



Yale University Department of Music

Key Structure in "Das alte Jahr vergangen ist"

Author(s): David Temperley

Source: *Journal of Music Theory*, Vol. 50, No. 1, Fiftieth Anniversary Issue (Spring, 2006), pp. 103-110

Published by: [Duke University Press](#) on behalf of the [Yale University Department of Music](#)

Stable URL: <http://www.jstor.org/stable/27639415>

Accessed: 01-12-2015 09:15 UTC

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Duke University Press and Yale University Department of Music are collaborating with JSTOR to digitize, preserve and extend access to *Journal of Music Theory*.

<http://www.jstor.org>

Key Structure in “Das alte Jahr vergangen ist”

David Temperley

Abstract My discussion of Bach's chorale prelude “Das alte Jahr vergangen ist” centers on its key structure: the hierarchical arrangement of keys in the piece and the relationships between them. In the course of this discussion, I make a number of observations about the nature of key structure and the factors that govern our perception of it. I begin by considering one of Bach's four-part harmonizations of the chorale and then turn to the chorale prelude itself.

MY DISCUSSION OF BACH'S CHORALE PRELUDE “Das alte Jahr vergangen ist” will focus on what is surely the most unusual and mysterious aspect of the piece: its tonality. I will present what could be called a *key analysis*: an investigation of the keys that play a role in the piece and the ways that they interact. The arrangement of *key sections* (a key section being an instantiation of a key over a span of music) and the relationships between them might be described as the *key structure* of the piece. As well as seeking to shed some analytical light on Bach's chorale prelude, I have a larger agenda here, which is to argue that the topic of key structure is more problematic and interesting than has been realized and has not received the attention that it deserves.

If we were asked to explain the nature of key structures in tonal music, one point we would surely make—perhaps the first point—is that they are *hierarchical* in nature. Every tonal piece generally has a main key; there may then be secondary key sections, understood in relation to this main key; third-level or even fourth-level key sections (tonicizations) may also occur, understood in relation to superordinate keys. A key analysis would be some kind of representation of this hierarchical arrangement of key sections. Analyses of this kind are almost never seen in current music-theoretical literature. (One might think of Schenkerian analysis, but this is very different from key analysis. Key sections frequently do not correspond to high-level Schenkerian entities—i.e., *Stufen*—and *Stufen* frequently are not key sections; e.g., the top-level dominant

in the *Ursatz* is almost never a key section. Thus, the relationship between Schenkerian analysis and key analysis is complex and indirect.)¹

One might say the reason that key analysis of the kind I have described is rarely done is that the key structure of a piece cannot be understood purely on its own terms but is inextricably bound up with other musical elements, especially harmony and long-range voice leading. There is certainly some truth to this. For example, if one chord in a descending fifths sequence happened to be tonicized (such as the VI chord in Example 1), it would seem misleading to describe this simply as “a passage in G minor with a tonicization of E♭ major” since the tonicization arises out of the harmonic progression and can only be understood in this way. But in many cases, key structures have their own logic, which cannot be explained in harmonic or prolongational terms. Consider the key scheme I–V–vi–I: this key structure is very typical of tonal pieces (such as Baroque suite movements or Classical-period minuets) but quite uncommon as a harmonic progression. Conversely, a pattern such as I–IV–V–I is common as a chord progression but rare as a key scheme.² Thus, there appear to be principles of key structure that are quite distinct from those of harmonic progression; these principles seem to have received very little attention in music theory, for some reason.

i iv ♭VII V7/VI VI iiø7 V i

Example 1

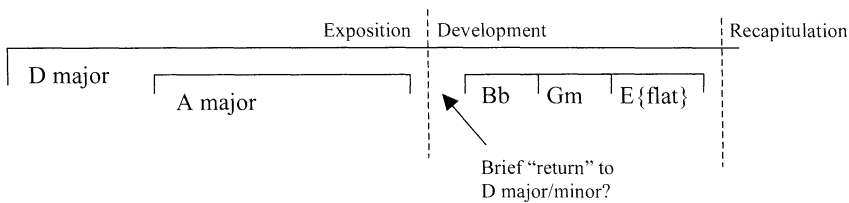
In certain important respects, it is unclear what a hierarchical key structure should even look like. An especially tricky issue concerns transition sections. We often speak of key sections using a kind of “container” metaphor: a piece as a whole is *in* C major—that is, a state of “C majorness” somehow characterizes the entire piece; a smaller section of the piece may then be in

¹ Schachter (1999) offers an insightful discussion of the relationship between Schenkerian analysis and key structure and acknowledges the complexity of this relationship; see especially pp. 136–42.

