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MUSIC IN L2 PEDAGOGY: A Comparative Analysis of Music and Language

Introduction

Music and language might be seen as structural systems. How close or how different are these systems? It is important to observe that attempts by some researchers to prove a literal resemblance between music and language may have yielded no results.¹ Although a parallel between music and language has attracted a number of scholars², it is apparent that one cannot translate such features of language as parts of speech, sentences, grammatical categories, and so forth into direct equivalents in music. Music possesses its own laws and rules that, in many cases, are very different from those of language. This is especially true of instrumental music.

At the same time, we can assume that the use of words in *vocal* music complements music with such characteristics of language that make close comparison of both phenomena possible. The following comparative analysis of the properties of selected categories of language and vocal music will attempt to justify this assumption.

In particular it is obvious that there must be some interaction between various prosodic, stress and segmental features in language and vocal music. Furthermore, if such correspondence can be found, then this might be suggestive of a fruitful technique in L2 teaching; namely the application of vocal music with its slower tempo and pleasantly relaxing melodic elements, to some of the difficult tasks of segmental and suprasegmental L2 acquisition.

The term *music* in this study will refer only to *vocal music* in order to focus specifically on the relationship between words and music. In addition, the term music is used here only with respect to *Western tonal music* because the tonal musical idiom of the Western cultures was greatly influenced by the languages of the Western nations. Our analysis will focus primarily on Russian and, to a lesser extent, English manifestations of such music.

Syntactical Structures in Language and Phraseological Structures in Music

In order to examine the possible correlation between such categories of language as word-combination or the sentence and such musical categories as

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grouping structure, metrical structure or motif, these terms must be systematically defined.

Word-combination in language is a syntactical construction which consists of two or more words joined on the basis of a grammatical bond (agreement, government or parataxis).³ The main function of word-combination is *nomination*, i.e., the designation of something or somebody that is being named by the main component (for example: *singing*) and concretized by a dependent component (*singing loudly*). Although *word-combination* as a construction of nomination differs fundamentally from the *sentence* (which is a construction of communication, or possessing syntactical categories such as modality, verbal tense and person—*He was singing loudly*), it is closely related to the sentence since it functions *within* the sentence and can undergo various changes. This relationship should be kept in mind when we consider the properties of such musical categories as grouping and metrical structures.

In music we can describe the musical passage in terms of segmentation into motifs, phrases, and sections (*grouping structure*), and in terms of rhythmo-metrical patterns with their hierarchical system of beats (*metrical structure*).⁴

In instrumental music these features might have very little resemblance to the categories of word-combination or the sentence. But in vocal music semantically tied to language grouping and metrical structures cannot exist without the verbal text. This text inevitably affects the segmentation in the grouping structure, as well as the rhythmo-metrical patterns of a particular segment. When segmentation occurs in a passage, the composer cannot ignore the verbal text which (with the exception of certain stylistic requirements such as coloratura singing) is constructed either as word-combinations or sentences. Verbal text must be presented in a linguistically correct and comprehensible form implying uniformity between the musical phrase and the verbal phrase set to music.

The category of *phrase* in music and in language denotes different structures. In language the phrase can be a part of or a whole sentence as an intonational syntactic unit, as customary in Russian linguistics. One of the most important elements of the phrase in language is phrasal stress, which plays a distinctive, semiologically relevant role.⁵

In music the phrase appears as a distinct element of the grouping structure. The phrase may be the same as the motif, or may be expanded to a series of motifs. In either case it shows a development characterized by a climax with a typical movement toward tension and relaxation, closely parallel to the stress in a verbal phrase. The climactic development of the phrase in both instrumental and vocal music is realized in a rhythmo-melodic structure so that the climax is organized around the strong beat. But in vocal music the placement of the climax depends heavily on the verbal phrase, its development, and disposition. Ideally, the intonational centre of the verbal phrase should coincide with that of vocal music.

In the following example from S. Barber, with lyrics by A.E. Housman,⁶ we can see this complete fusion of climactic development in musical phrase

and verbal text.

**No. 1. Samuel Barber, With Rue My Heart Is Laden.
Lyrics by A.E. Housman, translation by S. Severtsov**

With rue my heart is laden
Печаль мне серд - це глój - жет

In this excerpt, we have a relatively short grouping structure with the climax gradually building up towards the metrically longest note (the strong beat of the fourth bar, marked with >). The same development is present in the line of verbal text where the climax comes to the end of the sentence (see arrows showing the development of the climax toward the logical stress—*laden/гложет*—marked with a stress sign).

