What constitutes a successful analysis of a work that resists conventional analytical methods? The further the work lies from the Western-European traditional canon, the less comfortable are familiar analytical conventions. The “Gnome,” the first picture of Musorgsky’s *Pictures at an Exhibition* of 1874, is one such work. *Pictures* was inspired by an exhibition of works by Musorgsky’s late friend, the artist Victor Hartmann. Musorgsky portrays a walk through a gallery, alternating evocative “pictures” with a promenade. The “Gnome,” musically illustrating a gnome-shaped nutcracker, employs some of the composer’s most original and eccentric musical language, least resembling that of his Western-European contemporaries. But it is inadequate to dismiss the “Gnome” as eccentric or evocative alone. Rather we should accept its formidable analytical challenge.

Unfortunately, conventional analytical tools show best only what
is not present in the "Gnome." For example, harmonic analysis finds only loosely described dominants and tonics—certainly nothing of the careful steps towards tonic, reducible to triads, that are the domain of traditional theory. Even Schenkerian theory, which proves valuable as a reductive method, would disclose no particular melodic teleology in the work. Other methods yield only partial results. For example, theories that concern unity, such as the various motivic and thematic systems and set theory, may show ways in which the music is coherent, but do not address other issues.

A work like this inevitably causes us to confront our original question: what are the ingredients of a successful analysis? It seems to me there are two requisites. The first requisite is that historical and cultural factors, both compositional and analytical, be assessed. Compositional factors include general style assumptions, obvious cultural references (e.g., a folk-song quotation or the use of some folk idiom) and not-so-obvious ones, such as the historical circumstances of the work’s genesis, similar examples in the composer’s other works, and models in the works of others. Analytical factors do not necessarily arise directly from the work in question but are concepts generated in the same cultural milieu as the work. In the case of the “Gnome,” the theories of Asafiev and Yavorsky, from the composer’s own culture, may shed more light on Musorgsky’s work than would most Western ideas. Even though Asafiev and Yavorsky worked a generation or two later than Musorgsky, they may reflect more nearly his cultural mindset.

The second requisite for a successful analysis is that the results account for the presence or absence of the typical elements of musical rhetoric. For convenience, let us divide them into the following three categories:

1. Unity. How do motivic, thematic, and other relationships provide a sense of coherence? In the case of the “Gnome,” the answers to this question are generally straightforward.

2. Articulation. What causes the various components of the music to be perceived in temporal units? How may those units be identified as formal structures? Points of articulation are clear enough in the “Gnome”; accounting for them is more difficult.
3. Motion through time. How do factors such as impetus, momentum, closure, climax, growth, implication/realization, teleology, and others affect the work’s perceived relationship to time? This third category gets closest to the issues peculiar to the “Gnome” and to much of Musorgsky’s work.

Obviously these categories are interrelated. When analysis seeks to disentangle various threads of a musical fabric in order to examine them, it does so at the risk of losing sight of the original. But with that caveat firmly in mind, let us seek to explain some aspects of Musorgsky’s “Gnome.” Perhaps it will be possible to reassemble the whole with a deeper understanding.

The overall layout of the “Gnome” is given in Example 1. The work is articulated thematically into several contrasting sections, marked on the example with Roman numerals. Each section has a distinct register or registers, and, in spite of the irregular thematic pattern, each is tied closely to E-flat. The first three measures present a characteristic gesture that recurs periodically, alternating with other ideas. New material intrudes at m. 60. The last five bars comprise a coda or conclusion, with what again appears to be new material.

Many Russian influences on Musorgsky’s style have been explored by Soviet scholars. The first concerns textures. As early as 1928 Boris Asafiev observed that Musorgsky’s music is typically heterophonic and, thus, does not follow the usual norms of voice leading.¹ Another scholar finds the source of this in folk heterophony, with its free textures and voices that enter and leave seemingly arbitrarily.² Indeed most of the “Gnome” can be reduced to monophony, to heterophony, or to a simple two-element polyphony.

¹Boris Asaf’ev, Russkaia muzvka [Russian music], 1928; quoted in Evgenii Trembovel’skii, “Monodiinogeterofonnaia priroda myshleniia” [The monodic and heterophonic nature of his conception], Sovetskava Muzyka 3 (1989): 52.

Example 1, continued.
Example 1, continued.
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For example, section I is monophonic, section IV is heterophonic (particularly mm. 40-44), and section II may be described as a polyphonic texture in which the entire right-hand part constitutes one polyphonic element.