² This point, too, is made by Schachter (1999, 140–42). Schachter suggests that the conventions of key structure can be explained from a Schenkerian perspective; for example, he argues that the convention of modulation to the relative minor in Classical-period development sections must

be understood in relation to the underlying middleground structure and shows various ways that this can occur. I find this view unconvincing, however. If the diverse middleground structures of development sections so commonly result in tonicizations of vi, this suggests that the underlying “generative” principle here is the tonicization of vi, not the middleground structure: the key scheme motivates the middleground, not the other way around. Now is not the time for an extended discussion of this issue, which I hope to address further elsewhere.

(say) G major. And yet we also speak of chords or passages as being transitional from one key to another—a pivot chord being the most typical example. But how can a chord be transitional from C major to G major, when the G major section itself is “in C major” at a higher level? Consider also the familiar situation of a sonata-form movement that moves to the dominant key in the second half of the exposition, and then returns briefly to the tonic key before moving on to other keys in the development; Beethoven’s Sonata op. 10, no. 3, first movement, is one well-known example. To represent this as in Example 2 seems unsatisfactory since it suggests two separate “journeys” away from and back to the tonic. What we experience, rather, is a single journey that leaves the tonic in the exposition and returns to it at the recapitulation; we “stop by” the tonic briefly along the way, without really returning there. But it is by no means obvious how to represent this intuition using the kind of framework shown in Example 2.³



Example 2. A possible key analysis of Beethoven’s Sonata op. 10/3, first movement

In most cases, determining what might be called the *surface key structure* of a composition—that is, the sequence of keys in relation to which chords would be labeled in a conventional Roman numeral analysis—is fairly unproblematic. The more difficult task is to determine how these surface keys relate to one another to form a unified hierarchical structure. In what follows, I undertake this task with regard to Bach’s chorale prelude. The fact that the main tonality of the prelude is ambiguous brings issues of key analysis into particularly sharp focus. Along the way, I will offer some general observations about the musical factors that go into the process of key analysis—the factors that guide us toward a certain understanding of the hierarchical key structure of a piece.⁴

³ Again, Schenkerian analysis is of little help in capturing these intuitions about key structure. A Schenkerian analysis of a piece such as op. 10/3, first movement, would normally represent the entire section from the beginning of the second theme group to the end of the development as a prolongation of V. There may be some merit to this view, but taken literally as a representation of key, it is obviously incorrect; the development section is not in the key of V.

⁴ The issue of ambiguity in the primary tonality of a piece has actually been the subject of considerable study, particularly in the context of late nineteenth-century music; see, for example, many of the essays in Kinderman and Krebs 1996. Although these essays offer many insights, they give little attention to the issue of what a hierarchical key structure would look like, or the factors that govern our understanding of key structure.

1. Das al - te Jahr ver - gan - gen ist, das al - te Jahr ver - gan - gen ist, wir
 1. The old year now hath passed a - way; The old year now hath passed a - way; We

dan - ken dir, Herr. Je - su Christ, dass du uns in so gro - sser G'fahr so
 thank Thee, O our God to - day, That Thou hast kept us through the year, When

gnä - dig - lich, be - hüt dies Jahr, so gnä - dig - lich be - hüt dies Jahr.
 dan - ger and dis - tress were near, When dan - ger and dis - tress were near.

Example 3. Bach Chorale no. 162

I begin by considering one of Bach's two four-part harmonizations of the chorale tune, Chorale no. 162 in the Riemenschneider edition (Example 3). In some ways (though certainly not all), this can be considered a simplified version of the chorale prelude and thus allows us to examine its basic structure without the distraction of complex surface figuration. I will then consider the chorale prelude itself and show that its surface details sometimes have important consequences for the key structure of the piece.

