# On Bartók's Comparative Musicology as a Resource for Bartókian Analysis

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Béla Bartók's reticence about his compositional methods is well known. In his essays, 'analytical' comments about his own music rarely delve beyond obvious surface features of the works, generally offering little more than a formal plan or identifying a few themes. Bartók eschewed discussion of his compositional techniques, feeling little need to explain the inner workings of his music—a good composition, he believed, should stand on its own merits.[1] But in contrast to the dearth of substantive writing about his own music, Bartók was prolific in his writings about folk music. Numerous essays discuss characteristics of Hungarian and neighboring folk musics; introductions written for his various published folk music collections present the distillation of his 'scientifically' culled data about rhythmic, metric, melodic and modal features of the collected tunes.

The present article argues that the activities surrounding Bartók's study and comparison of folk music—in particular his sorting and categorizing collected Hungarian folk tunes—are also analytical activities. These activities, moreover, have ramifications, not only for the corpus of folk tunes for which they were created and applied, but also for Bartók's original compositions. The paper examines how two aspects of Bartók's lexical system for classifying and categorizing Hungarian folk tunes—namely caesura tone scheme and syllabic scheme—underlie the variation technique in "Ballade" from *15 Hungarian Peasant Songs* and play a role in the harmonic and formal design of "Song," No. 116 from *Mikrokosmos*.[2]

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[1] On the attitudes, reliability and limitations of Bartók's comments about his own music, see Somfai 1996, 9-24.

[2] Bartók details aspects of his system of tune classification in a number of sources, including the introduction to Bartók 1959 and the preface to Bartók/Kodály 1923. The most thorough description of the system is presented in the introduction to Bartók [1931] 2002, from which the present discussion is drawn. Many studies, particularly by Hungarian scholars, have addressed folk influences in Bartók's

Bartók's lexical system for tune classification is a modified version of one set forth by the Finnish ethnomusicologist Ilmari Krohn.[3] In the modified system, all tunes are transposed to end on G4 to facilitate comparison. Tunes are then classified according to 1) the number of text lines they set (each text line corresponds to one melodic section), 2) the relative height of their melodic section endings (caesurae), 3) the number of syllables in each text line, and 4) their ambitus. Since tunes with four lines/melodic sections by far predominate in the Hungarian folk song repertoire, the present discussion will restrict itself to four-line tune structures and will only address Bartók's system of sorting by the height of melodic line-endings and his syllabic classification.

Example 1 illustrates Bartók's numerical system for denoting line-ending (caesura) tones. G4, the designated *finalis* of all tunes, is labeled with the Arabic numeral 1. Uninflected steps above G4 are labeled with Arabic numerals, those below G4 are labeled with Roman numerals. Accidentals (♯ or ♭) are used to represent chromatic inflections relative to the 'white note' gamut. Closed and open boxes around the numerals distinguish caesura tones of the different line/melodic sections: the end tone of the first line is indicated by a downward bracket (⌐¬); the end tone of the second line (the main caesura in a four-line tune) is indicated by a closed box (□); and the end tone of the third line is indicated by an upward bracket (L_). Since the final tone of the fourth line, by convention, is always on scale step 1 (G4), it requires no explicit notation.[4]

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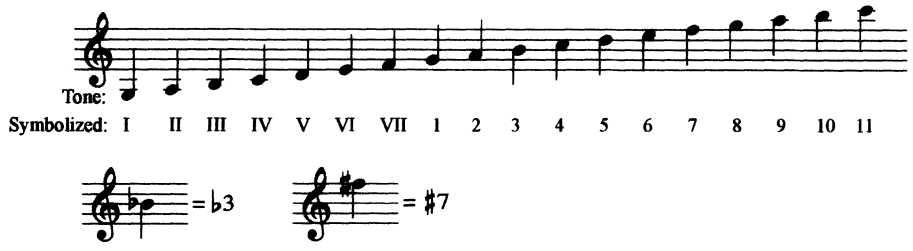
music; among numerous others, Kovacs 1993 and Suchoff 1984 discuss Bartók's activities as a collector of folk music; Lampert 1982 and Dobszay 1982 discuss issues surrounding the inclusion of folk-tunes in Bartók's music; Rice 2000 and Breuer 1975 discuss rhythmic aspects of folk music as manifest in Bartók's work. Relative to this large body of literature, the present study is limited in its scope: it considers only certain analytical ramifications suggested by Bartók's lexical system.

[3] Bartók [1931] 2002, vi, refers the reader to Krohn 1902/3.

[4] In later publications (e.g. Bartók/Lord 1951), Bartók altered the notation, keeping the box to indicate the main caesura, but using instead a right brace ( ] ) to indicate the first-line caesura, and a left brace ( [ ) to indicate the third-line caesura.

