# Musorgsky's 'Gnomus:' Composer's Score as Analytical Text[1]

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**Introduction**

'Gnomus,' the first real picture of Musorgsky's *Pictures at an Exhibition*, is in many ways the most complex and perplexing piece of entire cycle. It is a classic of musical grotesquery, its pictorial inspiration having come from Victor Hartmann's design for a nut cracker in the form of a caricatured gnome rendered in the baroque style of nineteenth-century Russian folk-art pastiche. Although the original design does not survive, other representative examples of Hartmann's folk-art designs do—for instance, the presentation jug in the form of a rooster made in 1870.[2] It is not difficult to discern the connection between the twisted intricate lines of pieces such as this presentation jug and the convoluted intricacies which may easily be detected at the surface level in 'Gnomus.' Indeed, the piece reveals a number of what might called 'subversive' tendencies, this being so, as much as anywhere else, in matters relating to its tonality. It is with aspects of tonal structure, both at the note-to-note and long-range levels, that this article is centrally concerned. These aspects will be approached primarily through the prism of Musorgsky's orthography.[3] Through an examination of pitch spelling, wherein lies the composer's own traces of conceptual thought, emerges a useful understanding of the irregular function of tonality in this transitional piece, and a recognition of the unusual relationships which exist between what might be described as functional and non-functional elements within the piece. Irregular relationships between the (traditionally speaking) functional and non-functional are a distinctive feature of much of Musorgsky's music.

The broader intention in this article is to demonstrate how an analytical approach based on orthography may prove fruitful in tonal music which is less amenable to more standard techniques of analysis, such as graphic analysis or even simple harmonic analysis.[4] In music

[1] This article originated in a paper delivered at the National Conference of the Musicological Society of Australia, presented on 3 October 1997 at the Music Department of the University of New England, Armidale, NSW.

[2] This is reproduced in Alfred Frankenstein, 'Victor Hartmann and Modeste Musorgsky,' *Musical Quarterly* 25 (1939): facing p. 287.

[3] Orthographic analysis demands a reliable source. For this article I have used the following edition: M. Mussorgski, *Bilder einer Ausstellung: Erinnerung an Viktor Hartmann* [*Pictures at an Exhibition: In Commemoration of Victor Hartmann*], ed. Manfred Schandert and Vladimir Ashkenazy (Vienna: Wiener Urtext Edition, 1984). This is based entirely on the autograph manuscript and corrects a number of errors found in earlier editions. Most of these errors, however, do not apply to 'Gnomus' and, therefore, most editions may be fairly reliably consulted in connection with this article. *Pictures at an Exhibition* was never published during Musorgsky's lifetime.

[4] Some graphic reductions are made in this article. These, however, are used primarily for illustration and verbal economy rather than as independent analytical observations.

often referred to as 'transitional,' where the presence of tonality is still felt but not always operative in the traditional common-practice sense, the notation of pitch becomes particularly informative. Standard pitch notation is an organic part of the common-practice tonal system, and within that system the information delivered by orthography is usually self-evident. It follows therefore that in transitional music—where the common-practice rules regarding linear function and scalar structure are substantially bent and sometimes broken—notation, through being forcibly adapted to the expression of novel techniques, becomes analytically informative in a more profound way. The present offering is, therefore, not only an analysis of 'Gnomus' itself, but also a commentary upon the composer's own 'analysis' of the piece as discerned through his orthographic usage.

**Theory**

While certain general orthographic principles apply across a large stylistic range, the use of orthography from composer to composer is highly individual and may be influenced by any number of factors, which include chronological period and geographic location, the type and amount of training received, self-perception of style in relation to mainstream tradition, and so on. There may be further divergence in orthographic usage as a result of changes in style throughout a composer's career. Orthographic analysis in the most general sense is methodologically eclectic, and so it must be. Individual methods or methodological variants need to be developed individually for each composer. The orthographic analyses of Bartók's music by Malcolm Gillies are strikingly different in approach from those of Skriabin's by George Perle and, later, Wai-Ling Cheong.[5] These, in turn, are significantly different from my own analyses of Musorgsky's music.[6]

In basing the analytical method upon the composer's orthography certain stylistic limitations must be assumed. Because pitch spelling is related to tonal function, the limits are set to music which is, broadly speaking, tonal. Moreover, while these limits would not exclude common-practice tonality, the focus for orthographic analysis tends to be fixed upon music which extends or lies beyond common practice. In music of the common-practice period orthography, in the vast majority of cases, is so regular, so predictable, that its meanings are usually self-evident. At the other extreme, in music which is 'atonal'—the term is not used without reservation—orthography is, or at least theoretically should be, essentially meaningless as far as pitch structure is concerned. It is in music which is tonal but lies outside common practice, therefore, that orthography may assume greater analytical significance because it may be used, consciously or otherwise, to denote a hierarchy, but a non-standard hierarchy which is defined in a non-standard way.

The type of structure which will be of most concern in the analysis of 'Gnomus' might be described as a chromatic structure with an underlying tonal basis—a tonally based chromatic structure.[7] Indeed, broadly defined, this is the type of structure which serves for much music

[5] See: Malcolm Gillies, *Notation and Tonal Structure in Bartók's Later Works* (New York: Garland, 1989) and 'Pitch Notations and Tonality: Bartók,' *Early Twentieth-Century Music*, ed. Jonathan Dunsby, *Models of Musical Analysis* (Oxford: Blackwell, 1993) 42–55; George Perle, 'Scriabin's Self-Analyses,' *Music Analysis* 3 (1984): 101–22; Cheong Wai-Ling, 'Orthography in Scriabin's Late Works,' *Music Analysis* 12 (1993): 47–69 and 'Scriabin's Octatonic Sonata,' *Journal of the Royal Musical Association* 121 (1996): 206–28.

[6] See Simon Perry, 'Rummaging through the "Catacombs:" Clues in Musorgsky's Pitch Notations,' *Music Analysis* 14 (1995): 221–55, and 'Musorgsky's Orthography: An Approach to Tonal Structures in His Music,' PhD Diss. U of Queensland, 1998.

[7] Many of the basic ideas concerning tonal structures and their notational characteristics as presented in this article have been adapted from the work of Malcolm Gillies in relation to Bartók. The terms such as 'chromatic encirclement,' 'directional structures,' and 'microtonicisation' are Gillies's, other terms are my own or have been adapted to suit the present context. Much of Gillies notational theory has needed fairly

of the common-practice era, as well. The most basic characteristic of this type of structure is that out of a large number of pitch classes—typically all, or most of, the twelve pcs of the chromatic collection—a smaller number receive structural priority. In traditional contexts these prioritised pcs would be the notes of the underlying major or minor scale. A smaller number again will reveal themselves to have primary structural significance; traditionally these would be the tonic and dominant pitches. In the majority of cases the octave is taken to be the point at which the structure naturally replicates—these are octave structures. The primary exception to this last stipulation may occur with symmetrical scales such as the whole-tone and octatonic, which will be discussed briefly below as one of these is relevant to the present analysis. It must be emphasised that the notion of a 'tonal basis' to the chromatic structure may be defined with varying degrees of limitation. In the common-practice sense, this basis would, as suggested above, be limited to the major and minor diatonic scales. With the increasing degree of modal mixture encountered as one journeys through the nineteenth century, the definition of one of the other of these diatonic modes as the singular basis of a given structure becomes increasingly difficult except in very specific terms (such as a progression or, even, an individual chord). The further one moves away from common-practice, the greater becomes the range of legitimate bases available, including other modes and new scales, such as the symmetrical types referred to above.