In investigating the key structure of Chorale 162, it is helpful to begin with an analysis of its form, focusing on rhythmic and motivic considerations rather than tonal ones. The chorale falls clearly into six two-measure phrases, which present an interesting network of melodic connections (see Example 4). Phrases 1 and 2 (henceforth P1 and P2) are melodically the same, P3 is contrasting, P4 starts differently from P1 and P2 but ends similarly, P5 is contrasting to all previous phrases (though it ends with the same cadential harmony as P3), and P6 starts like P4 but ends differently; these resemblances are brought out by the paradigmatic analysis in Example 4. It is perhaps not too far-fetched to read this as a structure of $A-A-B-A'-B'-A''$. Though P1 and P2 have almost nothing in common with P6, they are indirectly related by their similarity to P4, which ends similarly to P1/P2 and begins similarly to P6. The cadences of the phrases give at least provisional support for this view

as well: examining just the final harmony of each phrase, we find a pattern of $d / d / A / d / A / E$. (All of these are authentic cadences, except the fifth, which is either a half-cadence in D minor or a plagal cadence in A; I return to this issue below.) Only the final phrase—discussed further below—violates the $A-A-B-A-B-A$ pattern.

The $A-A-B-A-B-A$ scheme is of course a common one: one could see it as an $A-A-B-A$ with the second $B-A$ repeated (or even a rounded binary structure, $A|B A$, with both halves repeated). This formal analysis of the piece has implications for our understanding of its key structure; in particular, it points to D minor as the primary tonality of the piece. By this view, the first four phrases of the piece constitute an $A-A-B-A$ structure in which the A phrases cadence on tonic and the B phrase cadences on the dominant—a common pattern in tonal music. In effect, then, P4 is understood to be the end of the piece; P5 and P6 are expected to be a repeat of P3 and P4. Also important is the fact that both P1 and P2 begin with a strong assertion of D minor. The fact that D minor controls both the beginning of the piece and its presumptive end adds greatly to its stature in the hierarchical key scheme of the piece. The problem with this view, of course, is that P5 and P6 turn out *not* to be a repeat of P3 and P4. In particular, the final cadence in E major creates a strange and inexplicable departure from the previously established D-minor orientation.

Upon closer scrutiny, the problems with the D-minor analysis go beyond the final phrase. First of all, the cadence in P3 is stronger than those in P1 and P2. This is due to it being perfect, whereas those of P1 and P2 are imperfect

A B

P1 P2

d: V i d: V i

P3

A: V i

P4

d: V i

P5

d: i V
(A: iv I?)

P6

E: V i

Example 4. A paradigmatic analysis of the melody of Chorale no. 162

(with $\hat{3}$ in the soprano); it also contains a cadential six-four, intensifying its cadential dominant. This brings up an important point about key structure: the *strength* with which a key is asserted or emphasized, quite apart from the *length of time* over which it is asserted, can affect its status in relation to other key sections, and thus the hierarchical key structure of the entire piece. (I will not try to enumerate the factors that go into the “strength of assertion” of a key, but cadences are certainly of primary importance.) Another rather complex issue to consider is the relationship between the cadences. As mentioned earlier, P3 cadences on an A-major chord, which can be heard as functioning as V in a larger tonality of D. But it is also possible to hear the cadential D-minor harmonies of P1 and P2 as predominant harmonies to A. In some ways this seems more attractive, partly due to the greater strength of P3’s cadence, and also to the fact that the overall tonality of P3 seems to be more A minor than A major, which weakens its function as a dominant of D and also makes the predominant interpretation of D minor more plausible.

The strength of the cadence at the end of the third phrase suggests a radically different view of its form: as a structure of two sections with three phrases each. And if this view is accepted, it becomes possible, indeed preferable, to see A as the main tonality of the piece. This has the advantage of allowing us to make somewhat more sense out of the final two phrases. P5 cadences plagally on the tonic (A); P6 ends on a tonicized half-cadence in that key. While ending a piece on V may be strange, ending a piece on V/V is stranger; in this way, the final cadence seems to leave A as the least implausible candidate for the main key of the piece.

In deciding whether the primary tonality of the chorale is D or A, it is relevant to consider what other tonalities might be active in the piece. A strong tonicization of G minor, for example, would give strength to D minor as the primary tonality by association, as G minor is more closely related to D minor than to A minor; a section in C major would probably favor A minor, by similar logic.⁵ This reasoning proves to be of little help to us, however. We do find some small tonicizations of other keys, such as F major in mm. 3–4 and C major and G major in mm. 8–9, but these seem too fleeting and lacking in emphasis to have much effect on the large-scale key structure of the piece.