A second typically Russian element in the “Gnome” is the use of symmetrical and periodic structures. Of some importance is the pitch symmetry inherent in mm. 1-2. The concluding pitch, G-flat, is symmetrically surrounded by the material of m. 1. Although symmetrical structures of a sort can also exist in time, a more important relationship in this work is periodicity, or the repetition of a pattern. If symmetry could be described as xyz zyx, periodicity would be xyzxyz or, perhaps, xx yy zz. Periodic structures are common in Russian folk music and have been called “the basis of thematic structure and the basis of development” for Musorgsky. In the “Gnome,” periodicity is employed throughout; virtually all material at various hierarchic levels is repeated at least once. Indeed, most of the “Gnome” articulates roughly into a periodic pattern in multiples of 9-10 units of pulse. These groups of pulses result in another periodic pattern, long-long-short, or approximately 20-20-10 units, of the sections marked with Roman numerals (see Figure 1, the line marked “periodic pattern”).

A third Russian trait concerns the use of two-part harmonic connections. Where Western harmonic language points towards a cadential goal, Russian harmonic structures sometimes are better understood in pairs. Two contrasting harmonic elements alternate, not necessarily in relationship to a cadence. As shall be seen below, the clearest statement of this principle is found in the work of the theorist Boleslav Yavorsky. Logically following from that principle is the lesser degree of goal orientation observable in the “Gnome,” and in many Russian works. Examples abound of passages generating marvelous clouds of sound but seemingly going nowhere. As here, the forms that result are necessarily episodic rather than teleological, and the rationale for musical architecture must be sought outside tonal logic.

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and pitch goals.

It must not be assumed, however, that all influences on the "Gnome" were Russian. The work benefits from a combination of Russian and Western influences. The whole notion of a large cycle of piano pieces may have originated in the Balakirev circle's admiration for the music of some of the progressive Western composers such as Schumann.\(^4\) As the Soviet scholar and pianist Maria Yudina suggested, the Chopin preludes may have influenced Musorgsky, who was a superb pianist.\(^5\) A quick glance at Chopin's Prelude in E-flat minor shows how true this is: same key, same register, similar initial motive (Example 2). Yet the musical results are altogether different. Chopin's tightly logical motivic and harmonic conception contrasts distinctly with Musorgsky's loose organization and static structures.

Example 2.

A. Chopin, Prelude in E-flat minor (1838).

B. Musorgsky, "Gnome" (1874).


\(^5\)Ibid., 292.
Since both Russian and Western influences are evident in the "Gnome," it should come as no surprise that analytical insight would also benefit from a combination of Western and Russian ideas. A helpful Western idea is Schoenberg's concept of Grundgestalt, or fundamental shape. Schoenberg suggests that characteristic traits of a work's material are embedded in its opening statement, and that hidden relationships between that statement and the rest of the piece may be identified. The opening gesture of the "Gnome," mm. 1-3, traces a clearly definable shape and returns in virtually original form periodically throughout the piece. But the gesture's effects are not limited to restatements; it also affects later motives and contours. Let us examine mm. 1-3 in detail. The implicit rhythms are more complex than the string of eighths followed by a long note that appears on the surface. If we group the notes by conjunct and disjunct motion, the rhythm might be perceived as in Example 3a. The result underscores the symmetry of the opening statement. The first half of the resultant rhythm gives rise to the primary rhythmic unit of section II (mm. 19-22), short-long. By grouping the contents of m. 1 by half bars followed by the long note of mm. 2-3, we find the pattern short-short-long.

That pattern and its retrograde, short-short-long or long-short-short, may be derived within m. 1 itself, if the notes standing alone are considered separate phenomena from the conjunct pairs. In this case it is the pattern of events and not their durations that is significant. If the result, given in Example 3b, be described as xyy yyx, x can represent any separate event related to two similar ones, including the rhythms long-short-short or short-short-long. Indeed, these new patterns prove exceedingly fruitful, first spinning off the elements of the conclusion of the first section (mm. 7-9) as eighth-eighth-quarter, and then as groups whose durations are 2, 2, and 6 beats (Example 4a). At a still higher level of hierarchy, the similar statements of mm. 1-3 and 4-6 are followed by a different concluding statement, mm. 7-9. Example 4b shows this and several more instances of the pattern yyx

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at several levels of hierarchy. The symmetry of m. 1, represented by xyy yxy, has implications as a whole, reappearing in the rhythm of mm. 60-61 and throughout section VII (Example 5).

Example 3. M. 1, implied rhythms.

Example 4. Instances of the pattern yxy as short-short-long.

