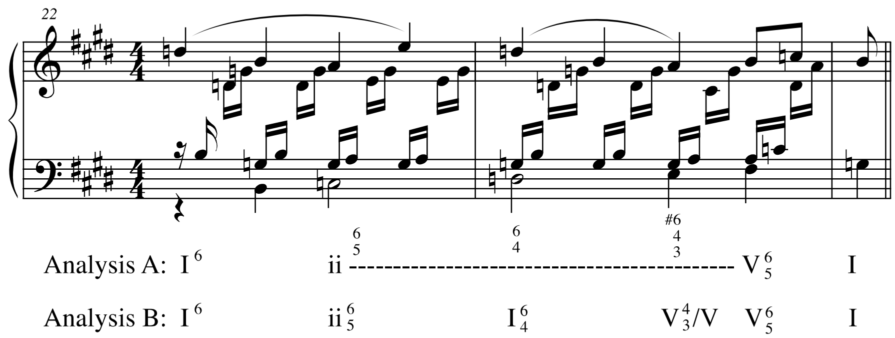
Criterion 6 (Six-four). *A $^6_4$ chord should be considered non-harmonic.*

Clearly, if this criterion is adopted, and given greater weight than all other criteria, there is nothing to discuss: $^6_4$ chords will always be non-harmonic! I find this criterion questionable, or at least, undeserving of the weight it is often given. It is worth asking, first of all, what the justification for it is. Some textbooks justify it on historical grounds, pointing to the treatment of the fourth in Renaissance counterpoint;[18] this is illuminating but hardly decisive, given the many differences between the Renaissance and common-practice styles. A better argument is to appeal to Criterion 5 above: $^6_4$ chords are very often—indeed usually—treated in contexts that clearly are non-harmonic (by other criteria), and therefore one might argue that just "being a $^6_4$" is enough of a context to justify this interpretation. There may be some merit to this reasoning; in some cases, however, other factors argue so strongly in favor of a harmonic construal of the $^6_4$ that it seems difficult to deny. (One might also posit a criterion stating that $^6_4$ chords should be considered harmonic, on the grounds that, purely in terms of their pitch content, they are triads—consistent with the usual treatment of root-position and first-inversion triads. I would argue that this criterion deserves *some* weight, though it is frequently outweighed by other considerations. Presumably it is the harmonic potential of the $^6_4$—its implication of its own nominal root—that allows it to expand a $^5_3$ or $^6_3$ chord so naturally, as it does in arpeggiating and oscillating $^6_4$s.)

With the above criteria in mind, let us return to the example discussed by Aldwell and Schachter. It can be seen from Example 2 that the excerpt is in fact the consequent phrase of the parallel period that opens the movement. We begin, not with the $^6_4$ chord itself, but with the $^6_3$ chord in

[14] Aldwell and Schachter (2003, 151).
[15] Gjerdingen (2007).

[16] Actually, Criteria 1, 2, and 3 could be seen as special cases of Criterion 5. An event is likely to be harmonic if it behaves in ways that we expect harmonic events to behave, given the norms of the style, and similarly for non-harmonic events: harmonic events follow rules of progression and (often) act like goals of motion; non-harmonic events are resolved stepwise. But Criterion 5 may also operate in other ways that are not covered by these special cases.
[17] See, for example, Aldwell and Schachter (2003, 150).
[18] Gauldin (2004, 267); Kostka and Payne (2009, 143).



Example 4. Mendelssohn, Songs Without Words Op. 19, No. 1, mm. 22–24.

the second half of m. 6. A strong case can be made that this is a harmonic event: a I^6_3. The bass is not resolved by step, arguing against a non-harmonic interpretation. The chord is also the goal of a phrasing slur in the melody, and another longer phrasing slur in the left-hand. Once we treat this chord as harmonic, it seems most logical (by Criterion 4) to label the corresponding chord in m. 14 as harmonic as well (though admittedly the stepwise resolution of the bass E_3 to the F_3 in m. 15 makes a non-harmonic interpretation a bit more plausible in this case).

Now, what about the $^6_4$s in mm. 5 and 13? The same criteria that favored a harmonic intepretation of the $^6_3$s apply to the $^6_4$s as well. The Es in the melody in mm. 5 and 13 are not resolved by step, making a non-harmonic interpretation problematic. The phrasing slurs in the melody seem to mark the $^6_4$s as local goals of motion (though the left-hand slur in mm. 5–6 could be said to argue otherwise). And added to this, again, is the factor of parallelism: given the very strong motivic connection between the $^6_3$s and the $^6_4$s, can we really argue that the $^6_3$s are harmonic and the $^6_4$s are not? Thus, I cannot accept Aldwell and Schachter's assertion that the entirety of mm. 13–14 is a prolonged IV chord: rather, I submit, each half-measure deserves a harmonic label, IV^6–I^6_4–IV–I^6.[19] (I have not considered the factor of harmonic progression; it seems to me this is indecisive. There is nothing harmonically wrong with either Aldwell and Schachter's analysis or mine, as long as one believes that IV can go to I. The move from V to IV at mm. 12–13 could be considered a "back-relating dominant.")

Example 4 presents a situation that is in some ways similar to Example 2, though in other ways quite different. (Mendelssohn's *Songs Without Words* are an especially rich source of interesting $^6_4$s, as will be seen throughout the article.) Like Example 2, Example 4 features a $^6_3$ chord (in the first half of m. 22) and a $^6_4$ chord (in the first half of m. 23) of the same nominal root; the $^6_3$ and $^6_4$ are motivically parallel—note the identical melodic patterns over the two chords—and alternate with other chords. As in Example 2, it seems clear that the $^6_3$ is harmonic: I^6_3 in G major. (The chord immediately before the example is an expanded V^6_5, which clearly leads to the I^6_3.) In terms of the traditional $^6_4$ categories, the $^6_4$ chord in m. 23 could perhaps be analyzed as a passing $^6_4$, connecting scale-degrees $\hat{4}$ and $\hat{6}$ in the bass (a common context for passing $^6_4$s); these three chords form an expanded pre-dominant that leads to V^6_5 (this is shown as Analysis A). But this analysis overlooks the obvious motivic parallelism between the $^6_3$ and the $^6_4$; it also creates a bizarrely syncopated harmonic rhythm, in which the harmony changes on beat 3 of one measure and then again on beat 4 of the next. (Does the passage *feel* syncopated?) A better solution, in my view, is to assign a harmonic label to each half-measure, as shown in Analysis B. Admittedly this analysis is disfavored by Criterion 2, since it entails a root motion from ii to I; but this is outweighed by other factors.[20]

While the parallel segments in the preceding examples are closely juxtaposed—in adjacent measures—parallelism may also operate over greater distances. Example 5 shows two excerpts from the fourth movement of Mozart's Clarinet Quintet, a theme and variations. The form of the theme is a typical "small binary": the first two phrases form an antecedent-consequent phrase; the third, shown in Example 5a, is contrasting; and the fourth phrase repeats the second. The harmonic structure of Example 5a seems clear: an alternation of dominant and tonic harmonies. The second halves of the first three measures feature root position tonic chords, with no linear connection in the bass to the

[19] This does not exclude the possibility of regarding mm. 13–14 as a prolongation of IV; my concern here is with the local harmonic status of events, not with higher-level prolongational structure. I return to this point later in the article.

[20] Similar uses of the $^6_4$—over the $\hat{5}$ of a $\hat{3}$–$\hat{4}$–$\hat{5}$–$\hat{6}$ motion in the bass, parallel to a I^6_3 over the $\hat{3}$—are seen elsewhere in the *Songs Without Words*: Op. 19, No. 3, mm. 18–21; Op. 62, No. 1, mm. 27–29; and Op. 85, No. 3, mm. 22–24.

Example 5. Mozart, Clarinet Quintet, IV. (A) Third phrase of theme (mm. 9–12); (B) third phrase of second variation (mm. 41–44).

following harmonies. In addition, the clarinet melody in mm. 9–10 clearly suggests a two-measure gesture leading into the second half of m. 10, further arguing for the harmonic status of this segment; the repetition of this melody in the viola in mm. 10–11 confers the same status on the second half of m. 11. Example 5b shows the parallel passage from the second variation. It is the norm in Classical theme-and-variations movements for the harmonic structure of each variation to mirror that of the theme (though certainly there are exceptions), and I would argue that this is the case here—except that the tonic harmonies are in second inversion, and the move to tonic is shifted from the third beat to the fourth. (The strong-beat bass notes are understood to continue through the weak beats of the measure.) As in mm. 9–12, the phrasing supports this view: the melodic gestures in the top voice move from V to I, not the other way around. Even out of context, I would find it difficult to deny the harmonic status of the $^6_4$s in mm. 41–43; the parallelism with the theme provides added confirmation.[21]

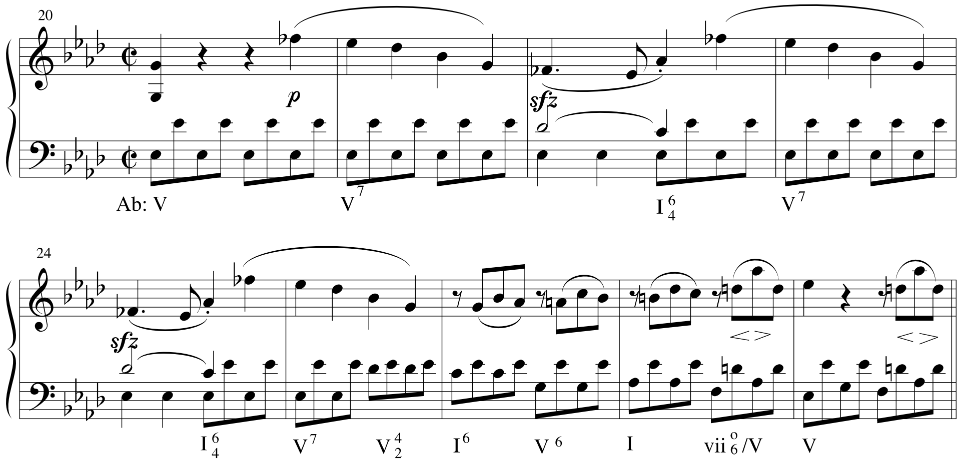
In other cases, a $^6_4$ can take on harmonic status even in the absence of parallelism. Consider Example 6, the second theme of the first movement of Beethoven's first piano sonata. William Caplin, in a perceptive discussion of this passage, notes that the unusual dominant pedal supporting the theme might lead one to analyze it as an expansion of dominant harmony; but he rejects this view.