Broadly speaking, the chromatic octave structure as defined by Gillies may be extended by establishing two basic systems of notation for this type of structure, one relating to polymodalism, the other to linear function and voice-leading. There is a certain degree of overlap between the two, which will be referred to as polymodal and functional respectively. These are illustrated in Example 1 where a traditional tonality based on E♭—major and minor—is assumed.[8]

**Example 1:** Systems of notation in chromatic octave structures

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (a) polymodal[9] | | | | | | | | | | | | |
| maj./min.: | E♭/F♭ | F♮ | G♭ | G♮ | A♭ | A♮/B♭/C♭ | C♮ | D♭ | D♮/E♭ | | | |
| (b) functional | | | | | | | | | | | | |
| maj. asc.: | E♭ | E♮/F♮ | F♯/G♮ | A♭ | A♮/B♭ | B♮/C♮ | C♯/D♮ | E♭ | | | | |
| maj. desc: | E♭/F♭ | F♮/G♭ | G♮ | A♭/B𝄫 | B♭/C♭ | C♮/D♭ | D♮ | E♭ | | | | |
| min. asc.: | E♭ | E♮/F♮ | G♭ | G♮/A♭ | A♮/B♭ | C♭ | C♮/D♭ | D♮/E♭ | | | | |
| min. desc.: | E♭/F♭ | F♮ | G♭/A𝄫 | A♭/B𝄫 | B♭ | C♭/D𝄫 | D♭/E𝄫 | E♭ | | | | |

The polymodal spelling, as its name implies, is a static system in which the major and minor scales are overlaid, with the addition of the Phrygian second and Lydian fourth. A significant feature of the system is the chromatic encirclement of two primary degrees, almost invariably the tonic and dominant, which are directionally indicated from above and below by chromatic neighbours. This is indicated by the ascending and descending arrows converging on E♭ and B♭ in Example 1(a). With seven letter names available for the spelling of twelve pcs,

extensive alteration for application to a chronologically earlier repertoire, especially one which is not, historically speaking, post-tonal. Despite this, many of Gillies's fundamental precepts hold good. His theory is covered in the early parts of his PhD thesis (*Notation* 37–128) and, in a more concise form, in a recent didactic article ('Pitch Notations' 44–52).

[8] E♭ was chosen for convenience because it is the 'tonic' pitch of 'Gnomus.' Additionally, it is a relief to escape the usual default to C in matters of abstract exemplification.

[9] The polymodal structure replicates that noted by Gillies as the most typical of Bartók's chromatic structures, one which, he asserts, arises most commonly from strict bimodality or free polymodal chromaticism. See Gillies *Notation* 42–44 and/or 'Pitch Notations' 44.

only the tonic and dominant are represented by an uncorrupted letter name. The ten remaining pcs are spelt using two versions of the each of the five remaining letter names. It is possible, but less frequent in common practice, to find what Gillies terms a 'plagal' version of this structure, in which the subdominant is encircled instead of the dominant. Changing A♮ to B𝄫 in Example 1(a) would create this form.[10] This sort of structure is not uncommon in Eastern European music, post-common practice, especially that with modal basis or inflection. In terms of its polymodal character, the flattened dominant could be regarded as exemplifying the Locrian scale.[11]

The polymodal structure exhibits a degree of voice-leading function in as much as the primary pitches are chromatically encircled. The functional model in its complete form derives its spelling for *all* non-structural, or non-diatonic, pitches exclusively from the direction of motion in chromatic passing-note or neighbour-note progressions, where the chromatic note is always spelt as a minor second in relation to the note approached. This results in a much greater variation in chromatic spelling. From a comparison of the two systems shown in Example 1, it should be apparent that in much common-practice music the orthography used derives partly from each system.[12] The polymodal structure may be thought of as primary, but alternative inflections, largely governed by the particular mode, appear as a result of selective application of the directional principles of the functional notation.[13] In the common practice, most functional notations arise, as should be expected, from progressions with a strong sense of local function, such as those involving secondary dominant or diminished sevenths, augmented sixths, and variants of these. It is significant that where functional spellings inflect a basically polymodal system, very rarely indeed is the ♭$\hat{5}$ notation, which weakens the dominant, used, even in chromatic descent from $\hat{5}$ to $\hat{4}$.

As explained above, traditional notation emerged with common practice and therefore almost always produces self-evident results when orthography is examined analytically in a common-practice repertoire. The conflict between system and application, and hence the analytical meaning of notation, arises in music which exceeds the limits of common practice. A simple and important example of the strain exhibited by conventional musical orthography and post-common-practice structure is found in the cases of the octatonic and whole-tone scales. Scalar structures with a greater or lesser number of pcs to the octave than diatonic

[10] Instances of this type of plagal structure are quite often encountered in traditional Western music in post-cadential contexts. One often finds them over a tonic pedal. Countless examples may be found, for instance, in Bach's music.

[11] A ratio may be used in connection with a structure to identify the location of its primary pitches, with the numbers of this ratio referring to groupings of pcs which contain one of the primary pitches followed by all pcs in ascending order prior to the next primary pitch. In Example 1(a) a 7:5 structure is indicated by the inclusion of seven pcs from the tonic to just below the dominant and five pcs from the dominant to just below the upper tonic. The plagal version would, on the same basis, be identified as a 5:7 chromatic octave structure. A model which contains a dual spelling of the tritone, indicating a functional equivocality of dominant and subdominant—one which Gillies has termed a 'directional' structure, arising from the combined presence of Lydian fourth and Locrian fifth—is also possible. See Gillies 'Pitch Notations' 44–45. The dual spelling of the tritone, if not the bimodal scalar archetype indicated by Gillies, will be found to be of great significance in 'Gnomus.'

[12] Rimsky-Korsakov's recommendations for the notation of tonally based chromaticism in his *Prakticheskii unchebnik garmonii* [*Practical Textbook of Harmony*], (St. Petersburg, 1884–85) show a careful, rather conservative, mixture of the two systems outlined above. This textbook has been published in English and reprinted several times. The edition to hand in the preparation of this article was *Practical Manual of Harmony*, trans. Joseph Achron, 7th ed. (New York: Carl Fischer, 1930). Rimsky's notations of chromatic passing notes are found on pp. 77–78 of this edition.

[13] This selective application of the functional spelling is not dissimilar to what Gillies identified in Bartók's music as 'microtonicisation,' where local voice-leading gives the fleeting impression of stability around a non-primary degree. See 'Pitch Notations' 51.

structures will, if still spelt 'diatonically' (i.e. with one letter name per degree), produce distinctive 'sharpening' or 'flattening' effects in their notation. This can easily be demonstrated through a two octave range of the two scalar types in question. As Example 2 shows, the octatonic produces diminished and doubly diminished octaves at the point of letter name replication.[14] The perfect octave has become, notationally, either a diminished or doubly diminished ninth; in Example 2 these ninths are B♯-C, C-D𝄫. However, it is the enharmonic relationship between the sharpened fourth and flattened fifth with respect to the E♭ tonic—which would be represented by the doubly diminished ninth A♮-B𝄫—that will be found to be indicative of octatonic influence in 'Gnomus.'[15] The whole-tone scale is not a crucial structure in 'Gnomus,' but its notational characteristics may be noted as they form an interesting antithesis of those of the octatonic. The letter-name replications occur at the doubly augmented octave; the perfect octave is supplanted by the doubly augmented seventh.[16]

**Example 2:** Flattening and sharpening effects in notation of diatonically spelt octatonic and whole-tone structures through a two octave range, with 'tonic' C

| pc: | 0 | | | 6 | | | | 0 | | | | 6 | | | | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| octatonic: | B♯ | C♯ | D♯ | E | F♯ | G | A | B♭ | C | D♭ | E♭ | F♭ | G♭ | A𝄫 | B𝄫 | C𝄫 | D𝄫 |
| whole-tone: | D𝄫 | | E𝄫 | | F♭ | G♭ | | A♭ | | B♭ | C | | D | | E | F♯ | | G♯ | | A♯ | B♯ |

The effect of flattening and sharpening is simply related to the conflict which arises between the symmetrical nature of octatonic and whole-tone structures and the asymmetric qualities of the traditional notation system. While such symmetrical structures are not found to exist at the note-to-note level in 'Gnomus,' a certain amount of octave-symmetrical thinking at a background level is in evidence in the piece and these, as suggested above, refer primarily to the octatonic. It will be seen later in the analysis how the notational anomalies here described indicate a sort of nexus between a background symmetrical concept and a corrupted notion of traditional tonal function at a more immediate level of structure.

