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ARRANGEMENT AS ANALYSIS

NICHOLAS COOK

Analysis has been one of the major growth areas in the training of musicians over the last twenty or thirty years. New analytical methods of ever-increasing sophistication have been developed while older methods, such as that developed by Heinrich Schenker, have been the object of a massive resurgence of interest. There is, however, a paradoxical sense in which the greater prominence of musical analysis has masked a decline in its real educational significance. This is because as analysis has become more abstract, not to say abstruse, it has turned into a specialty. Especially in North America, people tend to focus on analysis as an alternative to specializing in historical studies, or performance, or whatever. In other words analysis has become one option among several. Traditionally, however, analytical studies occupied a much more central role in music teaching. The difference is that the insights which are today presented in an abstract and even intellectual manner—and often as ends in themselves—were formerly the outcome of practical musical studies such as arrangement and orchestration.

Figure 1 illustrates this. It shows bars 13-15 of Debussy's 'Danseuses de Delphes' (from Book 1 of the *Preludes*) together with two alternative analytical interpretations of the passage; these are marked (a) and (b), and they use the symbols for rhythmic analysis developed by Cooper and Meyer.¹ For readers unfamiliar with these, — represents a stressed note and ∪ an unstressed one, while the square brackets show what belongs together in a single rhythmic group; you can see that an entire group can be regarded as stressed or unstressed at the next level of structure, so that the analysis is a hierarchical one. What does the difference between these two interpretations actually amount to? In (a), there is no immediate rhythmic connection between bars 14 and 15; you might bring this out in performance by making a slight break before the beginning of bar 15, so the last four chords of bar 14 become a kind of rhetorical gesture, with the crescendo perhaps reaching the level of *forte*. By contrast, (b) suggests that the last four chords of bar 14 act as an upbeat to the beginning of bar 15, so that there is no rhythmic break at this point; this implies a smoother style of

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performance, with the crescendo leading up to the *mezzo-forte* at the beginning of bar 15.

Figure 1. (mm. 13-15)

The figure shows a musical score for three staves (treble, alto, and bass clefs) covering measures 13, 14, and 15. The score includes various musical notations such as notes, rests, and dynamic markings. Below the score are two analyses, (a) and (b), represented by horizontal lines with brackets and arrows indicating groupings and relationships between notes and measures.

But it is not actually necessary to use abstract symbols such as Cooper and Meyer's in order to express these analytical insights. Figure 2 shows two alternative orchestrations of this passage, and these correspond precisely to the two analyses in Figure 1. Thus the first orchestration emphasizes the discontinuity between bars 14 and 15 by changing the instrumentation at that point, as well as by the dynamic indications, whereas orchestration (b) links the rising chords of bar 14 with the middle-register tune of bar 15, underpinning this with a roll on the timpani.

In order to orchestrate or arrange such a passage it is necessary to decide what goes with what, which is exactly what Cooper and Meyer's symbols are intended to show. And deciding what goes with what (more formally termed segmentation) is the basis of virtually all analytical techniques. The analytical insights expressed by Roman numerals, for instance, can be equally well expressed—in fact, better expressed—through arrangement. Figure 3 shows the piano score of bars 45-48 of 'Einsame Blumen' (from Schumann's *Waldscenen*); it contains no phrase-markings above the level of individual bars, so it's not immediately obvious which chords belong with which, and where the breaks are in terms of harmonic structure.

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Figure 2.

The image displays two systems of musical notation, labeled (a) and (b), representing an orchestral arrangement. System (a) includes parts for horns (hns), trumpets (tpts), trombones (tbns), woodwinds (ob I, cl I, cl II, bsn I, bsn II), strings (vln I, II, fl, vla, ob, vln I, II, fl, vla, vcl, db), and a double bass (db). System (b) includes parts for flutes (fl, ob I, II), woodwinds (ob II, cl I, cl II, bsn I, bsn II), horns (hn I, II), trumpets (tpt I, II), strings (vln I, II, vla, vlc, db), and a timpani (timp tr). The score features various musical notations such as notes, rests, and dynamic markings like *mf* and *f*. A large bracket in system (a) spans the first two measures, and another bracket in system (b) spans the first two measures. The key signature is one flat, and the time signature is 3/4.

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Figure 3. (mm.45-48)

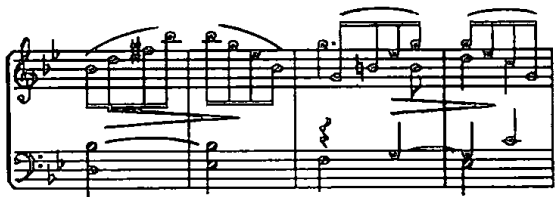


Figure 4. (mm. 45-48)

Of course one could play the music without any larger articulation, performing everything at precisely the same speed and without dynamic variation; it would even be possible to arrange it in such a way as to avoid making any harmonic interpretation of the passage (Figure 4). But in either case the result would be painfully dull and mechanical; it's obvious that the music needs shaping in terms of some sense of what goes with what. Figure 5 provides one such interpretation; here the violin's dynamics, the cello's bowing, and the piano's rhythm all suggest that bars 46-47 belong together as a single harmonic unit. But this is a strange interpretation of the music that actually produces a rather Wagnerian effect, because the links between the chords that it couples together are linear rather than harmonic. The natural interpretation of the music is, of course, that embodied in Figure 6, which couples together bars 45-46 and 47-48; that is to say, the chord at bar 45 leads to that at bar 46, and the chord at bar 47 leads to that at bar 48.