> [I]f we temporarily ignore the pedal, it is not difficult to hear that the musical material actually expresses a prolongation of *tonic* harmony, because the goal of the melody, the A♭ on the third beat of measure 22 (and m. 24), demands to be supported by this harmonic function. Thus the tonic is not merely a neighboring chord to the preceding (and following) dominant, rather conversely, the dominant is subordinate to the tonic.[22]

Of particular interest is Caplin's characterization of A♭ as the "goal" of the melody. What makes it the goal, I submit, is the fact that a phrasing slur leads into it, coupled with the fact that it makes no direct linear connection to the following melodic segment (though it could eventually connect to the G in m. 23). I take Caplin's statement that "the dominant is subordinate to the tonic" as implying—correctly, in my view—that the tonic chords are true harmonies. I disagree, however, with his suggestion that the analysis relies on the dominant pedal being "temporarily ignored." I suggest, instead, that we bite the bullet and view the $^6_4$s as tonic-functioning even *with* the dominant pedal: that is, they are I^6_4s. (One might argue that a "tonic-functioning chord over a dominant pedal" is not the same as a "I^6_4"; I will return to this point.) The fact that Caplin never offers an alternative analysis to his initial one suggests that he might accept this view. In addition, as Caplin points out, this theme clearly invokes the "sentence" model: a two-measure basic idea (mm. 21–22), repeated, followed by a continuation and cadence. The basic idea of a sentence typically contains tonic harmony; the only possible candidate for tonic harmony in mm. 21–22 is the $^6_4$. By Criterion 5 above, the fact that we expect to find

[21] Similar long-distance parallelisms between I^5_3 and I^6_4 are found in several of the *Songs Without Words*. In Op. 53, No. 5, a $^6_4$ at mm. 13 and 34 is reharmonized as I^5_3 at m. 61. In Op. 85, No. 6, the same melodic gesture is harmonized with I^6 (m. 10), I^5_3 (m. 12), vi (m. 45), and I^6_4 (m. 47).

[22] Caplin (1987, 220).



Example 6. Beethoven, Sonata Op. 2, No. 1, I, mm. 20–28.

tonic harmony in the basic idea of a sentence is a reason for treating the $^6_4$ as harmonic in this case.

By Caplin's (and my) analysis, mm. 21–24 in Example 6 could be viewed as two-measure dominant-to-tonic gestures (sub-phrases, perhaps), with the dominant in the bass throughout. This is a common use of the $^6_4$ chord in the Classical and early Romantic periods, appearing in a variety of situations: I will refer to this as the "goal $^6_4$." Examples 7, 8, and 9 show three illustrative excerpts.[23] (In Example 7, the low B♭ in m. 10 is heard to extend through the following measure; the same in mm. 12–13.) In all three cases, a "goal-$^6_4$" interpretation is favored by breaks in phrasing (Examples 7 and 9) or voice leading (Example 8) after the $^6_4$s. In addition, the I$^6_4$ in goal-$^6_4$ patterns is typically metrically (or hypermetrically) weaker than the V (though Example 8 is an exception); this makes the V–I$^6_4$ gestures "beginning-accented," as is normative, supporting their perception as phrasal units.[24] These examples bear a superficial similarity with another common pattern of Classical and Romantic music—the prolonged dominant with elaborating (neighbor or passing) $^6_4$s; a typical example is shown in Example 10. This passage, like Examples 7–9, features an alternation of Vs and (nominal) I$^6_4$s; as in Examples 7 and 9, the Vs are metrically strong. There are several crucial differences, however. In Example 10, the notes of the $^6_4$ are closely linearly connected (or virtually so) to the notes of the following dominant chords, and there are no rests or breaks in phrasing separating the former from the latter; this justifies a non-harmonic analysis of the $^6_4$s. Also crucially, the alternation of dominant and tonic chords in Example 10 *ends* with the dominant, supporting an interpretation of the entire passage as an expanded dominant harmony. In Examples 7–9, by contrast, the $^{5-6}_{3-4}$ alternation ends with the $^6_4$, making the expanded-dominant interpretation much less plausible.[25]

Another issue raised by Caplin's analysis of Example 6 concerns his characterization of the bass line as a "pedal."

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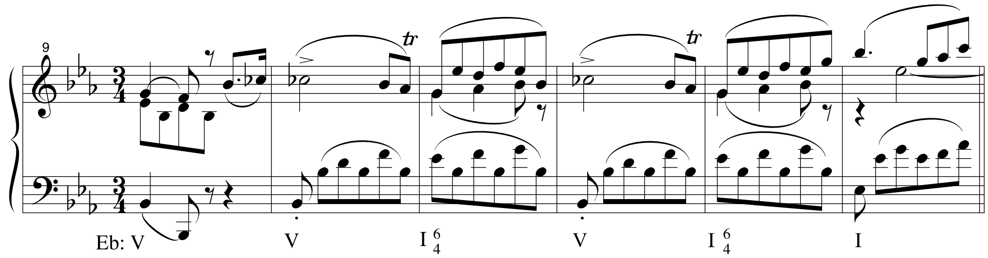
[23] Other examples of goal $^6_4$s include Haydn, Sonata Hob. XVI/44, I, mm. 6–10; Sonata Hob. XVI/49, II, mm. 17–18; Schumann, *Kreisleriana* No. 6, mm. 1–2; and Mendelssohn, *Songs Without Words*, Op. 53, No. 3, mm. 80–83; Op. 53, No. 4, mm. 16–17; Op. 62, No. 3, mm. 22–24; and Op. 62, No. 4, mm. 13–14. The goal $^6_4$s in the opening themes of Schubert's Piano Sonata D. 960, IV, and String Quintet, IV, could be seen as evocations of the Hungarion *verbunkos* genre, in which harmonic $^6_4$s are common (Loya 2011, 46–48). A rather unusual goal $^6_4$ progression is in Schubert's "Aufenthalt," mm. 27–34. On the surface, this appears to consist of a i$^6_4$–V–V–i$^6_4$ pattern, presented in the first four measures and then repeated; i$^6_4$ clearly acts as the goal of the pattern. However, the melody (harmonized throughout by another line a third below) is a third higher in the second iteration of the pattern, creating an "eight-six" chord; Temperley (1981) has argued convincingly that this should be regarded as a distinct entity from the $^6_4$.

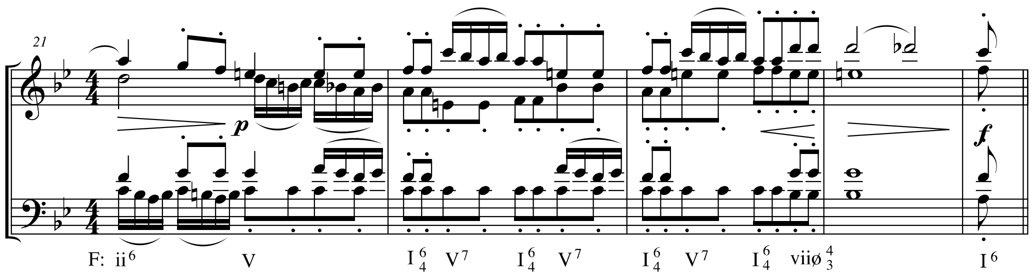
[24] Lerdahl and Jackendoff (1983) argue that "beginning-accented" structures are normative at all levels of the phrasal hierarchy, though there are many exceptions; see also Temperley (2003). I would argue that the Vs are hypermetrically stronger than the I$^6_4$s in Examples 7 and 9; in Example 6, the I$^6_4$s fall in the second halves of weak measures.

[25] In Example 6, the $^{5-6}_{3-4}$ alternation ends with the $^5_3$; but because of the phrasing, in my view, the goal-$^6_4$ analysis is still preferable. Here again I agree with Caplin, who considers but rejects the neighbor-$^6_4$ analysis of Example 6 (1987, 220).

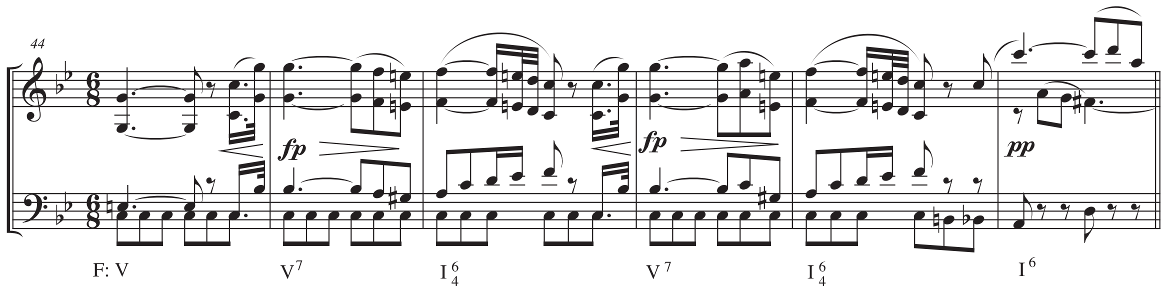
Also deserving mention here is a schema observed by Byros (2013) (building on Gjerdingen 2007), which he calls the "Fenaroli-Ponte": this, too, involves an alternation of V and I over a dominant pedal, typically with a $\hat{7}$–$\hat{1}$–$\hat{2}$–$\hat{3}$ melodic pattern. From Byros's examples, it appears that the Fenaroli-Ponte and the goal-$^6_4$ schema are mostly non-overlapping categories. Few of Byros's examples exhibit the typical features of the goal $^6_4$: V$^5_3$ to $^6_4$ gestures, ending on $^6_4$, with the $^5_3$s metrically strong. One possible exception is his Example 4 (mm. 21–26); though the $^6_4$s are metrically strong and the melodic phrasing is ambiguous, the fact that the alternation ends on $^6_4$ (in m. 26) supports a goal-$^6_4$ reading.



Example 7. Beethoven, Sonata Op. 31, No. 3, III, mm. 9–14.



Example 8. Haydn, Quartet Op. 33, No. 4, I, mm. 21–25.



Example 9. Schubert, Octet, II, mm. 44–49.

