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*Bartók's Studies of Folk Rhythm: A Window into His Own Practice**

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> What is the best way for a composer to reap the full benefits of his studies in peasant music? It is to assimilate the idiom of peasant music so completely that he is able to forget about it and use it as his musical mother tongue.[1]

BARTÓK CLAIMED FOLK MUSIC as his musical "mother tongue." Relationships between his folk-music studies and his compositional practice in the domains of pitch and form have already been well documented. They have been less explored in the arena of rhythm.[2]

This study investigates Bartók's writings on rhythmic transformations in folk music, categorizes the rhythmic techniques he described, and investigates their use in three compositions. The three compositions are chamber works, chosen to represent three uses of folk music described by Bartók: quotation, imitation, and absorption of folk music.[3] Violin Rhapsody

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1. Béla BARTÓK, "The Influence of Peasant Music on Modern Music [1931]," in: *Béla Bartók Essays*, ed. Benjamin Suchoff (Lincoln: University of Nebraska Press, 1992), 341.
2. The main studies relating folk rhythm to rhythm in Bartók's music include János BREUER, "Kolinda Rhythm in the Music of Bartók," in: *Studia Musicologica* 17 (1975): 39-58; Judit FRIGYESI, "Between Rubato and Rigid Rhythm: A Particular Type of Rhythmical Asymmetry as Reflected in Bartók's Writings on Folk Music," in: *Studia Musicologica* 24 (1982): 327-37; Timothy RICE, "Béla Bartók and Bulgarian Rhythm," in: *Bartók Perspectives*, ed. Elliott Antokoletz, Virginia Fischer, Benjamin Suchoff, Oxford: Oxford University Press, 2000, 196-212; László SOMFAI, "The Influence of Peasant Music on the Finale of Bartók's Piano Sonata: An Assignment for Musicological Analysis," in: *Studies in Musical Sources and Style*, ed. Eugene K. Wolf and Edward Roesner, Madison, WI, A-R Editions, 1990, 535-55; and Benjamin SUCHOFF, "Ethnomusicological Roots of Béla Bartók's Musical Language," in: *The World of Music* 19/1 (1987): 43-64.
   Other treatments of rhythm in Bartók's music are too numerous to mention here.
3. In "The Influence of Peasant Music," 341-44, Bartók notes three ways in which "peasant music is taken over and becomes transmuted into modern music." In the first, the composer may "take over a peasant melody unchanged or only slightly varied, write an accompaniment to it and possibly some opening and concluding phrases." In the second, "the composer does not make use of a real peasant melody but invents his own imitation of such melodies. There is no true difference between this method and the one described above." Finally, the composer "has completely absorbed the idiom of peasant music which has become his musical mother tongue."

No. 1 quotes actual folk melodies, *Contrasts* for violin, clarinet, and piano imitates them, and Sonata for Two Pianos and Percussion shows folk influence only indirectly.

This article focuses on Violin Rhapsody No. 1, since it sets actual folk melodies and thus allows analysis both of the melodies' rhythmic structures and of Bartók's use and transformations of them. It supplements this analysis with observations from the first movements of *Contrasts* and of Sonata for Two Pianos and Percussion.

Analysis of rhythmic techniques in these works turns up rhythmic strategies described elsewhere in the Bartókian literature.[4] This study, however, places these techniques in the context of Bartók's ethnomusicological writings, and by so doing, illuminates both Bartók's rhythmic studies and his practice.

After providing historical background for Violin Rhapsody No. 1, *Contrasts*, and the Sonata for Two Pianos and Percussion, I categorize the folk-rhythm techniques discussed by Bartók and demonstrate their use in these three chamber works.

Historical Background

Violin Rhapsody No. 1

Bartók wrote the two Violin Rhapsodies in 1928, dedicating them to Hungarian violinists József Szigeti and Zoltán Székely, respectively.[5] Székely premiered both Rhapsodies, the second with Géza Frid in Amsterdam on November 19, 1928, and the first with Bartók in London on March 4, 1929. Szigeti's first performance of Rhapsody No. 1 occurred with Bartók in Budapest on November 22, 1929.[6]

Violin Rhapsody No. 1 sets six folk melodies—five Romanian and one Hungarian—in two movements.[7] The first movement contains two melodies in the form ABA'(B'), and the second four melodies in the form ABCD coda.[8]

4. See, for example, the discussion of contraction, polymeter, and other "metre-breaking rhythmic patterns" in Bartók's Piano Sonata and Piano Concerto No. 1, in Somfai, "Analytic Notes on Bartók's Piano Year of 1926," in: *Studia Musicologica* 26 (1984): 30-36.
5. For Székely's and Szigeti's comments on the Rhapsodies, see Claude Kenneson, *Székely and Bartók: The Story of a Friendship*, Portland: Amadeus Press, 1994, 112-18; and József Szigeti, *With Strings Attached*, New York: Knopf, 1967, 128; respectively. Szigeti provides technical commentary in: Joseph Szigeti, *A Violinist's Notebook: 200 Music Examples with Notes for Practice and Performance*, London, G. Duckworth and Co., 1964.
   Bartók later arranged Violin Rhapsody No. 1 for violin and orchestra (1929) and violoncello and piano (1929). The present article deals only with the original violin/piano version. For evidence that the violin/piano version came first, see Vera Lampert, "Violin Rhapsodies," in: *Bartók Companion*, ed. Malcolm Gillies, London, Faber and Faber, 1994, 279.
6. Elliott Antokoletz, *Béla Bartók: A Guide to Research*, 2nd ed., New York, Garland Publishing, 1997, 23-24.
7. Vera Lampert, "Quellenkatalog der Volksliedbearbeitungen von Bartók" [Source Catalogue of Bartók's Folk-Song Arrangements], in: *Documenta Bartókiana* VI (1981): 113-23.

The genesis of the Rhapsody can be traced through ethnomusicological, compositional, and performance sources. Sources consulted for this article are listed in the appendix. For each folk melody, the sources include a field recording made by Bartók or others, and transcriptions (and their revisions) made by Bartók. In general, three basic versions of Bartók's transcription exist for each melody: Bartók's initial transcription, a fair copy in Márta Ziegler's hand with Bartók's corrections/revisions, and a facsimile of Jenő Deutsch's copy as published in *Romanian Folk Music*, vol. I.[9] In the following discussion, unless otherwise noted, references to transcriptions cite the version closest to that used in the Rhapsody (usually Bartók's initial transcription).[10] The compositional documents for the Rhapsody itself include a draft, fair copies, and published versions. Documentation of primary performances includes recordings featuring Bartók, Szigeti, and Székely.

The Rhapsody adheres to original aspects of its folk melodies in several important respects. All of the melodies chosen were originally played on the violin;[11] almost all were dance melodies. The last movement of the Rhapsody reflects the folk practice of chaining together a series of dances.[12] The two movements of the Rhapsody take a format typical of *verbunkos*, a type of Hungarian dance music, in which a slow movement (*lassú*) is followed by a fast movement (*friss*).[13] The accompaniment materials feature

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For a discussion of Violin Rhapsody No.1 in the context of politico-ethnic tensions of the time, see David SCHNEIDER, "Expression in the Time of Objectivity: Nationality and Modernity in Five Concertos by Béla Bartók", Ph.D. diss., University of California, Berkeley, 1977, 123-70. Schneider examines some of Bartók's modifications of the "De Ciuit," "Judecata," and "Cuieşdeanca" melodies, and posits reasons for these changes.

For an analysis of pitch structure and its relation to the folk melodies in the Rhapsody, see Hae-Joung HWANG, "Transformation of Rumanian Folk Sources into Abstract Pitch Formations in Bartók's Violin Rhapsodies", DMA treatise, University of Texas at Austin, 1995.

8. This coda contains C material, and recapitulates material from the opening of the first movement. Bartók later wrote an alternate ending (intended for stand-alone performances of the second movement) that recapitulates material from the opening of the second movement.
9. The Rhapsody's second melody, "Árvátfalvi kesergő," is an exception; see the information given in the appendix.
10. These transcriptions are reproduced from Lampert, "Quellenkatalog," *Documenta Bartókiana* VI (1981): 113-16, copyright ©1981 by Akadémiai Kiadó, Budapest by kind permission of Vera Lampert and Akadémiai Kiadó.
11. For a discussion of Bartók's use of Romanian folk fiddling techniques in the Violin Rhapsodies, see Márta PAPP, "Rapsodiile pentru Vioară de Bartók şi Înrâurirea Violonisticii Populare Româneşti asupra Creaţiei Compozitorului" [Bartók's Violin Rhapsodies and the Influence of Romanian Folk Fiddling on the Composer's Work], tr. from Hungarian by Iosif Herea, in ed. Francisc LÁSZLÓ, *Béla Bartók şi Muzica Românească* [Béla Bartók and Romanian Music] (Bucharest: Editura Muzicală, 1976), 31-41. Jánosi Ensemble, *Rhapsody: Liszt and Bartók Sources*, Hungaroton Classic HCD 18191, 1995 recreates these folk melodies with accompaniment.
12. László SOMFAI, "The Rhapsodies," liner notes to *Complete Edition Bartók Béla III. Chamber Music*, Hungaroton SLPX 11357, 8-11, and in conversation 24 April 1995.
13. *Verbunkos* is a characteristic type of instrumental Hungarian dance music, derived from dances used in recruiting for the Austro-Hungarian army in the eighteenth and early nineteenth centuries. It characteristically includes dotted rhythms, such as ♩♫ (or ♫♩), and duple meter. (See Jonathan BELLMAN, "Verbunkos," in: *The NGroveD* 2nd ed. (2001), v.26: 425-26; BELLMAN, *The* Style Hongrois *in the Music*

dűvő, a type of offbeat accompaniment typical of *verbunkos* as well as of much Romanian instrumental music.[14] The accompaniments' pitch materials are drawn from the folk melodies, or from the folk accompaniments to those melodies.[15]

Contrasts[16]

Benny Goodman and József Szigeti commissioned *Contrasts* for violin, clarinet, and piano in August 1938. They requested a two-movement work, and Bartók complied in September 1938 with a work entitled "Rhapsody – 2 Dances." It consisted of two dances in the slow-fast Hungarian rhapsody format. Later, however, Bartók revealed that he had written a slow middle movement. The three-movement version was renamed "Contrasts" and premiered in 1940 by Bartók, Szigeti, and Goodman at the Columbia Recording Studio in New York.[17]

Although it does not literally quote folk melodies, *Contrasts* clearly imitates them. Its second theme (shown in Ex. 6) mirrors the structure—four eight-syllable phrases—of many Romanian *parlando* folk songs.[18] Furthermore, its first movement, entitled *verbunkos*, displays characteristics typical of that genre: dotted rhythms such as ♩.♫ and ♫., *dűvő* offbeat accompaniment patterns, and duple meter.[19]

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of Western Europe, Boston, Northeastern University Press, 1993, 17-18, 116; and Bálint Sárosi, *Gypsy Music*, tr. Fred Macnicol of 1971 Hungarian original, Budapest, Corvina Press, 1978: 85-88. See also Géza Papp, "Die Quellen der 'Verbunkos-Musik': ein bibliographischer Versuch," in: *Studia Musicologica* 21 (1979): 151-217, 24 (1982): 35-97, 26 (1984): 59-132 for incipits of *verbunkos* music published between 1784 and 1836.