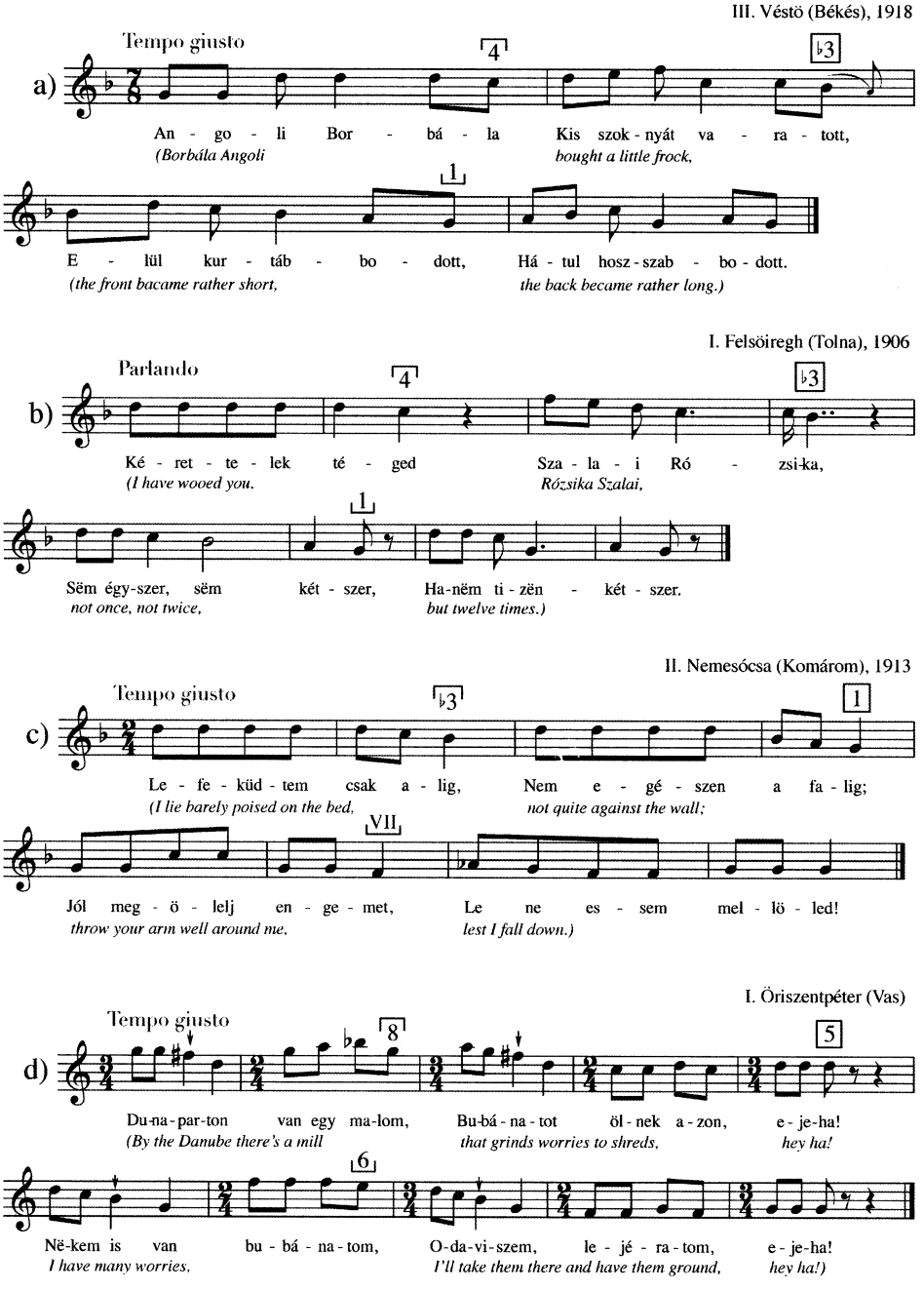
Example 1. *Bartók's numerical system for designating line-ending tones.*




Examples 2a-d present four of Bartók's published folk-song transcriptions (nos. 34a, 34b, 44 and 261, respectively, from *The Hungarian Folk Song*), which illustrate these notational aspects of the lexical system. For instance, in the melody of Example 2a, the main caesura occurs on B♭4, indicated by the symbol [♭3] placed above it on the staff, the preceding caesura is on C5, indicated by the symbol ⌜4⌝ placed above it on the staff, and the third caesura is on G4, indicated by the symbol ⊥ placed above it on the staff. Bartók does not denote the final caesura, since by definition it occurs on 1; the figures ⌜4⌝[♭3]⊥ are sufficient to describe the caesura scheme of the tune in Example 2a, a scheme projected also by the tune of Example 2b. Example 2c projects the caesura scheme ⌜♭3⌝[1]VII⊥; Example 2d projects the caesura scheme ⌜8⌝[5]6⊥. For the actual sorting, Bartók grouped tunes first according the height of their main caesura, ordered from lowest to highest tone (e.g. tunes with the main caesura [♭3] precede those with [5]). Tunes within each group were then sorted into subgroups based on the height of their first-line caesura, also ordered from lowest to highest. Finally, each subgroup with identical tones at the ends of their second and first lines were subdivided according to the height of their third-line endings, ordered from lowest to highest tone.