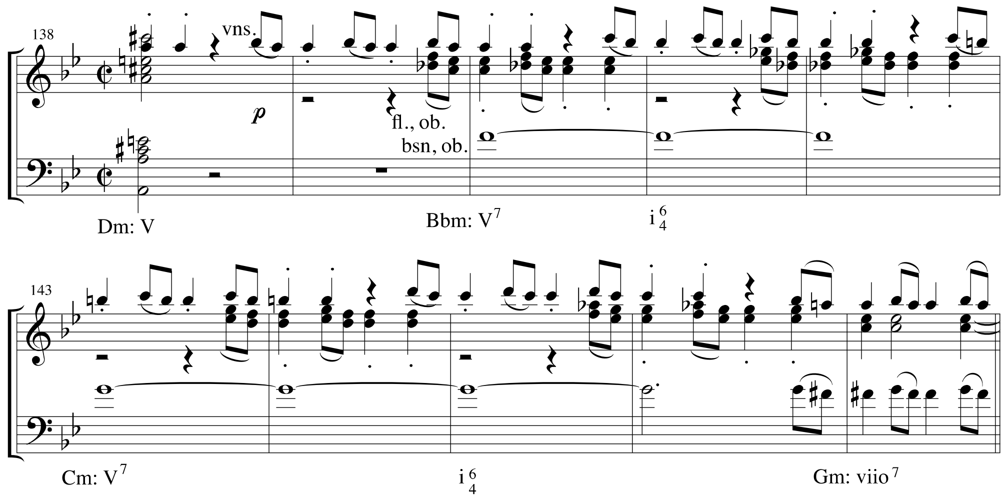
According to Aldwell and Schachter's definition—one that I believe most would accept—a pedal point is a "tone sustained through chord changes or contrapuntal activity (or both) in other voices."[26] While this might seem applicable to the bass line in Examples 6–9, I question whether these are good candidates for pedal points. Consider famous pedal points such as the dominant and tonic pedals near the end of the C major prelude of Bach's *Well-Tempered Clavier* Book I, the tonic pedal at the end of the C minor fugue in the same set, and the tonic pedal at the opening of Schubert's "Wohin." In these cases, as in Example 10, the notes not belonging to the pedal harmony (the harmony of which the pedal is the root) are closely connected (registrally and rhythmically) to notes of that harmony; in each case, also, the pedal passage ends with the pedal harmony. This encourages us to hear each passage as a single expanded harmony. By contrast, the passages in Examples 6–9 (as already noted) generally do not possess these features; thus they evoke the "schema" of the typical pedal point much less strongly, if at all.[27] This does not, however, rule out the possibility of regarding these passages as prolongations of V at a higher level; I will return to this point.

In each of the "V–I^6_4" passages discussed so far, the key of the passage is unambiguous, and is further supported by the preceding and following context. In other cases, the V–I^6_4

[26] Aldwell and Schachter (2003, 369).

[27] I do not wish to suggest that everything in a pedal-point passage besides the pedal harmony itself is non-harmonic. It seems to me that one could have changing harmonies over a pedal. Difficult questions arise here as to how such harmonies should be construed, and how the pedal affects their construal. But these issues are not crucial here, since (as I have argued) the passages under discussion are not well described as pedal points.

Example 10. Beethoven, Sonata Op. 53, I, mm. 23–27.



Example 11. Mozart, Symphony No. 4, I, mm. 138–147.

progression may occur in modulating or tonally unstable passages, in which the V and the I^6_4 are the only representatives of the key. This pattern is illustrated by Example 11, from the development of the first movement of Mozart's 40th symphony: a half-cadence in D minor is followed by V^7–i^6_4 in B♭ minor, then V^7–i^6_4 in C minor, then vii°^{7} in G minor. The significance of these keys is clear: B♭ minor is the parallel minor of the key of the second theme, B♭ major; C minor is then a transition back to the main tonic, G minor. Thus this passage gives us a final echo of the secondary key (or rather its parallel minor) before elegantly leading us back to the tonic.[28] (Compare this to the poignant reference to G minor at the end of the exposition—mm. 77–78.)

If one accepts my analysis of these chords as I^6_4s, the question naturally arises, what *function* do they serve? Why did the composer use a I^6_4 as opposed to a I^6_3 or I^5_3? It is clear, first of all, that second-inversion triads are very dif-

[28] Haydn is fond of using goal $^6_4$s in tonally unstable passages: see his Symphony No. 102, I, mm. 14–15, and II, mm. 39–40; Symphony No. 104, I, mm. 134–137; Quartet Op. 33, No. 2, IV, mm. 40–57; and Piano Variations in F minor, mm. 14–15. The latter passage, featuring the progression (B♭m) V–i^6_4 (A♭) V–I^6_4 in a larger context of F minor, is discussed by Schenker in *Counterpoint* (1910/1987, Vol. I, 115); in this case, he suggests, "the fourth is intended exclusively as the inversion of the fifth." Thus Schenker seems to allow the possibility of harmonic $^6_4$s in principle, though not in general (see *Harmony*, 1906/1954, 229). Other examples of goal $^6_4$s in tonally unstable passages include Beethoven, Op. 109, II, mm. 43–48, and III, mm. 105–106; and Schubert, Piano Sonata D. 959, III, mm. 22–33, and "Gefrorne Tränen" (from *Winterreise*), mm. 36–37.

ferent in effect from root-position or first-inversion ones: less stable, more mobile, higher in tension. Part of the appeal of $^6_4$ chords may simply be that they provide some variety in sound and immediate effect. In many cases, also, harmonic $^6_4$ chords serve a *linear* function, participating in long-range stepwise patterns in the bass. This is clearly evident in Examples 2 and 4. It is also sometimes seen in goal-$^6_4$ progressions: in Haydn's Symphony 102, II, mm. 39–40 (not shown here), the bass of the V–I^6_4 is one note of a large-scale line, B♭–A–A♭–G–(E)–F. Using a root-position or first-inversion triad in these passages would disrupt their linear logic.

Another possible function of goal $^6_4$s also deserves mention. Consider once more Examples 6, 8, and 9. These three passages occur in similar formal positions—near the beginning of the second key area of a sonata-form movement. As already noted, the phrasing and voice leading create the sense of dominant-to-tonic gestures, making the tonic harmonies seem like goals of motion. If a root-position harmony had been used instead of I^6_4, these gestures might have seemed rather cadential in their effect, especially Example 8. The dominant in the bass undermines this effect—reminding us that a true cadence is still far off. The implication, then, is that we are headed towards a cadential arrival, but that considerable further work must be done to achieve it. It is rather like being on a car trip and seeing the destination, but realizing that it is still some distance away. In this sense, these V–I^6_4 progressions may help to orient the listener as to where they are in the form. I will develop this argument further later in the article; first, we will consider another use of $^6_4$ chords which will help lay the groundwork for my argument.

2. The Cadential $^6_4$ as Structural Cue

Examples 12 through 15 show four passages from Classical or early Romantic works; in the second measure of each example is a $^6_4$ chord. In some respects, these chords appear to be rather typical cadential $^6_4$s. Each one is metrically strong, occurring on a downbeat (indeed a hypermetrically strong downbeat), and preceded by a vii$^{\circ7}$/V or V^6_5/V chord—a very typical manner of approach. In each case, the $^6_4$ chord appears near the end of an extended section of music in the corresponding key; Examples 12, 14, and 15 occur near the end of the piece (or movement), and Example 13 occurs near the end of the second key area of a sonata-form exposition. In each case, also, the $^6_4$ chord is *emphasized* in some way—rhythmically, dynamically, or texturally. Note the fermata after the $^6_4$ in Example 12, the sudden change of dynamic at the $^6_4$ in Examples 13 and 14, and the left-hand rest and change in right-hand figuration after the $^6_4$ in Example 15. We sense, in each case, that these $^6_4$s are events of large-scale structural importance: each one casts a cadential light on the entire passage that follows, creating an expectation for large-scale tonal closure. For want of a better term, I will refer to this type of $^6_4$ chord as the "big cadential $^6_4$."

While cadential $^6_4$s typically resolve immediately to a cadential V^5_3, the big cadential $^6_4$s in these four examples do not. (They may resolve to V^5_3 chords, but not to *cadential* V^5_3s; I will return to this point.) But if we think of them as acting as cadential $^6_4$s for an extended section of music or indeed an entire piece—viewing the latter as a phrase writ large—then it seems natural for the cadential $^6_4$s, too, to be expanded. This idea accords well with the well-established idea that the main cadence at the end of a piece or large section is often enlarged or emphasized by various means.[29] And, as mentioned earlier, these chords *feel* like cadential $^6_4$s, imparting a cadential effect to the sections that follow. A natural and appealing way of thinking of these chords, then, is as expanded cadential $^6_4$s. David Beach has advocated this view (using Example 13 as one of his examples), and it seems to be quite widely accepted today.[30] There are, however, several problems with this view.

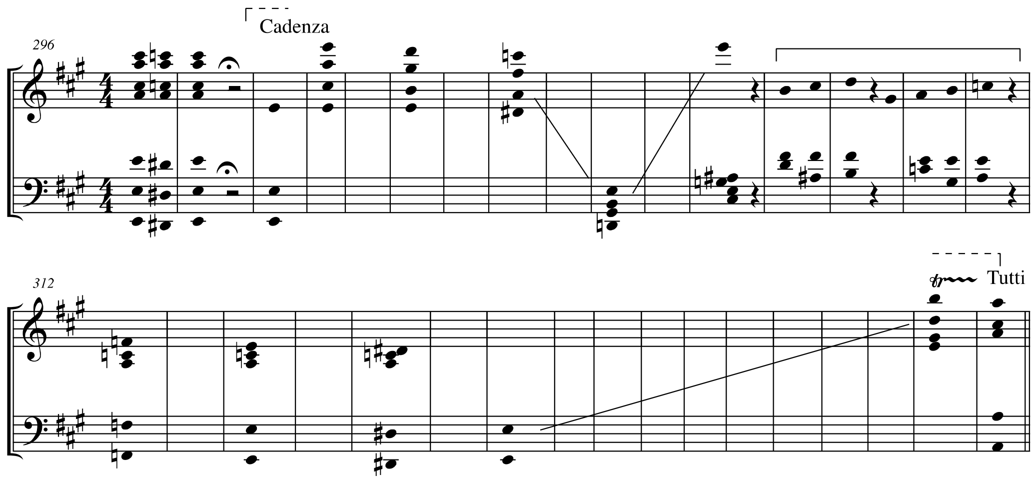
Matthew Bribitzer-Stull offers a perceptive critique of the "expanded cadential $^6_4$" idea in a recent article.[31] Bribitzer-Stull's argument focuses specifically on cadenzas—which typically begin with a cadential $^6_4$ and end with V^5_3, thus naturally lending themselves to an "expanded $^6_4$" analysis—and thus applies most readily to my Example 12, but it is also relevant to the other three examples mentioned above. First of all, Bribitzer-Stull argues, if we view expanded $^6_4$ chords as dissonant (non-harmonic) entities, this seems to imply that all the events that elaborate them must be non-harmonic as well—for a non-harmonic event surely cannot be elaborated by harmonic ones.[32] And yet many of the events within the putative expansions of expanded $^6_4$s *do* seem harmonic. Bribitzer-Stull gives several examples from cadenza passages, and instances can readily be found in my examples as well. In Example 12, for instance, the chords in mm. 308–311 (marked by a bracket above the score) are separated by rests, have disjunct bass lines and melodies, and form perfectly coherent tonal progressions; surely these chords would ordinarily be considered harmonies. In Example 13, the span of the $^6_4$—which, according to Beach, extends to the V^5_3 at m. 143—contains

[29] Schmalfeldt (1992); Caplin (1998, 101–111).