From such a comparison we can hypothesize that *the syntactical structures of verbal text set to music greatly influence musical text through the transfer of linguistic features to the musical development*. Is this relationship fortuitous or can we extrapolate our conclusions to other categories of language and music?

Prosodic Structures in Language and Rhythmo-Intonational Structures in Music

As a phenomenon of speech, prosodic structures describe such phonological events of speech as pitch-event, duration (time distribution) and loudness (dynamics). Prosody as a subject of linguistics deals with the segmentation of speech which includes the succession of pitches (melodics), distribution of stress, relative acceleration or slowing down of speech and disruption of speech (pause). Even at first glance it is clear that prosodic features of speech, one way or another, correlate with the lineaments typical of musical passages (pitch-events, tension and relaxation, dynamic nuances, and rhythmical patterns, just to name a few).

Jackendoff and Lerdahl (1980) have demonstrated this parallel rather convincingly. Their study shows that rhythm-intonational structures in music (which they defined as time-span reductions⁷) and prosodic structures in language are based on a similar type of segmentation. While Jackendoff and Lerdahl concentrated on the general area of instrumental music, our comparative analysis will explore the relationship between the two structures as they relate to vocal

music.

Segmentation of prosodic structures brings us to a layered hierarchy of elements.⁸ This approach, which is quite different from the analysis based on the linear succession of phonemes,⁹ allows us to define the smallest prosodic unit as a *syllable*. The advantages of syllabic segmentation for our comparative analysis are obvious since the syllable is the smallest grouping element of verbal text in singing.

In many languages, including Russian, the boundaries of syllables in syllabic segmentation fall mainly, but not always, after vowels, thus forming open syllables. The similarity here to vocal music is interesting, since singing, with its continuity of vowels, always requires an open syllable. Even when a syllable is closed (ending in a consonant), the singer makes it open by connecting the last consonant with the following syllable.

Syllables are also connected with pitch-events of relative importance in the vocal music phrase. In instrumental music various pitch-events promote purely musical development. In vocal music the syllable appears as a pitch-event itself (or pitch-events, when one vowel is vocalized on different notes). Both syllables and pitch-events are organized in certain rhythmical units. We can suppose that these rhythmico-metrical units, for their part, reflect the structure of verbal text. We will discuss the possible influence of verbal text on pitch-event development after examining some other elements of our segmentation.

Syllabic division of the utterance provides the first element of an important ascending segmentation:

**syllable---foot---word---phonological phrase---
---intonational phrase---utterance phrase.**

Prosodic units which consist of two or more syllables organized in a certain rhythmic way are *feet*. The foot¹⁰ is interpreted as a repeated, sequential combination of strong and weak syllables (see example below). In some cases the foot and the word may coincide, forming a complete lexico-semantic entity. In an example from Puškin's *Evgenij Onegin*¹¹ we can see this division:

Ах, - | ня - ня, - | ня - ня, - | я - то-с-| ку - ю|
Oh, - | На-ну, - | На-ну, - | I'm-un-|hap-py|

The underlined syllables represent the feet containing complete words, the rest are only parts of words. The alternation of strong and weak feet gives rhythmical regularity to the line. In this respect, feet have some properties typical of *motifs* in music, namely strong and weak beats, or upbeats and downbeats. However, this similarity should not be overemphasized. While the motif represents a small but complete structural unit of rhythmico-intonational elements, the foot can join syllables that belong to different words, leaving part to the next foot, thus displaying purely metrical elements. Still, the metrical similarity of the foot and the motif is very important in the process of musical adaptation

of a text, particularly for composers concerned with delivering the verbal text in music comprehensively.

One can also speak about some parallels between the motif in music and the word in language. They both represent relatively small units of their respective structures. Although the motif can be larger or smaller than the word, they both can be seen as having complete identity in content, musical or lexical and semantic. Under certain circumstances, although not always, they can correspond with each other. But there are no grounds for equating the word and the foot.

After the first layers of prosodic segmentation—syllables, feet and words—comes the category of the *phonological phrase*. The boundaries of the phonological phrase depend on both phonological and syntactic properties. Prosodically, the phonological phrase contains feet and words. Syntactically, it has intonational unity and represents the smallest units of speech—word-combinations and simple utterances. One of the characteristics of the phonological phrase is the possibility of internal pauses. In our example, we can divide the line into three phonological phrases:

Ах, - ня - ня, - | ня - ня, - | я - тос - ку - ю |
Oh, - Nan - ny, - | Nan - ny, - | I'm - un - hap - py |

The closest rhythmo-intonational unit in music comparable to the phonological phrase is the *elementary musical phrase* of segmentation. The elementary musical phrase consists of two or more motifs united by intonational and metrical patterns on the basis of some thematic unity. The thematic unity of the elementary phrase in *vocal* music should be connected in a certain way with its prosodic counterpart, which is the phonological phrase. Both the phonological phrase and the elementary phrase are the largest components of our segmentation so far. While the lower levels (syllables, feet and words in language, and pitch-events and motifs in music) show some limited parallels, the similarities on the higher levels of the hierarchy, as on the level of phonological and elementary phrase, are striking. We will discuss this in detail later in our analysis of the metrical and grouping structures in musical passages.

