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Four Analytical Sites in Bartók's Third String Quartet

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Abstract

Bartók's Third String Quartet, often identified as an affirmation of the composer's fundamentally modernist stance, has been approached with a variety of post-tonal analytical methods, many of them pitch-class oriented. Certain features of the work suggest that a method that specifically privileges *pitch*, yet also allows for limited 'impingement' by pitch-class considerations, would yield valuable insights into its structure. The 'sites' chosen for analysis exemplify various types of textures and procedures that seem especially significant to the quartet as a whole.

To present a meaningful analysis of a piece like the Third Quartet of Bartók within the confines of a reasonably compact essay, giving some idea of the richness of the piece as a subject for study while resisting the temptation to speak of every last detail, is something of a challenge. One cannot very well, for instance, 'talk through' a work of this length from beginning to end, given the usual demands that close analysis makes on prose presentation. An approach with greater likelihood of success, it seems to me, is to focus upon a few carefully selected passages, which can appropriately be called *sites* for analysis because they are both representative and exemplary: instances of the different kinds of writing that make up the fabric of the Third Quartet as a whole which are at once particularly striking and susceptible of generalization to other passages that share their various characteristics. They also provide an opportunity to show how an analytic method developed with principal reference to pitch space (occasionally impinged upon, as I have termed it elsewhere, by pitch-class space) can tell us something worth knowing about several aspects of this remarkable work.[1]

At the time of its first performances (1929), the Third Quartet was generally regarded as a decisive move away from Bartók's earlier stylistic preoccupations. Theodor Adorno spoke for many critics when he praised the composer for 'his boldness in breaking the series of "folkloristic types" of the previous pieces and returning to his "true self" '.[2] This general consensus, however, has not led to any notable agreement among analytically minded scholars about the working assumptions underlying this style. To give just two examples, George Perle calls the musical language of the Third Quartet atonal, while Wallace Berry holds for a basically tonal reading of the quartet, pointing out that a sense of C♯ as referential centre is never very far out of earshot.[3] Bartók himself has done little to clarify the situation

1 See Bernard, 'Zones of Impingement'.

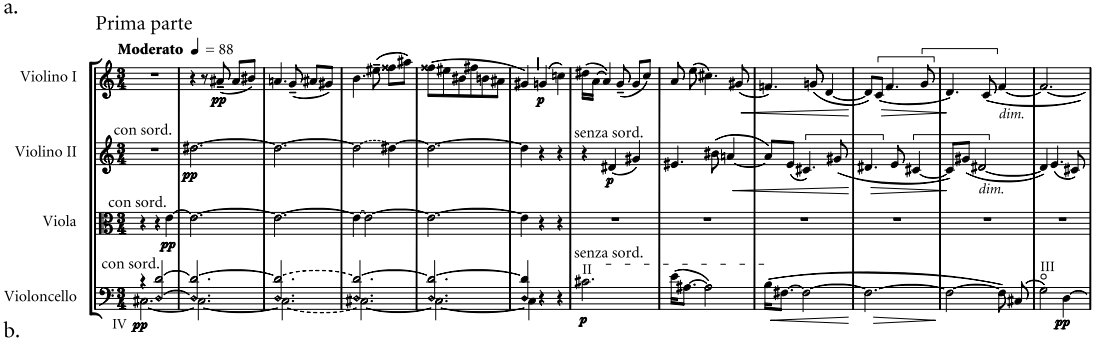
2 Adorno, review of an early performance of the Third Quartet, quoted in Frigyesi, *Béla Bartók and Turn-of-the-Century Budapest*, 22. Adorno's review, 'Béla Bartóks Drittes Streichquartett' (1929), appears in translation in *Bartók and His World*, ed. Peter Laki, 278–81.

3 Perle, 'The String Quartets of Béla Bartók' (originally liner notes for the recording of the complete Bartók quartets by the Tátrai String Quartet, issued by Dover, 1967); Berry, 'Symmetrical Interval Sets and Derivative Pitch Materials'.

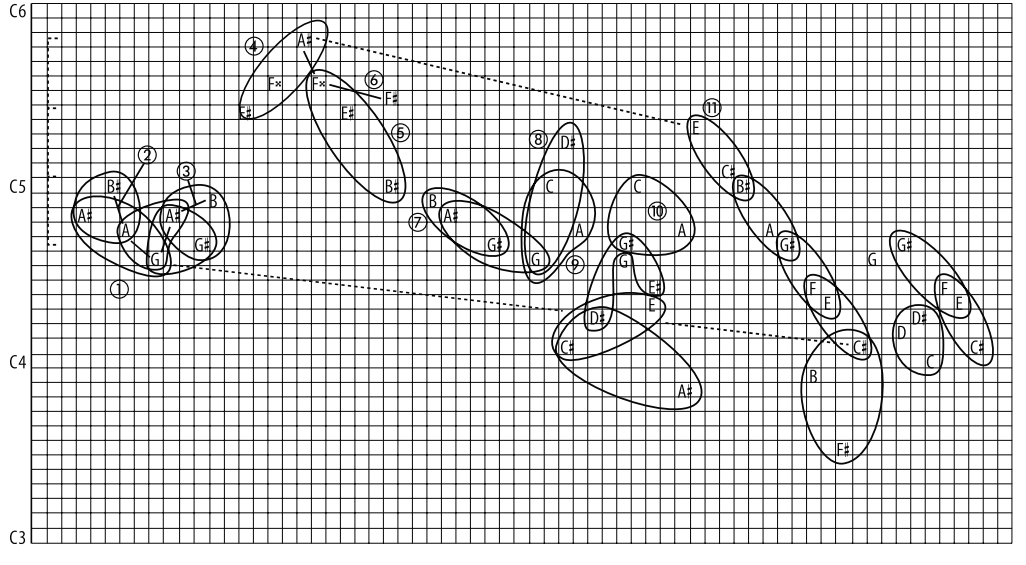
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a.



b.

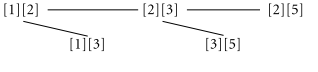


c.

Key to circled points

1. Nexus of [1][2]s
2. Embedded [2][3], unfolding of [1][2]
3. Embedded [1][3], unfolding of [1][2]
4. Explicitly presented [2][3]
5. [2][5], unfolding of [2][3]
6. Embedded [1][3]
7. Interlocked [1][2]s in restored lower space
8. [3][5], unfolding of [2][3]
9. Imitation of [2][3]s
10. Emergent [1][3]
11. Chain of [1][3]s

d.



Example 1 Bartók, Third String Quartet, Prima parte, bb. 1–12. Copyright 1929 by Universal Edition. Copyright renewed 1956 by Boosey & Hawkes, Inc., New York. Reproduced by permission. All rights reserved by the owners.

for us – not that he should be expected to do so, of course. Soon after completing the Third Quartet, he spoke of having composed at one time 'a species of twelve-tone music' – music in which, however, as he goes on to say, 'the absolute tonal foundation is unmistakable'.[4] Does this statement apply to the Third Quartet? What might such a statement mean in any case?