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Figure 5. (mm.45-48)

Figure 5 shows a musical score for measures 45-48. The score is arranged in three systems. The top system is for Violins (Vlns), the middle for Violas (Vcl), and the bottom for Piano. The key signature is B-flat major (two flats). The time signature is 4/4. The Violin part features a melodic line with slurs and accents. The Viola part provides harmonic support with sustained notes and some movement. The Piano part consists of block chords and some moving lines in both hands.

Figure 6. (mm. 45-48)

Figure 6 shows a musical score for measures 45-48, identical to Figure 5. It features the same three systems: Violins (Vlns), Violas (Vcl), and Piano. The key signature is B-flat major (two flats) and the time signature is 4/4. The notation and instrumentation are consistent with Figure 5.

How could these interpretations have been expressed using Roman numerals? The interpretation, or rather the lack of interpretation, in Figure 4 is equivalent to labelling each chord in relation to the piece's overall tonic (B-flat), without attempting to indicate any relationships *between* the chords. The resulting analysis is I#5 - IV-VI7/#5/3 - II, which is both complicated and meaningless. The strange interpretation in Figure 5 corresponds to I#5 - VI - (VI - I7/#5/3) - II,

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which is again complicated, though it does at least say something. The sensible interpretation in Figure 6, however, could be equated with either of two possible Roman-numeral interpretations. Of these, one is VI (V#5 - VI) - II (V7/#5 - I), while the other is IV (V#5 - I) - II (V7/#5 - I). In each case the music is divided into two pairs of chords, with the first of each pair in some kind of dominant relationship to the second. The difference is that in the first version bars 45-46 are regarded as an interrupted cadence formula on the submediant, whereas in the second they are regarded as a perfect cadence formula on the subdominant; accordingly the first version interprets bar 45 as an altered D triad, whereas the second interprets it as an altered B-flat triad. What does this theoretical distinction actually mean? The answer is that it means nothing at all, at least in terms of the music as Schumann wrote it. Of course, Schumann could have written it in such a way that it definitely implied either the one interpretation or the other. For instance, he could have added a seventh, as he did in bars 47-48, and this would have been C according to the first interpretation but A-flat according to the second (Figure 7 explains). But the fact is that Schumann did not add a seventh; and we should not analyze the passage as if there were one by deciding on one interpretation or the other. However—and this is the point—using Roman numerals forces you to decide on either the one interpretation or the other. It does not allow you to say the important thing about the music, which is how the segmentation works, without at the same time saying something spurious about it. By contrast, the arrangement allows you to say what you want to say about the music, and no more.

Figure 7.

B \flat : VI(V \sharp 5 - VI) IV(V \sharp 5 - I)

But why, it might be asked, do we need either the analytical reduction or the arrangement in order to say what we want to say about the music? Can't such an interpretation be embodied simply through

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performance? Of course it can. But the purpose of an analysis is not simply to embody an interpretation; it is to stimulate it. As I said, it is possible to perform music without really making up one's mind on the kind of issues I have been discussing. But there will be something indecisive and colorless about such a performance. Analysis strengthens performance because it compels the performer to decide exactly what he does think. It does this by offering him explicit models of relationships that are merely implied in the music. And again this is something that is involved in arranging. Take as an example the opening bars of the *Allegretto* from Beethoven's Sonata Op. 14/1 (Figure 8). Bar 1 is marked *piano*; bar 3 is marked *sforzando*. A crescendo during bar 2 is implied; but it is no more than an implication—a matter of performance interpretation. When Beethoven arranged this sonata for string quartet, however, he composed the crescendo into the music (Figure 9)³; it is made explicit through the increase from two instruments in bar 1 to three in bar 2 and four in bar 3. The greater complexity of the quartet medium demands an explicit interpretation of the music on the arranger's part; in short, it demands analytical insight.

Figure 8.



Strictly speaking, it is not the piano sonata that has been arranged for string quartet, but Beethoven's analytical image of it. Bars 47-59 of the finale provide a good illustration of this; Figure 10 compares the two versions. The differences are quite drastic, owing to the excessively pianistic idiom of the original. Beethoven has had to

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strip away everything that is specific to the piano medium, before refashioning the music for string quartet. Just how much of the piano sonata remains in the quartet transcription? The two versions share the same bass, and consequently the same harmonic outline; also the downbeats of the melody usually coincide, though the register is not always the same. But that is all. This represents Beethoven's conception of the work's underlying structure (a conception that is clearly molded by figured bass and species counterpoint, which still formed the mainstay of composition teaching in Beethoven's day). The piano and quartet versions are different elaborations of the same underlying structure—elaborations appropriate to the specific medium in which they are realized.