The next level in the hierarchy of prosodic structure is the *intonational phrase*—a further development of the phonological phrase. This is a new step on the way to delivering the complete message—the *utterance*. The intonational phrase comprises phonological phrases which have common syntactical and intonational properties. In our example, it is the category of the vocative case and its typical intonation. Thus we are able to distinguish two intonational phrases, one of which is the same as the phonological phrase and another which has resulted from the fusion of two phonological phrases:

Ах, - ня - ня, - ня - ня, | я - тос - ку - ю |
 Oh, - nan - ny, - nan - ny, | I'm - un - hap - py |

Another example, this time from the opera *Evgenij Onegin* by Tchaikovsky, supports our interpretation of the intonational phrase. In reworking Puškin's text for the libretto, the composer put two additional words into the line we have been analyzing. In the opera this line sounds as follows: "Oh, Nanny, Nanny, I'm unhappy, I am suff'ring!" The two last sentences have similar syntactic constructions and similar intonational patterns. Therefore, they can be presented as one intonational phrase:

Ах, - ня - ня, - ня - ня, | я - стра - да - ю, я - тос - ку - ю, |
 Oh, - Nan - ny, - Nan - ny, | I'm - un - hap - py, - I - am - suff' - ring |

Of course, there are no absolute rules for prosodic segmentation, and in a prosodic structure it is the reader/speaker who decides on how to segment a passage. It is quite possible to view the above line as having three intonational phrases instead of two, but our segmentation conforms to the principles and substance of the intonational phrase.

The combination of two or more elementary musical phrases generates to the next level, namely the *developed musical phrase*. Very often the developed musical phrase unites elementary phrases on the grounds of dynamic progression, tension/relaxation and common rhythmo-intonational material. In vocal music all these characteristics should be found in verbal text as well.

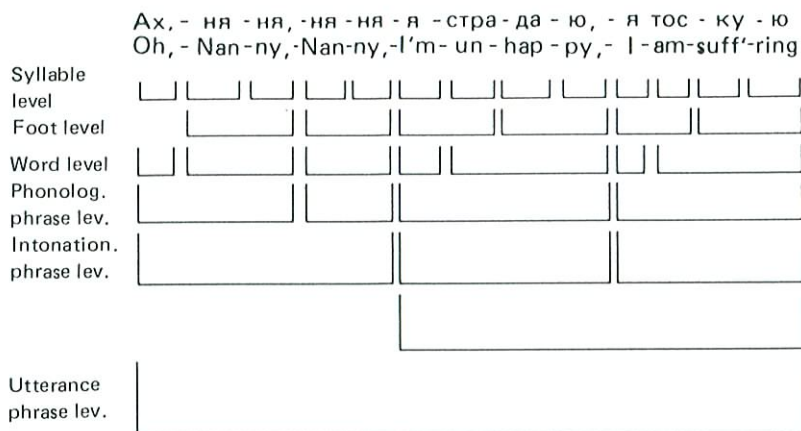
At the top of hierarchical segmentation of the utterance is the *utterance phrase*, consolidating all the elements of the structure as a semantic, phonological, syntactic, and intonational whole. In music it is paralleled by the *complete musical phrase*. Typical of utterance phrases are internal pauses. In our example the sign "/" marks the possible placement of such pauses:

Ах, няня, / няня, / я тоскую! /
 Oh, Nanny, / Nanny, / I'm unhappy, /

The utterance phrase reflects the meaning and the rhythm-melodic structure of the utterance with the acceleration or deceleration of tempo, dynamic development, and the distribution of stress. The utterance phrase, as well as the intonational phrase, display another property: that of intensity¹²—the degree of dynamic exhalation during articulation. The intensity of the phrase is a prosodic tool for expressiveness since it is conducive to the unification and flow of constructive, distinctive and emotional elements of the utterance. Intensity exists in close proximity with tempo, dynamic nuances and timbre. In oral speech, intensity is left to the discretion of the speaker. In music, it is generally prescribed in some form by the composer. In vocal music, it may be suggested that the intensity of verbal text reinforces purely musical promotion of tempi

and dynamics. If this is so, the question of similarities of intensity in speech and vocal music can raise certain methodological possibilities in L2 teaching/learning.