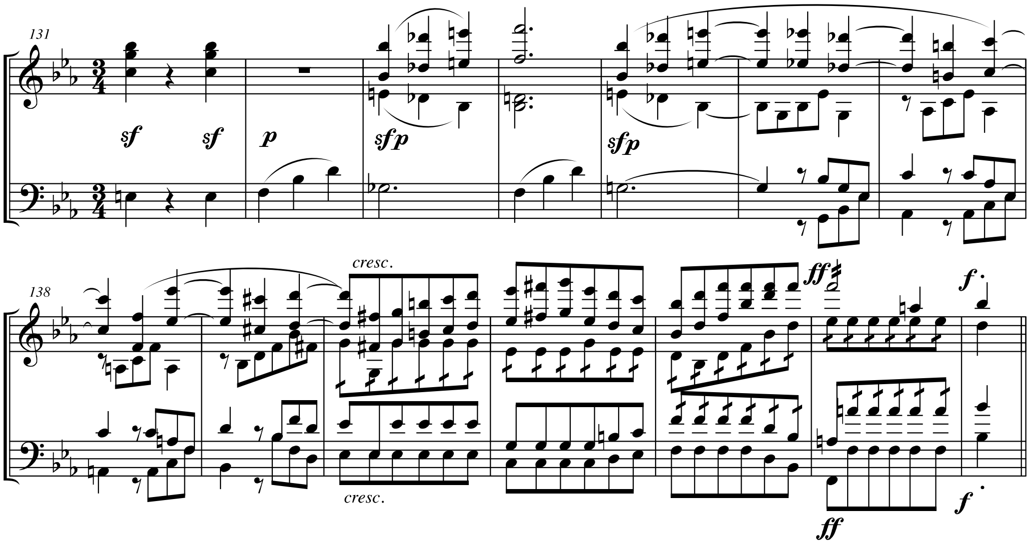
[30] Beach (1967); the passage is further discussed in Beach (1990). See also, for example, Aldwell and Schachter (2003, 318–319).

[31] Bribitzer-Stull (2006, 221–225).

[32] Bribitzer-Stull uses the term "dissonant" rather than "non-harmonic": to be precise, his point is that a dissonant event cannot be elaborated by harmonic events. But it seems safe to say that a dissonant event (at least, one involving "inessential" dissonances like the cadential $^6_4$) is always non-harmonic—though a non-harmonic event need not necessarily be dissonant.



Example 12. Mozart, Piano Concerto K. 488, I, mm. 296–328 (reduction), showing the cadenza composed by Mozart.



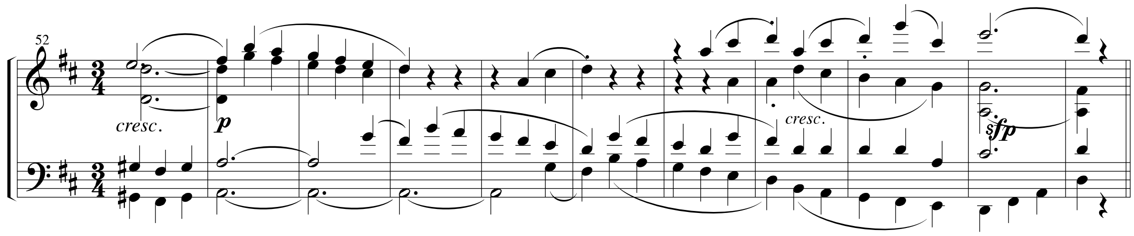
Example 13. Beethoven, Symphony No. 3, I, mm. 131–144. Orchestral reduction by Beach (1967, 26).

what appears to be a ii^6 chord followed by a ii$^5_3$ (mm. 140–141). This expanded ii adds strength to the following V–I cadence, as pre-dominant harmonies often do; but it is difficult to explain how it could have this effect if it is denied any harmonic function.

Bribitzer-Stull makes another important observation: in many cases, the initial $^6_4$ in an "expanded $^6_4$" passage appears to resolve long before the end of the supposed expansion. Example 12 offers a case in point: the $^6_4$ leads almost immediately (in m. 301) to what would appear to be a rather conventional resolution: a V$^5_3$, with descending stepwise motions connecting the 6th and 4th above the bass to the 5th and 3rd. Similarly, the $^6_4$ in Example 15 leads to a V$^5_3$ in m. 78—or perhaps V$^7_5$, if one includes the chordal seventh in the right hand. (The 3rd of the chord is implied; there is a clear evocation of hunting horns here.) These V$^5_3$s are manifestly *not* cadential dominants—they are not followed by I chords.[33] But purely in terms of voice leading, they seem

[33] In Example 15, the ${}^{6-5}_{4-3}$ gesture is repeated (in mm. 79–83), and the second time it leads to a I$^5_3$, but this does not feel at all like a cadential I. While $\hat{2}$ in the melody (in the left hand) does move to $\hat{1}$ in m. 83, this is across a break in phrasing (unlike a typical cadence); the $\hat{1}$ is then the beginning of a new melodic gesture, not a point of closure; and this gesture is (or at least begins as) a repetition of the previous one, depriving it of any sense of cadential significance.

A cadential $^6_4$ chord might also be followed by a *half*-cadential V$^5_3$; perhaps it would be possible to view m. 78 as a half-cadence at a local level (though the chordal seventh in the right hand—implying V^7—undercuts this interpretation). But this does not affect the larger point, which is that the cadential effect of the $^6_4$ seems to endure beyond its local resolution.



Example 14. Beethoven, String Quartet Op. 18, No. 3, III, mm. 52–62.

Example 15. Mendelssohn, Songs Without Words Op. 19, No. 3, mm. 74–90.

to fulfill the voice-leading requirements of the $^6_4$s; it seems odd to claim that the $^6_4$s are expanded beyond this point. However, the voice-leading resolution of the $^6_4$s does not diminish the expectation for large-scale cadential closure, which continues well beyond the V^5_3s. This is another reason to doubt that this large-scale expectation results from *expansion* of the $^6_4$ chords.[34]

There is yet another problem with the "expanded cadential $^6_4$" view of Examples 12–15. This view presupposes that a cadential V^5_3 will eventually follow the $^6_4$. In Examples 12 and 13, this expectation is fulfilled (in m. 327 and m. 143, respectively); in Examples 14 and 15, however, it is not. In Example 14, there is a series of small V–I gestures in mm. 56–61, but the customary $\hat{5}$–$\hat{1}$ motion in the bass never materializes. In Example 15, the main cadence of the piece—the point after which everything seems like a coda, like a reaffirmation of tonic harmony—is surely the *plagal* cadence at mm. 86–90 (note the four-measure expansion of the IV chord). Yet, despite the missing V^5_3, the sense of closure in these pieces seems no weaker than in Examples 12 and 13. While we may have *expected* a cadential V^5_3, we do not feel that our initial interpretation of the $^6_4$ was mistaken; its cadential impact is undiminished.[35]

[34] This same point might also be made about Example 13. Indeed, Beach (1990) suggests that the I^5_3 in m. 139 acts as an "intermediate goal" for the $^6_4$. However, Beach still maintains that the $^6_4$ is "extended" beyond this point.

[35] The possibility that an apparent cadential $^6_4$ might not be followed by a resolving V^5_3 is acknowledged by Beach (1990), who gives the example of Chopin's Etude Op. 10, No. 3 (m. 70). Beach suggests that, in this case, the $^6_4$ can be regarded as part of a tonic expansion, leading to a root-position tonic harmony (m. 73); it is not part of the

Example 16. Beethoven, Quartet Op. 59, No. 2, I, mm. 54–59.

In each of these examples, then, the argument for treating the ${}^{6}_{4}$ as an expanded cadential ${}^{6}_{4}$ is undermined in one or more ways: by the presence of harmonic events within the putative expansion of the ${}^{6}_{4}$, by the immediate resolution of the ${}^{6}_{4}$ to a non-cadential V^{5}_{3}, or by the absence of a cadential V^{5}_{3}. Thus the "expanded-cadential-${}^{6}_{4}$" argument seems untenable. But what is the alternative?

My argument here takes inspiration from the work of Robert Hatten, and in particular, his concept of the "arrival ${}^{6}_{4}$." In the glossary of *Musical Meaning in Beethoven*, Hatten defines the concept as follows:

> *Arrival six-four*. Expressively focal cadential six-four serving as a resolution of thematic or tonal instabilities, often with a Picardy-third effect. Need not resolve to V; its rhetorical function may displace its syntactic function, at least locally.[36]

Elsewhere in the book, Hatten gives several examples of arrival ${}^{6}_{4}$s, one of which is shown in Example 16 (m. 55), and further elaborates the concept: "The cueing of closural stability" by an arrival ${}^{6}_{4}$, he notes, "is such that one may exploit it without ever completing the cadence"; "the point of arrival has an expressive connotation of transcendent resolution, as opposed to mere syntactic resolution."[37]

The first point I wish to take from Hatten is a very general one: that a chord can serve signifying functions beyond its purely syntactic function. (I take "syntactic" to refer to the harmonic and linear functions of chords that are traditionally taught in music theory.) Hatten's broad purposes are rather different from my purposes here. He is concerned with meaning in Beethoven, and in large part, with emotional and extramusical meaning: in the passage in Example 16, for example, he finds "a yielding of willful struggle…to tender acquiescence, melting into acceptance."[38] But he also cites examples of purely structural signification, the arrival ${}^{6}_{4}$ being a case in point. He is partly interested in the relationship of the chord to the prior context—the "resolution of thematic or tonal instabilities"—but he also draws attention to its effect on what follows: "the cueing of closural stability," which can take effect even without the "syntactic resolution" of the chord.

Hatten's concept nicely captures the effect of the ${}^{6}_{4}$s in Examples 12–15. Each of these chords has a local—in Hatten's terms, "syntactic"—function, in terms of its relationships to the surrounding chords. But it also has a larger-scale, signifying function. In general, as Leonard Ratner has observed, the cadential ${}^{6}_{4}$ creates "a clear and strong impression that a cadence will be made"; it is "the signal for an authentic cadence."[39] And when the ${}^{6}_{4}$ receives strong surface emphasis, as it does in these examples, it signals not only cadential closure, but *large-scale* cadential closure—the conclusion of a large section or entire piece. This signifying function captures the "bigness" of the chord, its structural importance, even if we do not consider it to be literally expanded. In some cases, a V–I cadence may arrive in the

final cadence, which follows several measures later. This analysis seems reasonable from a prolongational point of view. I would still suggest, though, that the ${}^{6}_{4}$ has cadential implications (suggesting that large-scale closure is impending), and our analysis should find a way of acknowledging these implications.

[36] Hatten (1994, 288).

[37] Ibid.; my Example 16 is on p. 131.

[38] Ibid., 128.

[39] Ratner (1962, 110).