Perle speaks to one possible aspect of its meaning in his observation that the first phrase of the opening of the Third Quartet consists of a sustained chord of four notes and a melody in the first violin that confines itself to precisely the eight pitch classes not represented among the members of the chord. It might be interesting if one could continue in that vein; unfortunately, as far as I am aware, these tantalizing facts do not lead readily to a general analysis of the quartet along such lines. Personally, I find the prospect of a row-and-aggregate treatment of this piece to be a little dreary, and not really in keeping with what I sense is the nature of Bartók's compositional approach in a chromatic environment. In fact, I would really rather set aside pitch *classes* for the most part and talk instead about intervals: specifically, pitch intervals and their symmetrical and derivative dispositions. In this way I find myself much more in sympathy with Berry's approach, if without his enthusiasm for a 'tonal' reading of the quartet in the sense in which he has construed the term.[5]

Site No. 1: Melodic Development

The very first bars of the work provide an ideal testing ground for ideas about chromaticism in this period of Bartók's style. The score of the opening is reproduced in Example 1a, below which is an interpretation on a pitch–time graph (Example 1b) using notational conventions that I have employed elsewhere; explanation of their meaning and use will be integrated into the analysis itself. To reduce visual clutter, circled numbers are inserted to locate discussion points, which are also summarized in the example's Key (Example 1c). These circled numbers will be referred to as *points* for present purposes. The graph and the score are not precisely aligned, but they are close enough to be followed simultaneously. The first half-phrase, shown in the graph at point 1, can be heard as a tight nexus of five instances of a single intervallic combination: the semitone vertically adjacent to the whole tone, as signified by the notation [1][2] in Example 1c (the smaller interval precedes the larger by convention, since here there seems to be no particular distinction made between the two possible vertical orders). Also embedded in this nexus, and fairly readily audible, are two other interval combinations: [2][3], represented by B♯–A–G, and [1][3], represented by G–A♯–B.[6] They

4 Bartók, 'The Folk Songs of Hungary' (1928).

5 Berry's article has only tangentially affected my own work on this piece. Some aspects of my pitch-specific analytical technology do bear a certain resemblance to his, but they have been developed along rather different lines (see note 6 below). Quite different from both Berry's analysis and my own is Paul Wilson's work on the Third Quartet, which combines a 'linear' perspective with set-class terminology; see Wilson, *The Music of Béla Bartók*, 85–118.

6 As in my work elsewhere, unordered pitch intervals are represented according to their size in semitones, enclosed in square brackets. The principal forms of Berry's referential (symmetrical) sets, translating his interval notation into mine, are based on various combinations and alternations of [1] and [2], [1] and [3], and [2] and [3]. (See, in particular, his Examples 6a–m, pp. 300, 302, 304, 306.) Although these combinations are not placed in explicit interrelation by means of unfolding/infolding operations, it can be seen that his [3] gathers [1] and [2] together, and that [2] can arise from a composite of two [1]s. Beyond this initial generation of material, however, the pitch sets that

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are marked by points 2 and 3 respectively. These are derivatives of [1][2], each obtained by unpacking, as it were, one of the constituent intervals of [1][2] from inside the space they together occupy and placing it outside that space, leaving the former boundary interval empty. I refer to the operation as *unfolding* and the resultants as *unfoldings* without, of course, intending any allusion to Schenkerian theory; some readers may also know the operation from David Lewin's work, in which he renames it FLIPEND.[7]

As yet, these unfoldings are not what one would call active: more accurately, they are expressions of *potential* intervallic organization. Both, however, come directly into play as the passage proceeds, the [2][3] immediately in the next half-phrase, in the notes E♯–F𝄪–A♯ in octave 5 (point 4).[8] As this happens, we become aware of a correspondence between the initially articulated lower space and the new higher one: they are of equivalent vertical extent – five semitones. Not only that, but they are also separated by a gap of five semitones, which is now quickly incorporated into the melodic design, by virtue of the segment F𝄪–E♯–B♯, or [2][5], derived by unfolding from [2][3], hence the unfolding of an unfolding (point 5). The example shows as well that [1][3] is still in evidence, though still not directly expressed (point 6).

With the regaining of B♯, the opening phrase now ends with the lower space quickly recapitulated, in the form of two interlocking [1][2]s (point 7). The last note of this interlock, G, actually belongs to the next phrase, which begins by stating the entire extent of the lower space as one interval, G–C, and adding to it D♯, thus producing the combination [3][5] (point 8). This event, joining the already articulated [2][5], completes the repertoire of possible unfoldings from [2][3]. All of these unfoldings branching from [1][2] are summarized in the chart in Example 1d. The continuation of this phrase groups the G and C with the A that concludes the phrase's opening gesture, forming a [2][3] at point 9 that is immediately joined by a second [2][3], a major third lower in the second violin, as if in imitation (but disregarding the first violin's D♯ in doing so). The intertwining of these [2][3]s, together with the cello which has now become active as well, produces a number of intervallic combinations that have been heard before and brings [1][3] especially to light (G♯ in second violin, C–A in first violin; see point 10), leading to its full-blown emergence in the pattern in complementary rhythm that next issues from the two violin parts together, starting from the high E (point 11). The graph clearly shows how this composite of parts yields a chain of [1][3]s. One might even say that this passage is *over*defined in terms of its [1][3] structuring, just as the opening gesture of the piece was overdefined in terms of [1][2]. Four instances of [1][3] are circled on the graph, the minimum required for coherent linkage, but actually there are two more, easily discovered amidst the alternating intervals [1] and [3].

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result are freely interpreted as pitch-class sets, thus somewhat clouding the analytical picture from the point of view of pitch space, symmetrically disposed or otherwise.

7 Bernard, *The Music of Edgard Varèse*, 74–5; Lewin, *Generalized Musical Intervals and Transformations*, 189.

8 In numbering the octaves, I follow the notation adopted by the Acoustical Society of America. Beginning with C1 as the lowest C on the piano and extending to C8, the highest, this notation applies the same numerical suffix to a given C and the eleven pitches immediately above it. Thus 'octave 5' refers to the C one octave above middle C and all pitches above it extending to, but not including, C6, two leger lines above the treble stave.

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Among the other details in this example, the subsequent interplay of violin parts is worth noticing for the new emphasis it brings to the interval combination [2][5]. This might be heard as a further development of the interlocked [2][3]s of a couple of bars earlier, which the chain of [1][3]s interrupted. The component [2][5]s are probably easier to detect by referring to the individual violin parts in Example 1a, where they are delineated with brackets. As for the composite of the two, the accumulated repertoire of interval combinations plays a significant role in knitting together this texture – again, as in previous bars, without explicitly dwelling on all-chromatic formations.

One last feature of the music highlighted in this example is the way in which the [1][2]/[2][3]-based structures of the opening give way, at least momentarily, to the [1][3]-based chain of bars 8–9. This progression, as one might call it, concerns just the violins, but is a prominent part of the slowly developing pitch space of the piece; in fact, it is the principal locus of action. The dotted boundary lines on the graph assert that this is indeed a progression, in the sense that the space initially partitioned symmetrically in [5]s, from G4 up to A♯5, is supplanted by a space of equal size but a tritone lower, C♯4 to E5, *also* evenly partitioned but not in [5]s, rather in alternating [3]s and [1]s, reading from top to bottom or bottom to top. There is a good deal more to the symmetry of larger dimensions of the pitch and temporal space that these opening bars occupy, such as the particularly nice way one may hear the music opening the second phrase – that is, the pickup to b. 7, b. 7 itself, and the first beat of b. 8 – as opening up symmetrically into the space occupied by the aforementioned [1][3]-chain *together with* the cello part, this operation involving, appropriately, the unfolded derivatives of [1][3]. This, however, can be left to the interested reader to figure out on his/her own.

