

~~actual chord itself is missing from the musical surface. A simple instance of this appears in Example 15a at  $t$ , where the A minor triad is literally, but not functionally, absent because the suspension in the alto does not resolve before the chord has changed. Example 15b isolates this moment in terms of the time-span reduction: the functioning event which is absent from the surface is placed in brackets, and a line, which connects above at the appropriate level, is drawn to that event; within the quarter-note time span, the suspended event receives a left branch while the ensuing passing chord receives a right branch (level (x)).~~

~~It is with reluctance that we pass over the relationship of the text to the music in “Wehmut” (Example 16). Nevertheless, purely structural consequences follow from the very fact that the piece combines the dissimilar timbral qualities of voice and piano. If the piano is heard as only accompanying the voice, then the passages for piano alone would be subordinate to passages in which both participate. Most significantly, the last four measures, which resolve the whole piece in the reductions below, would become simply a coda to the vocal cadence in m. 25. As a result, at the highest levels, the opening chord (E major with G sharp on top) would prolong into itself at the cadence in m. 25. Much of the poignancy of the song derives from the vocal part having been merely prolonged, while afterwards the piano resolves the tonic chord to its most stable position (E on top, m. 27). The strong full cadence in mm. 26–27, in contrast to the cadence with the weak bass motion in mm. 24–25, supports this effect.~~

~~Yet the sense is equally strong that the voice and piano together form a syntactic unity. In our analysis we have taken this latter approach—that is, we have chosen not to differentiate between voice and piano. The reader should keep in mind, however, that either approach leads to a “preferred” structural description; a full appreciation of the song involves both hearings.~~

Example 16 has already been reduced to its lowest beat level in Examples 17 and 18. Example 17 gives the grouping analysis, the metrical analysis, and the time-span reduction; Example 18 gives the prolongational reduction. The following remarks supplement these examples. They begin with Example 17, proceeding from local to global considerations; then a

Example 16. Schumann: "Wehmut" from *Liederkreis*

IX.  
Wehmut

Sehr langsam

35. Ich kann wohl manch - - mal sin - - gen, als  
*Sehr gebunden*

ob ich früh - - lich sei; doch heimlich Trä - - nen drin - - gen, da

wird das Herz mir frei. Es las - - sen Nach - - tighal - - ten,

spielt drau - - ssen Früh - - lingsluft, der Sehn - - sucht Lied er -

714

The image shows a page of a musical score for the song 'Wehmut' by Robert Schumann. It features a vocal line and a piano accompaniment. The tempo is marked 'Sehr langsam'. The score is divided into four systems, each with a vocal line and a piano accompaniment. The lyrics are in German. The piano part has a complex texture with many chords and moving lines. The number '35.' is written on the left side of the first system. The number '714' is at the bottom center of the page.

*ritard.* *p*

schal - len aus ih - - res Ker - kers Gruft. Da

lauschen al - le Her - zen, und al - les ist er - freut, doch

*ritard.*

kei - - ner fühlt die Schner - zen, im Lied das tie - - fe

*p* *ritard.*

Leid.

The image displays a complex musical score with a branching structure. It is organized into three main sections: (g) at the top, (f) in the middle, and (e) at the bottom. Each section contains measures numbered 2 through 28. The branching structure is indicated by lines and labels (a) through (s) that connect different parts of the score. The score includes various musical notations such as notes, rests, and dynamic markings. The overall layout is highly detailed and technical.

The image displays four systems of piano accompaniment for a piece titled "Wehmut". Each system is labeled with a letter in parentheses: (d), (c), (b), and (a) from top to bottom. The music is written on a grand staff (treble and bass clefs) in a key signature of two sharps (F# and C#).

System (d) includes chord annotations: [b: :bg], [cg], [bg], [cg], [bg], [cg], [b4], [cg]. Time-span markings are 8, 8, 8, and 4.

System (c) includes chord annotations: [b17], [c17], [b11], [c11]. Time-span markings are 17 and 11.

System (b) includes chord annotations: [b20], [c20]. Time-span marking is 20.

System (a) has no annotations or markings.