14. David Schneider, "Gypsies, *Verbunkos*, and Bartók's Debt to the Nineteenth Century," paper presented at the International Bartók Congress, University of Texas at Austin (2000) discusses the relation between *dűvő* and *verbunkos*. Zamfir Dejeu, in *Dansuri Traditionale din Transilvania* [Traditional Dances from Transylvania, summary in English] (Cluj-Napoca: Clusium, 2000), 664-66 describes several common Romanian accompaniment patterns, many of which are similar to *dűvő*. Some of these are called "du-va."
15. Of the six melodies used in Violin Rhapsody No. 1, only one, "Pre Loc," was recorded with accompaniment.
    Many features of the Rhapsody also depart from traditional folk practice. The use of the piano as accompanying instrument, as well as the technical difficulty and timbral effects in the violin writing (triple stops, harmonics, *pizzicato*) cater to the work's intended performers. Other composed aspects—contrapuntal imitation, large-scale harmonic structure, formal structures and processes—distinguish the Rhapsody from its folk origins. As this article will show later, however, even these non-traditional features (virtuoso violin passages, imitative relationships, and formal design) utilize the folk-rhythm transformations described by Bartók.
16. Analyses of the first movement of *Contrasts* include Cynthia Folio, "Analysis and Performance: A Study in *Contrasts*," in: *Intégral* 7 (1993): 1-37; Janós Kárpáti, "Contrasts for Violin, Clarinet, and Piano," chap. in: *Bartók's Chamber Music*, tr. Fred Macnicol and Maria Steiner of 1976 Hungarian original, Stuyvesant, New York, Pendragon, 1994, 433-58; Kárpáti, "Alternative Structures in Bartók's 'Contrasts'," in: *Centenario Bélae Bartók Sacrum: Studia Musicologica* 22 (1981): 201-208; and Daphne Leong, "A Theory of Time-Spaces for the Analysis of Twentieth-Century Music: Applications to the Music of Béla Bartók", Ph.D. diss., University of Rochester, 2001, 160-92.
17. János Kárpáti, *Bartók's Chamber Music*, 433-35.
18. I refer to Bartók's class of isometric *parlando* Romanian songs. (See *Rumanian Folk Music, v.2*, ed. Benjamin Suchoff, The Hague, Martinus Nijhoff, 1967, 12-13.) Instrumental performances often combine individual

Sonata for Two Pianos and Percussion[20]

Bartók composed the Sonata for Two Pianos and Percussion in response to a commission by Paul Sacher for the Basel International Society for Chamber Music. The work was commissioned and completed in 1937, and premiered in January 1938 by Bartók, his wife Ditta Pásztory, and percussionists Fritz Schiesser and Phillip Rühlig. The commission did not specify the instrumentation, and Bartók proposed several possibilities, including a "quartet of two pianos and two percussion groups."[21] This instrumentation "brings rhythm sharply into focus as a thematic as well as locomotive process..."[22]

Folk influence makes itself felt more indirectly in this work, in the structure of the first movement's slow second main theme, for example, or in the rhythmic transformations discussed below.

Bartók on Rhythm and Rhythm in Bartók

The folk-rhythm transformations described by Bartók fall into three basic classes: rhythmic-metric transformations, segmental manipulation, and "shifted rhythms." The following discusses each of these types, and shows how they are used in Violin Rhapsody No. 1, *Contrasts*, and Sonata for Two Pianos and Percussion.

Rhythmic-Metric Transformations

Bartók traces certain asymmetrical meters ("fixed rhythms") and irregular rhythmic patterns ("continually variable rhythms") back to regular metric prototypes. In relating asymmetrical meters to regular ones, he maintains the number and relative accentuation

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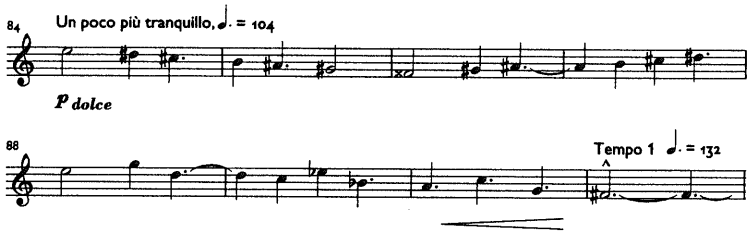
syllables of the eight-syllable prototype into longer durations at "cadential" points. (See later Ex. 3 and accompanying discussion).

19. See notes 13 and 14 above.
20. For analyses of the Sonata for Two Pianos and Percussion, see, for example, Ernő LENDVAI, "Makrokosmos, Sonata for Two Pianos and Percussion," chap. in: *The Workshop of Bartók and Kodály*, Budapest, Editio Musica Budapest, 1983; János KÁRPÁTI, "Sonata for Two Pianos and Percussion," chap. in: *Bartók's Chamber Music*; Roy HOWAT, "Sonata for Two Pianos and Percussion," in: *The Bartók Companion*, ed. Malcolm Gillies, 315-30; Errol HAUN, "Modal and Symmetrical Pitch Constructions in Béla Bartók's 'Sonata for Two Pianos and Percussion'", D.M.A treatise, University of Texas at Austin, 1982; Elliott ANTOKOLETZ, "Organic Expansion and Classical Structure in Bartók's Sonata for Two Pianos and Percussion," in: *Bartók Perspectives*, ed. Antokoletz, Fischer, Suchoff, 77-94; Richard COHN, "Transpositional Combination in Twentieth-Century Music", Ph.D. dissertation, University of Rochester, 1987; COHN, "Bartók's Octatonic Strategies," in: *JAMS* 44/2 (1991): 262-300; COHN, "Pitch-Time Analogies in Bartók's Sonata for Two Pianos and Percussion," typescript; Paul WILSON, *The Music of Béla Bartók*, New Haven, Yale University Press, 1992; John Downey, "La musique populaire dans l'œuvre de Béla Bartók" [Folk Music in the Works of Béla Bartók], Paris, Université de Paris, 1964; Stephen WALSH, *Bartók Chamber Music*, London, BBC, 1982; Karlheinz STOCKHAUSEN, "Bartók's Sonata for Two Pianos and Percussion," in: *New Hungarian Quarterly* 11/40 (1970): 49-53; and Daphne LEONG, "Metric Conflict in the First Movement of Bartók's Sonata for Two Pianos and Percussion," in: *Theory and Practice* 24 (1999), 57-90.
21. KÁRPÁTI, *Bartók's Chamber Music*, 393.
22. WALSH, 70.

of pulses but not their exact associated durations. He considers the Bulgarian "Ruchenitza" meter (2+2+3)/16, for example, as lengthening the last eighth note of a 3/8 bar by a sixteenth note.[23] "My feeling is that this extension of the note value is no other than the translation of a dynamic stress into terms of duration. For it is as a stress, or a substitute for a stress, that the note that is lengthened by a sixteenth value is experienced."[24] Similarly, "5/8 can be explained as a doubling of one of the eighths in a 2/4 measure, and 7/8 as a doubling of one of the eighths in a 3/4 measure." This difference is "not essential; it is rather a derivative difference."[25]

The two main themes of the first movement of Sonata for Two Pianos and Percussion demonstrate a stylized use of metric transformation to create asymmetrical meters from symmetrical ones. The second theme (Ex. 1) can generally be understood as a 4/4 meter in which the last (or sometimes the second or third) beat is elongated to create an asymmetrical 9/8 meter.[26] The first theme (later Ex. 7a) misaligns 4/4 meters in the pianos and the percussion by one eighth note, thus creating 9/8 bars.[27]

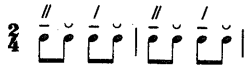
Example 1: Exposition Theme 2 (*Sonata for Two Pianos and Percussion, I*)



23. The "Ruchenitza" is a common Bulgarian folk dance (also transliterated "rachenitsa"). See Donna BUCHANAN, "Bulgaria: II. Traditional Music," in: *NGroveD*, 2nd ed. (2001), v.4: 578; also RICE, 198.
24. Béla BARTÓK, "The So-Called Bulgarian Rhythm [1938]," in: *Béla Bartók Essays*, ed. Benjamin Suchoff, 47-48.
25. Béla BARTÓK, "Harvard Lectures [1943]," in: *Béla Bartók Essays*, ed. Benjamin Suchoff, 391-92. BARTÓK, *Rumanian Folk Music, v.1*, ed. Benjamin Suchoff, The Hague, Martinus Nijhoff, 1967, 43 views a similar meter, (4+3)/16, as a transformation of 2/4; the last quarter note is shortened by a sixteenth note.
According to Rice, Bartók errs in certain details of his theory of Bulgarian rhythm. First, symmetrical and asymmetrical meters should be placed on equal footing; neither should be viewed as more normative. Second, transformations do occur in actual practice between 6/8 and 7/8. However, the transformation is from 3+3 (and not 2+2+2, as Bartók postulates) to 2+2+3, or vice versa. Finally, Rice adds that transformations of meter occasionally result from changes of tempo.
26. At the "cadence" (bars 90-91), the asymmetrical 9/8 meter transforms into a symmetrical 9/8 with dotted-quarter-note pulses. See KÁRPÁTI, *Bartók's Chamber Music*, 415-16 for a discussion of how this melody resembles and transforms a four-line folksong structure.