Site No. 2: Contrapuntal Development

While it is true that Site No. 1 was already characterized by counterpoint, especially in the interplay between the two violin parts, one must also recognize that these parts functioned mainly as a single voice. In the passage chosen for Site No. 2, the ensemble splits into upper and lower strings, each pair characterized by explicitly independent activity. The *Più andante* that begins at Fig. 4 (see Example 2a) represents the same kind of bifurcation of material following a lengthy initial, essentially monodic passage that occurs, for instance, in the opening of the third movement of the *Music for Strings, Percussion, and Celesta*. The two violin parts begin at the vertical distance of [13], at point 1, and move apart, then back towards each other in a fashion that should also be familiar from that third movement of *Music for Strings*, not quite symmetrically from moment to moment but producing an *overall* symmetry of chromatically filled spaces of [3]; these are circled in Example 2b. Notice that the closest the two parts get is [10], at B♭3–G♯4. The next moves, at point 2, taking off again from A3 and A♯4, are roughly parallel, imitative in what should, again, be a familiar way, each part moving through a chromatic group and the two parts ending up at the same distance of [13], at B♯3–C♯5. After recapitulating the outer edges of this second pair of chromatic groups, both violins suddenly slide up to a new registral location, at point 3 (Fig. 5),

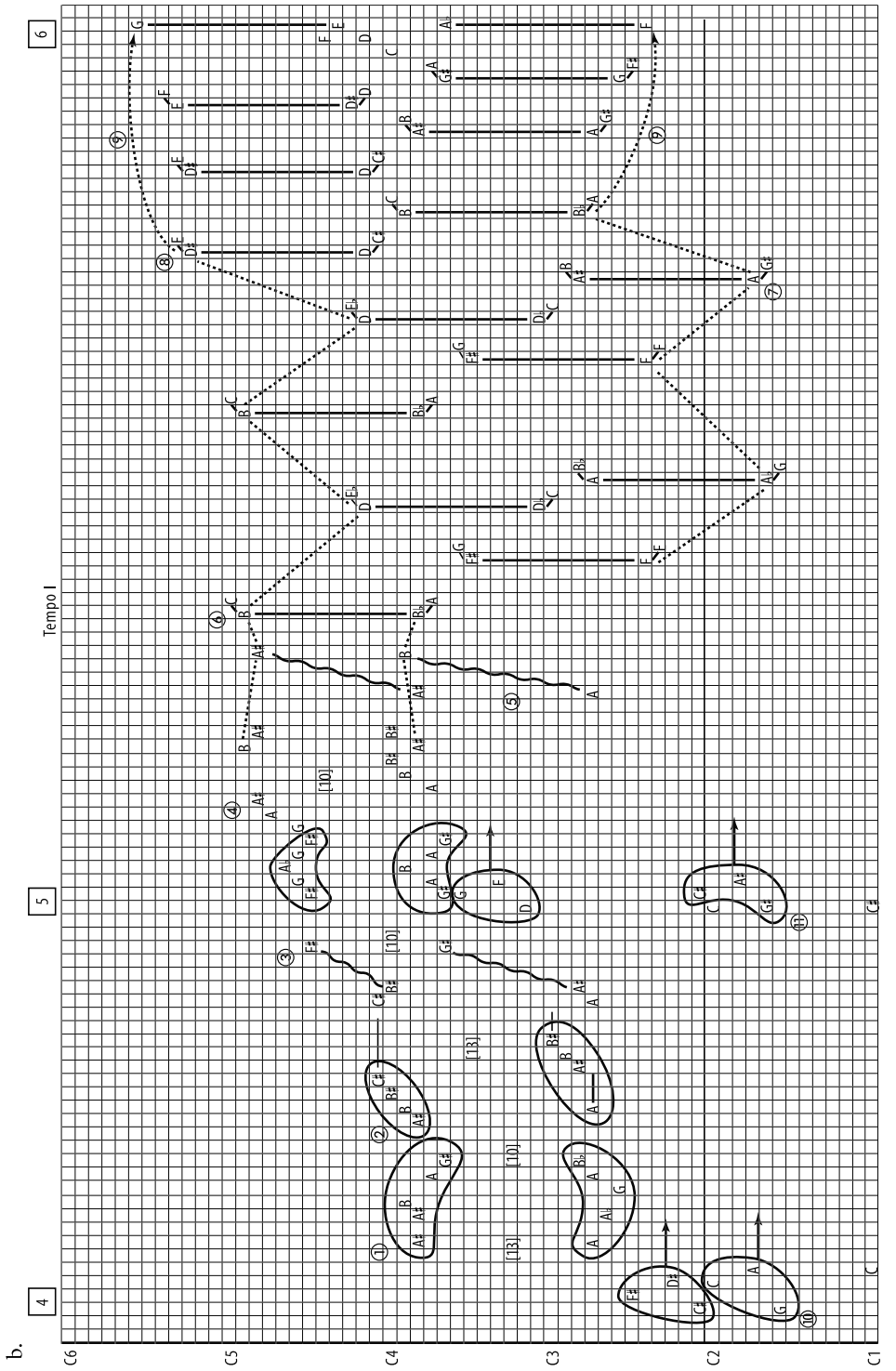
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a.



Example 2 Prima parte, Fig. 4–Fig. 5^{+8}. Copyright 1929 by Universal Edition. Copyright renewed 1956 by Boosey & Hawkes, Inc., New York. Reproduced by permission. All rights reserved by the owners.



Example 2 *continued.*

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beginning the new phrase at the minimum distance kept between the parts in the previous passage, [10]: G♯4–F♯5. The subsequent motion is all basically parallel – not quite exact, as before, but resulting in an exact correspondence of chromatic groups after a few bars; again, note the encircled pitches on the graph. The endpoint of this phase of development is the [10] semitone span B♯4–A♯5, point 4.

The next phase, beginning with the upbeat to Tempo I, undertakes the reinstatement of [13], in two ways: first, as A♯4–B5, contracting (inexactly) to the [10] that ended the previous phase; second, a restatement of A3–A♯4, the very interval with which the violin pair in this passage began (see point 5), soaring abruptly then (and inexactly) to B4–A♯5, which would have been an exactly symmetrical contraction of the first [13] of this phrase, A♯4–B5. Now observe this B4–A♯5 as it expands symmetrically, through [13] to [15], forming a kind of figure in the succession of these interval sizes that becomes the basis for imitation between the upper and lower strings (point 6). This occurs three times at an interval of [17], bouncing back and forth across the space bounded by high C in first violin, low G in cello; then, at the fourth instance, the viola and cello enter a semitone 'too high', only [16] below the previous violins entry (point 7). This revised interval is preserved at the fifth pair of imitative entries (see entire texture below point 8); what is interesting, in the music leading from there to the big arrival chord at the downbeat of Fig. 6, is the fact that, as the interval of imitation continues to evolve in the subsequent entries, growing larger as the space in use expands and the two strands of the imitation gradually pull apart, the semitone discrepancy is eventually compensated for. This is shown at the right side of the graph, by the diverging dotted curved arrows (both marked as point 9): the top one rises four semitones, the lower one falls five.[9]

One other aspect of the counterpoint in this excerpt engages the ostinato material heard throughout the *Più andante* passage, starting at point 10 (refer again to the beginning of the example, this time in the lower register). The repeating 'cells' on which the ostinato is based are obvious derivatives of interval sets that emerge earlier in the movement, specifically [2][3]. One could also read a linking [1][2], the original cell of the movement's melodic strain, from which [2][3] was of course derived. At Fig. 5, the relative orientation of the two [2][3] cells changes, as the graph clearly shows (point 11): the lower rises a semitone, but the upper rises an octave plus a semitone, or [13]. This, of course, comes to 'the same thing' by octave equivalence, and could be taken as an instance of impingement by pitch-class space. The musical effect of this shift is pretty clearly to give the ostinato a larger scope, texturally speaking; the melodic/contrapuntal material in the upper strings, meanwhile, rises and attenuates as if to make room for this enlarged role of the lower pair, also achieving (clearly to its benefit) some sense of intensification in its narrowing of focus.