Bartók further divided his collected folk tunes by creating groups based upon the number of syllables per line of set text. In the typically syllabic settings of the folk tunes, the number of syllables per line is generally equal to the number of notes per melodic section. Tunes are classified most broadly into *isometric* tunes (tunes with the same number of syllables per line) and *heterometric* tunes (tunes that set text lines of different syllabic

*Example 2. Four tunes from* The Hungarian Folk Song
*(a) 34a; (b) 34b; (c) 44; (d) 261. Translations from Bartók* [1931] 2002.



length).[5] Isometric tunes are subdivided according to the specific number of syllables per line. Examples 2a and 2b are six-syllable isometric tunes; each of the four text lines has six syllables and each melodic section contains six notes. Example 2c is a seven-syllable isometric tune. Other isometric tunes have eight syllables per line, nine syllables per line, and so on. Heterometric tunes are sub-classified not by the absolute number of syllables per line, but rather by the relative syllabic lengths of their lines. Bartók observed that heterometric tunes typically had lines of only two different syllable lengths. Symbolizing the longer line with an upper-case Z and the shorter line by a lower-case z, Bartók classified heterometric tunes into groups such as Z,z,Z,z (the first and third lines, which have the same length, are longer than the second and fourth lines, which have the same length), Z,Z,z,z (the first two lines, which have the same length, are longer than the last two lines, which have the same length), and so on. Example 2d illustrates a heterometric tune that belongs to the z,Z,z,Z class; it has the specific syllable scheme 8, 11, 8, 11 over its four sections.

Bartók used the categories of his lexical system to statistically define characteristics of the Hungarian folk repertoire, to distinguish styles in that repertoire (old- versus new-style melodies) and to compare and identify similarities between Hungarian tunes and those of neighboring regions (e.g. Slovak, Romanian, and Yugoslavian tunes).[6] But at its most basic level, Bartók's lexical system offered the means to catalog his collected melodies so that tunes with similar structural features would be placed in close

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[5] This use of the terms *isometric* and *heterometric* is Bartók's, and does not connote traditional meanings of "meter" in the either the qualitative or quantitative (i.e. long/short) poetic/musical senses. Rather, it simply refers to numbers of syllables/notes per line.

[6] Bartók [1931] 2002 reflects the division of tunes into style classes. Tunes designated as "old style," Bartók's class A, are presented first, class B tunes, the "new style," are presented next, followed by tunes of class C (those that fit into neither category). Bartók discusses the structural and stylistic distinctions within Hungarian folk music and between Hungarian folk music and folk music of neighboring regions in his 1934 essay "Hungarian Folk Music and the Folk Music of Neighboring Peoples" translated and reprinted in Bartók 1997, 174–240.

proximity to one another, to aid the identification of tune variants.[7] For instance, Bartók recognized the tunes in Examples 2a and 2b—tunes collected twelve years apart in geographically distinct regions of Hungary—to be variants of one another, despite their differing contours and texts, because they have the same syllabic structure and exhibit the same caesura scheme.[8]

More important for present purposes than Bartók's specific conventions for ordering the tunes within his lexical system, however, is what the system reveals about Bartók's structural biases: the system reflects structural categories and structural attributes of the tunes that Bartók deemed significant for the repertoire. Moreover, certain of those categories—specifically, line-ending scheme and syllabic line length—are not especially familiar to Western analytical practice, which is more inclined to invoke incipits or phrase contour in discussions of tune relatedness. We shall see presently that awareness of, and attendance to, the structural categories of Bartók's lexical system in his own compositions—in particular, compositions that feature folk or folk-like melodies—can offer insights into the works.

One fairly well-known way that Bartók's study and classification of folk material manifests itself in his composition is in his creation of original melodies in imitation of folk tunes. An awareness of the structural categories of Bartók's classification system can provide the basis for a precise understanding of the relation between the originally-composed and the extant folk melodies. Example 3a presents the slow, *parlando-rubato* tune of

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[7] That the quantitative, scientific/structuralist approach of Bartók's modified Krohn system bears a similarity in spirit and method to the numerical scheme for classifying folk tales that emerged in the early decades of the twentieth century in the work of Finnish folklorist Antti Aarne (known now as the AT-numbering system), is not coincidental: Aarne's teachers, Julius Krohn and Kaarle Krohn, were father and brother, respectively, of Ilmari Krohn, and were pioneers in the scientific study of folklore. Aarne's system is presented in his 1910 *Verzeichnis der Märchentypen*, revised as Aarne 1927.

[8] Complete identity of line-ending scheme was not a necessary condition for designating tunes as variants. Bartók believed the main caesura to be the least malleable of the internal line endings and therefore the most likely caesura to be shared by variant tunes. Tunes 33a and c in Bartók [1931] 2002, for example, have only the main caesura in common.