27. See LEONG, "Metric Conflict," 68-71 for a more detailed explanation; cf. KÁRPÁTI, *Bartók's Chamber Music*, 411.

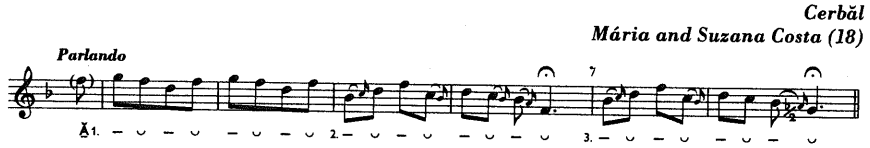
Bartók likewise relates irregular rhythmic-metric structures in Romanian songs (*doine*) to a regular metric prototype—a 2/4 pattern defined by the standard eight-syllable text line:



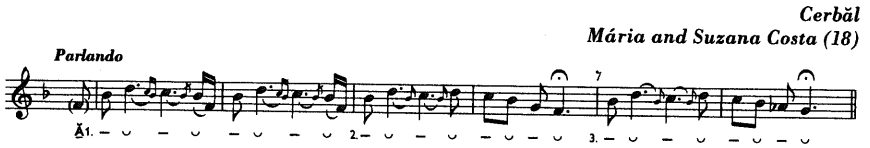
> A certain hardening of the *rubato* performance might more or less alter this rhythm [...] It is very important that, when placing the bars in the notation, the actual melodic rhythm should be traced back in the imagination to this basic scheme [...][28]

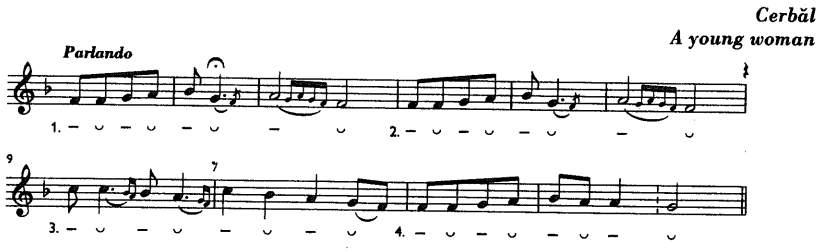
Example 2 provides examples of such alterations, as transcribed by Bartók: the standard lengthening of the syllable at the end of the second and third lines (Ex. 2a), and more varied transformations in Ex. 2b. When such changes occur consistently, Bartók calls them "stabilized augmentations."[29] In general, however, "the characteristic feature of the *doine* is *continually variable rhythm,* NOT the fixed rhythm of dance melodies."[30]

Example 2: Transformations of the eight-syllable pattern in the *doine.*
(Bartók, "The Folk Music Dialect of the Hunedoara Rumanians," *Béla Bartók Essays,* 112-14)
a: lengthening of last syllable in second and third lines



b: additional transformations

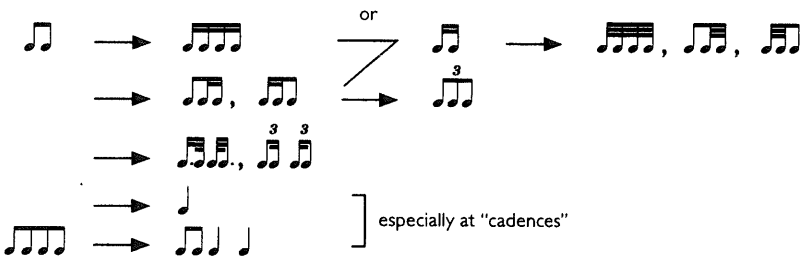




Such transformations also occur in Romanian instrumental music. Ex. 3 depicts Bartók's description of typical instrumental transformations of the eight-syllable Romanian song

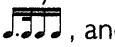
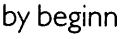
28. Béla BARTÓK, "The Folk Music Dialect of the Hunedoara Rumanians [1914]," in: *Béla Bartók Essays,* ed. Benjamin Suchoff, 103-107. See also FRIGYESI.
The musical example given here, as well as those in my Ex. 2, are reprinted from *Béla Bartók Essays* selected and edited by Benjamin Suchoff by permission of the University of Nebraska Press. Copyright © 1976 by Dr. Benjamin Suchoff, Successor-Trustee, The Estate of Béla Bartók.
29. BARTÓK, "Hunedoara Rumanians," 111.
30. Béla BARTÓK, "Observations on Rumanian Folk Music [1914]," in: *Béla Bartók Essays,* ed. Benjamin Suchoff, 196.

Example 3: Typical transformations of the eight-syllable pattern in instrumental music (from Bartók, *Romanian Folk Music*, v.1, 42-43)



pattern. The basic transformation substitutes sixteenth notes for eighth notes; eighth notes may change to quarter notes at ends of melody sections.[31]

These kinds of rhythmic-metric transformations occur in Violin Rhapsody No. 1, *Contrasts*, and Sonata for Two Pianos and Percussion. Ex. 4 shows the Rhapsody's first melody, "De Ciuit,"[32] as it appears in Bartók's fair-copy transcription and on its first occurrence in the Rhapsody. My annotations indicate periods (A and B), phrases (a, a', b, b'), and subphrases (a1, a2, a3, b1, b2). Rhythmic discrepancies between the field recording and Bartók's transcription appear above the staff.[33]

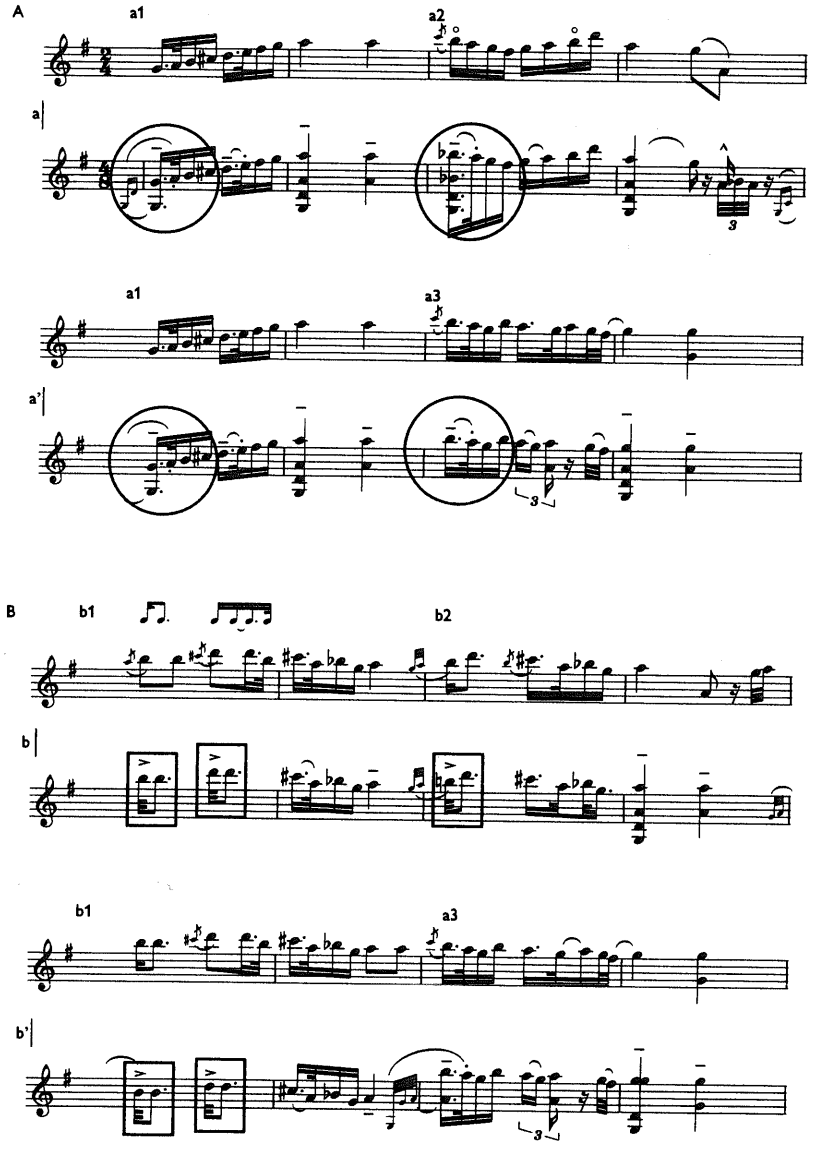
The folk melody clearly distinguishes A and B material, beginning a subphrases with the long-short pattern  , and b subphrases with the short-long  .[34] Bartók intensifies this differentiation in the Rhapsody by beginning all four a subphrases with  (circled), and by sharpening the short-long rhythm of the b subphrases to  (boxed).[35] His transformation of the quoted melody's rhythm thus heightens rhythmic differentiation between phrases.

Intensifying rhythmic differentiation performs a similar function in Bartók's setting of "Árvátfalvi kesergő,"[36] the second melody in the movement. Ex. 5 shows Bartók's initial transcription and the melody's first appearance in the Rhapsody (top two staff lines). My annotations above the transcription indicate two phrases (A and B), subphrases (a1, a2, b1, b1', b2), and rhythmic differences between the transcription and the field recording.[37]

31. BARTÓK, *Rumanian Folk Music, v.1*, 42-43.
32. "De Ciuit," from "a chiui" (to yell), serves as a "calling to the dance." Though not a dance *per se*, it exhibits characteristic dance-melody features. (See BARTÓK, *Rumanian Folk Music, v.1*, 41.)
33. In his initial transcription, which doubles the durational values of the fair-copy transcription shown here, Bartók notes that rhythmic patterns may vary between  ,  and , similarly with , etc. The draft for that transcription begins unit b1 with ; Bartók later crosses out the eighth-note stems and replaces them with quarter notes.
34. In the field recording the first sixteenth note of unit a2 is very slightly lengthened.
35. SCHNEIDER, "Expression in the Time of Objectivity," 153-54 explains the latter rhythmic change in terms of "magyarization" of the melody, without reference to its structural function.
36. [Lament from Árvátfalvi].

The Rhapsody's first statement of the melody follows the field recording fairly closely, but differentiates phrases A and B more clearly: both a subphrases begin with ♪♩ (circled), while b subphrases sharpen the rhythm to ♫. (boxed). Bartók's change from triplet to sixteenth-note rhythms thus sets phrase B off from phrase A.