Site No. 3: Imitation in the Canonic or Quasi-Fugal Sense

Among the many imitative passages in this piece is the famous one where a clear allusion is made to a fugue in four parts, starting at Fig. 31 in Part II (see Example 3a). Like the so-called

9 This treatment strictly in terms of pitch perhaps resolves the ambiguity identified in George Perle's analysis of this passage (in partly pitch-class terms) in his article 'Symmetrical Formations in the String Quartets of Bartók'.

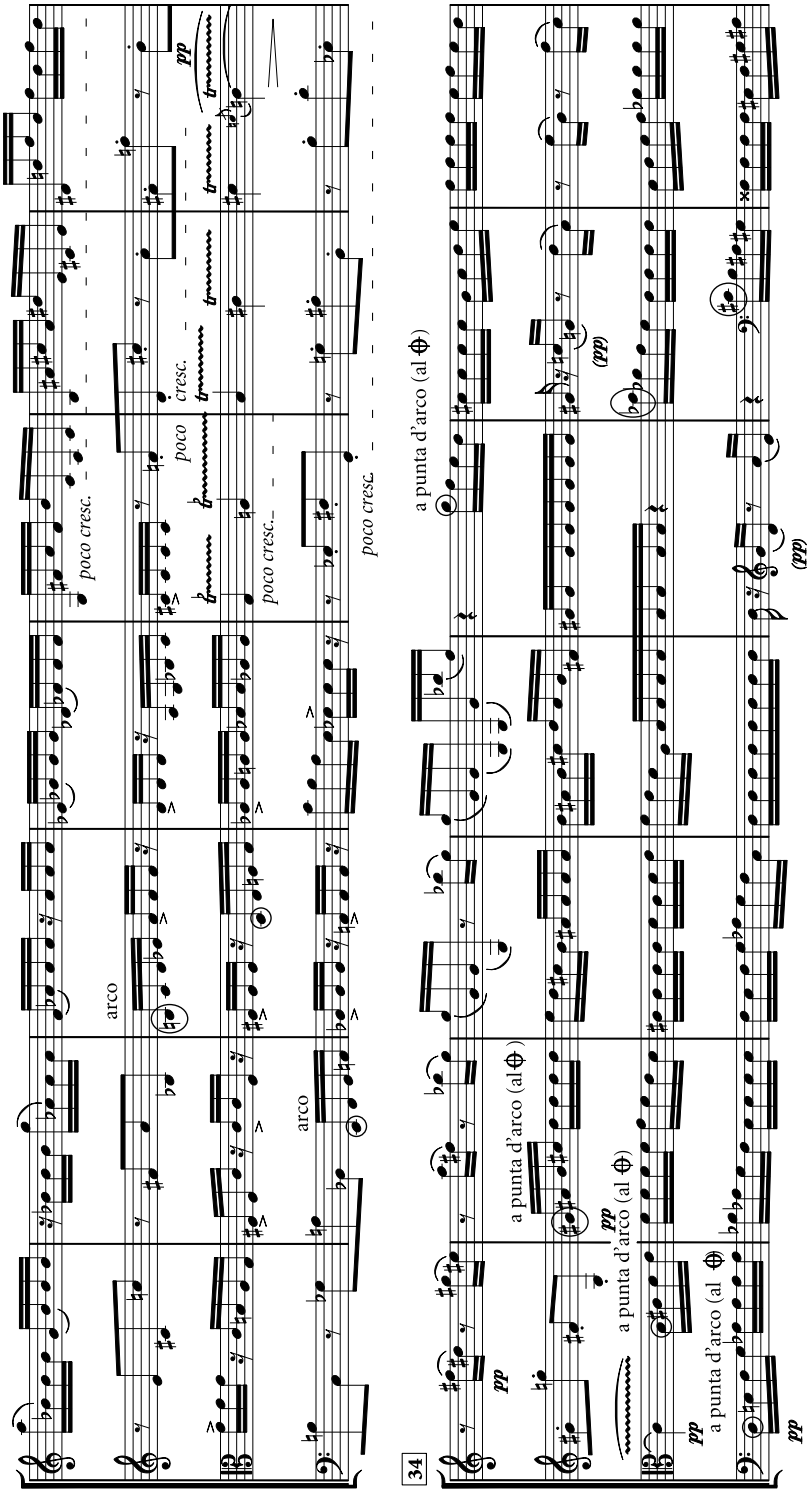
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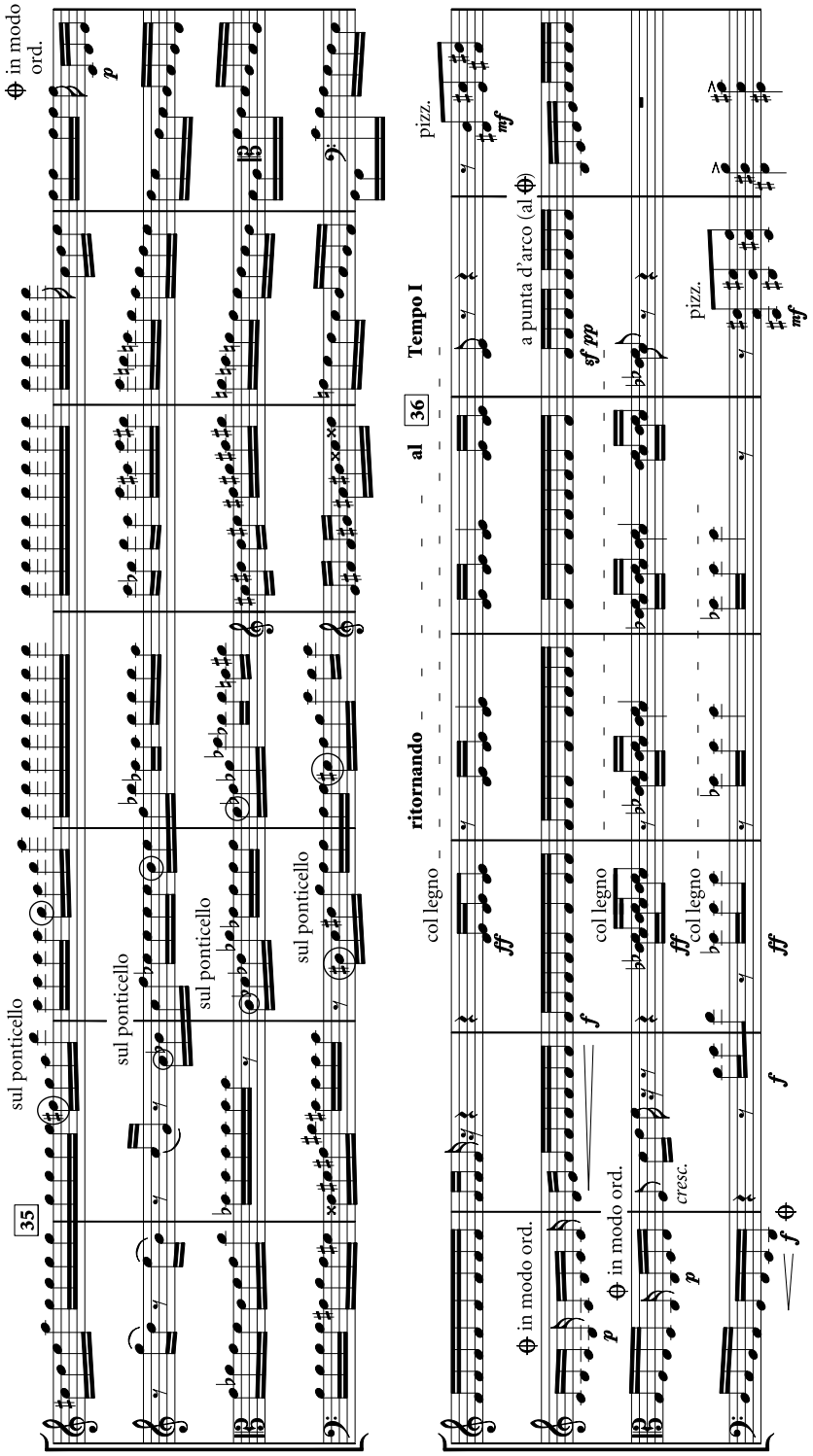


Example 3 Seconda parte, Fig. 31–Fig. 36^{+2}. Copyright 1929 by Universal Edition. Copyright renewed 1956 by Boosey & Hawkes, Inc., New York. Reproduced by permission. All rights reserved by the owners.