### Analysis

'Gnomus' is highly varied in terms of Musorgsky's usage of an orthography that at times adheres to the 'rules' with great strictness and at other times flagrantly disregards them. Importantly, the difference in application seems to coincide with major structural divisions within the piece. This analysis makes, overall, a case for a bipartite structure in this piece. The

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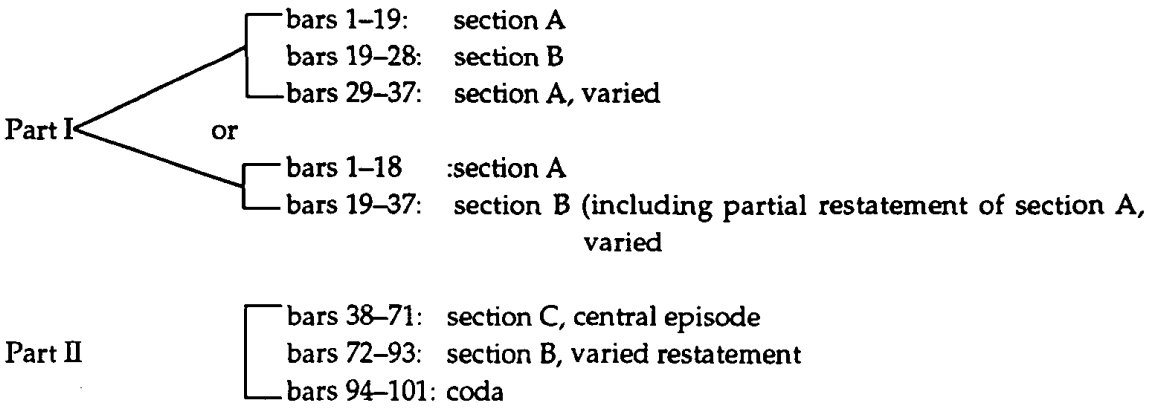
[14] Janós Kárpáti notes, in connection with Bartók's music, that the octatonic scale with 2-1 ordering may be derived from a 'mistuned' Dorian scale in which the upper tetrachord is flattened by a semitone, resulting in a scale with a diminished fifth and diminished octave. E.g. the Dorian on E♭ altered on these terms would be E♭-F-G♭-A♭-B𝄫-C♭-D𝄫-E𝄫. See *Bartók's Chamber Music*, trans. Fred Macnicol and Mária Steiner, rev. trans. Paul Merrick (Stuyvesant, NY: Pendragon Press, 1994) 199.

[15] C was chosen as a reference point in Example 2 as the use of E♭ yielded rather contrived triple sharps and flats at the extremities of the two scales.

[16] These notational features of octave symmetry have, of course, a much wider application beyond Musorgsky's music. For instance, both George Perle and Cheong Wai-Ling have referred to the notational peculiarities of the octatonic scale in the analysis of the later music of Skriabin. See these authors' articles cited in footnote 6. Cheong has significantly refined Perle's observations regarding octatonic segmentation according to notation, and has established the useful concept of the 'octatonic referent,' further breaking down the familiar three octatonic collections into twelve notationally distinct octave structures referable to one of the twelve pcs of the chromatic scale (more than twelve would, of course, be possible allowing for enharmonic equivalence). Cheong's reading of the octatonic scale in Skriabin allows for maximal relation of the octatonic to major-minor structures, suggesting a powerful conceptual undercurrent of traditional tonal thinking in Skriabin's use of symmetrical pitch structures. See Cheong, 'Orthography' 55–58.

strict application of expected orthographic usage occurs in the first part and the significant notational problems are found to exist in the second. Before a more detailed discussion and interpretation of these notations is undertaken, a concise view of the formal outline will be put forward (see Example 3).

**Example 3:** Formal outline of 'Gnomus'



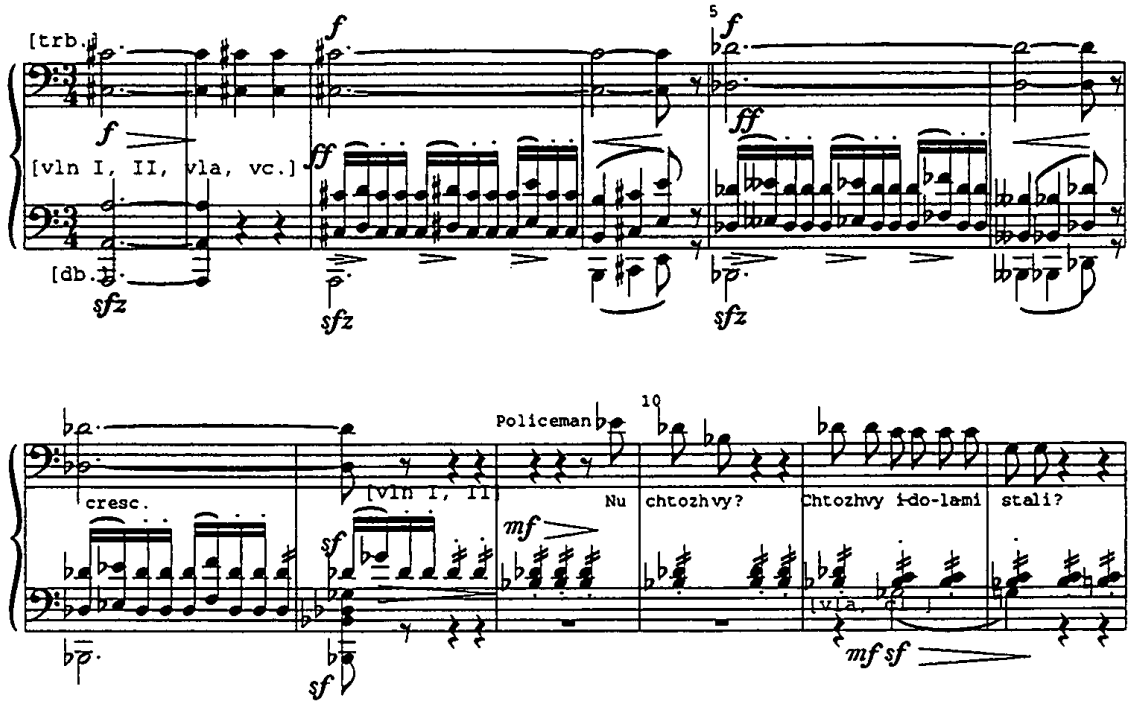

This formal summary is based simply on the double bar lines written by Musorgsky himself, and for which there seems to be no conceivable function other than that of simple indicators of articulatory points.[17] The two possible versions of part I arise from it not being clear whether the repeat double bars bear the same structural significance as the others. That section C is inordinately larger than A or B is of little import; it is the overall bipartite design which is of greatest significance. The present interpretation of the form of the 'Gnomus' holds that some sort of internal binary or ternary structure is operative up to bar 37 and that what follows this structure is a less clearly segmented section, whose processes are, despite the partial and varied recapitulation of section-B material, fundamentally different from those of bars 1–37. The explanation as to how the difference in function arises is a central concern of what follows. It is significant that Musorgsky's orthography is bars 38–71 (section C) frequently violates the expected, or ingrained, rules for functional chromatic notations at the surface level, producing notation of chromatic neighbour or passing notes in which there is an apparent conflict between the voice-leading structure as immediately heard, on the one hand, and as implied by the notation, on the other. Indeed, this practice is not isolated to 'Gnomus' and two excellent examples of the practice are found in the early bars of the prologue from *Boris Godunov* (see Example 4).[18]