We can now present a detailed segmentation of a prosodic structure, using as an example the verbal line from the opera *Evgenij Onegin*.



As has been mentioned above, the hierarchy of prosodic structure is built on the increasing complexity of ascending elements. Each succeeding level of segmentation not only absorbs the features of the previous levels, but also gains some new and important qualitative characteristics. The new qualities on each succeeding level emerge as more and more generalized, encoding complex syntactic semantic ties within the utterance. Our segmentation demonstrates this complexity and also shows some overlapping between levels: i.e., when a syllable is equal to a word (**Oh**; **I**); when a foot is equal to a word (**Nanny**); when a word is the same as a phonological phrase (**Nanny**); or when a phonological phrase coincides with an intonational phrase (**I'm unhappy**; **I am suff'ring**;) . In the last case we see also the possibility for the intonational phrase joining two phonological phrases into one. This overlapping is important for recitation because it opens various possibilities for the expressiveness of speech. The segmentation may help, in general, to develop a rhythm-melodic plan of performance with the disposition of stress, pitch-events, dynamic nuances etc.—features also typically planned for the performance of a musical piece.

Two fundamental areas of structural hierarchy in music, the area of metrical structures and the area of grouping structures interact to construct the rhythm-unit, or *time-span*. The relations within the time-span are also hierarchical. They introduce motifs and sections that constitute the hierarchy of phrases. They also introduce the hierarchy of beats that are attributed to music.

The following example illustrates the structural segmentation¹³ of a passage from Tchaikovsky's opera *Evgenij Onegin*. (The Letter Scene, Act 1)¹⁴.

downbeat is an upbeat, or *anacrusis* (a term shared by both music and prosody¹⁵ and reflecting similarity in their metrical structures).

The understanding of metrical structure and the role of the upbeats and downbeats in turn offers an explanation of the hierarchy of grouping structures since the two structures constantly interact. We cannot distinguish between different groups in the grouping structure without taking into account the groups' metrical buildup.

The *grouping structure's* smallest component, the motif, is introduced as a number of pitch-events in a certain metrical disposition. As a rule, the first exposition of the motif is relatively simple, after which it is elaborated and joined by new motifs that together form various kinds of phrases and sections. The elaboration very often appears as ornamentation and transposition of the primary motif. Let us examine our example for its primary and elaborated motifs.

Suppose that the upbeat to the first measure (a quarter note in music), along with the first downbeat (a half-note) constitute the primary motif in the passage. In order to check this we look for similar elements in the subsequent measures. The third quarter of the first measure (which is an upbeat) along with the first two quarters of the second measure (which equals a half note and metrically is a downbeat) constitute the same, but transposed, primary motif. Why the half note of the downbeat has appeared here as two quarter-notes, will be discussed in a moment.

The method we have used for defining the second motif can be employed for the definition of the third and fourth. The ornamentation that appears in the upbeat, set in two eighth notes, and the transposition of pitch-events in the second and third measures, do not change the basic elements of the primary motif.

Does the motif, the smallest level of musical grouping, with its various dispositions of stressed and unstressed notes have any correlation to the smallest grouping structures of the prosodic text, namely the foot and the word? Using the notion of common stress for music and verbal text as a criterion, we can see very little or no correlation on these levels. Indeed, on the foot level we have six feet (preceded by the anacrusis—*Oh,*). Each foot has a stress on the first syllable, partially corresponding to the downbeat in the beginning of the measure in the music. However, in the verbal text we have six bisyllabic feet which translate into six stresses, whereas *the music contains only four measures and, consequently, four downbeats*. Obviously there is no correspondence on the foot/motif level. As far as the word/motif correspondence is concerned, we should note that stresswise some words find proper accentuation in music (*Nanny, unhappy, suff'ring*), although none of the words is equal to motif as a grouping structure.

And yet, some motifs deliver the text very well. Let us analyze how this works. The last two motifs, for example, are in perfect agreement with the text: the 3rd —*I'm unhappy*, and the fourth—*I am suff'ring*. The head (or downbeat) of each motif here coincides completely with the main stress in the

verbal text.

However, in the beginning of the passage there is no agreement at all. The first motif ends in the middle of the word (*Oh, Nan -*), the second begins with the syllable from the previous word (*- ny, Nan-ny*). What is the reason for this difference between the first two and last two motifs? Each of the 3rd and 4th motifs contains not a separate word/words, but a complete simple sentence, thus constituting phonological phrases, syntactic intonational wholes. At the same time the first and second motifs ("Ах, ня-'" and "'ня, ня-ня'") are connected with parts of words and separate words only, remaining on the level of foot and word and lacking any syntactical meaning. Syntactic intonational development is therefore the decisive condition that makes verbal text sound properly on a particular level of grouping structure in music.