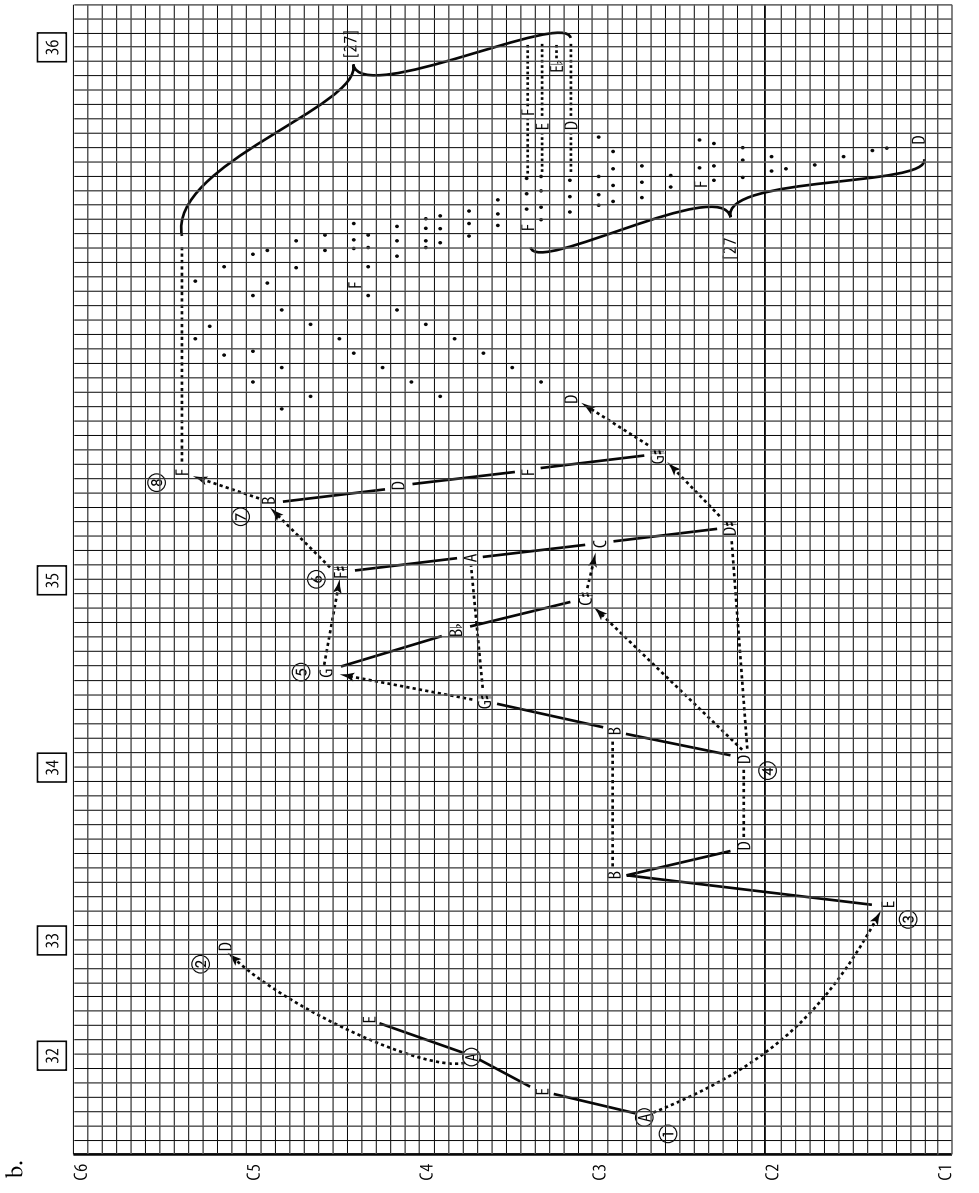
Example 3 *continued.*

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Example 3 *continued.*

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Example 3 *continued.*

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fugue of the first movement of the *Music for Strings*, this one makes striking use of pitch space, which can be effectively tracked by way of the points of imitation – and the eventual inversion of the subject, also treated in imitation as in *Music for Strings*, extends the implications of pitch-space development even further.

In the initial statement (point 1 in Example 3b), the series of events, expressed in standard terminology, begins with the subject on A3 and proceeds by real answer a fifth higher, then an octave higher, then a twelfth. Beginning with the entry at the octave, there is a slight stretto that becomes more pronounced with the entry at the twelfth: a feature that acts to distinguish two halves to this exposition, at the same time making plausible an *analogy* between a lower and upper half.

It is this analogy, in fact, that seems to control what happens next, as an episode-like passage carries the musical motion a little higher, then dramatically lower – to the high D6 at Fig. 33 (point 2) and the low E2 about four bars later (point 3). It is as if the music succeeding the exposition were an expansion of it: specifically, from the initial A3. This is not literally true, for the E2 lies only an octave and a fourth below A3, whereas the D6 is two octaves and a fourth higher. If, however, the A an octave higher, A4, is regarded effectively as the agent of A3 in this context – again, an impingement of pitch-class space – thus taking advantage of the bisected nature of that exposition, then the expansion can be regarded as proceeding from A3 and A4 together, in concert as it were.

As we move towards the next instance of imitation, it would be worth noting that the aforementioned E2 is not simply the lowest note in the immediate vicinity. It also initiates a clear if not exact reference to the head of the imitative subject, and is followed in short order by similar references beginning, respectively, on B3 and D3 (circled at Fig. 33^{+5} in Example 3a). The vertically proximate E2 and D3 are of more than routine interest, for their distant (higher) octave relations, E5 and D6 respectively, conclude the original series of imitative entries and serve as the overall zenith of pitch space in this passage. So it is as if the span E–D had been transferred from the highest to the lowest location in pitch space, to continue, in this disguised form, the development of the subject.