Example 17. "Wehmut": grouping, metrical, and time-span analyses

This image displays a complex musical score, likely for a large ensemble or orchestra, featuring multiple staves and a large branching diagram. The diagram, located on the left side, consists of a central point labeled (c) that branches into two main paths, (a) and (b). Path (a) further divides into sub-paths (a1) and (a2), which then connect to various numbered staves (1-28). Path (b) connects to staves (29) and (30). The musical notation includes various notes, rests, and dynamic markings across these staves. At the bottom of the page, there are two additional staves, (31) and (32), which appear to be separate parts or a continuation of the main score. The overall layout is highly organized and detailed, typical of a professional musical manuscript.

The image displays two systems of musical notation, labeled (f) and (g) at the bottom. Each system consists of two staves. The notation is a reduction of a musical score, showing notes and rests. The notes are represented by stems with dots, and rests are indicated by horizontal lines. The notation is arranged in a vertical orientation on the page.

Example 18: "Wehmut": prolongational reduction

few observations about Example 18 are added. (It is assumed that the reader has digested Examples 11 and 12 and their associated remarks.)

1. Because “Wehmut” is so rich in surface detail, the lowest beat level of the time-span reduction already represents a considerable simplification. Of special note are the occasional thick chords (as at the downbeat of m. 3) produced by arpeggiations which have been compressed together. For simplicity, the “echoes” in the piano (m. 2, etc., in Example 16) have been disregarded.

2. The location of the downbeat for m. 2 becomes aurally clear only in the course of the phrase. The opening chord receives no metrical interpretation because of the fermata.

3. At m. 25 there is an elision in which the strong metrical function has been deleted (the dots in parentheses); that is, it is felt only in retrospect that a metrical shift has taken place (cf. Figure 2b). In the notation beneath, the overlapped tonic chord is duplicated and assigned separate functions by the first transformational rule mentioned above.

4. A few questions arise concerning the grouping analysis and its effect on the lowest beat level. In m. 5, in keeping with the slurs in the piano part, there is a pickup of three eighth notes to m. 6. This interpretation places a group boundary just before the second half of the second beat; as a result, the event on the second half of the second beat is bracketed with the events within the third beat. However, a further result is that the suspension in the first part of the measure does not resolve (E to D-sharp) until the new grouping has begun. In order to express the functional arrival of the dominant at the end of the previous grouping, it is necessary to apply the transformational rule for missing harmonic functions: hence the bracketed D-sharp at the end of the previous grouping. The same considerations pertain to the analogous spot in the recapitulation (m. 21). Less obvious is that the harmonically rather surprising m. 17 is an elaboration of the situation in m. 5. What before was only a suspended note (E resolving to D-sharp) now becomes an entire “suspended chord” ( $V^7/V$ ) which resolves to V (again, E resolving to D-sharp). Other interpretations, for example that the phrase continues into m. 18 as an overlap, do not capture the parallelism in structure



with m. 5; moreover, the vocal part supports the interpretation selected here. Consequently, the phrase in mm. 14–17 is best considered as cadencing on the dominant, the actual arrival of which is delayed until the last possible moment in the upbeat to m. 18.

5. At hypermeasure levels the metrical structure is ambiguous. On the one hand, the vocal accents occur at mm. 3, 5, etc. On the other hand, the tendency to ascribe parallel metrical structures to parallel grouping structures would make mm. 2, 4, etc., the stronger measures. We have chosen the latter interpretation; this makes the contrary vocal accents syncopated. The former interpretation would create an awkward shift in metrical structure for mm. 10–13, 14–17, and 18–21; for in these groupings the hypermeasure downbeat obviously falls at the beginning of m. 10, m. 14, and m. 18. That the beginning of m. 18—the onset of the recapitulation—is a hypermeasure downbeat, is a particularly strong factor in determining the preferred metrical analysis for the opening measures.

6. Because they would appear to be local dissonances, the  $V_2^4$  chords in m. 10 and m. 12 at level (f), and in m. 10 at levels (e) and (d), are questionable structural beginnings, even though they have been so designated in the reduction. However, the bass line in m. 10 and m. 12 is plausibly understood as an octave transference from the octave above; this interpretation would make B the truly functioning bass note. We have kept A in the bass in levels (f), (e), and (d) because—as is most clear at level (d)—it prepares linearly the  $IV^7$  chord at m. 14.