Bartók's "Evening in Transylvania," from his *Ten Easy Pieces*. The melody does not quote an actual folk tune, but was composed by Bartók in imitation of one.[9]

Bartók's reference to Transylvania in the title does not simply evoke place, but also style. Prior to World War I, Transylvania was geographically and politically part of Hungary. It was (and still is) home to a Magyar-speaking population (the Szekely Hungarians) who were separated from the larger, contiguous Magyar-speaking region to the west, a population that remained culturally and linguistically distinct from the populations of the Romanian-dialect regions that surrounded them geographically. Bartók postulated that because of the geographic isolation of the Transylvanian Hungarians, their folk-music repertoire represented the old style of Hungarian folk music in its least corrupted form.[10]

Attributes of the old-style are evident in the tune Bartók composed. The pentatonic, *parlando-rubato* tune from "Evening in Transylvania" is a four-line, 8-syllable isometric melody, a syllabic structure Bartók considered to be among the oldest.[11] Moreover, the tune exhibits a non-architectonic design (i.e. no formal repetition or transposition of melodic sections) and features an overall descending line-ending scheme ⌜5⌜4⌟1⌟ (Bartók's symbology has been transposed on Example 3a to reflect the final on E); both are features of the old style.

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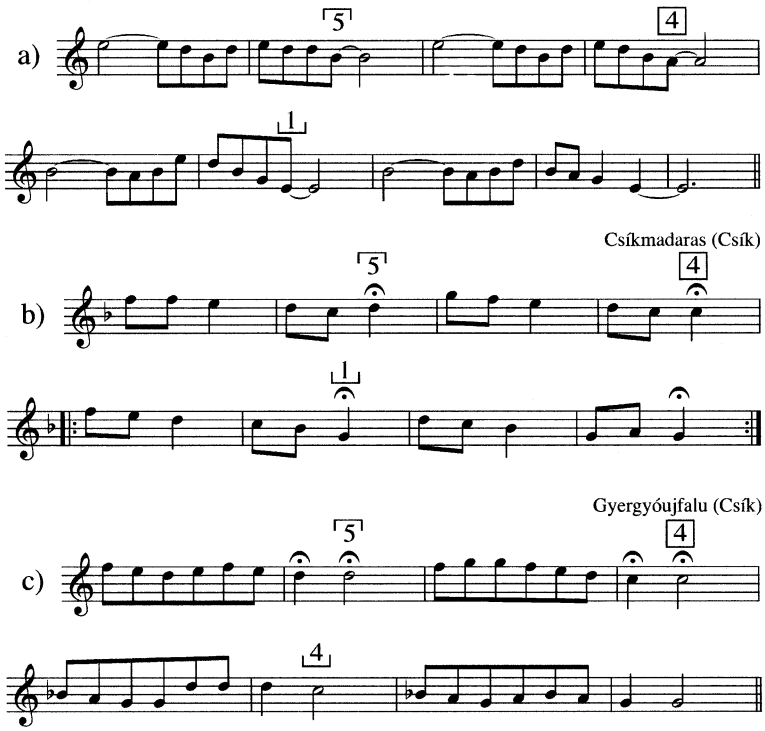
[9] Bartók himself says of the work that it is "an original composition...with themes of my own invention...in the style of...the Hungarian-Transylvanian folk tunes. There are two themes. The first one is a parlando rubato...an imitation of song, a vocal melody." The comments were made during an interview with David LeVita as part of the "Ask the Composer" series, in conjunction with a concert at the Brooklyn Museum on July 2, 1944, broadcast by radio station WNYC. The interview has been released on the CD "Bartók Recordings from Private Collections" (Hungaroton 12334/7, 1995). A transcription of the interview is published in Kroó 1969. *Parlando rubato*, a performance style in which a tune is sung in an unmeasured rubato, is one of the two performance types Bartók identified in Hungarian folk music. The other, *tempo giusto*, refers to tunes performed in rhythm at a fixed tempo.

[10] Bartók [1931] 2002, xix.

[11] Bartók [1931] 2002, xxxv.

*Example 3. (a) The slow melody from "Evening in Transylvania."*
*(b) Tune no. 3 from "Székely balladák."*
*(c) Tune no. 5c from "Székely balladák."*



While it may be that the titular reference to Transylvania intends nothing deeper than the evocation of the old style, it is curious that Bartók places the main caesura of his tune on [4], a notably uncommon main-caesura tone. Bartók observed in *The Hungarian Folk Song* that tunes with the main caesura on [4] were found in only seven of 70 eight-syllable isometric tunes.[12] However, most of these tunes are found within the geographic region that includes Transylvania—exclusively so in about half the cases. In other words, main caesuras on [4], while infrequent in the total corpus of Hungarian folk tunes, are nonetheless most typically found in tunes from the Transylvanian region.