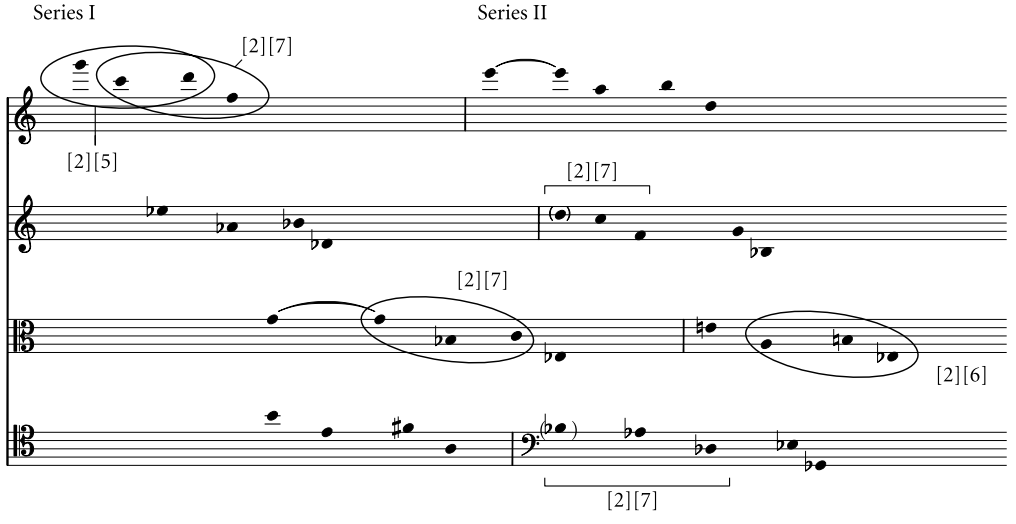
There is more to this connection, however: D3 and B3, at first only hinting at the subject, soon become the initial points of imitation for the next full presentations of the subject, at Fig. 34, this time in stretto and in only three parts (at point 4). This turn of events takes us slightly further afield from the traditions of fugue, since the third entry is a major sixth above the second, thus simply replicating the interval between first and second entries. It is in another sense a slight distortion of the earlier, more 'proper' exposition, in that the three entries constitute a total span of a compound tritone, rather than a compound fifth. This stretto is rapidly succeeded by another, with the subject in inversion, starting with the entry on G5 at point 5 and continuing with two subsequent entries at *descending* intervals of a major sixth (in conformance with the inversion). At Fig. 35, with a dramatic change of timbre to *sul ponticello*, there is yet another stretto, this one on just the final five notes of the inverted subject (point 6). Notice that with this contraction of the subject to just the tail, there is also a return to a four-part imitative web, yielding a space of [27] encompassed by the four entries

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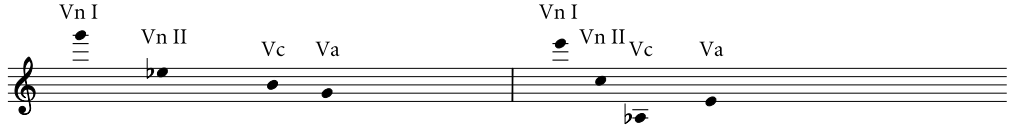
a.



b.



c.



Series I

Violin I, Violin II, cello	−7, +2, −9
viola	−9, +2, −9

Series II

Violin I, Violin II, cello	−7, +2, −9
viola	−7, +2, −8

Example 4 Prima parte, Fig. 6^{1-6}. Copyright 1929 by Universal Edition. Copyright renewed 1956 by Boosey & Hawkes, Inc., New York. Reproduced by permission. All rights reserved by the owners.

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F♯5–D♯3.[10] This [27] can also be understood as a symmetrical contraction of the composite space delineated by the entries at points 4 and 5: that is, the ascent of [1] from D3 to D♯3 is balanced by the descent of [1] from G5 to F♯5. A final iteration of the stretto on the inverted tail (point 7) carries the boundaries of pitch space in use to F6–D4 (point 8).

Let us now review the stages by which we got here. Starting with the original subject in stretto, occupying the space bounded by D3 and G♯4, we moved up a major seventh to G5–C♯4 (reading the latter boundaries from top to bottom, because of the inversion). The 'tail stretto' began with space F♯5–D♯3 and ended a major seventh higher, at F6–D4. The net result of these two essentially congruent stages of movement – allowing once again a limited role to pitch class – is to have added a compound major sixth to the original stack of two formed by stretto back at Fig. 34 (that is, the upper pitch boundary has risen from G♯4 at Fig. 34 to F6, [21] higher, shortly after Fig. 35). But at the same time that this has been happening, the lower boundary has *contracted* by an octave, from D3 to D4, so – in a sense – everything has come out even.

The stage is now set for a dramatic conclusion to the passage, with space in use first contracting to the octave F5–F6 (at Fig. 35^{+5}), then expanding violently and rapidly downward through F4, D4, D3, finally bottoming out at D2. The internal partitioning pitches in this cascade show fairly readily that it can be heard as an upper span of [27] – that is, the D4–F6 that we started with – overlapping with a lower [27], D2–F4. The two overlap in D4–F4, which, as the graph shows, is precisely the band of pitches that now forms the transitional link to the limited recapitulation of Part II that proceeds from Fig. 36.

Site No. 4: Recall of Past Events

Anyone examining the form of this work might wonder about the meaning of the title given to the section following Part II: 'Recapitulation of Part I'. Is this, like Bartók's designation of the first movement of *Music for Strings* as a fugue, an example of the composer's use of old terminology to suggest, rather loosely, the import of his new practice? Indeed, this 'recapitulation' is certainly not a literal or even approximate repeat of anything that happened in Part I. It is, instead, a kind of paraphrase constructed out of fragments of that earlier music – sometimes radically altered but remaining, to varying degrees, recognizable.[11] One passage that continues to be quite readily recognizable under this treatment occurs originally at Fig. 6 of Part I. This last analytical site, therefore, is really twice located: I examine the passage in its original form and then compare it with the corresponding music at the onset of the *Ricapitulazione della prima parte*.[9]

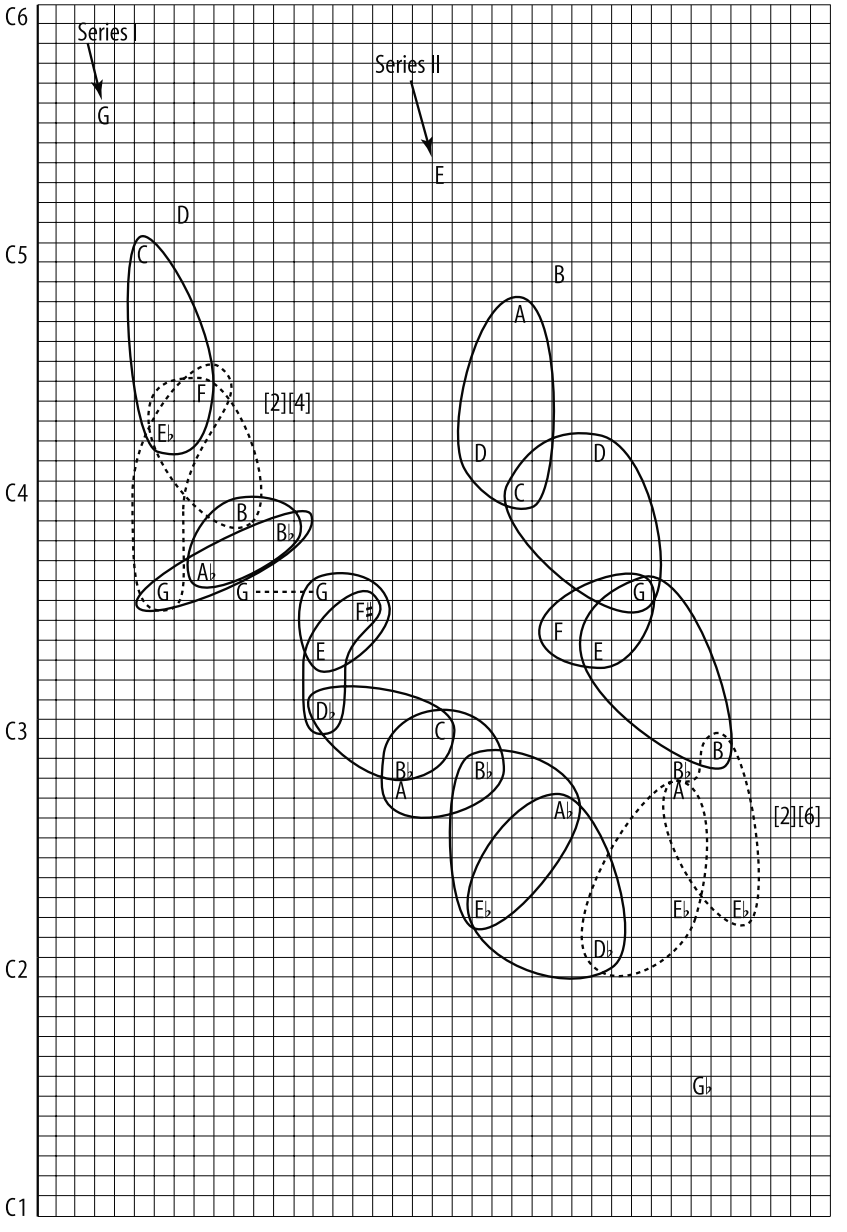
The music at Fig. 6 in Part I consists of two series of imitative entries in which all four instruments participate, in the same order each time: first violin, second violin, cello, and viola (see Example 4a). The stretto is closer in the second series, with imitative entries coming only a beat apart as compared to two beats apart in the first series. In pitch-class terms the entries in each series follow at T_8, measuring each entry (except, of course, the first) against