We can now conclude that the music and verbal text in our example show close similarity on the level of the phonological phrase—the first syntactically and intonationally developed group in the prosodic hierarchy. In the segmentation of music structure the counterpart of the phonological phrase is the elementary and musical phrase. Verbal text and music do not display this similarity on lower levels, unless the motif coincides with the phonological phrase, as it occurred with our third and fourth motifs. However, the latter is an accident rather than the rule. We will look for a more consistent similarity between music and the phonological phrase on the next level of musical segmentation after a few considerations about motif development.

In the course of phrase formation some typical changes occur in the metrical set-up of the primary motif. One can say that the development of each motif bears the same repeated patterns. The upbeat of the primary motif (a quarter note) becomes two eighth notes in each elaborated motif. The half note downbeat of the primary motif has been elaborated into two quarter notes. What are the reasons for this? Apart from purely musical considerations, one cannot help but see here the definite influence of the verbal text. Indeed, all additional metrical elements of the elementary phrase are equal to the number of syllables in the phonological phrase. We suggest that syllabic disposition of verbal text is responsible in a very significant way for the composition (at least quantitatively) of pitch-events in music. Compare the downbeats in our example..

Ах, ня-ня, ня-ня, я стра - да - ю, я тос - ку - ю
 Oh, Nan-ny, Nanny, I'm un-hap-py, I am suff' - ring

Motif				
Elementary phrase				
Phonolog. phrase				

On the other hand, when free of this influence the composer sets off the passage differently from what he had done in the presence of words. At the end of the 'Letter Scene', after an agitated Tatjana has sent her Nanny to Onegin with the letter, the orchestra plays the same passage that we have been analyzing, to reflect her excitement. Now it is a purely orchestral theme.¹⁶ Below are the two variants, with No. 1—the music set to verbal text, and No. 2—the orchestral episode.



Without the verbal text the grouping and metrical plan of episode No. 2, starting from the second measure, appears completely different from the vocal passage (No. 1). The upbeat in No. 2 consists of three eighth-notes (which is impossible with the text), and the strong beat is not a two quarter-note beat but rather a dotted quarter-note. One eighth-note appears transferred from the downbeat to the upbeat group. We can thus conclude that the musical text differs in order to match the verbal text. It is irrelevant to argue what happened first in our example or what, in fact, was changed: the vocal passage or the orchestral episode. The only important consideration is that all the changes took place because of the presence or absence of the verbal text. Nevertheless, we will discuss later which of the two phenomena (language or music) is likely to influence or be influenced. But first, let us consider the upper levels of our segmentations.

It is easy to predict now that on the higher levels of grouping we are going to find more and more similarities between prosodic and musical structures. In the same way that our first intonational phrase consists of two phonological phrases, the first developed musical phrase should comprise two elementary phrases. Indeed, the intonational phrase level in prosody has been matched fully on the level of the developed musical phrase, and the utterance phrase appears on a par with the complete musical phrase.

On the higher grouping levels we find the *internal pause*, another feature important for intonational expressiveness and common to both prosody and music. Since we are dealing with complex constructions that consist of various syntactic, semiological, and rhythm-melodic elements, internal pauses help to deliver unified verbal and musical texts with a clear appreciation for their

components.

Summary

The comparative analysis of prosodic and rhythmo-intonational structures suggests that language and music demonstrate little or no resemblance on the lower levels of hierarchical segmentation of prosodic and rhythmo-intonational structures. A deep parallel appears on the higher levels of segmentation, i.e. on the levels of: 1) the phonological phrase—the elementary musical phrase; 2) the intonational phrase—the developed musical phrase; 3) the utterance phrase—the complete musical phrase. It is important that the demonstrated similarities can be applied to music in general (e.g., instrumental as well as vocal music). The adaptation of verbal text in *vocal* music furthers these similarities, and the responsible force for this has been found in verbal text. We can conclude that vocal music on the higher levels of rhythmo-intonational structure shows the deepest parallel with language, and might therefore be fruitfully exploited in L2 teaching/learning.

Melodic Intonation in Language and Music

Intonation in language deals with complex prosodic elements, such as melodics, rhythm, intensity, tempo, timbre and logical stress.¹⁷ We have already discussed some problems of metrical disposition, rhythm, intensity and stress. Among other intonational features, melodics and logical stress are crucial for the comprehension of the utterance and as such should be discussed in more detail in comparison with the corresponding features in music.