Example 17. Bach, Cantata No. 140 ("Wachet auf, ruft uns die Stimme"), Chorale, mm. 68–74.

customary way; there may even be quite perceptible voice-leading connections between the $^6_4$ and the cadential V^5_3, as in Example 12 (facilitated, in this case, by other conventional cues—the beginning of the cadenza at the $^6_4$, and the trill over the $^5_3$).[40] But this is not necessary to the effect of the chords: in their signifying function, they are self-sufficient. Hatten's arrival $^6_4$ differs from my big cadential $^6_4$ in that it need not occur in a context where a big cadence is expected (i.e. at the end of a large key section), though in most cases it does; in addition, the "resolution of thematic or tonal instabilities" is not a necessary feature of big cadential $^6_4$s, though they do often serve this function.[41]

How we *label* the global and local functions of the big cadential $^6_4$ is not an easy question. I have suggested that it is in some ways quite different from the ordinary cadential $^6_4$: the expectation it creates is for a large-scale cadence, and the resolution to V^5_3 is not obligatory. Yet if we ask where the structural meaning of the chord comes from, the answer is clear: it comes from the ordinary cadential $^6_4$, with its associations of tonal closure and formal completion. In this sense, the big cadential $^6_4$ *is* heard as a cadential $^6_4$, however we wish to label this. With regard to local function, too, the appropriate label for the $^6_4$ chords in Examples 12–15 is not obvious. The approach to the chords from vii$^{\circ 7}$/V or V^6_5/V favors a dominant interpretation; and in Examples 12 and 15, the following context justifies labeling them as V^6_4s (accented, but not cadential $^6_4$s). In Examples 13 and 14, by contrast, nothing in the immediately following context favors a V^6_4 label; a I^6_4 label would seem just as defensible here. But ultimately, the large-scale function of these chords—which seems clear, no matter how we label it—may be more important than their local function.

My final example suggests that composers were aware of the signifying power of cadential $^6_4$s even before the Classical period. Example 17 shows the ending of the famous tenor aria from Bach's Cantata No. 140, "Wachet auf, ruft uns die Stimme." The tenor line is the last phrase of the chorale; the violins play a melody that first appeared in the dominant key. Though both the chorale melody and the violin melody appeared earlier in the piece, this is the first time that they have been aligned in this way. Bach finds an ingenious harmonization that fits both melodies, placing the end of the chorale melody over a V–IV^6 deceptive cadence. The $^6_4$ chord that follows (on beat 3 of m. 70) is, perhaps, partly a response to this challenging compositional situation. (Neither I^5_3—which Bach used at this point in earlier presentations of the violin melody—nor I^6_3 would have

[40] The same could be said of Example 13; note the registral connections between the F_6 and F_3 in m. 134 and the same pitches in m. 142, just before the move to V.
[41] Klein (2005) further develops the idea of the arrival $^6_4$, and provides additional examples.

worked here.) But it also serves another function: it signals to the listener the impending end of the piece.[42] The $^6_4$ moves on to I^6 and then to ii; there is eventually a cadential V^5_3 (in m. 73), but it would seem far-fetched to claim a linear connection between this and the $^6_4$ (there is no $\hat{2}$ to allow a 6–5 resolution). As with earlier examples, the lack of a proper resolution of the $^6_4$ in no way weakens its closural force.

The reader may notice a similarity between my arguments in this section and the previous section. There, too, I suggested that the goal $^6_4$ (the $^6_4$ of a V–I^6_4 progression) might act as a kind of structural cue to the listener—indicating, in that case, a location near the beginning of a large key section (e.g., the second key area of an exposition), rather than near the end (as in the case of the big cadential $^6_4$). There is no contradiction in suggesting that the big cadential $^6_4$ and the goal $^6_4$ might serve quite different signifying functions in these two cases, because their local features are completely different. The goal $^6_4$ of a V–I^6_4 progression is typically hypermetrically weak and forms the second half of a sub-phrase, led into by the preceding dominant. By contrast, the big cadential $^6_4$ is normally preceded by a pre-dominant chord such as a vii$^{\circ 7}$/V and is typically hypermetrically strong; it feels, locally, more like initiation than a goal (though at a larger scale, it feels like the initiation *of* a goal—"the beginning of the end").

The "structural cue" argument seems less persuasive in the goal $^6_4$ case than in the cadential $^6_4$ case, and raises many questions. Unlike the big cadential $^6_4$, which clearly relates to the ordinary cadential $^6_4$, there is no obvious conventional pattern from which the goal $^6_4$ derives its meaning. One might ask, also, how the goal $^6_4$ (as a structural cue) fits in with the complex formal conventions of the sonata exposition; this seems to vary from case to case.[43]

I would argue also that the V–I^6_4 schema relates to (and is supported by) a more general schema of "strong-weak" V–I sub-phrases, in which the I may be either a $^6_4$ or a $^5_3$; again, such patterns are especially common near the beginning of the second key area. (This is in contrast to "weak-strong" V–I sub-phrases, which are more characteristic of closing themes.) I hope to further develop these ideas in future work.

3. The $^6_4$ as Tonal Emissary

The $^6_4$ chords in Examples 18, 19, 20, and 21 (marked with asterisks) are rather different from any of those considered so far. In each case, the literal root of the $^6_4$ (indicated by the Roman numeral symbol) is not the prevailing tonic of the passage; this sets these chords apart from the goal $^6_4$s and cadential $^6_4$s discussed earlier. (While some of the goal $^6_4$s considered earlier occurred in the context of other keys, they were at least preceded by their own dominants, and thus were acting as local tonics.) Each of the $^6_4$s is rhythmically closely connected to the following chord; this again makes them unlike goal $^6_4$s, which are generally followed by a break in phrasing. Each chord also makes close (stepwise) melodic connections to the following chord, though there are also a few unresolved tones, such as the A in the melody in Example 18. On balance, by the criteria discussed earlier, it would seem reasonable to treat these as non-harmonic chords (especially if one allows out-of-register resolutions—e.g. resolving the A_4 in Example 18 to the G_3 on the third beat); in Aldwell and Schachter's taxonomy, they would perhaps be accented (non-cadential) $^6_4$s.[44]

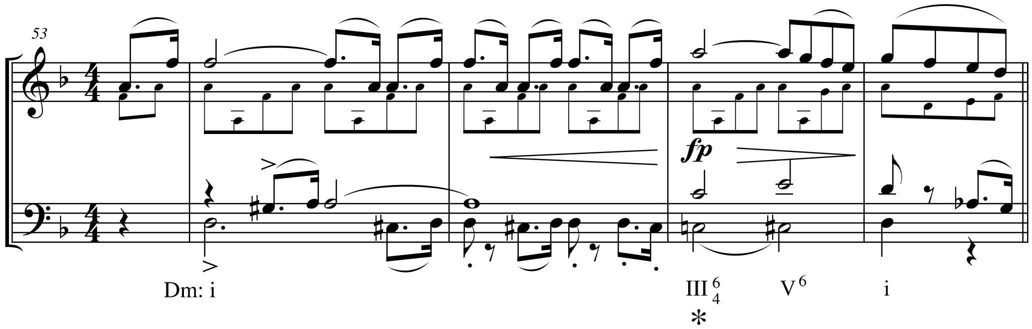
What I wish to draw attention to is the powerful *tonal* implications of these $^6_4$ chords. Each chord seems to give a momentary suggestion—a kind of "flash"—of the corresponding key. Note, for example, the way the $^6_4$ chord in Example 18 hints at A minor, thus adding a distinctly ominous touch to the otherwise cheerful melody. By comparison, consider the slight recomposition of m. 64 of this excerpt in Example 22a, in which the move to E in the cello and viola is delayed by a half-measure, so that no $^6_4$ is formed; now the implication of A minor is lost, robbing the passage of much of its tension and interest. Note, also, that this tonal implication appears to be entirely due to the $^6_4$ chord itself. No other chord in the vicinity gives significant support to A minor; in particular, the dominant of this key is nowhere to be found. The $^6_4$ therefore functions as a kind of *tonal emissary*: the sole representative of its key in an alien environment.

[42] One might say the cadential implications of the $^6_4$ are weakened by the fact that it is not on a downbeat. This may be of little importance, however. In the early eighteenth century, $\frac{4}{4}$ was generally taken to represent a pair of equal $\frac{2}{4}$ measures (Grave 1985). In this piece, the violin melody that begins over the $^6_4$ chord, at beat 3 of m. 70, began on beat 1 in previous occurrences (e.g., m. 9). This suggests that Bach regarded beats 1 and 3 as equal in this piece, or perhaps, as variable in strength depending on the context. This is, however, the only Baroque example in the article; the role of "secondary" $^6_4$ types in Baroque music—and their historical development generally—requires further study.

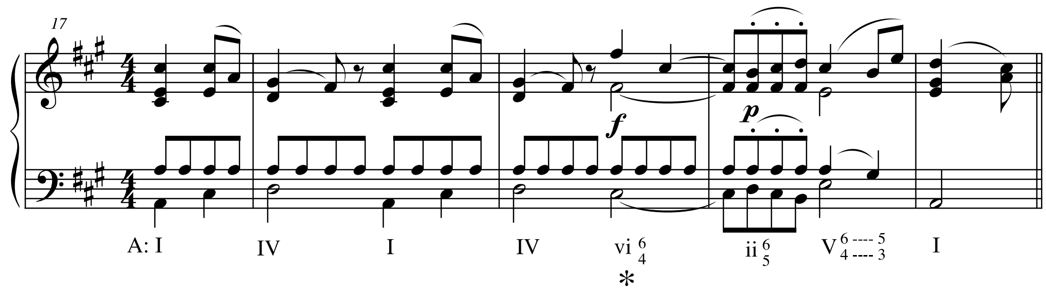
[43] In Beethoven's Op. 2, No. 1 (Example 6), and Schubert's Octet (Example 9), the V–I^6_4 pattern acts as the main second theme; in Haydn's Op. 33, No. 4 (Example 8), the V–I^6_4 pattern could hardly be considered a theme, but it falls roughly where the second theme would be expected. (As is often the case with Haydn, no real second theme ever occurs.) In Haydn's Sonata Hob. XVI/44, I (mm. 6–10), by contrast, the V–I^6_4 progression falls in the transition—in the second key, but before the main second theme (m. 13). Further work is needed to explore this issue, and to integrate it with recent work on the conventions of the sonata exposition, such as that of Caplin (1998) and Hepokoski and Darcy (2006).

[44] It might seem questionable to consider the $^6_4$ in Example 20 as "accented"; but I would argue that the "real" meter in this passage is displaced from the notated meter by a half-measure, so that the $^6_4$ actually falls on a downbeat.

Example 18. Schubert, String Quartet in D minor (D. 810), I, mm. 61–66.



Example 19. Schubert, Octet, I, mm. 53–57.