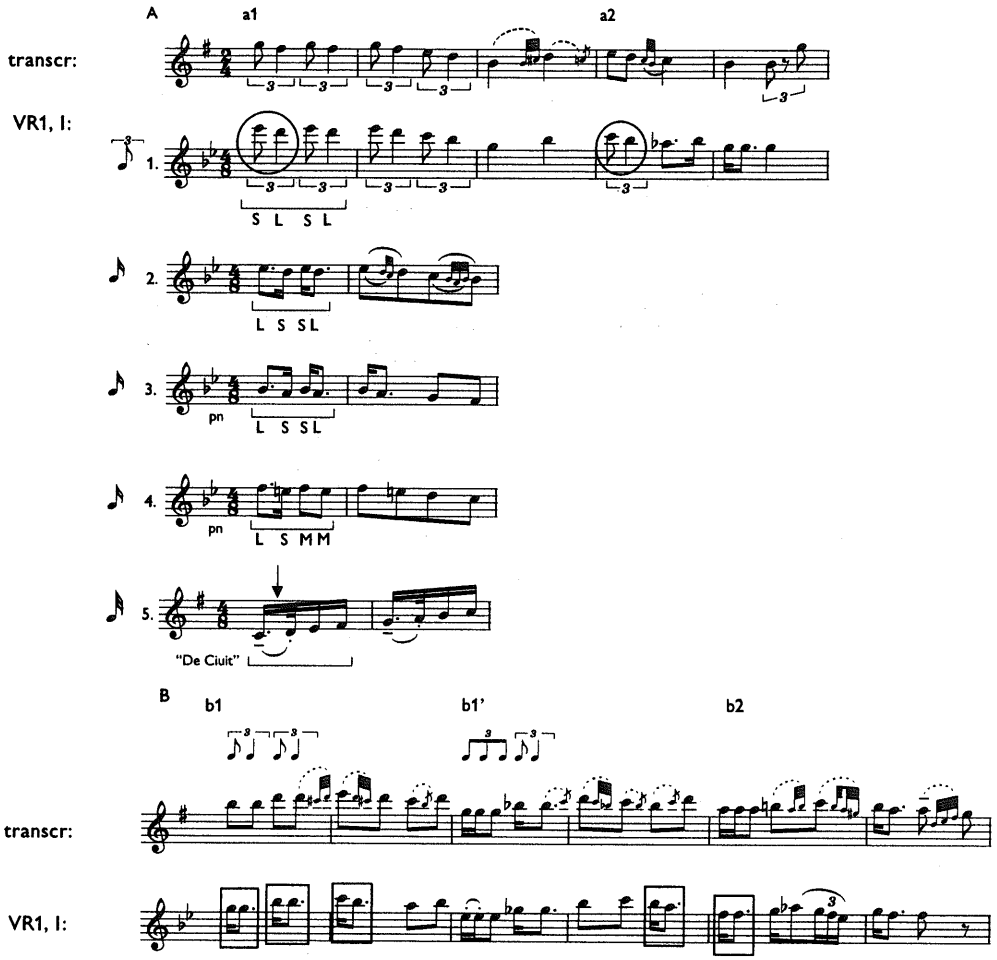
Example 4: "De Ciuit": Bartók's fair-copy transcription, and Violin Rhapsody No. 1, I.



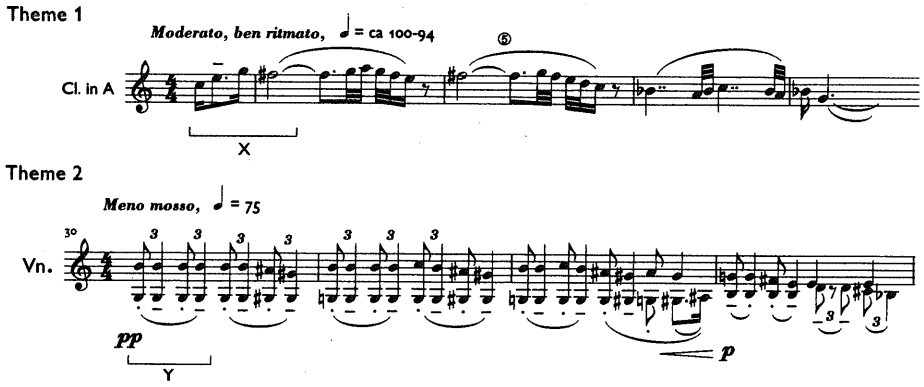
37. Bartók's initial transcription of this melody is lost, but can be reconstructed from a fair copy. Bartók later made revisions on this fair copy, renotating the melody in 10/16 meter. (See László Somfai, "Az 'Árvátfalvi kesergő': Az I. Rapszódiában," in: *18 Bartók Tanulmany* (Budapest: Zeneműkiadó, 1981), 305). On the initial transcription, Bartók noted that ♫ and ♪♩. may interchange with one another or with intermediate rhythmic patterns. The revised transcription in 10/16 meter shows the general rhythmic inequalities that I indicate above the score in Ex. 5.

Example 5: "Árvátfalvi kesergő": Bartók's initial transcription, and Violin Rhapsody No 1, I

Statement 1: Metric transformation differentiating A and B sections
Statements 1-4: Rhythmic transformation leading to the return of "De Ciuit"



Example 6: Thematic material: metric transformation
(Contrasts, I)



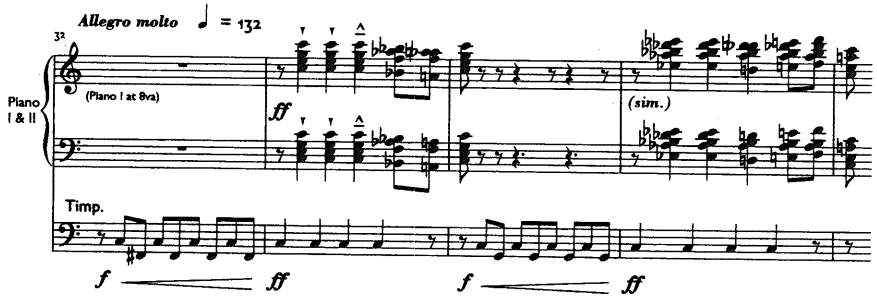
In *Contrasts,* rhythmic-metric differentiation plays much the same role. The two main themes of the first movement (Ex. 6), like the two phrases of the Rhapsody's "Árvátfalvi kesergő," begin with the same relative-duration pattern. Here it is <short-long-short-long>, labeled X in the first theme and Y in the second.[38] It appears in different metric garb in the two themes, however: the first theme's long durations fall on strong beats (the final long on the downbeat), while the second theme's short durations fall on strong beats (the first short on the downbeat). In the first theme, the pattern is based on sixteenth notes, while in the second theme, it is built on triplet eighth notes. Rhythmic-metric transformation thus differentiates the appearance of the <short-long-short-long> pattern in the two thematic areas.

The earlier Ex. 5 also demonstrates another function of rhythmic-metric transformation—to transition from one section to another. In this Rhapsody movement Bartók states the "Árvátfalvi kesergő" melody four times before bringing back the opening "De Ciuit" melody.[39] Ex. 5 shows the first "Árvátfalvi kesergő" quotation in full, and the incipits of the following "Árvátfalvi kesergő" and "De Ciuit" statements. The opening rhythm of the "Árvátfalvi kesergő" quotations changes gradually into that of the "De Ciuit" melody: the basic unit of subdivision changes from triplet-eighth note to sixteenth note and eventually to thirty-second note, while the opening durational pattern morphs from short-long-short-long (SLSL) to long-short-short-long (LSSL) and eventually long-short-medium-medium (LSMM).

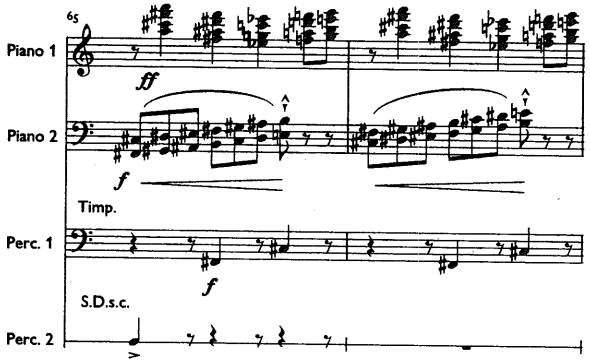
In the first movement of the Sonata for Two Pianos and Percussion, rhythmic-metric transformation performs a similar role. It gradually changes the basic pulse of the first theme from quarter note to dotted-quarter note as it moves from exposition to recapitulation. The theme's first appearance (Ex. 7a) clearly articulates a quarter-note pulse (within a 9/8 context). Later in the exposition, first-theme material occurs against a dotted-quarter-note pulse in the timpani (Ex. 7b). When the theme returns (in abbreviated form) in the recapitulation (Ex. 7c), it expresses dotted-quarter-note durations together with the xylophone, as well as through imitative relations between the two pianos. Finally, and most strikingly, the theme's recurrence later in the recapitulation clearly articulates a dotted-quarter-note pulse (Ex. 7d). This long-range transformation outlines a compelling narrative for the movement.[40]

38. The labeling of relative durations has been formalized by Elizabeth West Marvin, "The Perception of Rhythm in Non-Tonal Music: Rhythmic Contours in the Music of Edgar Varèse," in: *Music Theory Spectrum* 13/1 (1991): 61-78 and Leong, "Theory of Time-Spaces," 66. Precisely speaking, the longer duration ending X means that the durational contours of X and Y are similar but not the same.
39. These four "Árvátfalvi kesergő" statements comprise two straightforward statements in the violin, followed by two fragmented statements shared between violin and piano and transposed successively by perfect fifth. (Bartók omits the repetition of the B section found in the field recording and initial transcription.) A fifth and final statement of the melody occurs at the end of the movement.

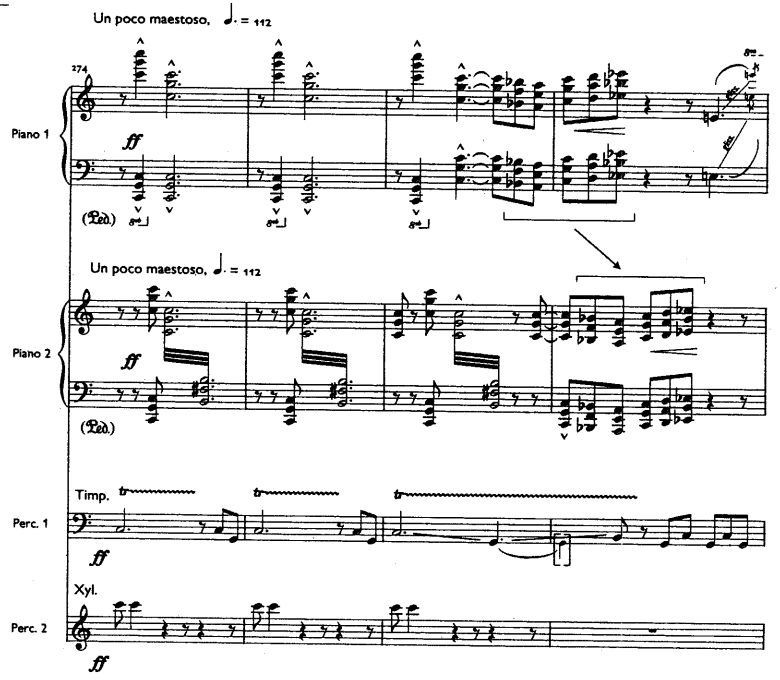
Example 7a: Exposition Theme 1: ♩ pulse
(*Sonata for Two Pianos and Percussion*, I)