Intonation in language divides the stream of speech according to its semantic contents and syntactic bonds. Very important, among its other functions, is its distinctive role in determining emotional colouring, nuances and, most importantly, the content of the message. There are numerous types of intonation that can be classified according to the aim of utterance, e.g. affirmative, narrative, interrogative, exclamatory, vocative, imperative, responding, enumerative, and hortatory, just to name a few. The functional role of intonation is considerably more important in languages where it can be the only marker distinguishing utterances. For instance, the Russian sentences corresponding to: "He is at home" and "Is he at home?" are distinct only in intonation: "Он дома."/"Он дома?" Similarly: "What day is it?" and "What a day!" are rendered: "Какой день?"/"Какой день!" using the instrument of intonation.

A comparison of Russian sentences characterized by various syntactical structures shows that there are at least seven types of intonational constructions (IC) in Russian.¹⁸ The most important factors are the placement of the phrasal stress and the raising or lowering of the tone before, on, and after the phrasal stress. In music there is also a very similar sequence of tension and relaxation around the phrasal stress. Although melodic intonation of vocal musical passages

displays its own musical development, we can suppose that melodic intonation of verbal text should somehow influence the organization of musical intonation. The distribution and notation of pitch-events, however, are different for music and prosodic melodic intonation.

Metrically organized pitch-events in the musical phrase constitute a melody of the phrase and are meticulously recorded in the form of notes on staff paper. Directions are also written down for tempo, dynamic nuances, etc. By contrast, pitch-events of prosodic melodic intonation are, within certain limits, left to the discretion of the reader/speaker, resulting in variability among individual performers. Even so, the climactic part of the prosodic phrase is obvious for an experienced speaker whose judgment is based on linguistic competence, logical experience and communicative ability.

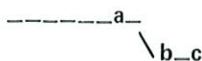
This improvisational nature of prosody can be compared to certain styles in music, such as medieval and renaissance music in Western Europe, where the musical score shows only general directions for melodic development, leaving all the ornamentation and nuances to the performer. This freedom, however, only occurs within certain guidelines embedded in musical or prosodic structure.

Starting from the classical period (early XVIII century), the musical score has provided the performer with detailed guidance throughout the entire development of the music. This fixed programming of the musical structure's melodic intonation can be contrasted with the relatively free melodic intonation of speech. To illustrate this we will use another example from Puškin to Tchaikovsky.

In Act III of the opera *Evgenij Onegin*, Tchaikovsky uses a line from Puškin's novel to begin the aria of Prince Gremin, Tatjana's husband. The line is an affirmative narrative sentence of poetic nature¹⁹:

Любви все возрасты покорны.
All men to love's allure surrender²⁰.

As a phonological phrase this line has a very clear climactic point in the word *пoкopны/surrender*. As a Russian intonational construction of the affirmative type, it follows the pattern of IC-1.²¹ In terms of the centre (logical stress), pre-centre and post-centre, our example can be represented graphically as follows:



where **a** is the pre-centre, **b** is the centre, **c** is the post-centre, and six short lines are syllables preceding **a**. The tone of the central part is descending and lower than in the pre-central part. The post-central syllable is lower than the central tone of the construction. The line itself looks like this:

Люб-ви-все-вос-рас-ты-по
 \ кор-ны

A comparison between our verbal example and the music cannot reveal any differences in melodic intonation for the first six syllables since they are fixed in music (slightly ascending in pitch toward the central part) and improvised in speech (probably remaining on the same pitch-level). However, we can see a very close similarity between the centre of the phonological phrase and the climax of the musical phrase:

All men to love's all-lure sur - ren - der

Люб-ви все воз-рас-ты | по - кор- ны

As shown in this illustration, both the musical phrase and the prosodic phonological phrase have the same climactic structure. I.e., the downwards melodic movement from the upbeat towards the downbeat echoes the downward melodic movement from the pre-centre towards the centre. The last eighth note in the musical phrase sounds slightly lower than the upbeat; the post-centre shows the same tendency.

This correspondence between climactic parts of verbal text and music is a very important observation in our comparative study. However, it would be impossible to judge conclusively about the overall melodic intonation of both music and verbal text without a clear understanding of how music and the prosodic structure correspond from the beginning of the phrase to the climax. We will call this part of the text *expositional development*, or *exposition*.

Despite the fact that there is no fixed rhythm-melodic notation for the prosodic structure, one can understand, as has been mentioned before, some obvious guidelines. The easiest one to grasp is the *internal pause*, a rhythm-melodic feature (sometimes called *junction* in structural linguistics) that plays a distinctive syntactical role and is always connected with the internal stress. In the course of exposition and melodic intonational development a movement towards the climax levels all the stresses but the logical stress in the central part. However, levelled secondary stresses underneath the line, accelerating toward the climax, continue to exist and display their existence by internal pauses that usually follow the secondary stress. Thus, the placement of the secondary stress can indicate the possible placement of an internal pause.