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>Y</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thematic:</td>
<td>mm. 1-3</td>
<td>mm. 4-6</td>
<td>mm. 7-9</td>
</tr>
<tr>
<td></td>
<td>(simple)</td>
<td>simple</td>
<td>extended</td>
</tr>
<tr>
<td>Transposition:</td>
<td>mm. 38-46</td>
<td>mm. 47-55</td>
<td>mm. 56-59</td>
</tr>
<tr>
<td></td>
<td>(from e^b)</td>
<td>from e^b</td>
<td>from a^b</td>
</tr>
<tr>
<td>Rhythmic</td>
<td>mm. 60-61</td>
<td>mm. 62-63</td>
<td>mm. 64-65</td>
</tr>
<tr>
<td></td>
<td>(symmetrical)</td>
<td>symmetrical</td>
<td>periodic</td>
</tr>
<tr>
<td>Duration</td>
<td>m. 38</td>
<td>m. 39</td>
<td>mm. 40-41</td>
</tr>
<tr>
<td></td>
<td>(1 bar)</td>
<td>1 bar</td>
<td>2 bar</td>
</tr>
</tbody>
</table>
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Example 5. The symmetrical pattern xyy yyx (mm. 60-61).

Example 6. Recurrences of the pitch motive of m. 1.
The opening gesture also influences the pitch relationships of the "Gnome." The motive of a leap and a step in the first half of m. 1 is immediately transformed into the second half of the measure, and recurs in various other transformations throughout. The motive itself is related to the first three notes of the Promenade. Example 6 shows a few of the host of instances in the "Gnome." The descending semitone, by itself, gives rise to yet another stream of connections including the grace notes of m. 27 and elsewhere. The most interesting one, shown in Example 7, is the cross relation of mm. 21-22, which amounts to descending semitones with octave displacements. In fact, the F/F-flat and A/A-flat shifts that occur throughout may be understood in relationship to the semitones of m. 1.

Example 7. The descending semitone (mm. 21-22).

The opening gesture has harmonic force as well. It is initially perceived as only a highly dissonant, rhythmic ornament, one difficult to relate to any tonal center. Gradually, though, possible tonal functions for the pitches become evident (Example 8a). This occurs as the roles of the pitch classes E-flat and B-flat emerge as tonic and dominant, the latter by m. 9. Pitch class G-flat is particularly ambiguous. It is initially the highly unstable last note of the opening gesture, dividing the preceding interval B-flat/D symmetrically. In relationship to the arrival of B-flat in m. 9, the G-flat can be
retrospectively understood as unstable, as dissonant in relationship to an expected pitch class F. What actually occurs is motion downward from the G-flat of m. 6 to the F-flat of m. 8 (avoiding F) and on to E-flat and D. A second role for G-flat eventually appears. As its relationship to tonic E-flat is clarified by the end of the piece, G-flat is found to be stable. As shown in Example 8b, the process culminates in the coda, where the first two pitches, C-flat and B-flat, connect with the last pitch of the upper line, G-flat, now completely stable, in a final transformation of the motive of mm. 1-2. It is highly significant that at a background level G-flat does not move but rather changes roles.

Example 8. Harmonic implications of mm. 1-2.

The relationships found by this kind of analysis fall under the heading of unity. Further digging would reveal many more. Yet by themselves these relationships exist outside the realm of time. We must seek insight elsewhere to account for the work’s articulation pattern and how it relates to time. This can be accomplished effectively by employing the principles of two Russian scholars, the theorist Boleslav Yavorsky and the musicologist Boris Asafiev, whose ideas reflect their Russian roots in somewhat the same way that Musorgsky’s music does.

Yavorsky’s system, usually known as “the theory of modal rhythm,” is an unnecessarily complicated attempt at a universal theory of music. Conceived in the first decade of the twentieth century, it is particularly successful in dealing with Russian folk music and with the progressive Russian music of that era, such as late Rimsky-Korsakov.
and Scriabin.\textsuperscript{7} The following four premises, distilled from Yavorsky’s theories, are germane to the “Gnome.”

1. Tonic is the result of some unstable impetus. Yavorsky assumes the tritone to be the only natural force. It is unstable and strives to resolve. Tonic, which is stable, can be defined as anything that resolves the instability of one or more tritones. The label “tonic” can be used for a single tone—the resolution of one voice of a tritone—or some very complicated vertical structure. Thus Yavorsky’s emphasis is on the unstable elements in music, which he classifies as dominant, subdominant, or a combination of the two. Tonic structures interest him less, because they are inert. The concepts of consonance and dissonance he can then define separately from stability and instability; tonic is a result of something unstable, whether that result be consonant or dissonant.