The specific notes in question are the B𝄫 in bar 6 and the G♭ in bars 11. It is significant that in his revision of 1896 and 1908 Rimsky-Korsakov re-spelt these pcs as A♮ and F♯ respectively. On the face of it, Rimsky's alterations appear to make perfect sense. In the first instance, he avoided the rather odd lower neighbour notation B♭\B𝄫/B♭, replacing it with the more usual B♭\A♮/B♭, and in the second instance he emphasised the functional rising motion toward the G on the strong beat of bar 12, giving the progression F♯/G♮. In Musorgsky's spelling, the semitonal rising nature of the progressions is contradicted by the orthography which implies a falling direction in each case. It is quite possible to resolve the notes in question (B𝄫 and G♭) downward, in the direction implied by the original spelling (B♭\B𝄫\A♭, G♭\F♮) and establish simple, if somewhat banal, outcomes in D♭ minor and B♭ minor respectively. It is the fact that

[17] These double bars do not serve, for instance to support changes of key, metre or tempo.

[18] The orthography in these examples is in accordance with the autograph. The music at this point is identical in both the 1869 and 1872 versions of the opera. Indeed, the pages concerned were physically extracted from the 1869 manuscript and sewn into the later one.

**Example 4:** Musorgsky, *Boris Godunov*, prologue, scene 1, fig. A.[19]




they are not spelt in accordance with the surrounding context that is significant. While in the case of the second instance (G♭\G♮) one might plead the well worn argument of Musorgsky's technical ignorance in matters of 'correct' harmony, the B♭\B♭♭/B♭ progression is so obtuse that it defies such a simplistic interpretation. This progression appears to be deliberately wrong, or perverse.

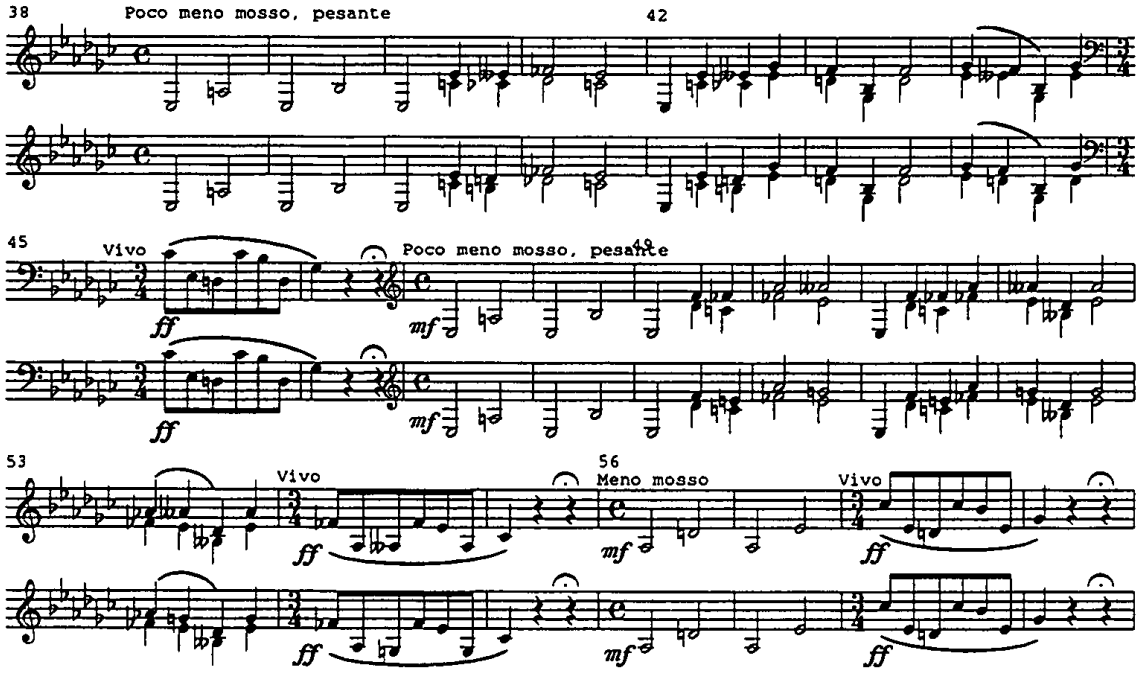
The action at this point has a Police Officer, in an aggressive recitative style, berating the People—unwilling supplicants who are gathered outside the Novodevichy Monastery, in order to plead the 'reluctant' Boris to accept the burden of autocratic power. This dramatic situation is one, therefore, of an unwelcome, even threatening, exhortation to action which is met with a resentful, sluggish response. Not only is this concept supported by the awkwardly rising gesture of the semiquaver *leitmotiv* of the Police Officer, but it is also supported by the rift between hypothetical voice-leading structure as implied by the notation and the actual voice-leading outcome as heard in the music.

Similar rifts between the implications of the music as notated and the experience of the music as heard are to be found in section C of 'Gnomus' (bars 38–72). Aurally these bars are harmonically quite unstable. Visually, the eye is drawn immediately to the excessive number of double-flat notations: instances of E♭♭, B♭♭, and A♭♭ are numerous throughout these bars. Closer inspection shows these and other spellings to be used in odd voice-leading contexts. Example 5(a) shows bars 38–59 in different orthographic versions with octave doubling removed.

[19] M. P. Musorgskii, *Boris Godunov: Muzykal'noe predstavlenie v chetyrekh chastiakh* [*Boris Godunov: Musical Drama in Four Parts*], Polnoe akademicheskoe sobranie sochinenii [Complete Academic Collected Works], ed. E. M. Levashev, 32 vols. (Moscow: Muzyka; Mainz, Schott, 1996–), vols. 1 & 2, 1: 6–7.

**Example 5:** 'Gnomus,' bars 38–59

(a) comparison of original (upper line) with a revised spelling according to a combined polymodal/functional model (lower line)




(b) original orthography

bars 38–48: E♭/ F♭ F♮ G♭ - - A♮/B♭ C♭/C♮ D♭ D♮/E♭ E♭♭/

bars 49–57: E♭/ F♭ F♮ - A♭♭/A♭/B♭♭ B♭ - C♮/D♭ D♮/E♭

(c) revised orthography

bars 38–48: E♭/ F♭ F♮ G♭ - - A♮/B♭ B♮/C♮ D♭ D♮/E♭

bars 49–57: E♭/ F♭ F♮ - G♮/A♭/B♭♭ B♭ - C♮/D♭ D♮/E♭ / E♮

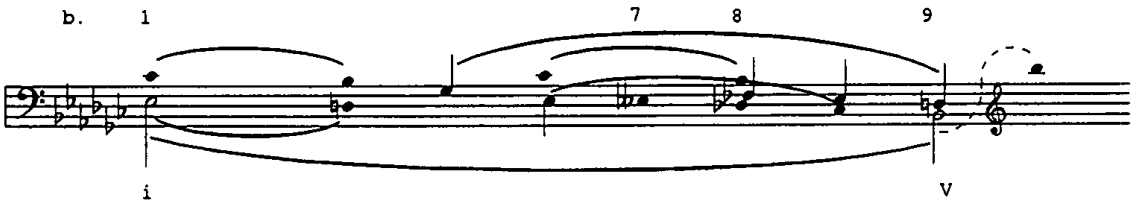
The upper stave contains the music as originally spelt, while the lower shows a version with some of the more contentious pitch spellings altered, in accordance with the models outlined in Example 1, to give a better sense of local voice leading and overall structure with reference to the centre E♭.[20] The breakdown of the orthography in Examples 5(b) and (c) shows how the revised notations make more obvious sense in terms of traditional function and tonal structure. The demarcation between the two sets of notations (bars 38–48 and bars 49–57) was based on