7. This  $IV^7$  chord ( $V^7/\text{flat-VII}$ ) at m. 14 is, of course, a striking surprise after the harmonic simplicity of the previous measures. Such anomalous events, together with their “implications,” cannot adequately be accounted for in our theory at its present stage of development.

8. Level (d) in Example 17 represents the level of reductional abstraction at which metrical structure is no longer heard as structurally functional; there are no more dots in the metrical analysis with which to associate rhythmic values.

9. Since the opening chord essentially lies outside the piece (it is a “frame”), the choice of where it connects in the grouping structure must necessarily be somewhat arbitrary. On the basis of structural parallelism, we have assigned the opening

chord to connect with the first part of the piece at level (c), so that the opening chord balances structurally with the final chord, also an arpeggiation of the E major triad. Thus at level (c) the opening chord becomes part of the exposition at the same structural level (level (c)) that the final chord becomes part of the recapitulation.

10. A disagreement often arises in connection with pieces of this sort as to whether the form is bipartite or tripartite. As is frequently the case, an exclusive decision here for one or the other interpretation would misrepresent the situation; for the question is rather one of which structural level is being considered. Thus, as the grouping analysis indicates, at level (d) “Wehmut” is tripartite (with the last section extended), and at level (c) it is bipartite.

11. As in the Mozart example, levels (c) and (b) in Example 17 resemble Schenkerian “background” levels. That this is so in both cases is somewhat fortuitous. In our view, an *Urlinie* (in this case, G-sharp-F-sharp-E) is by no means inevitable, even though it is more stable than other high level linear structures. It is equally informative if the linear structure at these levels is disjunct.

12. We turn now to Example 18. The sequences of events at the corresponding levels (a)–(f) are identical in the two reductions, since all these events are *b*’s and *c*’s in the time-span reduction. In the notation beneath the music in Example 18, we begin, somewhat redundantly, with level (e); in this way a smooth progression is made from the non-rhythmic notation for levels (a)–(d) in Example 17.

13. The cadential structure and pitch collection in mm. 10–13 might suggest that these measures are a prolongation of the tonic. However, considerations beyond the local level favor the analysis of these measures as a prolongation of the dominant within a larger dominant prolongation from m. 9 to m. 17; this interpretation is represented in Example 18.

14. “Wehmut” affords a contrast to the eight measures of Mozart’s K. 331 in that its phrases are *congruent*. However, while the two reductions do not diverge significantly in terms of sequences of events at corresponding sub-phrase levels, the prolongational reduction at these levels does develop hierarchic distinctions not captured in the time-span reduction. In Example 17, the sub-phrase events all connect at level (g),

because the phrases are so short and the region of application proceeds directly from the quarter note level to the measure level; in this kind of reduction, events are related hierarchically only in terms of the relevant time-span. In Example 18, on the other hand, the events which *progress* are introduced at level (g); within that level distinctions are made according to the relative stability of the events there introduced. At level (h), adjacent repeated events and local dissonances are elaborated.

15. Because the sample is longer, Example 18 expresses better than Example 12 how the tree for a prolongational reduction visually communicates “progress” in a piece. For example, at levels (d) and (c) in Example 18, observe the progression in the tree from the tonic region through V/V (mm. 1–8), to the dominant region (mm. 9–17), back to the tonic region (mm. 18–25); this whole complex is brought to a resolution through the final full cadence at level (b) in mm. 26–27.

A number of minor points remain unexplained. This informal commentary could be continued indefinitely; and a statement of the rules which generate the structural description for “Wehmut” is beyond the scope of this paper.<sup>21</sup> At this point, we prefer that the reductions speak for themselves as much as possible.

## ~~FURTHER CONSIDERATIONS~~

~~It may seem odd that, in taking a linguistic approach to music theory, we have not begun with a discussion of thematic and motivic “transformations” since, after all, transformations are so basic to linguistic theory.<sup>22</sup> However, the word “transformation” does not normally mean the same thing in music as it does in linguistics. Its linguistic usage is adapted from mathematics and denotes the conversion of one syntactic construction into another, semantically equivalent, construction. In this paper, the usage has been similar, in that a transformational rule in our theory converts one musical structure into another structure which elucidates the “sense” of the former structure. In both cases, the number of transformations is finite. In usual musical parlance, however, “transformation” is used in a more general sense: it signifies any thematic, motivic, or other change in musical material~~