2. Modes and harmonies, indeed all musical materials, occur in a large variety of possible forms. Since all materials result from tritones and their resolutions, there is no particular need to construct chords in thirds or have modes with seven notes. In a mode, vertical and horizontal sonorities may be freely constituted of the various tones, with the general categories “tonic,” “dominant,” “subdominant,” or a combination of them reflecting the functions of their constituent voices. The resulting sonorities come in an almost unlimited variety of patterns. Even the interlocked tonic and dominant functions of the pitches of m. 1 of the “Gnome” present no unusual problem; each pitch has an identifiable role to play in relationship to the others. Also, any unstable note of a mode may substitute for another. The A/A-flat and F/F-flat alternations in the “Gnome” are instances of this. Although Yavorsky manages to make all this flexibility very nearly as rigid as the traditional systems of harmony that he despised, his point remains a helpful one: modal and harmonic variety are most possible when they are results, not assumptions.

3. The phenomena of pitch and rhythm are related. The tritone’s action, which takes place in musical space, also takes place in musical

time. Thus, Yavorsky asserts that a fundamental relationship exists between the two essential components in music. The name of the theory, "modal rhythm," reflects his notion that modal forces unfold through time, and thus have a rhythm. This in turn gives rise to his interest in proportion and the "rhythm" of various events. These will be seen to play a part in understanding the "Gnome."

4. Musical structures, whether single pitches, chords, or large units, naturally group in unstable/stable pairs. These pairs reflect the unstable and stable aspects of the tritone and its resolution, and their functions are determined by the contents of each member. The pairs may move in reverse order from stable to unstable as well (i.e., from tonic to something else), or both members may even be unstable, provided at least one voice changes from stable to unstable or vice versa. Stable structures are called "tonic," and unstable structures are called "dominant" or "subdominant," depending on their contents. Yavorsky's labels for these functions are obvious: T, S, D; a combination of D and S also exists. These were likely borrowed from Riemann's system. But there is no analogy in Yavorsky to the Western concept of motion towards tonic. Music, for Yavorsky, reduces to two-member groups, and a work with naturally periodic structures fits well with his concept.

It is at this point where Yavorsky's ideas shed the most light on the "Gnome." Even at a surface level, much of the "Gnome" can be articulated into two-member structures of varying intricacy, from two notes to the complex evident in mm. 1-2 (Example 9). The process can be found at other hierarchic levels, too. In section II, for example, mm. 21-22 have a dominant function that balances the tonic of mm. 19-20 (Example 10). The two-part process is clearest at a middle hierarchic level. Each section projects one harmonic action, one stable/unstable pairing (see Example 11, the line marked "harmony"). While my harmonic interpretations are simplified from Yavorsky's rigid system and generally reflect the pitch content of each structure in relation to a tonic of E-flat, I think that they reflect his concept reasonably well. Each pair before the coda is what Yavorsky would call unstable, that is, not ending with tonic. The ambiguity of the opening gesture is reflected in its combination of functions. As the
work unfolds, more and more tonic structures occur. Yet as Yavorsky's system points out, the strong tonic harmonies, such as at m. 19, m. 38, and m. 60, begin unstable harmonic pairs; they do not conclude them. In spite of their metrical placement on strong beats, they do not provide closure. Thus a periodic harmonic pattern is articulated: tonic moves to non-tonic in a pattern that recurs over and over, but which approaches no nearer to closure. This pattern must be broken in order to effect closure, and I suggest that this is the role of the almost unique subdominant harmony of mm. 90-93. It seems to occur as an isolated structure, the effect of which is to shift the middle-level harmonic pattern so that the last pair, the coda, can end stably on tonic. The crucial nature of this subdominant event is reinforced by the reversal of direction of the pair of tones in its uppermost voice. Thus an analytical approach derived from Yavorsky helps identify a pattern

Example 9. Possible two-note structures in mm. 1-2.
Note: solid noteheads designate unstable tones; open note heads, stable tones. Harmonic labels simplified from Yavorsky's system.

of harmonic pairs that governs the articulative pattern at a middle hierarchic level and sets up its conclusion. Indeed, the coda may be seen as the end of a harmonic pair on the largest scale, one that resolves the instability of m. 1.