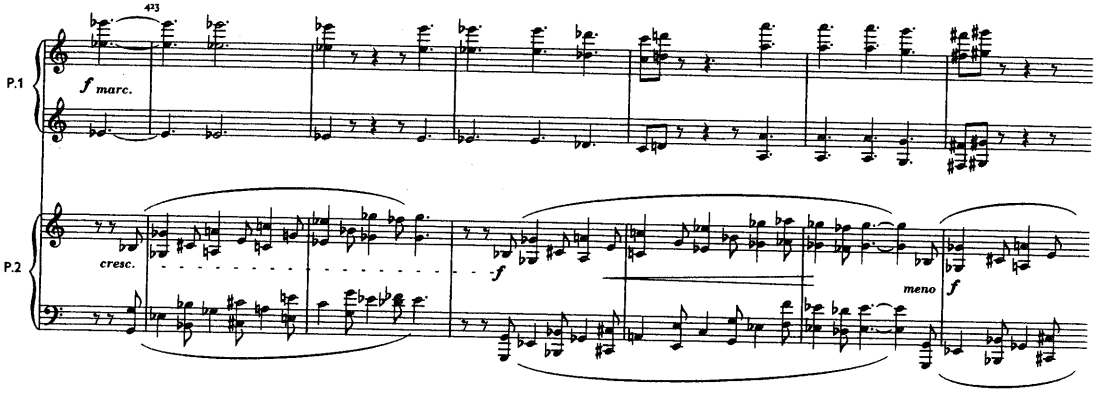
Example 7b: Exposition Theme 1: ♩ pulse set against ♩. pulse
(*Sonata for Two Pianos and Percussion*, I)



Example 7c: Recapitulation Theme 1: ♩. pulse
(*Sonata for Two Pianos and Percussion*, I)

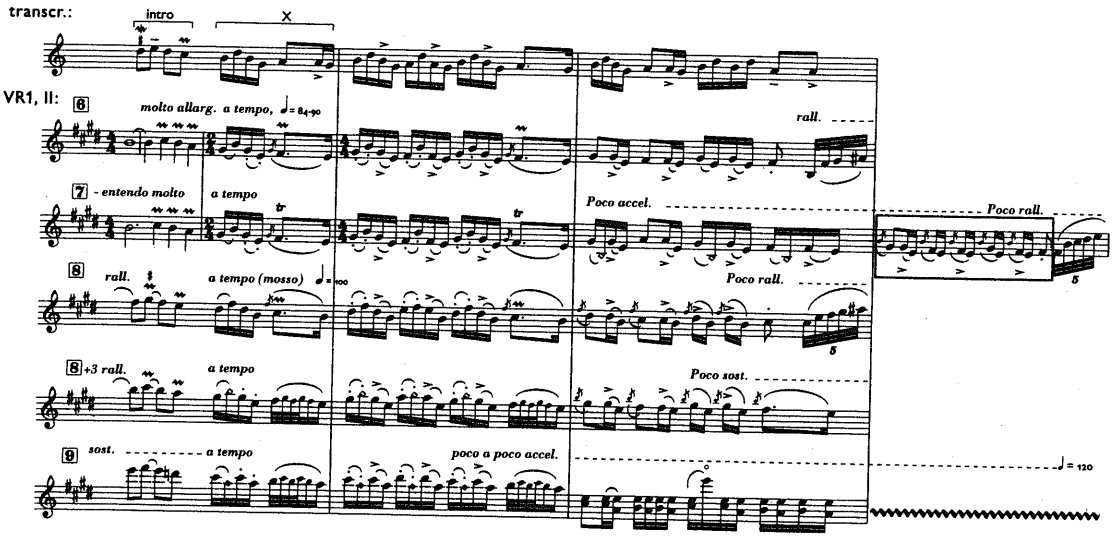


Example 7d: Recapitulation Theme 1: ♩. pulse
(*Sonata for Two Pianos and Percussion*, I)



Bartók also uses rhythmic-metric transformation to define sectional boundaries. Ex. 8 shows the melody "Crucea"[41] in Bartók's initial transcription and in its five appearances in the second movement of the Violin Rhapsody.[42] My annotations label the melody's introductory half bar, and the half-bar motive X that repeats and varies in the remainder of the melody. In the Rhapsody, Bartók exaggerates the "slower" motion of the introduction's four eighth notes—most pointedly when the melody first appears, and successively less upon each following statement. He thus uses durational elongation to highlight the beginning(s) of "Crucea" material in Violin Rhapsody No. 1.

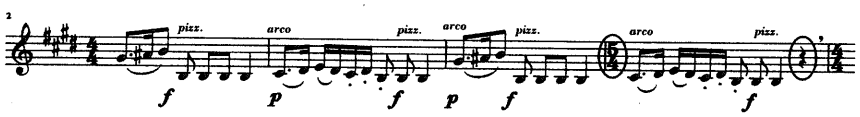
Example 8: "Crucea": Bartók's initial transcription, and Violin Rhapsody No. 1, II
Elongation of introductory motive, Extensions



40. The progression and its pitch relations are a bit more complex than expressed here. See LEONG, "Metric Conflict," and COHN, "Pitch-Time Analogies" for further discussion.
41. "Crucea" [Cross] is a solo dance in which a young man leaps between two sticks crossed on the ground. (See BARTÓK, *Rumanian Folk Music, v.1*, 38.)
42. Bartók's transcription also provides variants, which are not shown in Ex. 8.

Elongation at boundary points can also occur in the form of a rest or pause. According to Constantin Brăiloiu, Romanian folk singers often take too long to breathe, creating extra rests in songs with regular meter.[43] Bartók's transcriptions often represent such pauses as lengthened bars. Ex. 9 displays such a pause in Bartók's setting of "Judecata" in the Rhapsody's second movement, where a section closes with a 4/4 bar lengthened to 5/4 through the addition of a quarter-note rest. (As shown by Bartók's draft,[44] Bartók added the extending elements (circled) later.) In the Szigeti-Bartók 1940 New York recording, Bartók lengthens the added rest even more, waiting almost three full beats.

Example 9: Pause at end of section
("Judecata," in Violin Rhapsody No. 1, II)



Rhythmic-metric transformation thus differentiates sections, bridges from section to section, and articulates sectional boundaries in these three works. Characteristic rhythmic patterns differentiate periods and phrases in the settings of "De Ciuit" and "Árvátfalvi kesergő," and thematic areas in *Contrasts* and in the Sonata for Two Pianos and Percussion. Gradual transformation of "Árvátfalvi kesergő" 's opening rhythm bridges to the return of "De Ciuit," and gradual change of the first-theme pulse in the Sonata for Two Pianos and Percussion articulates a narrative trajectory from exposition to recapitulation. Durational elongation marks sectional beginnings and endings in "Crucea" and "Judecata." Bartók thus employs various types of rhythmic-metric transformations that he found in folk music to underline formal function in his own compositions.

Segmental Manipulation

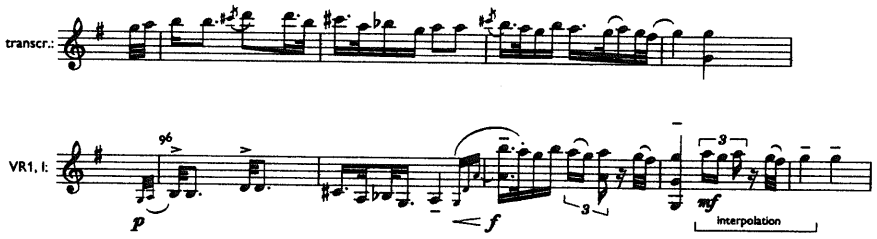
In addition to rhythmic-metric transformations, Bartók also discussed the manipulation of rhythmic segments in instrumental folk music:

> The greater rhythmic structure of instrumental dance melodies is, on the whole, much more subject to seemingly hazardous changes than that of melodies sung with text. Extra-structural repeats of certain bars or sections, and even interpolations of several bars are rather common.[45]

These types of segmental operations—interpolation, extension, and also deletion—permeate the Violin Rhapsody, acting as boundary markers and bridges. For example, Bartók emphasizes the final statement of "De Ciuit" in the Rhapsody's first movement (and the end of the movement) with a brief interpolation (Ex. 10) that repeats a segment taken from the close of the melody.

43. Constantin Brăiloiu, "Giusto Silabic," *Opere I*, tr. Emilia Comişel from French original 1948, Bucharest: Editura Muzicală a Uniunii Compozitorilor din Republica Socialistă România, 1967, 191.
44. 77 FSS1 held at the Paul Sacher Foundation, Basel, Switzerland.
45. Bartók, *Rumanian Folk Music, v.1*, 45.

Example 10: "De Ciuit": Bartók's fair-copy transcription, and Violin Rhapsody No. 1, I Interpolation at end of movement



Extensions prepare new events in Bartók's setting of "Crucea." As shown in the earlier Ex. 8, Bartók states the "Crucea" melody five times in the Rhapsody's second movement, in E, E, B, E, and A major respectively, accelerating from ♩=84-90, to ♩=100, and finally to ♩=120. The first extension (boxed) sets up the first key change from E to B major, and underlines the acceleration to ♩=100. The succeeding key changes do not warrant special treatment, but the end of the "Crucea" section and transition to a new melody occasions a lengthy and virtuosic four-bar extension (not shown) accelerating to the new ♩=120 tempo.[46]

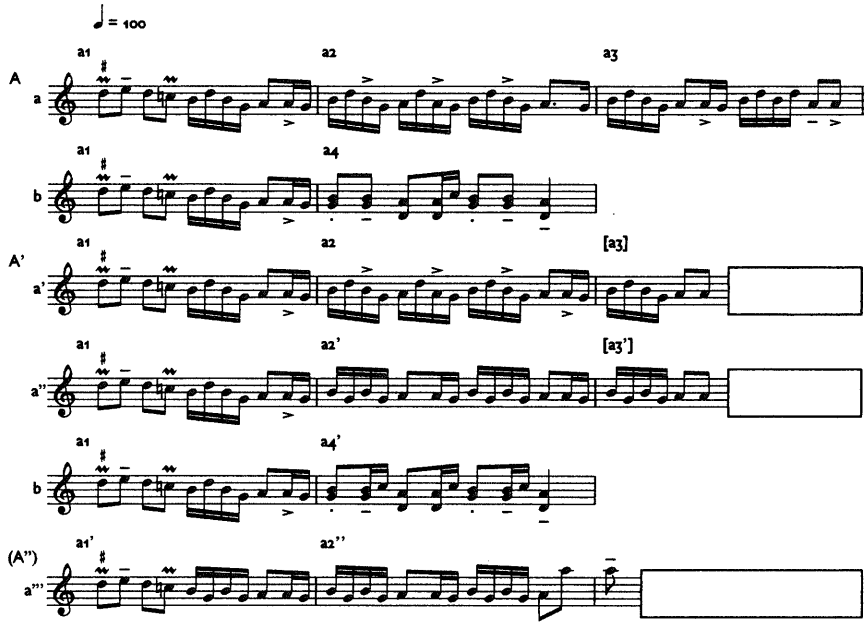
Bartók does not mention deletion *per se* in his discussion of folk-rhythm transformations. However, it does occur in the folk music he examines, as well as in his own music, and it falls under the general rubric of segmental manipulation.