[20] An examination of Ravel's orchestration of this movement will show that he made numerous alterations to pitch spelling. All of those alterations shown in Example 1 are found in Ravel's version, with the addition of the B♭♭s in bars 52–53 becoming A♮s. See M. P. Mussorgsky, *Tableaux d'une Exposition*, arr. Maurice Ravel (London: Boosey & Hawkes, 1929) 12–16. Of course, it must be allowed that the practicalities of orchestral writing might be seen to demand such alterations, although on the evidence of Example 4 (and, indeed, much of Musorgsky's orchestral music) one might have grounds for doubting that Musorgsky himself would have included similar orthographic changes in an orchestration of 'Gnomus.'

the point at which the thematic material of bars 40–44 is altered and transposed, followed by the transposition of the material of bars 38–39 and 45–48 by a perfect fourth (bars 53–57). The basic change between segments is shown to be a change from the 7:5 structure of bars 38–48—in which a ♯4̂ notation is found to support the dominant pitch—to a 5:7 structure in bars 49–57—in which a ♭5̂ notation is found to support the subdominant pitch. The latter structure suggests a prioritising of the subdominant which is quite appropriate, as will emerge below. One may speculate as to whether the conflicts between local voice leading and spelling in the passage quoted in Example 5(a) have a general referential significance, along similar conceptual lines to that suggested in the example from *Boris Godunov* cited above.

In contrast to bars 38–71, the external sections of the piece—sections A and B in their various forms—exhibit a stringent regularity of spelling with respect to voice-leading function. This is exemplified in the first ten bars. Pc 2 is spelt D♮ in bars 1 and 4, where it functions as a lower neighbour to E♭, then E𝄫 in bar 7, where it forms part of a descent from the tonic E♭ to the dominant B♭. Example 6 shows a simple graphic reduction of the structure.[21]

**Example 6:** 'Gnomus,' reduction of bars 11–10



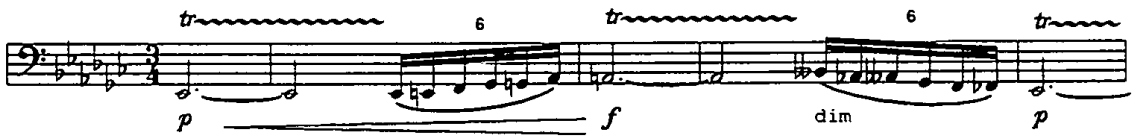

Musorgsky shows similar scrupulousness in the final part of the piece. The sextuplet semiquaver runs that join the oscillating pitches E♭ and A♮ in the left hand in bars 72–88 are carefully differentiated according to direction (Example 7(a)).

Most remarkable of all is the change in notation of pc 9 which is held through bars 88–89 (Example 7 (b)). The trilled note begins with A♮, but is changed to B𝄫 in the second bar prior to moving down to A♭ in bar 90. It is as if the note originally pointed (possibly as the root of vii$^{o7}$/V) to B♭ but this traditional functional outcome was 'deflected' downward, necessitating a change of notation. This, it will be noticed, is in contrast to the A♮ of bar 25 (left-hand part) which did, indeed, lead to B♭ as the leading note of a secondary-dominant-type progression.

On balance, therefore, there is some difference in the rationale adopted by Musorgsky for notating the piece in sections A and B to that in section C. It is perplexing, indeed, to find the composer to be so apparently cavalier in one area, with respect to orthography, and so careful in another. This notational inconsistency also does an injustice to the very strong sense of motivic consistency in the piece: it is highly unified in the expression and development of the

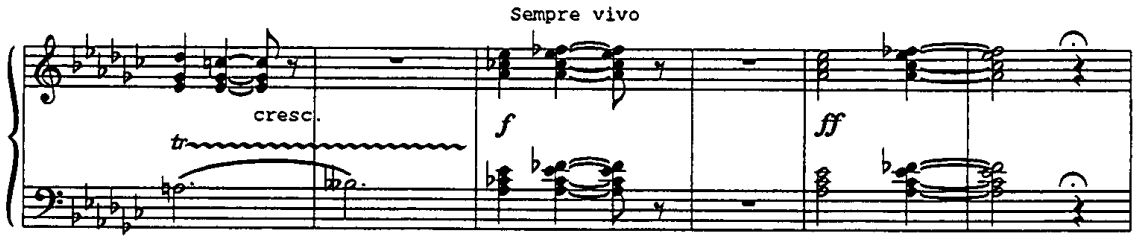
**Example 7:** 'Gnomus,' examples of functional orthography in bars 72–93

(a) bars 72–76, left hand only

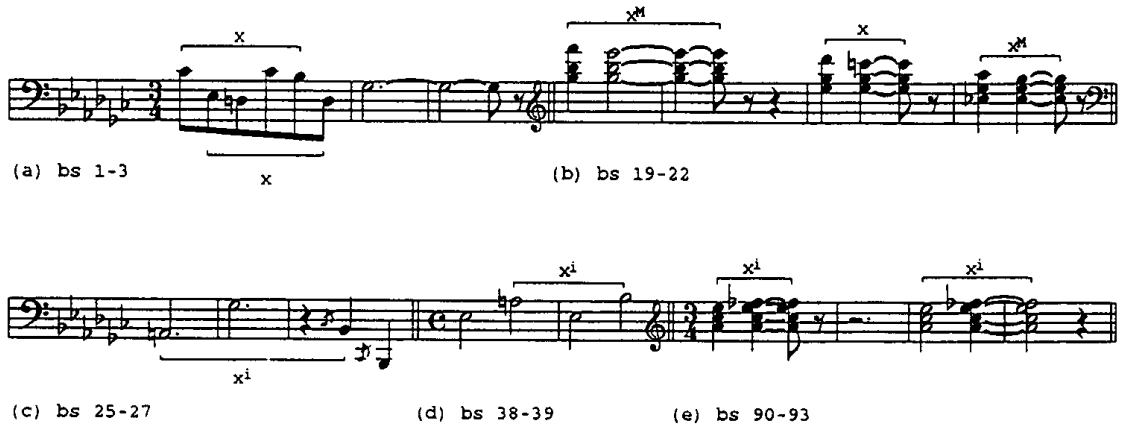



[21] The same structure is indicated for bars 11–18 and 29–37.

(b) bars 88–93




**Example 8:** Some appearances of cell 'x' and variants. The abbreviations '$x^M$' and '$x^i$' refer to major and inverted forms respectively.




interval of a minor second. So prevalent is this interval (occasionally found in major form) that one may regard it as being a primary cell. Some instances of its use are given in Example 8, where the primary cell is labelled 'x.' It should be noted that in addition to being occasionally expanded to the major interval, the cell is sometimes found as an augmented unison rather than as a minor second. This cell is doubly present in the compound melodic structure of the opening gesture (Example 8(a)) and then permeates the descending pattern of bars 1–9, repeated in bars 11–16. Major forms appear in section B (Example 8(b)). Bars 38–71 are saturated with it. The extended chromatic descent in bars 60–71 may be regarded as a kind of composing out of the cell. A significant inversion is found in bars 90–93 (Example 8(e)). The coda, little more than a scurrying gesture, is also saturated with it.