Yet a question remains. What factors govern the work’s motion in time? To answer this we may turn to the ideas of Boris Asafiev, the leading Russian musicologist of the early Soviet period and the originator of much that is characteristic in modern Soviet research on music. Asafiev is disinclined to build a system in the manner of Yavorsky, preferring to apply his concepts in a looser, narrative manner. We can do something of the same in reference to Musorgsky’s “Gnome,” using his ideas as a starting point. In Part I, published in 1930, of his major theoretical statement, *Musical Form as a Process*, Asafiev explores the question of form as something dynamic, in contrast to the static Formenlehre of his predecessors. In chapter 12 he proposes a three-part process, where dialectical contrasts create an impetus, evoking motion toward a synthesis, or termination. This he illustrates by the formula i:m:t (impetus:motion:termination). The process can operate at all levels of hierarchy, from single events like Yavorsky’s tritones and resolutions, to entire works, and in complicated interlocking webs. Often, a termination proves to be reinterpreted as the impetus of another instance of the formula. A given event may have both local and long-range functions. At the largest level, the development section of a sonata form may be expressed as part m of the formula, with the recapitulation as part t. It is easy to see why Asafiev liked to analyze Beethoven’s music, where the web of i:m:t formulas is so interesting. Indeed, in developmental works the action of various forms of impetus and termination seems to affect the momentum level in particularly important ways. To express this, I propose to add to Asafiev’s lexicon one more term, “cumulative

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9Ibid., 233.
momentum,” showing how each new impetus can increase the perceived energy level as a work builds towards a climax.

What is striking about the “Gnome” is that much of it shows little evidence of such cumulative momentum. The momentum seems to return to its starting level at the end of each thematic statement, building a little higher each time from that same starting point. We might call this “episodic momentum.” The role of m. 1 in giving impetus is clear, and after several bars of motion, mm. 9-10 provide termination. But much of the phrase’s substantial potential energy is dissipated by the rest with fermata in m. 10. The passage is repeated, this time with a slightly more dramatic termination (mm. 16-17) and a longer rest with fermata. Just enough momentum is retained for that termination to be reinterpreted as a local-level impetus that sets part II (m. 19) in motion. The general process recurs, with further articulative rests in m. 28 and m. 37. This process works hand in hand with the pitch process, which continually returns to E-flat. It further reflects the periodic nature of the rhythm of sections.

The exception to this occurs in the passage from m. 38 to m. 59, which approaches the climax. It contains a few developmental traits: the material of m. 40 recurs one step higher in the repetition of the passage at m. 49, the gesture of m. 1 recurs at the subdominant level in m. 54, and the material in m. 38 returns as subdominant in m. 56. Measures 54-57 contain the only significant subdominant event before the crucial one at the end and place the high point of tension precisely at the golden section. It is instructive that in the autograph score there exist three interpolations between m. 38 and m. 60, which the composer crossed out. The most extensive of these, reproduced in Example 11, amounts to eight measures that fall between mm. 59 and 60. That interpolation continues the developmental process already begun in m.47 and continued by the subdominant event of mm. 54-57. I speculate that had those measures been included, our perception of the work would be significantly altered. We might well think of it as a developmental process, not an episodic one. But even though the cumulative momentum of mm. 38-59 defines a climax and generates formidable impetus for the fortissimo passage of mm. 60-71, the composer seems to have avoided the opportunity for substantial
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development. Thus the balance between cumulative momentum and episodic momentum reflects the balance between Western and Russian outlooks that is so much a part of this work.

Example 11. Eight manuscript measures between m. 59 and m. 60. Lamm edition, p. 8.

![Musical notation](image)

Figure 1. General plan of the form and harmony.

Note: Numbers of pulses in brackets [ ] include extra material in sketch.
At least two other factors may be identified that contribute to motion in the “Gnome.” First, within several of the sections, notably the first four, surface events group into smaller temporal units as the cadence approaches. In section I, for example, the events might be grouped as follows, counting by number of quarter notes: 9-9-4-2-2-1-1. Second, the opening fragment recurs throughout the work in gradually briefer forms until it disappears entirely at the climax (see Figure 1). When it finally reappears in the coda, it is completely transformed, in a sense a synthesis of all the materials.

Musorgsky’s “Gnome” has a coherent logic all its own. In spite of a very loose thematic pattern, the work is highly unified both by motives and by patterns. Its periodic nature, also reflected in its concentration on pitch class E-flat, proves to be an important means to organize its articulations and create a form. Its motion in time is governed by episodic momentum, balanced by building just enough tension to define a climax; it also employs a process of gradually clarifying harmonic roles until a reversal of its harmonic pairs permits closure.

It is not surprising to discover that Musorgsky’s “Gnome” does not correspond closely to the Western-European music of its era. However, by attempting to identify the ways in which it is unified and articulated, and how it relates to time, we have seen that the work creates its own norms, drawing from its Russian and Western roots. Therefore it should hardly be surprising that an analysis of it would also draw on diverse resources. It is my hope that the analytical approach presented here will be of use in addressing other non-traditional repertoire and that it will challenge us to ask again what constitutes a successful analysis.