The folk melody "Crucea" displays deletion. Ex. 11 reproduces the melody as it occurs in the field recording, reordering and adapting Bartók's initial transcription.[47] I parse the melody into two "periods" (A and A') of two to three phrases each (a, b; a', a", b), with an additional closing phrase (a"'); the phrases break down into subphrases (a1, a2, etc.). Subphrase a1 begins each phrase, and subphrase a4 (a quarter-note "cadence") concludes each period. Boxes on the example show that the fiddler shortens phrase a each time it appears: phrases a' and a" delete half bars, and the concluding phrase a"' deletes almost a whole bar. The progressive deletions gradually shorten phrase a until it is almost as short as cadential phrase b, but the effect is one of incompleteness and avoidance of closure.

Bartók's setting of "Pre loc"[48] communicates a similar sense of incompleteness via deletion. "Pre loc" material occurs twice in the Rhapsody's second movement, which comprises a chain of dances: "Judecata," "Crucea," "Pre loc," "Cuieşdeanca," ("Pre

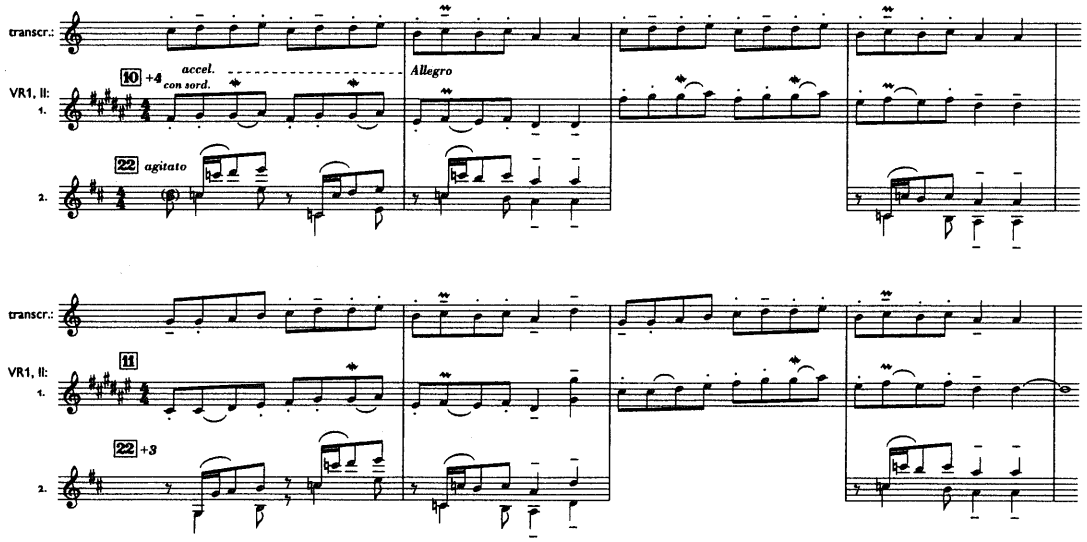
46. These five melodic statements, in their 2+3 grouping, mirror the phrase structure of the field recording of this melody (cf. later Ex. 11).
47. In his initial transcription Bartók notates the first three bars of the melody as performed on the field recording, and then provides alternate bars and half bars. Jenő Deutsch's copy of the transcription in *Rumanian Folk Music, v.1,* 205, follows the general structure of the field recording fairly closely, differing in melodic details and in the omission of phrase a".
48. "Pre loc" is a couple's dance. (See BARTÓK, *Rumanian Folk Music, v.1,* 36.)

Example 11: "Crucea": field recording (adapting Bartók's initial transcription)



loc"), "De Ciuit." On its second appearance, "Pre loc" transitions to a recapitulatory statement of opening material.[49] Ex. 12 displays "Pre Loc" as transcribed by Bartók, as it first appears in the Rhapsody, and upon its return in its transitional role. On this last appearance, the third bar of every four-bar unit is deleted. This deletion combines with contraction of the melody's durations (from ♩♩♩♩ to ♪♪♩♩) and an *agitato* marking to communicate the passage's transitional function.

Example 12: "Pre Loc": Bartók's initial transcription, and two statements in Violin Rhapsody No. 1, II
Deletion in the second statement



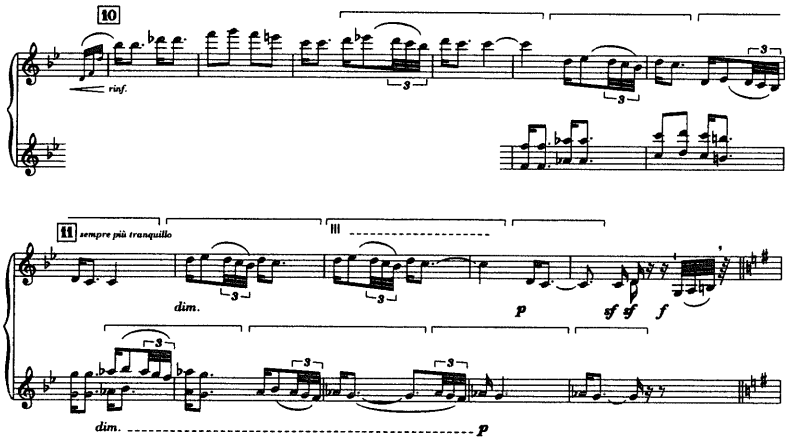
49. In the original version of the Rhapsody, "De Ciuit" is recapitulated; in Bartók's alternate version for stand-alone performances of the second movement, "Judecata" returns. (See note 8.)

Bartók thus manipulates segments—adding and deleting them—to mark sectional boundaries and transitional passages in the Rhapsody. Interpolation, extension, and deletion articulate the end of the first movement, the end of a melodic section, and the transition from the chain of dances to the recapitulation of opening material, respectively. In this way Bartók puts techniques of segmental manipulation—techniques that he observed in folk music—to his own compositional uses.

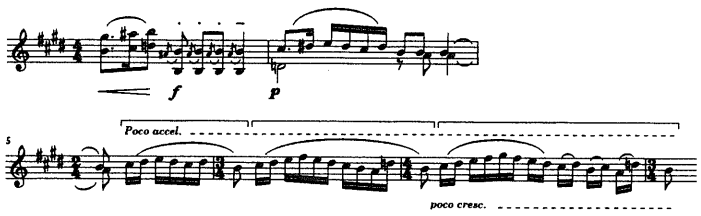
He also extends these simple types of segmental manipulation by repeating them. Successive addition or deletion of segments results in processes of contraction and expansion, processes that characterize Bartók's approaches to sectional boundaries in Violin Rhapsody No. 1, *Contrasts,* and Sonata for Two Pianos and Percussion.

In the Rhapsody, Bartók punctuates the end of "Árvátfalvi kesergő" material by repeating and gradually contracting the melody's final subsegment, both in the violin melody and (more clearly) in the piano accompaniment (Ex. 13). He also marks motion from the end of the "Judecata" melody to the beginning of "Crucea" material by expanding a motive from the end of "Judecata" (Ex. 14).

Example 13: Motivic repetition with contraction at end of section
("Árvátfalvi kesergő," in *Violin Rhapsody No. 1, I*)

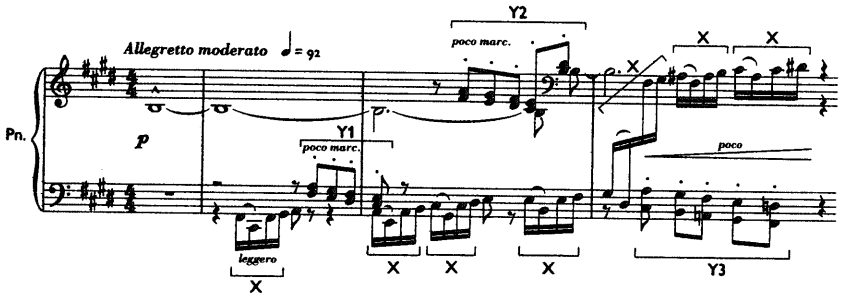


Example 14: Motivic expansion at end of section
("Judecata," in *Violin Rhapsody No. 1, II*)



As shown in Ex. 15, expansion articulates the opening of the Rhapsody's second movement. The piano states its rhythmic-melodic motive X once, twice, and then four times, and answers it with chains of stepwise staccato dyads (Y) that increase in length (Y2) and then expand from harmonic thirds to sixths (Y3).

Example 15: Motivic expansion at beginning of movement
(*Violin Rhapsody No. 1, II*)



In *Contrasts*, contraction and expansion tend to appear in tandem at sectional boundaries. As shown in Ex. 16, contraction and expansion together build to a climactic section in the second-theme area. Contraction occurs via accelerating tempo, shortening composite-rhythm durations, and quickening pulses articulated first by the piano's harmonic rhythm and then by the clarinet's pitch-contour groupings. Expansion in the violin counters this contraction: pitch motive X_1 expands in duration, motivic length, and register to X_2.

The Sonata for Two Pianos and Percussion also displays this technique as a means for bridging tempo changes from section to section. As shown in Ex. 17, expansion prepares an entrance of the slower second theme.

In all three works, then, processes of expansion and/or contraction begin, end, or bridge between sections. These characteristic Bartókian formal processes can be understood as extensions of folk techniques of segmental manipulation.