Although Bartók includes no examples of tunes in *The Hungarian Folk Song* that have the exact scheme ⌜5⌝[4]⌞1⌟, an example exists in Bartók's earliest published folk song collection, "Székely balladák" (Szekély Ballads): Example 3b presents the six-syllable isometric tune "Magyarósy Tamás," number 3 in the collection.[13] Example 3c presents number 5c from "Székely balladák," an eight-syllable isometric tune that exhibits the related scheme ⌜5⌝[4]⌞4⌟, and which shares certain contour features of the tune from "Evening in Transylvania."[14] Line-ending scheme is, to be sure, only one attribute of a given tune, and a myriad of other collected tunes could be called forth that bear similarity in other ways to the slow melody of "Evening in Transylvania." Rather than claiming that Bartók crafted the melody of "Evening in Transylvania" as an explicit or intentional variant of these or any other particular tunes, I simply suggest that recognizing how the melody exhibits specific structural attributes of tunes found primarily in the Transylvanian region—a descending line-ending scheme with main caesura on [4]—is one way of explaining how

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[12] Bartók [1931] 2002, xix. Melodies with the same main caesura are found in similarly low proportion among tunes of the other isometric syllabic classes: three out of 30 six-syllable tunes, four out of 35 eleven-syllable tunes, and so on.

[13] Bartók 1908. The article is reprinted in Bartók 1966, 15–50. Bartók included "Magyarósy Tamás," in his later collection, *Transylvanian Hungarians: Folk Songs* (Bartók/Kodály 1923), reprinted in Bartók 1997, 77–134, along with three other tunes exhibiting the scheme ⌜5⌝[4]⌞1⌟, all from Csík County, Transylvania (see melodies 121–124).

[14] Concerning the relatedness of tunes with common main caesura, see note 8.

Bartók's original tune projects a distinctively Transylvanian character.

Whereas the original melody of "Evening in Transylvania" may be understood as a variant, in a general or idealized sense, of a class of actual folk tunes, Bartók explores variation in a more concrete sense in "Ballade," from *15 Hungarian Peasant Songs*. The work takes as its theme the tune "Angoli Borbála," presented in Example 2a. The piece begins with an unaccompanied statement of the tune-as-theme in octaves; subsequent statements (variations 1–4, 8–9) preserve the tune as a melody, adorning it with a variety of melodic, arpeggiated or chordal accompaniments. Although the movement is one of Bartók's few works explicitly designated as a theme and variations (Bartók writes in parentheses beneath the title, "tema con variazioni"), the technique of presenting several statements of a folk tune with varied accompaniments occurs repeatedly throughout Bartók's output—in *For Children*, *Rumanian Christmas Carols*, and the *Improvisations* Op. 20, to name only a few.[15] However, Bartók explores a different variation technique in the middle variations of "Ballade," one that presents variations of the tune itself.

Example 4 presents the theme of "Ballade" aligned above variations 5–7. The example illustrates how Bartók strictly preserves the ⌜4⌝⌜♭3⌟1⌟ line-ending scheme in each variation, despite changes in key, register, meter and rhythm. The example underscores the importance Bartok placed upon the line-ending scheme—rather than on melodic contour—as a determinant of tune relatedness. For instance, the second melodic section of the tune begins with an ascent to scale degree seven, but there is no ascent in the corresponding sections of variations five or six; the second section of variation five does not even include the fifth scale degree, the initial tone of that section in the original tune. The last melodic section of the fifth variation similarly lacks the melodic ascent found in the corresponding section of the original tune.

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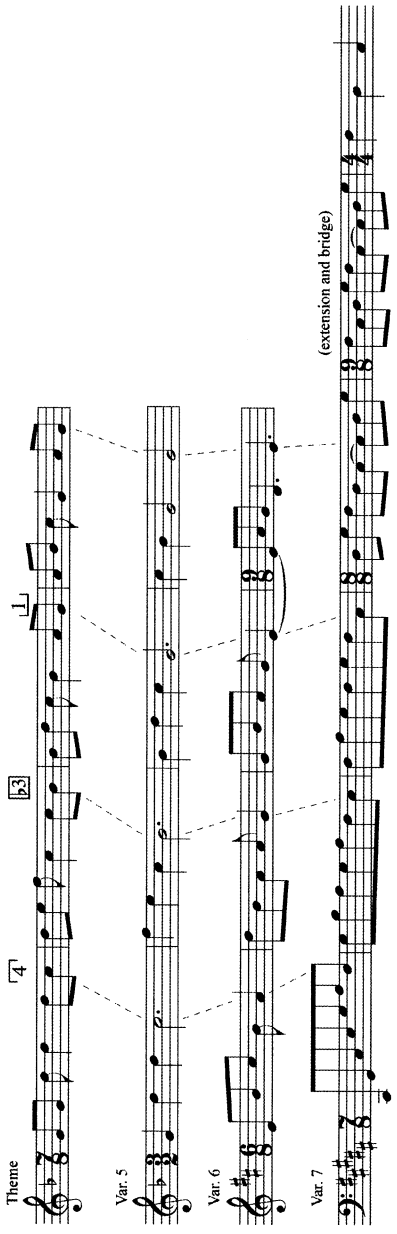
[15] No. 29, for example, from the Hungarian collection of *For Children* similarly states its tune in octaves before presenting the tune three more times with varied accompaniments.