This analysis contends that the spelling of pitch in bars 38–71 is, in fact, as careful and deliberate as that throughout the rest of the piece, and that it is as integral to the processes of the piece as the intensive deployment of the primary cell outlined above. The notation of bars 38–71 is to be differentiated from that found in the rest of the piece only in so far as the meaning of this notation is more complex and elusive.

Gordon McQuere had made the following general observation of the formal operation of this piece.

> [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 suggests that this is the role of the

> almost unique subdominant harmony of mm. 90–93. It seems to occur as an isolated 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.[22]

The periodicity of tonic to 'non-tonic' patterns identified by McQuere is clearly evident up until bar 37.[23] Indeed, the process involved throughout these bars is clearly one of periodic motion to a conventional, implied dominant chord.[24] In section A two statements of the basic pattern occur—bars 1–10 and 11–18—reduced in Example 6 above. In section B (or B+A') the periodic unit is clearly observable over bars 19–28, then repeated, and over bars 29–37.

It is more difficult to detect as obvious a periodic process after bar 37. Despite this, McQuere's comment on the role of the 'almost unique' subdominant harmony of bars 90–93 rings true. While in bars 19–28 the B section moves to the expected dominant which terminates the period, in its varied repetition, in bars 72–93, section B concludes with a subdominant-type harmony with the addition of the Phrygian second degree. This subdominant complex places an entirely different meaning on the repeated section B material, and it is clearly significant that Musorgsky quite deliberately signalled the change in outcome of this material by altering the rising secondary leading note, A♮, to an upper leading note, B𝄫, which points downward to the subdominant pitch. It is this particular enharmonic change (while acknowledging all the careful orthographic details of bars 1–37 and 72–101 pointed out earlier) that gives the clearest evidence in the piece of Musorgsky's keen awareness of the meaning of his notation. This is so not only because of the obvious change in direction at this point, but because this change in direction, this notational deflection, may be related to external observations on the form and structural function of the piece, namely the subdominant event's provision of a means to formal closure.

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[22] Gordon D. McQuere, 'Analyzing Musorgsky's "Gnome",' *Indiana Theory Review* 13.1 (Fall 1989): 36.

[23] McQuere's terminology refers to the theory of modal rhythm developed by the early twentieth-century Russian theorist Boleslav Iavorsky. There is no real correspondence in meaning between Iavorsky's terms 'tonic,' 'dominant,' and 'subdominant' and these same terms as encountered in the modern Anglo-American analytical sense. There is also little evidence to suggest that Iavorsky intended his theory to be used as an analytical tool, although such a development was undertaken somewhat later by his pupil Sergei Protopopov. In essence, Iavorsky's understanding of functional relations between harmonic elements in music relates to the tritone and its 'natural instability' which demands resolution to 'tonic,' or 'subtonic.' Depending upon the nature of this tonic (which in Iavorsky's theory can range from a single note to a complex, even dissonant, vertical structure), the tritone may be understood as either 'dominant' or 'subdominant.' The basic unit of harmonic structure in Iavorsky's system is an harmonic pair (as referred to in passing by McQuere, above) in which 'dominant' or 'subdominant' function as an initial unstable element which resolves to 'tonic,' or 'subtonic.' It is not the place of this article to attempt a 'Iavoskian' analysis of 'Gnomus,' as the concern here is with orthography and its meaning. McQuere's article cited in footnote 22 above provides an analysis which does partially (though not exclusively) draw upon Iavorsky's methods, as well as the later, related, theories of Boris Asaf'ev. One may note in passing, particularly with respect to the comments regarding symmetry and change of relative harmonic function in my conclusion, general similarities between some of McQuere's and my observations, even though they derive from quite different bases. He notes, for example that '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.... 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' ('Analyzing Musorgsky's "Gnome"' 32–33). For further reading on Iavorsky's theory McQuere is the authoritative English-language reference. See Gordon D. McQuere, 'Concepts of Analysis in the Theories of B. L. Yavorsky,' *Music Review* 41 (1980): 278–88; '*The Elements of the Structure of Musical Speech* by S. V. Protopopov: A Translation and Commentary,' PhD Diss. U of Iowa, 1978; 'The Theories of Boleslav Yavorsky,' *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere (Ann Arbor, Michigan: UMI Research Press, 1983) 109–62.

[24] There are very few actual triads found in 'Gnomus.' References throughout this article to tonic, dominant etc. may be understood as referring to implied harmonies as suggested by the context, or better still, to generalised harmonic function.

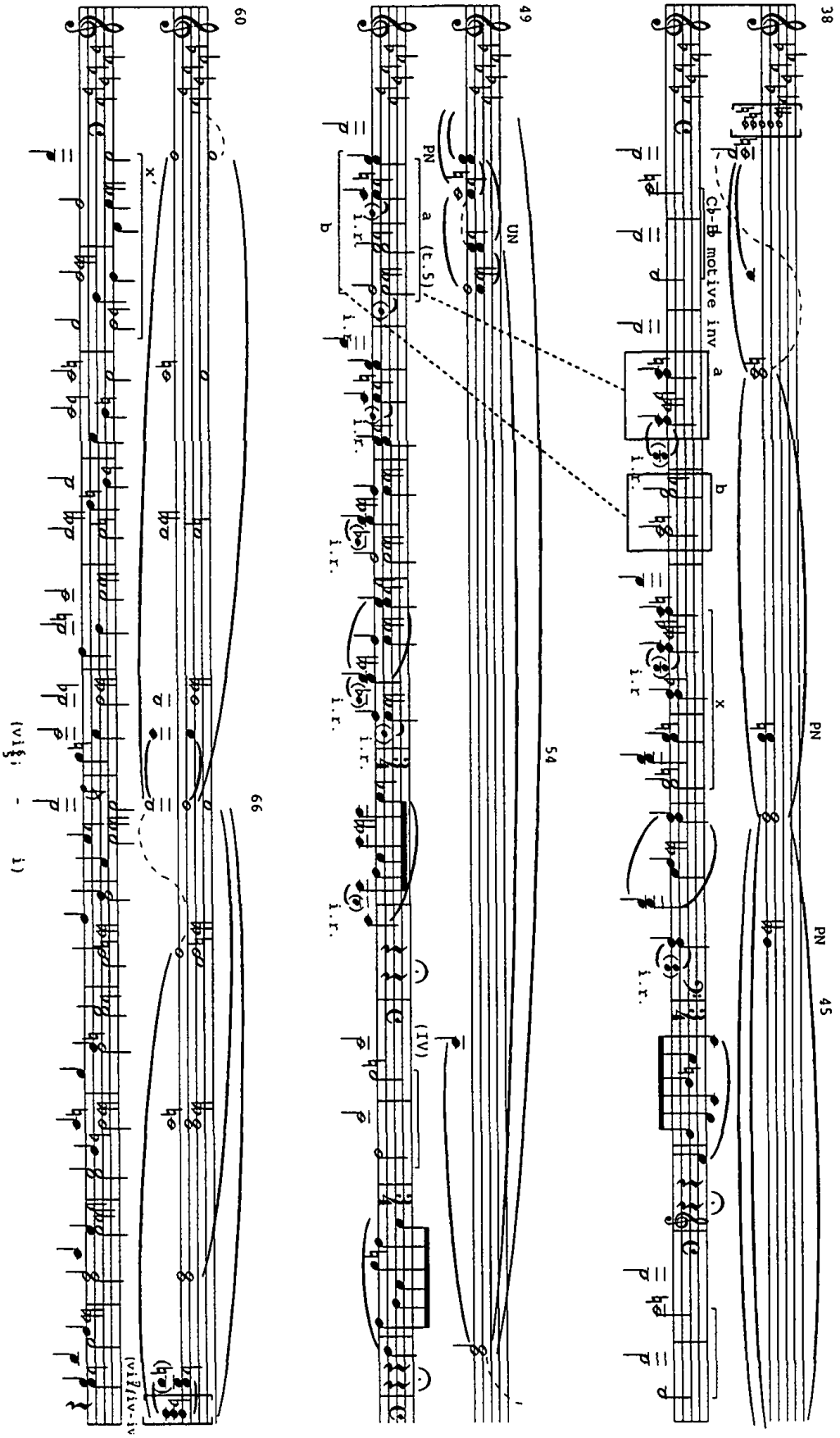
A key element in the overall processes of this piece is what might be described as a 'continuous falling tendency.' An examination of the A and B sections shows a falling idea to be a key part of the periodic process. In the A sections (Example 6) there is a clearly defined descent in thirds, and indeed the initiation of this descent is marked out, as described above, by the enharmonic change of D♮ to E♭♭. Once initiated, this descent moves through the Phrygian scale (with raised seventh degree) in the upper line of the thirds: G♭—F♭—E♭—D♮. The D♮ in bar 9 (and equivalent bars) now signifies, as an essential harmonic pitch, dominant stability. In section B, the sense of falling is preserved in the upper melodic gestures and register shifts and in the enclosing bass progression of the E♭ down to B♭, even if the primary cell is inverted, A♮-B♭, in bars 25–27 (Example 8(c)).