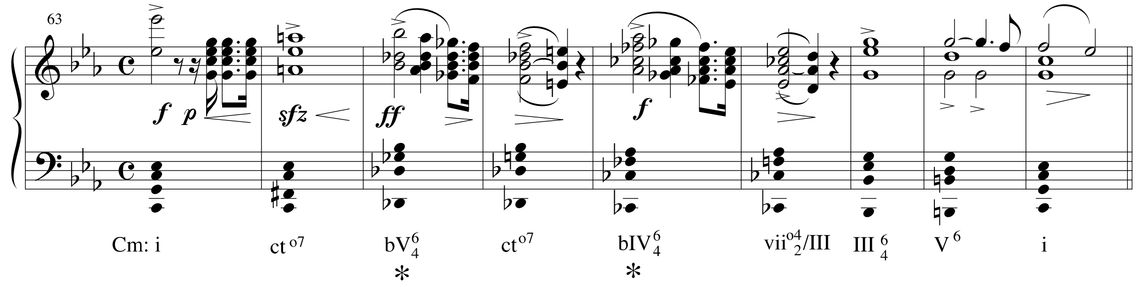


Example 20. Mendelssohn, Songs Without Words Op. 19, No. 4, mm. 17–21.

The same points could be made about Examples 19, 20, and 21: in each case, the tonal "flash" arises solely from the $^{6}_{4}$.[45]

Despite the non-harmonic features of the $^{6}_{4}$ in Example 18, assigning it some kind of label seems justified, in recognition of its tonal implications. (Perhaps it should re-

[45] In Example 21, the common-tone diminished seventh chords preceding the ♭V$^{6}_{4}$ and ♭IV$^{6}_{4}$ could be heard as weakly supporting these tonics, but this only becomes apparent in retrospect. By contrast, the III$^{6}_{4}$ in m. 69 is more strongly supported by the preceding vii°$^{4}_{2}$/III.



Example 21. Chopin, Etude Op. 10, No. 12, mm. 63–71 (left-hand figuration is not shown).

ally be labeled "i$^6_4$ of iii" as opposed to "iii$^6_4$".) And the specific tonality that is implied is significant as well: A minor later emerges as the main secondary key of the exposition, so its fleeting appearance in m. 64 is a harbinger of the future course of the piece.[46] The keys implied by the $^6_4$s in Examples 19, 20, and 21 are significant as well. In Example 19, F major is the main key of the movement, which was just left a few measures earlier—and will return a few measures later, before the piece finally moves on to the dominant key. In Example 20, the $^6_4$ injects a poignant touch of the relative minor, connecting with brief allusions to this key in the introduction and coda (mm. 2 and 27). In Example 21, the importance of the implied keys (G♭ major and F♭ major) lies in the fact that they are so remote, further from the tonic (C minor) than any other keys used in the piece so far, thus giving a climactic intensity to the passage.

The idea that the $^6_4$ carries special tonal implications is not new; it was perhaps first suggested by Gottfried Weber in his *Versuch einer geordneten Theorie der Tonsetzkunst*. Because $^6_4$ chords are so often used in cadential contexts, Weber writes, our ear "has become thereby inclined to take *every* [italics in original] major or minor [$^6_4$] chord that occurs in this way as a tonic harmony"; the ear is then "immediately led to perceive, or at least to anticipate, a digressive modulation" to the corresponding key.[47] Thus Weber not only recognizes the strong tonal implication of the $^6_4$ but offers a plausible explanation for it. Since the most common use of the $^6_4$ is at a cadence—indicating strong confirmation of a key—the $^6_4$ alone can steer the music in that tonal direction. What is especially noteworthy, and perhaps surprising, is that the tonal implication of $^6_4$ chords is in some cases stronger than that of other inversions would be. As an illustration, consider Examples 22b and 22c, showing two further recompositions of m. 64 of Example 18, where the

Example 22. Three recompositions of m. 64 of Example 18.

iii$^6_4$ has been replaced by a iii$^5_3$ (Example 22b) and iii$^6_3$ (Example 22c). Now, of course, the linear coherence of the bass line has been destroyed, but there is another effect as well: the implication of A minor is much less potent than before. (This is especially true of Example 22c; in Example 22b the suggestion of A minor is stronger, but still not as strong as in the original.) Somehow, then, a $^6_4$ chord appears to possess a tonal force that other inversions of the triad do not carry.[48]

[46] The movement is generally regarded as a "three-key exposition" (D minor–F major–A minor), but such analyses usually give priority to the third key over the second (Webster 1978; Hunt 2009).

[47] Weber (1817/1851, 347–348). This passage was brought to my attention by Byros (2009).

[48] It should be mentioned that at least one other chord can project

My argument here is somewhat similar to that proposed with regard to the big cadential $^6_4$. In both cases, I am suggesting, the $^6_4$ draws implicative power from its conventional cadential usage. In the case of the big cadential $^6_4$, the implication is that a large-scale cadence will soon follow; in the case of the emissary $^6_4$, what is implied is simply a particular tonal center. The crucial difference is that the big cadential $^6_4$ occurs in a context in which the corresponding key has already been strongly established; the emissary $^6_4$ does not. Given this lack of preceding context, we probably do not expect an emissary $^6_4$ such as that in Example 18 to lead to an actual cadence. Still, it is the cadential associations of the chord that give it its tonal power.[49]

I do not wish to suggest that *every* $^6_4$ chord advocates its own root as tonic. Non-tonic $^6_4$ chords sometimes arise as neighboring and passing chords without carrying any particular suggestion of their own keys—especially if they are presented briefly, without metrical or other accentuation, and without emphasis on the literal root of the triad. Metrical accentuation of the $^6_4$ not only draws attention to the chord, but emphasizes its connection with the cadential $^6_4$. (This may be what Weber has in mind when he says that a $^6_4$ chord has strong tonal implications when used "in this way," i.e., in the manner of a cadential $^6_4$ chord—meaning, perhaps, in a metrically strong position.) Example 18 provides a case in point, on the third beat of m. 65. Here, another "iii$^6_4$" occurs, but its tonal implication is much less strong than in the earlier case. This is partly due to its weaker metrical position and shorter duration, and also perhaps to the fact that the A is in an inner voice rather than in the melody.[50]

4. Other Uses of the $^6_4$ (or, Mendelssohn the Progressive)

The uses of the $^6_4$ discussed so far—added to the well-accepted uses mentioned at the beginning of this article—yield a picture of $^6_4$ treatment that is, I hope, somewhat more complete than the conventional taxonomy alone. But there are still more uses of the chord that are not covered by these categories. Some of them derive their meanings from the secondary $^6_4$ functions discussed in previous sections (just as those functions derive, to some extent, from primary uses of the chord), or combine these functions in various ways.

As previous examples have shown, many common-practice composers—Haydn, Mozart, Beethoven, and Schubert, among others—were aware of the rich potential of the $^6_4$ and used it skillfully. But the true master was Mendelssohn. Mendelssohn's handling of the $^6_4$ shows an imagination and creativity unmatched by any other composer. More than half of the 48 *Songs Without Words* contain $^6_4$s that, in some way, go beyond the traditional taxonomy. Some of these uses are truly daring for their time, anticipating a freer approach to the chord that we might associate more with the late nineteenth century. In this sense—perhaps contrary to conventional wisdom—we might regard Mendelssohn as harmonically progressive, in relation to contemporaries such as Chopin and Schumann. To give a flavor of Mendelssohn's mastery in this regard, all of the examples in this section are taken from the *Songs Without Words*.

Example 23 shows a kind of hybrid use of the $^6_4$, one that skillfully combines two conventional uses of the chord. The piece—like the vast majority of the *Songs*—is in rounded binary form; the example shows the end of the digression and the return of the main theme (m. 24). The one-measure gestures in mm. 20–23 (marked with brackets), clearly ending on i$^6_4$s, evoke the schema of the goal $^6_4$. Unlike in a typical goal $^6_4$ progression, however, the $^6_4$s are metrically strong, and are preceded by VI–iv^6, which would more typically move to V than to I; these features make the $^6_4$s seem more like cadential $^6_4$s. Both the goal-$^6_4$ and cadential-$^6_4$ allusions create expectation for further confirmation of the key (F♯ minor), but this expectation is completely dashed: the i$^6_4$ moves directly to I of D (a smooth transition, given the two common tones and half-step motion in the bass), leading us into the recapitulation.[51]

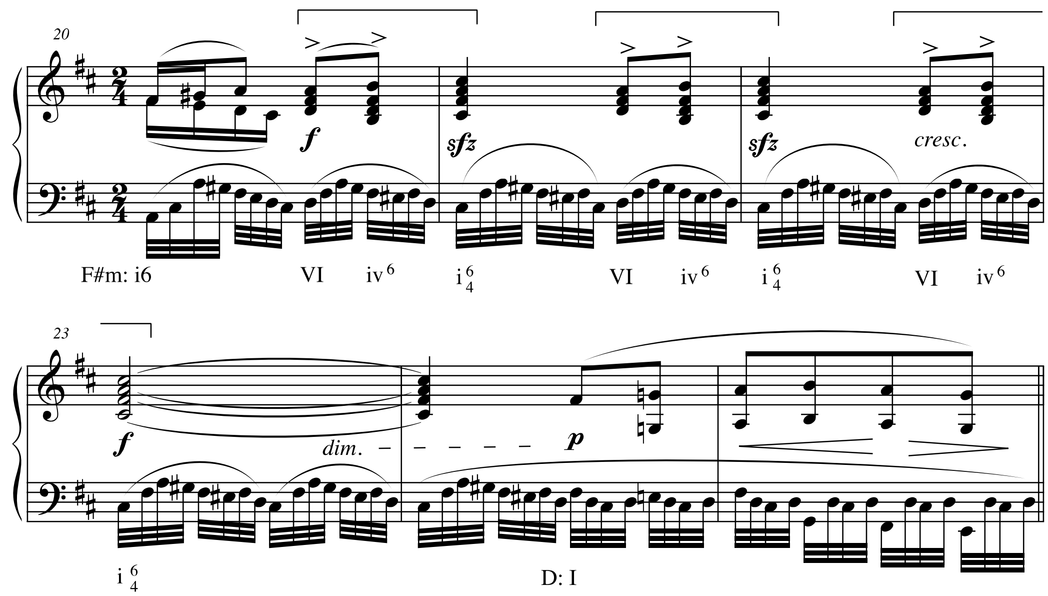
strong tonal implications all on its own: the dominant seventh. In my view, this is due to the pitch-class content of the chord—the fact that its scale-degrees belong to the corresponding major and (harmonic) minor scales and no other (see Butler and Brown 1984). Obviously this explanation does not work for the cadential $^6_4$.

49 Even in cases where a $^6_4$ is accompanied by several other chords within the same key, the $^6_4$ may play a particularly powerful role in conveying that key. This is sometimes the case with the "arrival $^6_4$s" discussed by Hatten (1994), some of which (unlike Example 16) occur in relatively brief tonicizations. For example, in the slow movement of Beethoven's *Hammerklavier* sonata (Hatten 1994, 13), the G major $^6_4$ chord at m. 14 immediately announces its own tonality.