Turning now to the chorale prelude, we find a harmonic and phrasal structure that is broadly similar to Chorale 162. The pattern of cadences is almost the same—d / d / A(a?) / d / A(a?) / E—but there is one important difference (indicated here by the question marks): chromatic moves from C# to C in the third cadence (m. 6) and from C to C# in the fifth (m. 10) make it unclear whether the cadential harmony is A minor or A major. And this has

⁵ Reasoning of this kind presupposes a theory of key relations. This has been an active area of research in recent years, especially with regard to spatial representations of key relations; see especially Krumhansl 1990 and Lerdahl 2001.

important consequences for key structure. As noted earlier, the prevalence of A minor over A major in P3 tends to favor A, rather than D, as the primary tonality of the piece; the injection of A minor into P3's cadential harmony only tilts the balance further toward A. (A cadence on A major might be argued to support a D-minor tonality by association, but to argue that a cadence on A *minor* supports D minor in this way seems much less plausible.) In the case of P5 (m. 10), the minor-mode shading of the final A chord makes it seem much more like a plagal cadence in A than a half-cadence in D.

The most striking difference between the prelude and the chorale is, of course, the very complex surface figuration in the prelude. This figuration has a number of implications for key structure. The very beginning of the piece is a case in point: Unlike in Chorale 162, where the beginning of the first phrase clearly tonicizes D minor, in the prelude the tonality of the opening is much more ambiguous, due to the chromaticism. The question is, would we reduce the opening middle-voice melody as A–B \flat –(B)–C \sharp –D, implying D minor, or A–B–C–D, implying A minor? At the very least, the opening of the prelude—unlike the opening of the chorale—raises the suggestion of A as a tonal center. The emphasized E's at the melodic peaks in mm. 5 and 6 lend support to the A tonality as well. It is also instructive to compare m. 9 of Chorale 162 with that of the prelude. Whereas in the chorale this measure was ambiguous between C major and G major, in the prelude it seems to lean much more strongly toward C major (with a hint of C *minor*). Of particular importance here is the bass line: in the chorale, C sounds as a downbeat dotted quarter note but then disappears for the remainder of the measure; in the prelude, by contrast, the initial downbeat C is reiterated in the lower octave and is not displaced until the B on the second half of the third beat (which could well be regarded as a neighbor-tone that then returns to C). Because of this emphasis on C, the C-major tonality in m. 9 of the prelude is asserted much more strongly than in the chorale, which could be said to add a certain weight to A minor by its close association.

A final, subtle feature of the chorale prelude deserves mention as it bears on the tonal orientation of the piece in an indirect way. It can be seen that the chromatic contrapuntal lines of phrases 1 through 3 generally reflect rising contours. By contrast, in P4 (m. 7) there is a shift to a primarily falling contour. This shift at P4 seems to favor the "3+3" phrasal analysis discussed earlier and, by extension, the A tonality that is associated with it. Thus, a number of details in the chorale prelude support A rather than D as the tonal center of the piece. Whereas the chorale seems to be balanced rather delicately between D minor and A minor, the prelude reflects a much stronger leaning toward A.

In this discussion of Chorale 162 and the chorale prelude, we have touched on several factors that influence our understanding of key structure: considerations of form, surface figuration, the strength of cadences, and the ability of one tonal center indirectly to support another one. As noted

at the beginning of this essay, there are still more fundamental questions to be addressed regarding the very nature of key structure—questions that arise in much more straightforward pieces than this one. This is not the occasion to explore these questions any further. Suffice it to say, some very basic and important aspects of key structure and key analysis remain quite mysterious and deserve further exploration.

Works Cited

- Kinderman, William, and Harald Krebs. 1996. *The Second Practice of Nineteenth-Century Tonality*. Lincoln: University of Nebraska Press.
- Krumhansl, Carol. 1990. *Cognitive Foundations of Musical Pitch*. New York: Oxford University Press.
- Lerdahl, Fred. 2001. *Tonal Pitch Space*. New York: Oxford University Press.
- Schachter, Carl. 1999. "Analysis by Key: Another Look at Modulation." In *Unfoldings*, ed. Joseph Straus, 134–60. New York: Oxford University Press. Originally published in *Music Analysis* 6 (1987): 289–318.

David Temperley is associate professor of theory at Eastman School of Music. His book *Music and Probability* was published by MIT Press in 2007. 