10 The term 'tail' in this context is borrowed from Robert Morris, 'Conflict and Anomaly in Bartók and Webern'.

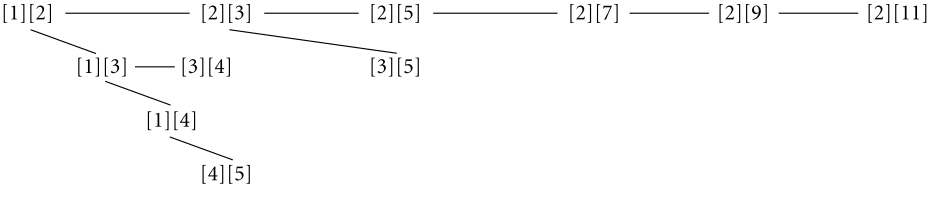
11 For another, rather different engagement of this issue see Wilson, *The Music of Béla Bartók*, 108–12.

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a.



b.



Example 5 Pitch–time graph of Prima parte, Fig. $6^{1–6}$.

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its predecessor. No doubt one can hear the passage progress in this fashion, but the actual pitch intervals of imitation, which do not exhibit such a regular pattern, exert, arguably, at least as much influence over the composite effect of the passage.

The imitative strand itself, considered in isolation, is basically made up of two consecutive descending perfect fifths, with a little 'jog' of a rising whole step at the end of the first of these fifths; thus, expressed in ordered pitch intervals, it is: 7, +2, 9 (see the first violin's first statement of the strand at Fig. 6). Arranged vertically, this configuration translates into the overlapping interval combinations [2][5] and [2][7], the latter an unfolding of the former, as shown on the reduction in Example 4b, the first time it happens in the first violin. Most of what remains in the example isn't labelled explicitly, because each of the imitative entries follows this pattern, in both series – except for the viola, which manages to replicate the contour but not, in every case, the exact intervals of the others. In the first series, its strand is 9, +2, 9, which yields two overlapping [2][7] combinations instead of the [2][5] and [2][7] of the other parts: this is different, but still employs the same network of intervallic relations. (The replacement of [2][5] by [2][7] might be considered to provoke an 'extra' [2][7] in the second violin and cello in Series II; the note in parentheses in each of these parts is extraneous to the imitative strand proper.) In the second series, the viola's divergence represents more of a disturbance, since the final interval in its strand (7, +2, 8) steps outside the relations established by the other parts.

Thus there are two kinds of wrinkle in the polyphonic fabric here: the varying pitch intervals between successive imitative entries, and the 'failure' of the viola to maintain an exact imitation with the other parts. (This information is summarized in Example 4c for ease of reference.) The ramifications of these irregularities are explored in Example 5a, which transfers the previous example to graph-paper notation. Here, the interval combinations discussed and marked in Example 4 are omitted, and only interval combinations between parts are shown, to avoid overly cluttering the display. The graph also helps bring registral adjacencies more readily into focus, de-emphasizing the combinations of intervals formed by individual parts.

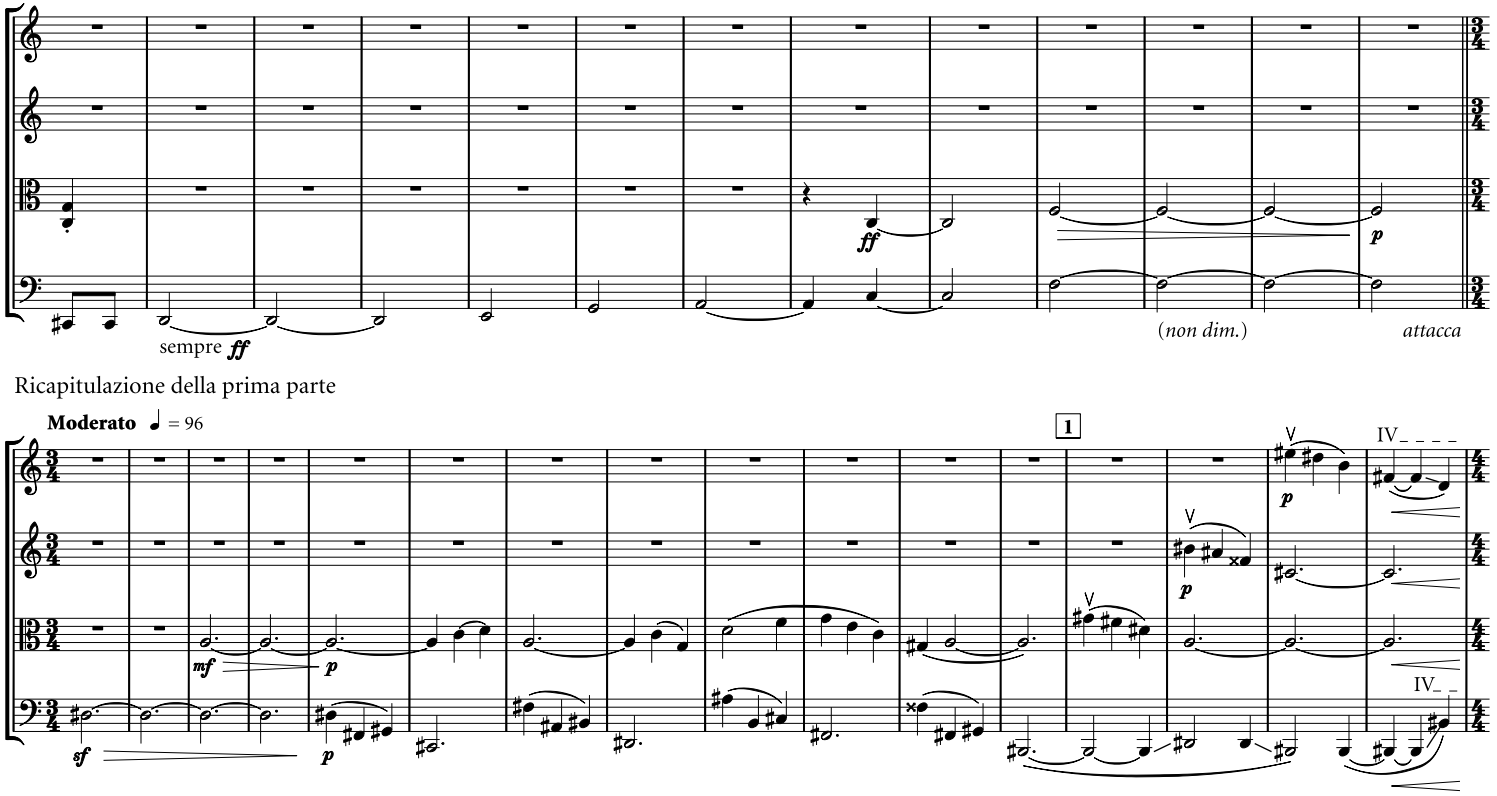
It should be obvious from a cursory glance at the graph that a wide variety of interval combinations are formed as resultants, so to speak, of the polyphony. However, all of the combinations encircled by solid boundaries belong to the same network, an extension of the one invoked earlier for the opening bars of the piece. (The extended network is sketched in Example 5b.) In Series I the combinations employing smaller intervals tend to form in the middle register of the texture, where the parts are closer together owing to the smaller intervals of imitation chosen. This effect is not nearly so prevalent in Series II, since the intervals of imitation are larger there.