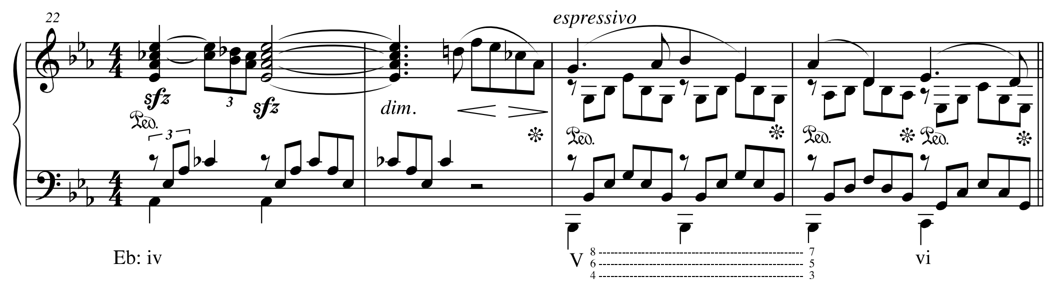
50 Sometimes a $^6_4$ chord occurs in a long sequence of chromatic, modulating chords. (A well-known special case of this is the "omnibus" progression, explored by Telesco [1998]: e.g. Cm$^6_4$–A♭$^4_2$–F^7–Am$^6_4$–F$^4_2$–D^7–F♯m$^6_4$.) Such $^6_4$s may sometimes be the only chords of their respective keys, and thus might be regarded as emissary $^6_4$s. However, the tonal force of these chords is often muted by the fact that they are rhythmically and texturally undifferentiated from the other chords in the sequence; the effect tends to be of a wash of constantly shifting tonalities, with none taking precedence over the others.

Another possible emissary $^6_4$ is the famous G minor $^6_4$ chord in the opening of Beethoven's *Eroica* symphony (m. 9). This chord is neither followed nor preceded by any chord that is clearly in G minor. However, Byros (2012) has argued persuasively that the $^6_4$ in combination with the neighboring chords (E♭–[Gm$^6_4$]–C♯^{o7}) forms a conventional pattern which implies G minor as the tonic, or at least, did so to listeners of the time.

51 Similar uses of the $^6_4$—two-chord sub-phrases in which the first chord is a pre-dominant—are seen in Op. 19, No. 5, mm. 50–51;



Example 23. Mendelssohn, Songs Without Words Op. 30, No. 5, mm. 20–25.



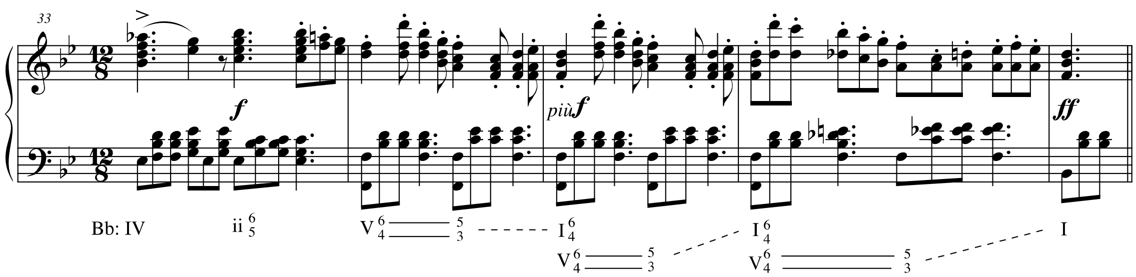
Example 24. Mendelssohn, Songs Without Words Op. 30, No. 1, mm. 22–25.

Many of the interesting $^6_4$s in the *Songs* occur at or near the beginning of the recapitulation; the previous example is a case in point. In Example 24, the beginning of the main theme itself, originally harmonized with I^5_3, appears in the recapitulation over a $^6_4$. This is a favorite device of Mendelssohn's; as William Rothstein has observed, it occurs in several of the *Songs* and elsewhere in his piano works.[52] The effect is appealing partly because it detaches the moment of thematic return from the moment of tonal return (that is, *full* tonal return, to a root-position tonic triad)—unlike the usual situation, where the two are exactly simultaneous.[53] I am uncertain as to how to label the $^6_4$ in m. 24. By parallelism with the root-position tonic in the opening theme, it might be considered as tonic-functioning, and therefore labeled as I^6_4. But in purely local terms, it is smoothly connected to the following V, and could well be a non-harmonic (accented) $^6_4$. I favor the non-harmonic interpretation (as shown in the example), partly because it alters the contour of tension in the theme in an interesting way: the stable-to-unstable I–V gesture of the beginning

Op. 53, No. 2, mm. 44–47; Op. 62, No. 6, mm. 20–21; Op. 67, No. 6, mm. 49–55; and Op. 102, No. 4, mm. 24–26. Another interesting $^6_4$, but again difficult to categorize, is in Op. 85, No. 4, mm. 28 and 31. This B minor $^6_4$, just before the main cadence of the piece (in D major), could perhaps be seen as an emissary $^6_4$; however, this tonality is arguably supported by the previous chord, a German 6th in B minor, evoking the "pre-dominant-to-$^6_4$" schema mentioned above.

[52] Rothstein (1989, 190–191, 193–194, 211). Other examples in the *Songs* include Op. 30, No. 6; Op. 85, No. 2; and Op. 102, Nos. 1, 2, and 6. In Op. 85, No. 1, the *second* measure of the recapitulation (m. 31) is harmonized with a $^6_4$. Other Classical and Romantic composers also used this device; examples include the recapitulation in the first movement of Beethoven's *Appassionata* sonata, and the return of the main theme (within the first theme group of the exposition) in Schubert's B♭ major sonata (D. 960), I, m. 36.

[53] Rothstein makes this point, and argues that because of this, the apparent return of the theme over the $^6_4$ is not a true recapitulation (1989, 211). The evasion of I^5_3 at the start of the recapitulation also serves to heighten its impact when it eventually occurs, sometimes only at the final cadence: Op. 30, No. 6, and Op. 85, No. 2, are beautiful examples.



Example 25. Mendelssohn, Songs Without Words Op. 62, No. 2, mm. 33–37.

becomes an unstable-to-stable V^{6-5}_{4-3} in the recapitulation.[54] There is often an air of self-conscious cleverness in such moments—as if the composer is playing a surprising trick on us; reinterpreting the tensional profile of the theme plays along with this game.[55]

Example 25, from the end of Op. 62, No. 2, blurs conventional uses of the $^6_4$ in another way. Literally, we find the progression I^6_4–V–I^6_4–V–I^6_4–V–I. One might say this progression is simply a conventional cadential V^{6-5}_{4-3} progression that repeats twice and then goes to I. While there is some validity to this, it is not the whole story: each $^6_4$ also seems to act as the *goal* of the previous V (note the melodic connections across the barlines in mm. 34–36). I would argue that the $^6_4$s here represent a kind of *cadential evasion*—they substitute for an expected I; as is customary with cadential evasions, the gesture is repeated, eventually leading to I. The $^6_4$ is therefore both tonic- and dominant-functioning, as reflected in my annotations. I^6_4 is not, of course, common as a cadential "evader"—vi and I^6 are much more frequently used in this way; I^6_4 differs from I^6 and vi in being less stable and more urgent in its effect, making the arrival of I seem even more inevitable and imminent.[56]

While many of Mendelssohn's $^6_4$s can be understood as extensions or combinations of conventional (primary or secondary) uses, a few of them venture into uncharted territory. Example 26 shows one of the most remarkable. In some ways, the $^6_4$ chord in m. 8 resembles those in Example 23: it is clearly a rhythmic and phrasal goal, thus evoking the goal $^6_4$ schema; it is preceded by a iv^6 (or is it VI?), thus evoking the cadential $^6_4$. What is unusual about this chord is its formal position: it occurs at the end of the modulating parallel period that opens the piece. (The example shows just the consequent phrase of this period, beginning in the second half of m. 4; the V in the first half of this measure is the half-cadence that ends the antecedent phrase.) In a way, the $^6_4$ seems to substitute for a half-cadence (in E minor), for surely this is what we expect to happen at this point (the iv^6 suggests a Phrygian cadence). One could perhaps call it (at the risk of terminological excess) a half-cadential $^6_4$.[57] But of course, it is very different in effect from a half-cadence: its inherent instability, coupled with its cadential associations (and the *Allegro agitato* tempo marking), give it a sense of almost frantic urgency. An echo of the iv^6–i^6_4 gesture in mm. 8–10 is followed by a V^6; this chord initiates a new sequential pattern, making it clear that a new phrase is beginning. The appropriate label for the $^6_4$ chords is, again, unclear. It would seem far-fetched to say that the $^6_4$ in m. 10 *resolves* to the V^6, given the apparent phrase boundary between them and the change in bass note; but one does feel a connection between the two chords, which blurs the phrase structure and creates further instability.

5. Conclusions

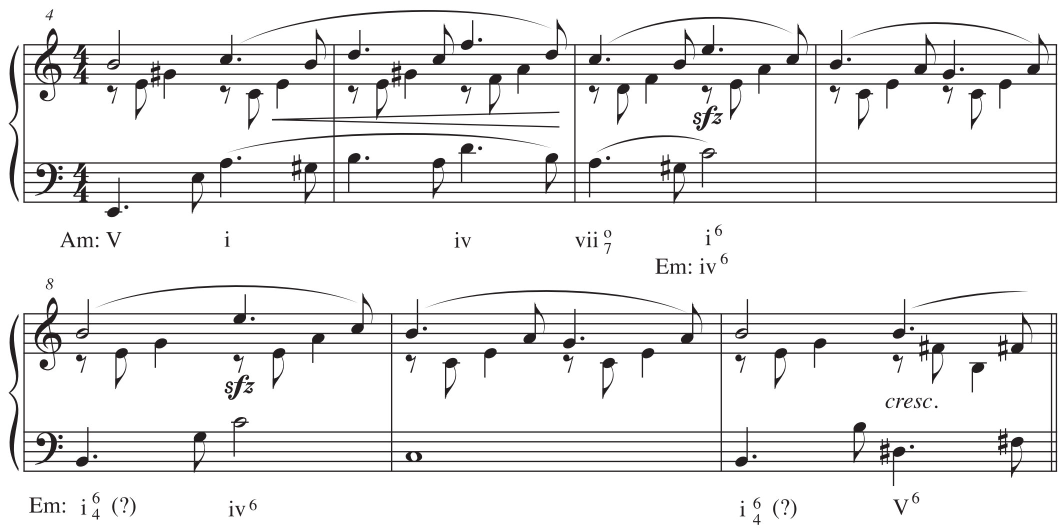
In this article I have presented several uses of the $^6_4$ that, I believe, have not been widely acknowledged or studied. The harmonic $^6_4$ is a chord that seems, by its local features

[54] The 7th in the V chord compromises its stability somewhat, however; perhaps "unstable-to-more-stable" would be a better description.