"Shifted Rhythm"

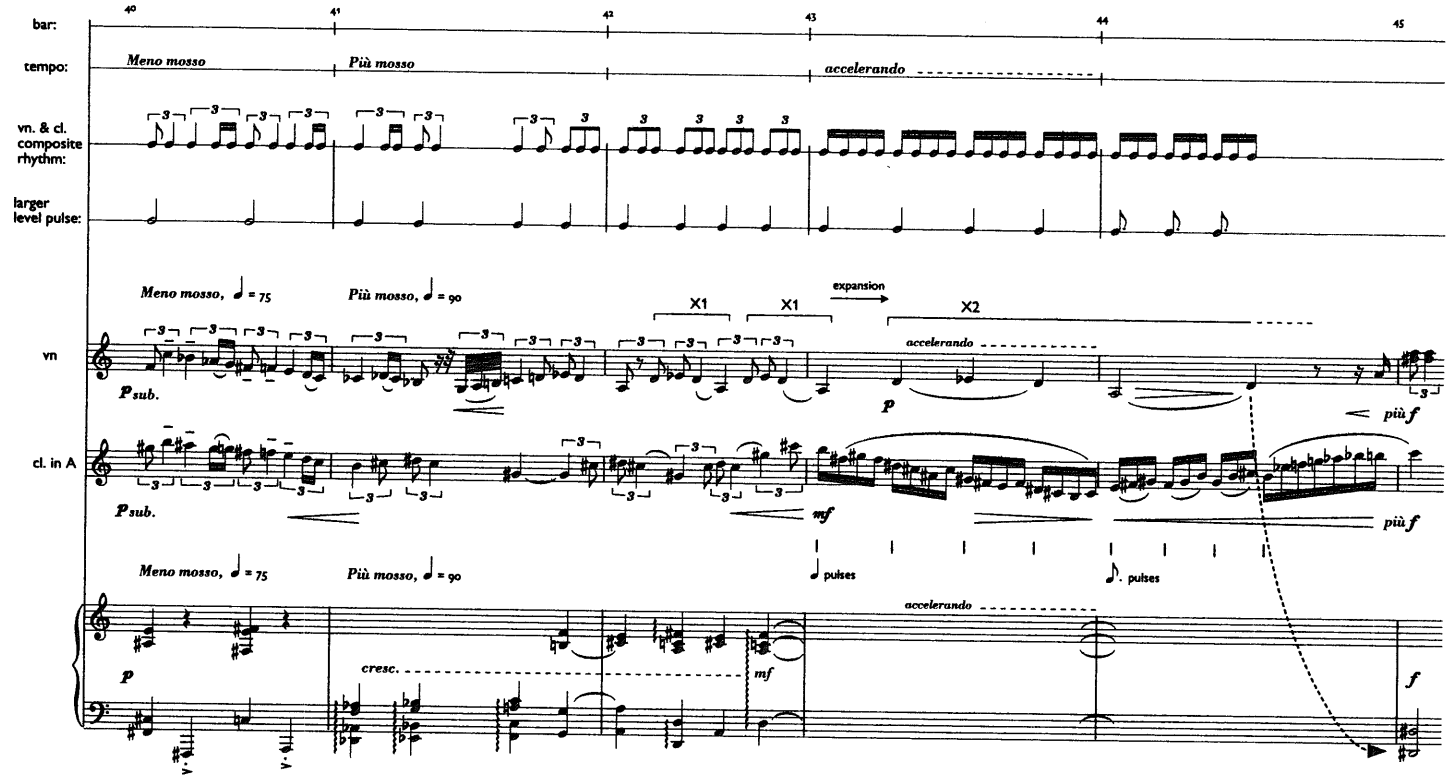
A third folk-rhythm technique that Bartók discusses is "shifted rhythm." "Shifted rhythm" involves repeating patterns that conflict with the established meter. As demonstrated by Bartók's diagrams—

> > > > > > >
a b | c a | b c | d e ||, or a b | c d | b c | d e ||

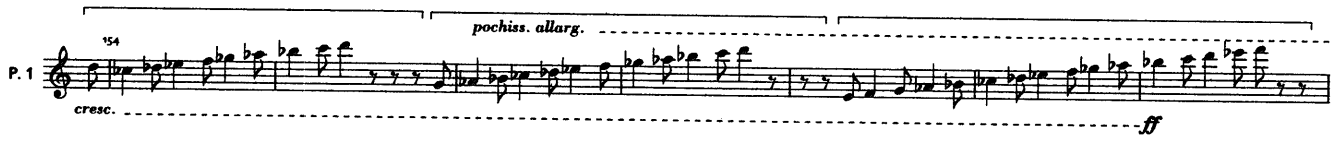
(letters represent the content of quarter-note durations)—repeated patterns shift their metric placement and hence their metric accentuation.[50]

50. BARTÓK, *Rumanian Folk Music, v.1*, 45.

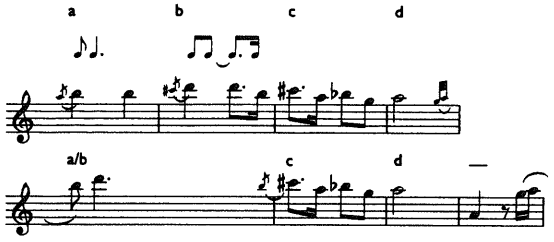
Example 16: Contraction combined with expansion *(Contrasts, I)*



Example 17: Expansion *(Sonata for Two Pianos and Percussion, I)*



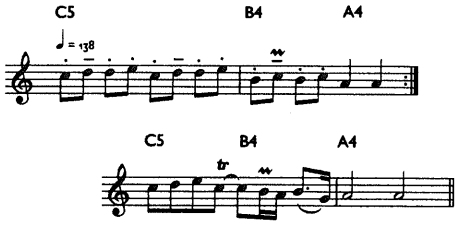
Example 18: "De Ciuit": rhythmic shift
(Bartók's initial transcription)



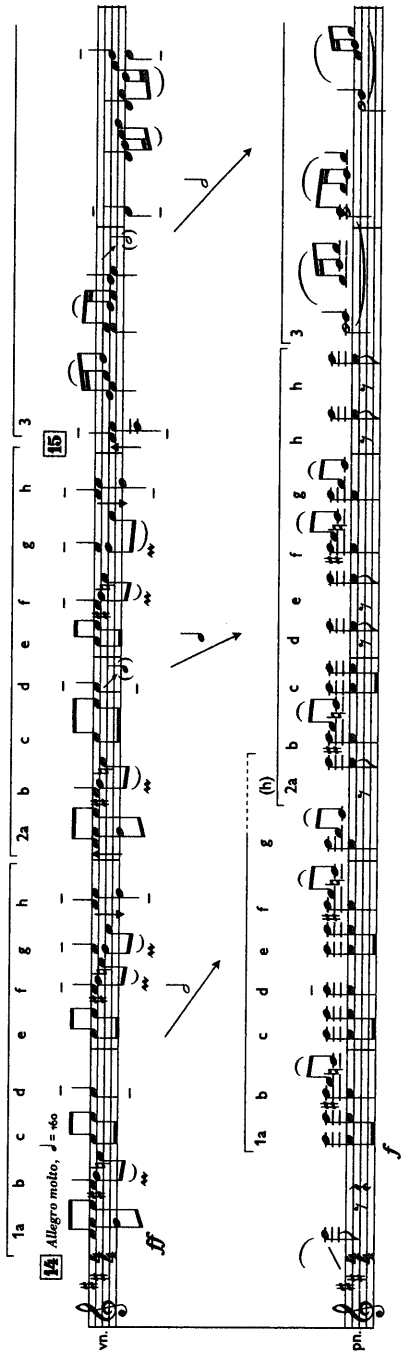
N.B. vagy is lehet ♪♩. úgy változó!
átírni kisebb értékekbe! és 2 taktust egybe vonva.

[N.B. or , likewise ♪♩., vary!
Copy durations at half value! and merge 2 bars into one.]

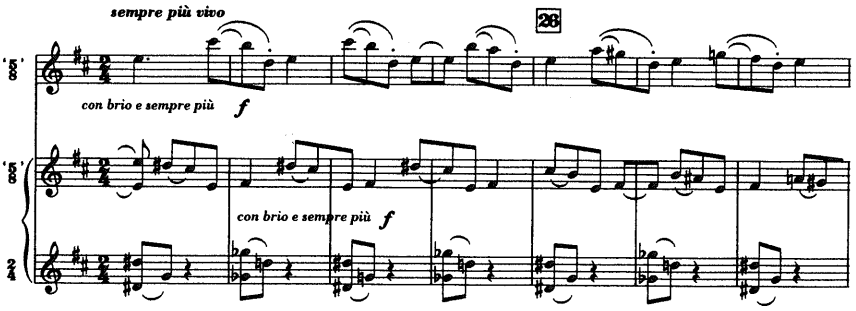
Example 19: "Pre Loc": Rhythmic shift
(Bartók's initial transcription)



Example 20: Rhythmic shift in imitative accompaniment ("Cuieşdeanca," in *Violin Rhapsody No. 1, II*)



Example 21: Polymeter in a transitional passage: 5/8 versus 2/4
(*Violin Rhapsody No. 1, II*)



The folk melodies that Bartók quotes in Violin Rhapsody No. 1 themselves display "shifted rhythm." Ex. 18 shows two subphrases from Bartók's initial transcription of "De Ciuit." My lower-case letters denote rhythmic-melodic content; rhythms above the staff show discrepancies between Bartók's transcription and the field recording. Rhythmic shift transforms the first subphrase into the second: a and b elide into one bar, c and d shift "earlier" by one bar, and d elongates to two bars to fill up the four-bar unit. In other words, the unit's beginning compresses, altering metric placement, and the unit's ending expands, maintaining the original unit length. Ex. 19 displays the phenomenon in the first and last phrases of "Pre loc," where the basic pitch segment <C_5, B_4, A_4> begin-compresses, shifts, and end-stretches.

These melodies are monophonic, and so rhythmic shift occurs in a single voice. In Bartók's usage, however, rhythmic shift tends to occur in a polyphonic context. Ex. 20 demonstrates Bartók's use of the technique in his imitative accompaniment for "Cuieşdeanca (joc fecioresc)."[51] The accompaniment echoes the violin melody at the distance of a half note, then quarter note, and again half note. My annotations (Arabic numerals for phrases; lower-case letters for rhythmic-melodic content) show that rhythmic shift causes this change in the interval of imitation. Phrase 2 shifts Phrase 1: eliding 1h and 2a; shifting a, b, c, d, e, f, g, and h metrically "earlier" by a quarter note; and expanding h to a half bar to fill the resulting gap. Bartók thus employs rhythmic shift within a section to alter the alignment between voices, thereby heightening tension.