At the very end of Series II, as noted, the interval of [8] in the viola is out of agreement with the make-up of the overall imitative texture, even though the final E♭ matches a note previously and recently played by the cello. But it is just this match that seems to call attention to a correspondence of combinations *not* on the network branching from [1][2]: see the dotted enclosures in this area, both instances of [2][6]. This correspondence may also serve to make us aware, even if only vaguely and retrospectively, of the fact that the vertical

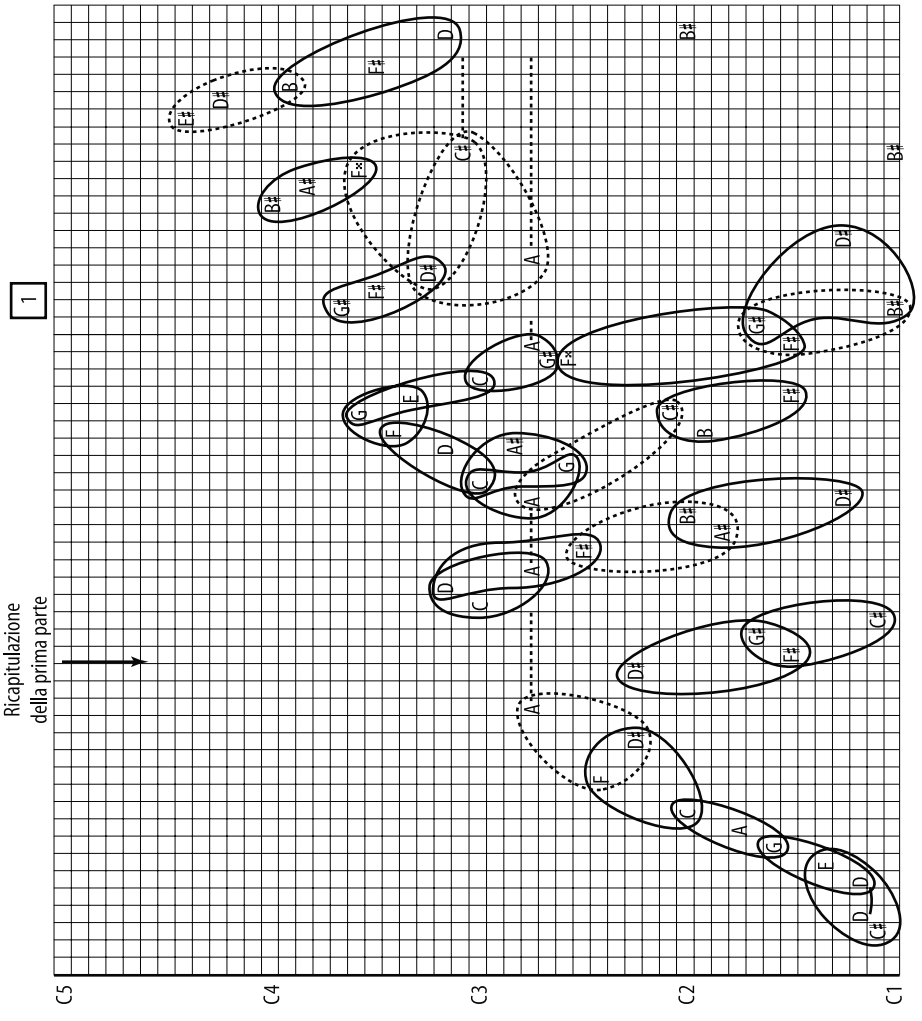
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a.



Example 6 Seconda parte, Fig. 49^{+5}–Ricapitulazione della prima parte, Fig. 1^{+4}. Copyright 1929 by Universal Edition. Copyright renewed 1956 by Boosey & Hawkes, Inc., New York. Reproduced by permission. All rights reserved by the owners.



Example 6 *continued.*

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combinations formed in these series embed other instances of this alternative way of organizing intervals – that, in other words, alternatives to the [1][2] network are already present in potential form. The clearest earlier instance is [2][4], or pitches B–E♭–F in Series I, enclosed by dotted boundaries; also nearby is an instance of [2][8], G–E♭–F, likewise dotted.

In light of this minimally represented yet quite perceptible 'impurity' of interval formation, one fruitful way of hearing the recapitulation of this passage later in the work can be found in an embedded alternative form of organization, based on [2] and its derivatives, emerging to stand now explicitly juxtaposed with the (still-dominant) [1]-based material. In Example 6b, which displays an analysis along these lines of the first few bars of the recapitulation, solid and dotted enclosures denote the same network memberships that they did in the previous example. Here the [2]-based network engages the very first interval of this section, bridging from the final F of Part II. From here its influence spreads to the lowest register reached and, eventually, the highest. Meanwhile, for its part, the [1]-based network continues to expand, evidenced not only in its incorporation of the vaguely pentatonic material leading from the end of Part II into the recapitulation and continuing in counterpoint (in the viola) to the reminiscence of the imitative-strand series in the cello, but also in the steadily widening intervals in the cello in the bars leading up to Fig. 1, all the way to [2][11].

By way of brief conclusion, I should like to mention that the foregoing analysis had its genesis in an analysis symposium convened as the plenary session for the annual meeting of the Society for Music Theory in Cambridge (MA) in November 2005, an event that – following the customary format – brought several scholars together to speak, each in his or her turn, on a piece that was 'assigned' to them, one that they had no role in choosing for the occasion. Personally, I had never thought before of discussing Bartók's Third Quartet along the lines of my previous work on this composer. In fact, when I was informed of the programme committee's choice of piece, I wondered what the chances were that it would even be approachable according to an analytical method largely governed by pitch-space considerations, since, as many involved with Bartók's music have noted in the past, the heterogeneous nature of his œuvre seems destined to frustrate any attempt to devise a single method that applies to all of his compositions, across the board. But once I set to work, I found that my apprehensions were unjustified. The Third Quartet turns out to be delightfully amenable to analysis in a pitch-space environment occasionally impinged upon by pitch class; the experience of finding one's way through the pitch space of this piece has encouraged me to believe that my previously postulated 'zones of impingement' have the kind of wider application that I had predicted but had not, of course, actually shown in the analysis of just two movements from one piece, the *Music for Strings, Percussion, and Celesta*.

It is entirely appropriate that this wider application should be demonstrated through the analysis of one of Bartók's string quartets – works that rival those for piano in their significance to his œuvre as a whole – since in many ways the pitch-space aspect of his writing for the piano is far more straightforward, not only because of that instrument's greater range,

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but also because it is not a composite of overlapping ranges of several instruments like the string quartet or string orchestra.[12] The string quartet in particular, with a lower range that ends at C2, is practically an ideal test case for the hypothesis of pitch space as the controlling norm, pitch class as the 'interloper', since considerations of range have often operated crucially in (pitch-class-based) treatments of the string quartets in much of the standard analytical literature.

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12 For examples of analysis in a pitch-space framework drawn from Bartók's piano works see Bernard, 'Space and Symmetry in Bartók'.

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