*Example 4. The theme and variations 5–7 from "Ballade."*



Instead of maintaining an overall descent to the final in the last section of the sixth variation, Bartók substitutes a formula pentatonic cadence, $\hat{4}$–$\flat\hat{3}$–$\flat\hat{7}$–$\hat{1}$, that approaches the final from below.[16] Such differences in contour are not unlike the differences Bartók encountered among tune variants in the collected folk repertoire itself. For instance, the variant of "Angoli Borbála" given as Example 2b, "Kérettelek téged," lacks the former's initial ascending fifth; the second melodic section of "Kérettelek téged," moreover, has the purely descending contour observed in variations five and six of "Ballade."

Notable in "Ballade" is the syllabic progression of variations 5–7, presenting four- then five- then seven-syllable isometric versions of the original six-syllable isometric tune. The progression suggests a realization, in compositional practice, of a process of rhythmic division through which, Bartók hypothesized, folk tunes evolved over time. In *The Hungarian Folk Song*, after having discussed eight-syllable, six-syllable and seven-syllable isometric old-style tunes, Bartók presents a summary diagram of three rhythmic schemes, reproduced as Example 5. Bartók suggests that the second scheme possibly derives from the first through a merging of the last two eighths into a single quarter note; the third scheme, he suggests, possibly derives from the second by a similar merging of the last pair of eighths into a single quarter note. Bartók concedes, however, that the process could have proceeded in the opposite direction, that seven-syllable tunes could have evolved (via a rhythmic splitting of tones) from six-syllable tunes, and eight-syllable tunes from seven-syllable tunes.[17] It is curious that the *Ballade* variations reenact this hypothetical evolutionary process, in which Bartók resituates the original tune as an intermediate stage in a progression from a four-syllable skeleton to a fleshed-out, seven-syllable version.[18]

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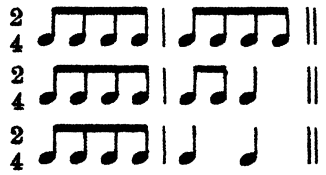
[16] On pentatonic formulae in Hungarian folk music, see Kodály 1970.

[17] Bartók [1931] 2002, xxix.

[18] Because 4- and 5-syllable tunes do not exist in the old style Hungarian repertoire, variations 5 and 6 are truly products of art in the same way that the 4-syllable isometric pentatonic quatrain that opens *Bluebeard's Castle* is an 'artificial' creation. Another work that explores metric/syllabic tune variations is "Stamping Dance," no. 128 from *Mikrokosmos* vol. 5. The work presents an originally-

*Example 5. Rhythmic schemes underlying Bartók's proposed stages of rhythmic evolution in isometric folk tunes.*



While Bartók's compositional sensitivity to structural attributes such as line-ending and syllabic scheme was evident when he created tunes in imitation of Hungarian folk style, analytical attendance to the structural categories of his lexical system can offer insights into Bartók's 'progressive' compositions as well. We conclude with an examination of "Song," No. 116 from *Mikrokosmos* vol. 4.

Table 1 presents an outline of the work's formal divisions. The piece is strophic, comprising three statements of a four-section melody: the initial statement (statement *A*, mm. 8–15) presents the unaccompanied melody in octaves; statement *B* (mm. 16–24) presents the melody in the left hand against a countermelody in the right; statement *C* (mm. 28–35) presents the original melody in the right hand with a chordal accompaniment in the left.[19] The melodic statements are framed by three march-like passages. The march music opens the work (mm. 1–8), concludes the work (mm. 36–43), and constitutes a brief interlude between statements *B* and *C* (mm. 24–28). The work is G-centric: the opening bass gesture

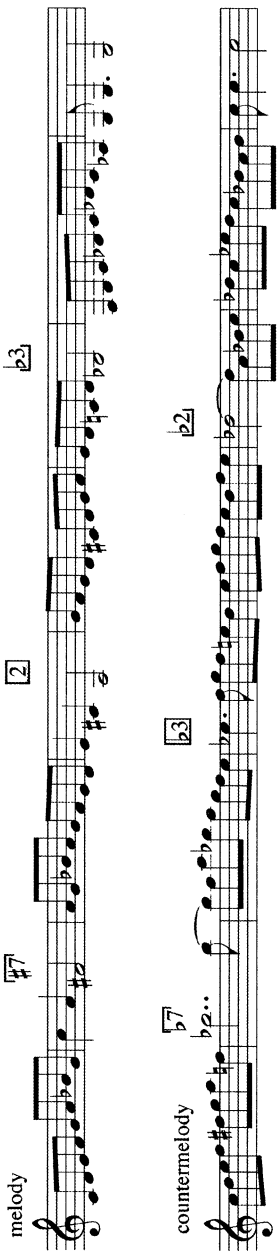
composed, 7-syllable isometric tune, with the fixed caesura scheme 4 ♭3 ♭2 (mm. 5–12). Later statements of the tune include a 6-syllable variant (mm. 13–20), a 4-syllable variant (L.H., mm. 28–35), and finally a freer "11-syllable" variant, with extended ending (mm. 47–66).