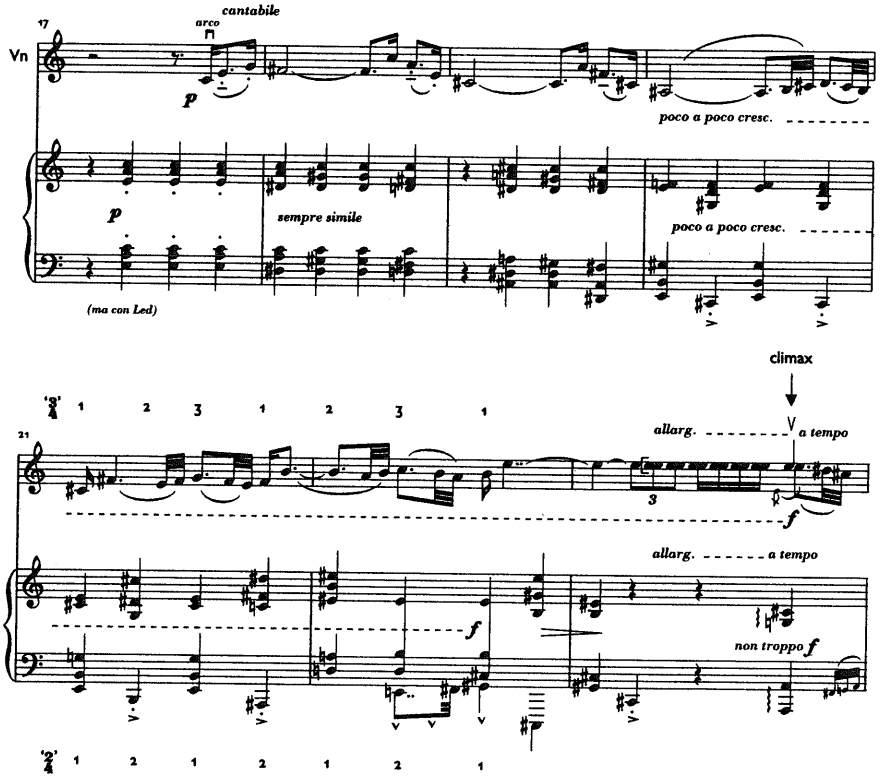
Bartók's use of polymeter can be viewed as an extension of rhythmic shift. Both techniques transform the metric context of a repeating pattern and (in Bartók's usage) contrast multiple voices. Polymeter extends and abstracts rhythmic shift in its periodicity and in its establishment of a new unit length.

Like rhythmic shift, polymeter functions as a tension-building transitional technique in the works under discussion. In the Rhapsody, polymeter and further motivic fragmention provide the impetus building to the recapitulation of opening material at the end of the second movement. Ex. 21 shows the juxtaposition of two 5/8 strands in the violin and piano right hand against the established 2/4 meter in the piano's left hand.

A similar strategy appears in a climactic buildup in the first movement of *Contrasts* (Ex. 22). Here the violin creates 3/4 meter in contrast to the 2/4 or 4/4 in the piano accompaniment,[52] building to a climax which then unfurls a new set of polymeters (not shown).

51. A young man's dance.
52. The offbeat accents in the piano express *dűvő.*

Example 22: Polymeter (*Contrasts, I*)



To sum up, then, Bartók uses rhythmic shift and its extension, polymeter, to increase tension within transitional sections. Both techniques can be linked to the "shifted rhythm" that Bartók observed in folk music.

Conclusion

Bartók's observations on rhythm in folk music provide an intriguing window into his own practice. The three types of folk-rhythmic transformations that he discusses—rhythmic-metric transformations, segmental manipulation, rhythmic shift—and their extensions—contraction/expansion, polymeter—play indispensable and clearly defined roles in Violin Rhapsody No. 1, *Contrasts,* and Sonata for Two Pianos and Percussion.

These three works represent three categories of folk-music usage—quotation, imitation, and absorption—described by Bartók. Despite their differing degrees of closeness to folk sources, however, all three works feature the types of folk-rhythmic transformations discussed here in specific syntactical roles. Rhythmic-metric transformation differentiates sections or occurs gradually as part of a formal process. Segmental manipulation and contraction/expansion articulates sectional boundaries. Rhythmic shift and polymeter feature in transitional passages.

These similarities of syntax point not only to Bartók's compositional predilections, but also to complex links between Bartók's compositional practice and his ethnomusicological studies.[53] It is tempting to say that his observations of rhythmic techniques in folk music informed his own rhythmic strategies. The arrow may also point the other way, however: his compositional preferences may have biased him towards certain types of observations in his folk-music studies.[54]

This study does not purport to answer the question of cause-effect. It does, however, demonstrate significant links between rhythmic strategies in three of Bartók's chamber works, and in his ethnomusicological writings.

APPENDIX: VIOLIN RHAPSODY NO. 1 – PRIMARY SOURCES

A. Folk-Music Sources: Field Recordings and Transcriptions

The sources for each of the six folk melodies quoted in Violin Rhapsody No. 1 are given below.[55] The melodies are numbered in order of their appearance in the Rhapsody's two movements: I.1, I.2; II.1, II.2, II.3, and II.4. The information given for each dance melody includes its name, performer, place, and date of recording as given by Bartók. The sources for each melody include a field recording made by Bartók, and three basic versions of Bartók's transcription: Bartók's initial transcription in pencil, a fair copy in Márta Ziegler's hand with Bartók's corrections/revisions, and a facsimile of Jenő Deutsch's copy as published in *Romanian Folk Music*, vol. I (*RFM* I). These types of sources are abbreviated below as R (field recording), D (draft), FC (fair copy), and PUB (published version), respectively. The present location of each source is given in curly brackets {} using the following abbreviations: BA = Bartók Archives, Budapest; NM = Néprajzi Múzeum (Hungarian Ethnographic Museum), Budapest; HFMDA = Hungarian Folk Music and Dance Archives, Institute for Musicology, Budapest.

The sources of melody I.2 "Árvátfalvi kesergő" differ from the others. This melody is the only one of the six that is not Romanian. It was not collected by Bartók but by László Lajtha (vocal version) and Béla Vikár (violin version);[56] Bartók's initial transcription is lost; and the melody does not appear in Bartók's published collections.

I.1. "De Ciuit": Ion Popovici, Râpa-de-Sus (Mureş), April 1914
[R] MF 3544d {NM}
[D] Folio 129v, No. 1221d {BA}
[FC1] loose sheet in pencil in Márta Ziegler's hand {NM}
[FC2] *Támlapok* III (Romanian Instrumental), p. 442 – blue carbon copy of FC1, with corrections by Bartók in ink {BA}
[PUB] *RFM* I, p. 232

53. Clearly, these techniques are not specific either to Bartók's compositions or to the folk music that he studied. Nevertheless, their appearance in substantial form in both his compositions and his ethnomusicological writings link the two in a significant manner.
54. According to Somfai, "Finale of Bartók's Piano Sonata," 537, Bartók "felt more confident in his compositional innovations when they seemed to him to have some justification in the various kinds of folk music which he studied scientifically."
55. Lampert, "Quellenkatalog," 113-16 provides a more abbreviated list of these sources.
56. Somfai, "Az 'Árvátfalvi kesergő'," 304-306. Page 305 displays a facsimile of the fair copy.

I.2. "Árvátfalvi kesergő": János Balog, gypsy, Medesér (Udvarhely)
[R] MF 99II/a (Vikár Collection) {NM}
[D] lost
[FC] by Márta Ziegler in black ink, with Bartók's revisions in green ink {HFMDA}
[FC] in blue ink, unknown hand {NM}

II.1. "Judecata": Pătru Moş, Ghilad (Timiş), Dec.1912
[R] MF 1746c {NM}
[D] Folio 33r, No.671c {BA}
[FC] *Támlapok* V (Romanian Instrumental), p. 687 – in pencil in Márta Ziegler's hand, corrections by Bartók {BA}
[PUB] *RFM* I, p. 404

II.2. "Crucea": Pătru Moş, Ghilad (Timiş), Dec. 1912
[R] MF 1746b {NM}
[D] Folio 33r, No.671b {BA}
[FC] *Támlapok* IV (Romanian Instrumental), p. 620 – in pencil in Márta Ziegler's hand, corrections by Bartók {BA}
[PUB] *RFM* I, p. 298b

II.3. "Pre Loc": 2 violins: a gypsy and his son, Alibunar (Torontal), Dec 1912
[R] MF 1781b {NM}
[D] Folio 36r, No.706b {BA}
[FC1] loose sheet in pencil in Márta Ziegler's hand {NM}
[FC2] *Támlapok* I (Romanian Instrumental), p. 88 – blue carbon of FC1, corrections in ink by Bartók {BA}
[PUB] *RFM* I, p. 215

II.4. "Cuieşdeanca (joc fecioresc)": Ion Popovici, Râpa-de-Sus (Mureş), April 1914
[R] MF 3543b {NM}
[D] Folio 129r, No. 1220b {BA}
[FC1] loose sheet in pencil in Márta Ziegler's hand {NM}
[FC2] *Támlapok* III (Romanian Instrumental), p. 484 – blue carbon of FC1, corrections in ink by Bartók {BA}
[PUB] *RFM* I, p. 226

B. Compositional Documents: Draft, Fair Copies, Published Editions

Compositional documents of Violin Rhapsody No.1 (violin/piano version) consulted for this article are listed below.[57] Sources 1-7 are on permanent loan to the Paul Sacher Foundation, Basel, Switzerland; source 8 is held in Béla Bartók Jr.'s private collection. (A photocopy of source 8 was consulted at the Bartók Archives, Budapest.)

1. draft (61VPS1)
2. fair copy: photoprint of MS in possession of Szigeti (61 VPFC 1)
3. photoprint of 2., with markings by Bartók and editor,
   + 2pp. title page and performance instructions (MS in Bartók's hand)
   associated fragments:
   cut-out fragment (61 VPFC 4)
   MS fragments – discarded revisions (previously sewn on, removed) (61 VPFC4)
4. photoprint of 3., including all markings (61 VPFC2)
5. printed proof, with corrections by Bartók (61 VPFC4)

57. See also SOMFAI, *Composition, Concepts, and Autograph Sources*, Berkeley, University of California Press, 1996, 312, which includes sources for the violin/orchestra and cello/piano versions of the Rhapsody.

6. printed copy (1929 Universal Ed. Nr.9865), with corrections by Bartók and markings by editor
7. photoprint of 6 (61 VPFC3)
8. printed copy (Universal Edition 9865), with timings (Bartók's concert copy)

C. Recorded Performances

1. József Szigeti and Béla Bartók, May 2, 1940, New York, in *Bartók at the Piano,* Hungaroton HCD 12326-28.
2. József Szigeti and Béla Bartók, April 13, 1940, Library of Congress, WA, in *Bartók at the Piano,* Hungaroton HCD 12326-28.
3. Ede Zathureczky and Béla Bartók, April 11, 1939, Budapest, in *Bartók Plays and Talks,* Hungaroton 12334-37.
4. Zoltán Székely and Isobel Moore, in *Bartók Complete Edition,* "Chamber Works I," Hungaroton HCD 31892-94.