This simple observation is a key to better understanding the nature of the second part of the piece (section C and following). It is after the double bar line preceding bar 38 that the basic processes of the piece change. The initial I-V periodic process is transposed after bar 38; in the second part of the piece, subdominant falls to tonic. The status of the subdominant as a structural member, however, must first be achieved in the early stages of section C by a conspicuous rising tendency which breaks the periodic cycle. This rising quality is signalled by the inversion of the primary cell in bars 38–39 (Example 8(d)), and then substantiated by the upward transposition of the thematic material of these bars by a fourth in bars 47–48 and by an octave, reasserting the tonic, in bars 56–57. The interpolated statements of the opening gesture (bars 45–46, 54–55 and 58–59) are similarly transposed. What occurs in bars 38–59 is a change not only of process, but also of direction. I have attempted a graphic reduction of this (Example 9) in which bars 38–59 may be seen as a large-scale upper-neighbour motion, G♭-A♭-G♭, supported by a I-IV-I bass motion, E♭-A♭-E♭.[25]

The change of direction, however, is not completely consistent in these bars. From bar 38 until the powerful climax of bar 60, a considerable amount of tension is created, only to be released in bars 60–71. This tension is established largely on the basis of a conflict between the rising nature of bars 38–59 at the macro harmonic level—the upward transpositions and the long-range upper neighbour structure shown in Example 9—and the continuation of the falling motion, represented by the articulation of the primary cell—the minor second or augmented unison—at the micro level in the thematic material of bars 40–44 and 49–53. This directional conflict offers a musical explanation for the orthography of bars 38–59. The downward motion of the primary cell in augmented unison form is without immediate resolution in these bars, yet these augmented unisons suggest or imply downward motion through their functional spelling, in a manner similar to that of the E♭♭s in bar 7 and equivalent passages, and, for that matter, to that of the B♭♭ in bar 89. In the lower stave of Example 9 these implied, but thwarted, resolutions are indicated in parentheses, with the attached symbol 'i.r.' In the larger framework of a fundamental change in process, and the tension inevitably connected with this, a much less speculative connection may now be drawn between the passage of bars 38–59, with its unusual notation, and the curious notations from the passage in *Boris Godunov* cited earlier (refer to Example 4). Conceptually they are closely allied with each other, tension being developed in both through a fundamental conflict in impetus or direction. These connotations may extend beyond the intrinsically musical to the referential, in general conceptual terms, based on the evidence of the dramatic situation in the passage from *Boris Godunov*.

[25] The placement at the head of the graph of a diminished seventh chord centred around E♭, with enharmonically equivalent extremes B♭♭ and A♮, refers to assertions to be made later concerning a background symmetrical structure. It should also be stated that my graph is illustrative more than analytical, in the sense that it economises on verbal expression but does not present any 'findings' that are independent of my verbal commentary.

**Example 9**: 'Gnomus,' redaction of bars 38-71



The reductive view of bars 38–71 which shows IV supporting an upper neighbour to G♭[26] also offers some explanation of the different spellings of the opening gesture in its original (bars 38–39, 58–59) and subdominant (bars 54–55) guises in this passage. Having clarified the function of the dual spelling D♮-E𝄫 in this gesture as it appears in the first part of the piece, it might be seen that the contrast between the consistent use of D♮ in the gesture at original pitch after bar 37 and the use of A𝄫 in the gesture as transposed by a fourth points to the relative difference in degrees of stability of tonic and subdominant in the second part of the piece. In short, the A𝄫 provides support to the analytical interpretation in Example 9 of the subdominant area around bars 49–57 as being, in the macro-harmonic sense, less stable than the now more grounded tonic harmony. What is intriguing, however, is that unlike the D♮/E𝄫 in section A, the A𝄫 as used throughout the early stages of section C is without an immediately obvious voice-leading context. Despite this, it remains a compelling idea that the spelling of pc 7 as A𝄫 in this area is intended to support the notion of a IV—I process in which the respective members possess relative functions similar to those of the members of the I—V process in part I. As further support to the interpretation of the subdominant as a structural element in the new periodic process, the notation of pc 9 as B𝄫 in bars 52–53, again without an immediately clear voice-leading context, should be noted—pc 9 was spelt exclusively as A♮, a secondary leading note to the dominant pitch B♭, until bar 52.

In bars 58–59 there is a minute detail which doubtless goes unnoticed by careless sight-readers: the last quaver of bar 58 is changed from the D♮/E𝄫 of previous manifestations of this gesture, to E♭. This is the last appearance of the figure and it points—in a way, paradoxically, both fleeting and substantial—to the greater sense of tonic stability in the second half of the piece. After this final statement of the opening gesture, the falling motion returns, united again at the macro and micro levels, in the form of the fallout of the climactic outburst of bars 60–71. The IV-I process is now firmly established. It will be noticed that in the two descending chromatic figures of bars 60–71, a subtle shift to IV takes place in the second figure, bars 66–71. The thematic material of the right hand in bars 60–65 is, after the initial two notes, transposed a perfect fourth higher (at different octave register, or course) where it appears, slightly varied, in the left hand in bars 66–71. Whereas the first descent (bars 60–65) ends in a high level dominant function, the second ends (bars 66–71) with the impression of a secondary dominant with respect to IV. This is also borne out by the notation (Example 10), which shows, in the double spelling of one pc in the complete chromatic collection, a shift down the cycle of fifths by one 'notch.'

**Example 10:** 'Gnomus,' bars 60–71, orthography

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| bars 60–65: | E♭ | F♭ | F♮ | G♭ | G♮ | A♭ | B𝄫 | B♭ | C♭ | C♮ | D♭ | D♮<br>E𝄫 | E♭ |
| bars 66–71: | A♭ | B𝄫 | B♭ | C♭ | C♮ | D♭ | E𝄫 | E♭ | F♭ | F♮ | G♭ | G♮<br>A𝄫 | A♭ |

These notations are a mixture of the polymodal and functional (in this case descending) models, as appropriate to the context. Except for the transposition, they are identical; both, indeed, could be described as 5:7 chromatic octave structures with dual spelling of the leading note/flattened tonic. Thus, the arrival of the tonic in bar 72 is, unlike the tonic of bar 19, the close of a IV—I cycle, rather than the initiation of a I—V cycle.