[19] The B and C statements of the melody feature minor changes relative to the opening statement. In the third section of statement B, the third and eleventh tones are chromatically inflected (E♭ instead of E♮ and C♯ instead of C♮, respectively). Bartók alters the last section of the melody in the final statement, replacing the initial rising line, F–G–A, with a turn, A–G–A, presumably to avoid a collision between the melody and the chromatically descending chords of the accompaniment.

*Table 1. Formal outline of "Song," no. 116 from* Mikrokosmos, *Vol. 4.*

| **Bars** | **Section** | **Tone Center** |
|---|---|---|
| 1-8 | March introduction | G to C |
| 8-15 | Statement *A*: melody in unison | G |
| 16-24 | Statement *B*: melody against countermelody | G (melody), C (countermelody) |
| 24-28 | March interlude | C |
| 28-35 | Statement *C*: melody with accompaniment | G |
| 36-43 | March close | G |

*Example 6. Melody and countermelody from "Song."*



arrives on a G final at mm. 2 and 4 from the encircling $\hat{4}$ and $\flat\hat{7}$ (F and C), a formulaic cadential gesture in the G-Hungarian pentatonic.[20] C asserts itself as a contrasting center (as subdominant?) in the march introduction at mm. 5–8, and again at the march interlude of mm. 24–28. In both cases, melodic closure of the march passages on C coincides with the opening C of the melody in the *A* and *C* statements, preparing the entries and eliding the sectional divisions. G returns as tonal center in the final march music (mm. 36–43) and the work closes on a G-major triad. The centricity of G is fortified by the main melody's closure on G; closure of the countermelody on C fortifies the work's principal C–G conflict.

Example 6 presents the work's melody and countermelody. Despite their contrasting finals, the melody and countermelody share a number of similarities. Both melody and countermelody have a four-section structure, and parallel sections feature similar contours and gestures. Melody and countermelody are both heterometric, and although they project different syllabic schemes—the melody belongs to the z, z, Z, z class (11, 11, 13, 11 syllables), the countermelody to the z, z, Z, Z class (9, 9, 14, 14 syllables)—they may be viewed as variant partitions of the same 46 'syllable' total.[21] Moreover, as Example 6 illustrates, the line-ending schemes of the melody and countermelody, while not identical, share similar—but mis-ordered—scale-step content: the melody comprises endings on $\sharp\hat{7}$, $\flat\hat{3}$ and $\hat{2}$, the countermelody on $\flat\hat{7}$, $\flat\hat{3}$ and $\flat\hat{2}$.[22]

Yet whereas the line-ending schemes are distinct in chromatic pitch space, the unordered tone schemes are identical when viewed in octatonic step space. Example 7 illustrates a new labeling system

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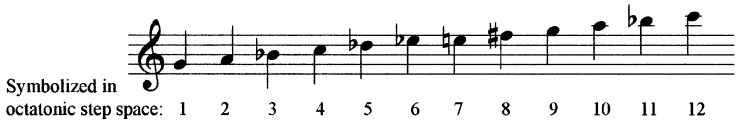
[20] Kodály 1970.

[21] Although it is curious that of the melody and countermelody comprise the same number of 'syllables,' Bartók never discusses total syllabic length as a topic in his folk-melody categorical schemes.

[22] Technically, the B♭ caesura of the countermelody corresponds to the "uninflected" 7 in the transposed labeling system, since the labels correspond to tones in a mixolydian octave species. I have used the ♭ and ♯ symbols to underscore the use of two different forms (raised and lowered) of degree 7 in the two melodies.

*Example 7. A labeling system (from G) for line-ending tones in the C–G octatonic collection.*




analogous to that of Example 1 using as steps tones of the C–G octatonic collection.[23] Although Bartók, in his writings on folk music, never proposes an eight-step octatonic scale system upon which to map melodies, it is curious that he did consider non-diatonic scale systems for the representation of certain repertoires. In the introduction to *Serbo-Croatian Folk Songs*, Bartók identifies a number of narrow-range chromatic melodies in which each chromatic tone represents, not an inflection or colored form of a diatonic scale degree, but rather an "independent degree" in a chromatic scale.[24]

Example 8 maps the caesura schemes of the melody and countermelody (reckoned from finals on G and C respectively) onto the C–G octatonic labeling system of Example 7, revealing the equivalence of the unordered collections in octatonic step space.[25] While the schemes are not octatonic complements, the melody and countermelody schemes together cover seven of the eight tones of the C–G octatonic collection: G, A, B♭, C, D♭, E♭ and F♯.