In our example there are three stresses that correspond to downbeats in music: **любви, возрасты, покорны**. The last one is the logical stress and appears in the climax. The two others are secondary stresses and may be chosen by

the speaker as markers of the internal pause. Several internal pauses in one passage are unlikely, because they might undermine the intensity of the line accelerating towards the climax. Therefore, one can usually select one secondary stress (and one internal pause respectively) in order to underline what seems important to the speaker.

Tchaikovsky had two possibilities when he was composing the opening line of Gremin's aria; either **любви** or **возрасты**. According to his interpretation it was more appropriate to stress the first; this can be deduced from the placement of the internal pause. The longest note in the passage (a dotted quarter-note) represents the internal pause and coincides with the secondary stress. Thus, we see the correspondence of verbal text and music in the expository part of the phrase as well.

Our comparative analysis has shown a strong correspondence between the principles and roles of melodic intonation in language and in vocal music. For language, it has, first of all, a semiologically distinctive function. For music, melodic intonation is important for the understanding of the distinctive inner 'logic' of musical development. In the case of vocal music, we can speak of the influence of prosodic intonation on intonational development of the vocal musical phrase. At the same time, there are some differences, especially in the role of pitch-events that form the melody, e.g., there is no direct correlation between pitch-events of a musical melody and pitch-events of the melodic development in a speech phrase. Musically oriented pitch-events combined with and influenced by the speech oriented pitch-events produce rich possibilities for the utilization of musically fixed melodic intonation in L2 methodology.

Speech Sounds in Oral Language and Vocal Music

Let us now discuss some general similarities and differences in speech sounds as exposed in oral and vocal speech, and the possible applications of our results to language teaching. We will not concern ourselves with the study of speech sounds produced by individual performers, which is more technical than principle-oriented and is more appropriate for the study of vocal technique.

Speech sounds represent a phonetic category of articulatory motions and their acoustical results that form meaningful units of speech.²² There is a difference between speech sounds and the phonemes of language. The former have articulatory acoustical properties and deal with pronunciation whereas the latter represent the basic units of sound organization with distinctive functions. Speech sounds have a material nature and are described in phonetics whereas phonemes have a functional nature and are dealt with in phonology.

The study of speech sounds is practically oriented, i.e., it is applied to the acquisition of proper pronunciation and comprehension (through acoustical perception). Therefore, the comparison of speech sounds in oral and vocal speech (speech and singing) might be methodologically useful.

Like oral speech, music uses speech sounds for conveying the verbal content

of a musical message which has at the same time its own purely musical substance. However, singing, or vocal speech, differs a great deal from oral speech in such properties as its incomparably wider range, or diapason (relatively limited in oral speech), its fixed and prolonged pitch-events (vs. quickly changing and approximately determinable pitch-events), the exact pitch of vowels (vs. sliding in oral speech), and the prolonged succession of sounds, or vocalization (vs. the quick succession of sounds in oral speech or recitation). L. Dmitriev (1964) concluded from the above qualitative differences between speech and singing that: "One cannot consider singing as stretched speech."²³

Nevertheless, the differences themselves might produce fruitful methodological insights to be used in foreign language teaching. The main difference between oral and vocal speech sounds stems from the difference in pronunciation speed of consonants and vowels. Even a relatively fast tempo allows more time for the articulation of a verbal passage in vocal music than in oral speech. In oral practice articulation motions are complex. While pronouncing a consonant in a sequence our articulatory organs are already anticipating the pronunciation of the next vowel (or consonant), thus erasing the strict boundaries between the two. Such complexity is even more far-reaching if one takes into consideration that we normally pronounce not separate sounds, but whole syllables and words as articulatory units. All these processes are slower in vocal speech than in oral, a fact which might be employed in language pedagogy.

Two major processes in Russian phonetics are voicing assimilation in consonants and palatalization,²⁴ or softening of hard consonants. Both are sometimes triggered by neighbouring sounds,²⁵ and both constitute considerable difficulties for non-Russian students of Russian. For example, word-final devoicing in Russian (сад – [sat]) is especially difficult for English-speaking learners, since English does not have such a phenomenon. There is a tendency for an English speaker to ignore devoicing at the end of the word, especially when the following word begins with a vowel: *сад осенний – сад осенний (sad osennij – sat osennij)*. In music, where articulation is slower, it is easy to notice and learn the difference. Generally, however, the pronunciation of consonants is essentially the same as it is in speech, but the articulation is somewhat slower. The temporal difference between music and speech is more relevant when we speak about vowels. Two peculiarities of the Russian system of vowels can be singled out for comparison in oral speech and vocal music. The first one is the softness or hardness of vowels. In some cases a vowel becomes soft or fronted when it follows a soft consonant or a [j]: *день [dɛnʲ], мяч [mʲäč], or я [ja]*. In the case of the sound *и* [i] the vowel is soft by itself as in the English word *easy* ['i:zi]. This is clearly heard in the verbal text of vocal music since no difference occurs in pronunciation.