[55] The cleverness and surprise is increased when the return to the main key is only achieved by the $^6_4$ itself. This can happen if the chord preceding the $^6_4$ is tonally ambiguous or misleading, such as an augmented 6th or diminished 7th chord. Schubert's B♭ major sonata (mentioned in note 52 above) offers an example of this; another is the recapitulation of the first movement of Mendelssohn's *Italian* symphony.

[56] The $^6_4$ is used as a cadential evader in several of the *Songs*: see Op. 19, No. 2, m. 64; Op. 38, No. 3, mm. 64–65; Op. 38, No. 4, m. 26; Op. 53, No. 1, mm. 56–58; and Op. 85, No. 2, m. 34. Another interesting evading $^6_4$ is at the end of the exposition of the first movement of Beethoven's *Tempest* sonata (Op. 31, No. 2), perceptively discussed by Schmalfeldt (1995, 67–68). In mm. 74–75, what initially feels like a cadential V leads to i^6_4 instead of i^5_3; this is followed by an alternation between i^6_4 and V, then an alternation between i^5_3 and V, and finally a cadential i in m. 83. (Here I follow Schmalfeldt's analysis; by contrast, Caplin regards the first $^6_4$ as the cadence [2010].) Especially remarkable is the unobtrusive—almost casual—shift from i^6_4 to i^5_3, as if Beethoven were trying to obscure the difference between them.

[57] A similar use of the $^6_4$ in the *Songs* is seen in Op. 30, No. 4, mm. 15–18.



Example 26. Mendelssohn, Songs Without Words Op. 85, No. 2, mm. 4–10.

and larger context, to be functioning as a harmony; the goal $^6_4$ is a special case of this in which the $^6_4$ is preceded by V and acts a local goal of motion (e.g. the end of a sub-phrase). The big cadential $^6_4$ is a highly emphasized chord that seems to herald large-scale cadential closure; the cadential V may follow much later or may never occur at all, but this does not diminish the cadential effect of the $^6_4$. (This concept is closely related to Hatten's "arrival $^6_4$.") And the emissary $^6_4$ is a chord that acts as the sole representative of its key and projects a strong tonal implication, though rhythmically and contrapuntally it may be treated as non-harmonic. Other uses of the $^6_4$ combine or extend these categories, or point to yet other possible functions.

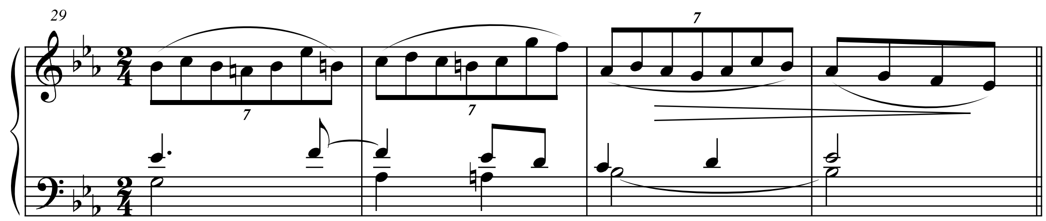
I have proposed that the big cadential $^6_4$ acts as a structural cue—helping the listener keep track of their position in the form. The goal $^6_4$ may also serve such a function, though my argument here requires further development. The idea of chords or harmonic patterns acting as orienting structural cues deserves more exploration in general. (The perfect cadence itself—acting as an indicator of tonal and formal closure—is a well-known example.) It provides a way of connecting the small to the large, and explaining, rather than merely describing, why certain kinds of local events occur in particular kinds of large-scale contexts. I hope to pursue this idea in future research.

Another possible extension of this project would be to consider the use of the $^6_4$ in music after 1850. We might expect to find increasing freedom and experimentation in the use of the $^6_4$ during this period, and indeed, there is evidence of this. Schoenberg observed that Brahms and later composers used the $^6_4$ chord more freely than their predecessors.[58] Unconventional uses of the chord in Brahms's music have been explored by Jeffrey Kresky, and in Liszt's music by Michael Klein and Shay Loya.[59] Some late-nineteenth-century treatments of the $^6_4$ appear to fall into the categories introduced here; it is possible that entirely new uses of the chord also developed.

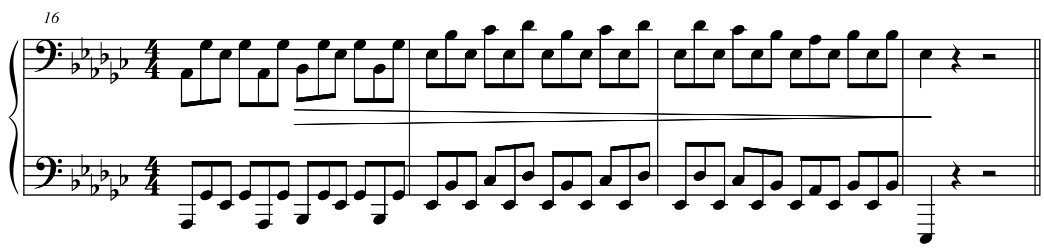
A recurring theme in this study has been the idea that a single chord, in a specific context, can serve multiple functions. For example, a big cadential $^6_4$ may linearly resolve to the following chord, yet still create expectations for a large-scale cadence. These are quite different *kinds* of functions, and it seems unproblematic to assert that a single chord can perform both. In other cases, however, a chord may serve multiple functions that seem incompatible or conflicting; in such cases we might say there is some *ambiguity* in the function of the chord. For example, to say that an "emissary" $^6_4$ like the one in Example 18 is a non-harmonic chord, yet still projects its own tonality, seems like a potential conflict; where does the tonal implication of the chord come from, if not from its harmonic identity as a major or minor

58 In *Harmony*, Schoenberg writes: "today, [the six-four] is of course handled rather freely"; "the departure from the six-four even Brahms treated more freely"; "more recent music naturally takes even more liberties with it" (1911/1978, 382–383).

59 Kresky (2007); Klein (2005); Loya (2011). Interesting $^6_4$s can be found throughout late nineteenth-century music: consider the opening six measures of Elgar's *Enigma* Variations, or the exquisite treatment of the chord in "Jardin de Dolly" from Fauré's *Dolly* Suite. Moving ahead still further, Fankhauser discusses unorthodox uses of the $^6_4$ in Prokofiev's and Shostakovich's neo-classical music (2012). Also of interest in this regard is a corpus study by Meyer (1992), showing that the incidence of the cadential $^6_4$ declined markedly over the course of the nineteenth century; Meyer does not discuss other uses of the $^6_4$, however.



Example 27. Schumann, "Eusebius" (from Carnaval), mm. 29–32.



Example 28. Chopin, Prelude Op. 28, No. 14, mm. 16–19.

triad? Ambiguity may also arise in cases where (as I have suggested) a goal $^6_4$ chord is a local goal of the previous V, but also acts as a prolongation of a V *Stufe* (of which the previous V is presumably an expression) at a higher level. But even real ambiguity is not a cause for worry; rather, as numerous theorists have argued, it is to be celebrated and relished.[60] This again brings to mind the concept of a schema, most fully developed by Gjerdingen: a conventional pattern that may be invoked with varying degrees of strength or typicality.[61] Sometimes a single chord may participate in multiple overlapping (and in some sense conflicting) schemata; far from being incoherent, this can yield a rich and satisfying musical experience.[62] If the I^6_4s in Example 6 are heard both as the goals of the preceding Vs and as elaborations of them, perhaps this partly explains why the passage is so effective.

In concluding this discussion, it is fitting to return to the treatment of the $^6_4$ in undergraduate textbooks. It should be clear that what I propose here is not a replacement, nor even a major revision, of the conventional view of the $^6_4$, but rather, a supplement to it. Nothing I have said denies the reality of the traditionally-taught $^6_4$ categories, or indeed, their importance. But it might be appropriate for textbook authors to at least acknowledge the possibility of uses that go outside this framework. Admittedly, there is also a risk to doing so, given the tendency of many students to overuse and misuse $^6_4$s. (Strong warnings—"Don't try this at home," "When you are a Beethoven…"—might be in order.[63]) But to deny that there is anything beyond the five-category system is to exclude an important part of the common-practice language. Imagine, for example, the frustration of the undergraduate who attempts to analyze the *Songs Without Words* armed only with the $^6_4$ types shown in Example 1.

In this connection, a final word is due to Aldwell and Schachter. While (as noted earlier) they organize their presentation of the $^6_4$ around the five-category system shown in Example 1, they do acknowledge that some uses of the $^6_4$ go beyond these categories; they present two examples, and it is instructive to consider them here.[64] Example 27 is quite unlike any example considered in this article, most notably because the $^6_4$ is the very last chord of the piece. I would argue, following Aldwell and Schachter, that a root-position I—with the tonic scale degree in the bass—is implied here (an argument that I have not made for any of the $^6_4$s discussed so far); this view is supported by the fact that the lowest voice of the texture is entirely stepwise and never goes below G_3, making it seem more like an inner voice than a bassline. Example 28 is also highly unusual. The $^6_4$ in the second half of m. 16 is unresolved, but it is not at all like a big cadential $^6_4$: it is not emphasized in any way, and leads immediately to i^5_3. I believe it

[60] The study of harmonic ambiguity has a long history in music theory, going back at least to Weber's concept of *Mehrdeutigkeit* (1817/1851). Stein (2005) offers a useful survey of the general topic of musical ambiguity, citing many other discussions of the issue.

[61] Gjerdingen (2007).

[62] Elsewhere (Temperley 2011), I have suggested that the Schenkerian concepts of *Stufe* and *Zug* should be regarded as schemata, which can sometimes be present in overlapping and conflicting ways.

[63] The second quote is due to Schenker, who used it in mocking the theory teaching of his day (1910/1987, Vol. 1, 1); see also Dubiel (1990).

[64] Aldwell and Schachter (2003, 323–324).

evokes another schema—the schema of the "added-sixth" V chord (with no fifth), sometimes used by Chopin as a cadential dominant (though almost always in major).[65] But this does not explain the unresolved 4th, which is puzzling.

Unlike the $^{6}_{4}$ types discussed in this essay, then, Examples 27 and 28 really *are* (to use my earlier wording) anomalous curiosities. Still, Aldwell and Schachter are to be commended for alerting readers to the possibility that uses of the $^{6}_{4}$ may go beyond their five-category taxonomy. The $^{6}_{4}$ chord, as I hope I have shown, is no mere one-trick, or even five-trick, pony: it is a versatile and flexible compositional resource, used by common-practice composers in a variety of interesting ways.

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[65] See, for example, the last two measures of the Nocturne Op. 27, No. 2.

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