[26] The G♭ has not been labelled $\hat{3}$ in this instance, because there is no real evidence to support the idea that it takes part in, or initiates, any sort of long-range fundamental descent in the usual Schenkerian sense.

To summarise, periodic tonic-dominant structures dominate the first part of the piece, in which falling inflections are in agreement at the micro and macro levels. This is followed, at bar 38, by a change in process in which tonic is replaced by subdominant as the initial element, providing a new periodicity with the tonic, instead of dominant, as termination. This change in process is forced by a rising motion at the macro level which results in conflict with the continuation of falling inflections at the micro level, which in turn establishes the tension necessary to achieve a point of climax, after which closure may follow. The recapitulation of section B material from bar 72 threatens a return to the earlier pattern, but this is ultimately thwarted by the A♮—B𝄫—A♭ progression in bars 88–89. The varied return of section B is, therefore, now heard in a very different way from its original appearance. This is why, despite the large-scale repetition of section B material, the form must be understood as bipartite rather than tripartite (refer to Example 3). The orthography used throughout the piece provides a useful key to the understanding of these processes.

**Conclusion**

There is almost a symmetrical quality to this partitioning of the piece according to basic function: tonic emerges as a sort of fulcrum around which are balanced dominant and subdominant functions. This is a significant departure from the traditional relationship established between I, IV and V, where IV is often thought to hold a preparatory function in relation to V. (There are, of course, numerous exceptions in common-practice to this generalisation, although these occur most typically in post-cadential contexts.) In 'Gnomus' the structural basis of the piece may be regarded as symmetrical, or mirrored, in as much as the periodic motions away from I, to V, in the first part are balanced in the second part by motions to I, from IV. This symmetrical underpinning is supported by the varied notation of pc 9: A♮/B𝄫.

Unlike colleagues such as Rimsky-Korsakov who wore their late-nineteenth-century Russian infatuation with octave symmetry very much on their sleeves, Musorgsky's symmetrical procedures are often found at a less obvious level.[27] It will be remembered that the upper stave of the graph of bars 38–71 (Example 9) tentatively proposed the 'prolongation' of a sort of diminished seventh harmony, in which the tonic, E♭, lies at the centre, bounded by upper and lower tritones spelt B𝄫 and A♮ respectively. Questions might remain as to whether this is a valid reading, or course, but it does suggest that a symmetrical element may be manifest throughout, perhaps more clearly so at certain stages, less so at others, as a sort of governing sonority.[28] In addition to the portion of part II graphed in Example 9, this static diminished seventh sonority may also be sensed strongly in the outer-voice structure of section B.[29] If the first crotchet of beats bars 19, 21, 22, 23, 25 and 26 are taken as appoggiaturas, then the outer voices in bars 19–26 (similarly so bars 72–88) comprise the minor-third related nodal points of an octatonic scale, or, conventionally speaking, the notes of the diminished seventh.

A scalar model (Example 11) which co-ordinates the 1-2 ordering of the octatonic on E♭ with the E♭ tonic, subdominant and dominant pitches shows how this background symmetrical

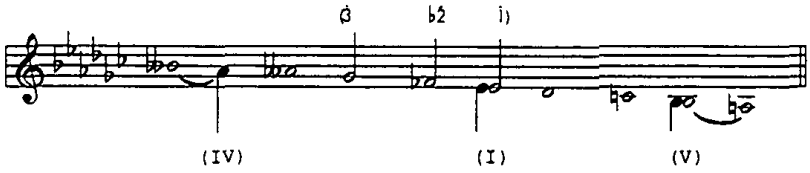
[27] Rimsky-Korsakov's earliest experimentation with, as he termed it, the 'whole-tone semitone scale' occurred around the end of the 1860s. It was not until some time after Musorgsky's death that Rimsky's use of the octatonic scale became more structurally significant. Earlier examples, such as those pointed out by Richard Taruskin, have a more decorative cast. See Taruskin, 'Chernomor to Kashchei: Harmonic Sorcery; or, Stravinsky's "Angle",' *JAMS* 38 (1985): 93–99.

[28] The concept here is not dissimilar to Taruskin's attribution of a 'governing' quality to the octatonic coll. III in the second Tableau of *Petrushka*. See *'Chez Pétrouchka*: Harmony and Tonality *chez* Stravinsky,' *19th-Century Music* 10 (1987): 265–86.

[29] Indeed, only two pitches in section B stand outside the octatonic based on E♭, with 1-2 ordering (coll. III), the initial F♮ in the right hand and the C♭ in bars 22 and 26. (This C♭ also appears, of course, as an ornament in bar 27.)

structure (shown in open note heads) might engage 'functionally' with other more traditional structural elements (shown in closed note heads).

**Example 11:** Octatonic 'centred' on E♭, with 1-2 ordering, showing relationship to IV and V function




It may be seen that the octatonic accounts for the Phrygian inflection of the second degree. This is a striking and regular feature of the piece. It may be observed in scalar descent in section A and is present as part of the inversion of the primary cell over those crucial subdominant chords of bars 90–93. Any viable attempt at a layer analysis of this piece would have to consider a Fundamental Line of $\hat{3}$-$\flat\hat{2}$-$\hat{1}$ rather than the traditional $\hat{3}$-$\hat{2}$-$\hat{1}$—it would also struggle to identify meaningfully the necessary I-V-I bass arpeggiation.[30] Further, it may be observed how a centric E♭ with outer tritones enharmonically spelt as diminished fifth above and below—as a degree-consistent, or diatonic, spelling of the octatonic collection demands—might govern the functional relationship between I, IV and V, by providing upper (B𝄫) and lower (A♮) leading notes to the roots of these respective elements. Notation and orthography are significant aids to this understanding. It is in such terms that the irregular relationship of functional and non-functional elements mentioned at the beginning of the article may be understood. Rather than being a decorative, surface-level, 'colouristic' device, subordinate to functional harmony, the symmetrical element is not heard explicitly, but implicitly regulates what we would normally expect to be deeper level functional elements, the (implied) primary triads IV and V. The background symmetrical structure operates as a sort of fulcrum around which revolve the I—V and IV—I processes; there is a balanced, symmetrical aspect to the overall function of this piece which is in direct conflict with traditional methods of tonal organisation, which are inherently asymmetric. The piece may be regarded as 'subversive' not only because of its violation of traditional orthography in section C, at the surface level, but also for its rejection of the common large-scale paradigm of functional relationships, replacing a dynamic harmonic system with a static, symmetrical one.

What is, in the end, most remarkable about this 'transitional' piece is that the sense of the grotesque—which is, after all, implicit in its subject matter—is reflected not only in surface features of rhythm, texture and register, but also in the composer's methods of tonal organisation and notation, which play with and distort traditional notions of notation and tonal organisation at almost every twist and turn. Moreover, the piece serves as an interesting, yet pleasingly untidy, case study of the composer's orthography as evidence for analysis. In 'Gnomus,' a multitude of notational nuances point, sometimes obliquely, sometimes directly, to the nature of its form and processes.

[30] I have already mentioned the lack of sound basis for a graphic reading, see footnote 25. For an interesting study of the (in)applicability of a Schenkerian (or neo-Schenkerian) approach to another highly unorthodox piece from *Pictures* see Derrick Puffet, 'A Graphic Analysis of Musorgsky's "Catacombs",' *Music Analysis* 9 (1990): 67–77. At the end of his analysis, Puffet noted that his graphs 'make a historical point, by showing Musorgsky's oblique relation to nineteenth-century tonal practice' and that 'the degree to which Schenker's methods can be applied to Musorgsky is in fact a precise measure of his originality' (p. 73).