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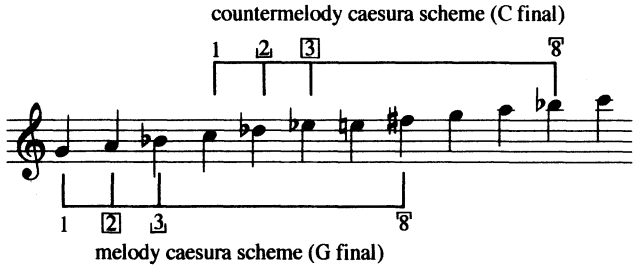
[23] The C–G octatonic refers to the octatonic collection that uniquely embeds both G and C.

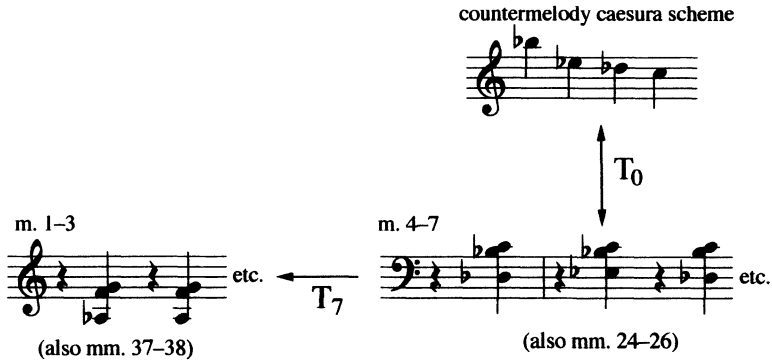
[24] Bartók/Lord 1951, 61–64. Gillies 1983 discusses certain analytical ramifications of these melodies.

[25] The unordered schemes are equivalent under the "$T_3$" transformation in octatonic step space—the transformation that maps tones of an octatonic collection to the those tones three steps higher in the scalar ordering of that octatonic collection, regardless of the specific chromatic distances involved. In the C–G octatonic collection of "Song," octatonic-$T_3$ takes G to C, A to D♭, B♭ to E♭, and so on, mapping tones of the melody's line-ending scheme onto those of the countermelody's scheme.

*Example 8. Line-ending schemes of the melody and countermelody of "Song," reckoned in octatonic step space (from G and C respectively).*




*Example 9. A network relating the countermelody line-ending scheme and march harmonies in "Song."*



While neither the melody nor countermelody of "Song" could be considered 'octatonic' melodies, it is curious to observe certain of their features in light of the C-G octatonic collection projected by their line-ending schemes. For example, the descending thirds leading to the first and second caesurae of the melody (C–A–F♯ and E–C♯–A) exclusively unfold five tones of the C–G octatonic; the fourth line of the countermelody unfolds exclusively over five tones of the C–G octatonic (A, B♭, C, D♭, and E♭).

More striking, however, is the reflection of the linear structures unfolded by the line-ending schemes in the work's vertical, or harmonic, structure. For example, Bartók vertically projects tones of the C–G octatonic collection in the accompaniment to the third statement of the melody at mm. 29–31, setting the first two sections of the melody against an accompaniment comprising C-minor, C-major and C♯-diminished triads. The triads exhibit no clear tonal function, but rather are exclusively constituted by tones of the C–G octatonic collection. A more direct relationship between the linear and vertical structure is illustrated in Example 9, a transformational network involving the line-ending scheme of the countermelody and certain chords prominent in the march music. A vertical arrow labeled "$T_0$" on Example 9 reveals that the tones of the countermelody caesura scheme exhibit pitch-class identity with tones of the [013] and [025] trichords, {C, B♭, D♭} and {C, B♭, E♭}, that constitute the 'subdominant' march music. That is, the countermelody scheme is vertically manifest in the subdominant march chords, and, via transposition by $T_7$, manifest in the 'tonic' versions of those trichords, {G, F, A♭} and {G, F, B♭}, salient at the opening and closing march interludes.

While other studies have discussed the stylistic and aesthetic influence of Bartók's ethnomusicological activities on his original compositions, the present paper argues that those activities can offer specific analytical insights as well. Bartók's work as a comparative musicologist entailed modes of analysis and attention to structural domains largely foreign to Western music theories, and awareness of those modes and the structural domains they reveal can offer insights to his music. We have seen, for example, how Bartók uses the line-ending scheme of the tune in "Ballade" as an invariant structure in variations 5-7 while varying the syllabic

structure of the isometric source tune. In "Song," the 'syllabic' structure both unifies and differentiates the untexted melody and countermelody: both comprise a total of 46 syllables, yet each partitions those totals according to different heterometric schemes. Line-ending scheme in "Song," moreover, offers a significant means of segmenting tones in the pitch domain. In particular, reflection of the (linear) countermelody caesura scheme in the (vertical) trichords of the march music unifies melodic and harmonic aspects of the work.

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