Figure 9.

Allegretto

The musical score for Figure 9 is presented in two systems. The first system consists of four staves: two treble clefs (Violin I and Violin II) and two bass clefs (Cello and Double Bass). The tempo is marked *Allegretto*. The key signature has two flats (B-flat major). The time signature is 3/4. The score includes dynamics such as *p* (piano), *sf* (sforzando), and accents (*acc.*). The second system also consists of four staves, continuing the musical material from the first system.

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Figure 10. (mm. 47-59)

The musical score for Figure 10, measures 47-59, is presented in two systems. Each system contains two staves: a piano staff (top) and a bass staff (bottom). The key signature is one flat (B-flat major or D minor), and the time signature is 4/4. The score is divided into two measures by a vertical bar line. The first measure (mm. 47-48) features a piano (*r*) dynamic. The piano staff has a melodic line with eighth and sixteenth notes, while the bass staff has a rhythmic accompaniment. The second measure (mm. 49-50) features a fortissimo (*sf*) dynamic. The piano staff has a melodic line with a long slur, and the bass staff has a rhythmic accompaniment. The score continues with two more systems, each with two staves, showing further melodic and rhythmic development. The dynamics *r* and *sf* are used throughout to indicate changes in volume and emphasis.

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Figure 10. con't.

The musical score for Figure 10 consists of two systems, each containing four staves. The first system features a highly active melodic line in the top staff, characterized by frequent sixteenth-note runs and slurs. The second and third staves of this system provide accompaniment with sustained notes and some rhythmic activity. The second system continues the melodic development in the top staff, while the lower staves provide harmonic support. Dynamics such as *sf* (sforzando) and *p* (piano) are clearly marked throughout the score.

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Figure 10. con't.

The first system of Figure 10 consists of four staves. The top staff (Treble clef) features a melodic line with various ornaments and slurs. The second staff (Treble clef) contains a rhythmic accompaniment. The third staff (Bass clef) provides a bass line with a steady eighth-note pattern. The fourth staff (Bass clef) contains a low-frequency accompaniment. Dynamics include *sf* (sforzando) and *p* (piano). The second system consists of two staves: a Treble clef staff with a melodic line and a Bass clef staff with a bass line. Dynamics include *sf* and *p*.

This system contains four staves. The top staff (Treble clef) has a melodic line. The second staff (Treble clef) features a dense, rhythmic accompaniment. The third staff (Bass clef) has a bass line with a steady eighth-note pattern. The fourth staff (Bass clef) contains a low-frequency accompaniment. A dynamic marking of *sf* is present.

This system contains two staves. The top staff (Treble clef) has a melodic line. The bottom staff (Bass clef) has a bass line. A dynamic marking of *p* is present.

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Working out the underlying structure of a piece of music, then, is a precondition of successful arrangement; no arrangement can be better than the analytical interpretation it embodies. Indeed one might reasonably describe arrangement as analysis made audible. Just as in orchestration, clarity of conception translates directly into clarity of sound. Busoni pointed this out with regard to Richard Strauss' *Sinfonia Domestica*: "Strauss . . . has said himself: 'Wagner makes everything sound but I am often unable to achieve this'. That is because Wagner concentrates everything on the principal idea. Strauss really has twelve subordinate ideas, and they are in confusion."⁴ A confused image of the music results in a confused sonority, and one of the advantages of teaching analysis through arrangement is that such confusion is rendered immediately obvious to the student. Everybody can hear the difference between a musical arrangement—one which embodies a clear conception of how the music works—and an unmusical one. By contrast it is much harder to explain to someone just why one Schenkerian interpretation is musical, and another unmusical, if they cannot already see it for themselves.

Of course there are many analytical insights about music that cannot be adequately expressed through arrangement, especially where large-scale directed motion and formal structure are concerned. Arrangement is no substitute for more abstract and speculative techniques of analysis. But an intellectual understanding of musical structure needs to be built upon a practical understanding of it; and in view of this, it's unfortunate that studies in theory (including analysis) and composition (including arrangement) tend to be understood as alternative topics, rather than as complements to one another. This can easily result in students adopting an inappropriately intellectualizing approach to music when they analyze it. If on the other hand basic analytical concepts such as segmentation, and structure vs. elaboration, are introduced through practical applications, then theoretical refinements and extensions of these concepts are less likely to produce people whose analytical interests are at best tangential, and at worst antipathetic, to their practical musical activities.

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NOTES

¹Grosvenor Cooper and Leonard B. Meyer, *The Rhythmic Structure of Music* (University of Chicago Press, 1960).

²The parentheses indicate progressions which relate to the scale degree shown in front of the parentheses, rather than relating directly to the tonic. So VI (VI) reads as 'VI of VI', VI(VI - I) as 'VI - I of VI', etc.

³Beethoven has transposed the arrangement a semitone higher than the piano original, in order to take better advantage of the open strings.

⁴Ferruccio Busoni, *The Essence of Music* (New York, 1957), p. 175.