The second very important feature of the Russian vowel system is the phenomenon of vowel reduction²⁶. The reduction is both quantitative and qualitative. To use a standard example, the Russian word **голова** (head) consists

of three syllables and contains three respective vowels: a stressed **a**, a pre-tonic **o**, and a second pre-tonic **o**. The further the vowel from the stressed **a**, the shorter its duration. At the same time the first pre-tonic vowel becomes here a [ʌ] and the second pre-tonic vowel (also an **o**) becomes an **ъ**: **гъ—ла—ва**. Similarly **сладко—сладкъ** the post-tonic position of the vowel contributes not only to the shortening of the vowel but changes it qualitatively: **o** → **ъ**. Of course, these changes, so natural to a native speaker, present some difficulties for the non-Russian learner.

Considering the vowel system in verbal text of vocal music we find that the 'pure', that is, stressed vowels are the same here as in oral speech. One can further speak of "open" and "closed" or "dark" and "light" vowel sounds as is customary in vocal and phonetic-acoustical jargon, but in essence, all the stressed vowels in oral and vocal speech are the same.

We find, however, very important and yet subtle differences when examining the behaviour of reduced vowels in verbal speech of vocal music. They should be recognizable for the sake of the listener's comprehension. However, because of their relatively longer duration, all unstressed vowels in singing appear to be *less reduced*. Without being absolutely clear, they are clearer than reduced sounds in speech. They demonstrate *the process* of reduction, but are only partially reduced.

This can be illustrated by an excerpt from Musorgskij's song *Po-nad Donom sad cvetet*²⁷ where some of the reduced vowels are prolonged in music (the corresponding syllables are in squares), and the listener is able to hear the very process of reduction. By merely imitating this slow sound and then speeding up the tempo, the learner will be able to produce an authentic reduced vowel sound.

Po-nad Donom sad cvetet **M. Musorgskij**

- на не - е я бы все гля - дел
- at the road I would look a - gain

The most important observation in our comparison of speech sounds in oral speech and vocal music is that the speech sounds themselves display many similarities, while showing substantial differences in their temporal dispositions, namely the slowing down of the articulation processes in vocal music. This phenomenon can be compared to a slow motion sound picture of oral speech sounds. As a result of such deceleration, speech sounds in vocal music demonstrate less dependence on and influence from the surrounding sounds than in oral speech.

Conclusion

The similarities and differences of language and music have been considered in the light of their possible methodological use in L2 teaching/learning.

Similarities have been observed in the following areas: between some syntactical and musical phraseological structures; between some prosodic structures and musical rhythm-melodic structures; in melodic intonation; and in speech sounds (consonants, stressed vowels). *Differences* have been discovered on the lower levels of structural segmentation (foot and word vs. motif); in speech sounds (reduced vowels); and in intonation (grammaticality vs. probability).

The methodological uses of music in L2 teaching/learning can be considered according to these music-language similarities or differences.

1. *Similarities* can be applied to the following areas of L2 teaching:
 - a) Phonology
 - b) Phonetics and pronunciation, speech sounds
 - c) Intonation
 - d) Expressive reading and speaking
 - e) Syntax and syntactic structures
 - f) Morphological structures
2. *Differences* can be applied to teaching:
 - a) Speech sounds

Finally, unexplored as yet is the role of intuition in the acquisition and everyday use of language and music. Intuition in language shows a great deal in common with intuition in music, especially in the use of background information. In this regard, we can formulate some questions that lie within the boundaries of various fields of knowledge: 1) Does musical intuition promote language intuition—does the use of musical intuition in a language class intensify activities of the left and the right hemispheres of the brain? 2) Is the use of musical intuition conducive to the augmentation of a language learner's memory capacity, given that the background information in vocal music intuition includes verbal text memories combined with musical text memories? Preliminary comparisons of language and music intuition suggest that the use of music can prove very beneficial in the L2 class because of the emotional sets involved in both phenomena. The relaxation of the emotional atmosphere connected with the use of music suggests an increase in intuitional capacity of a language learner. As a result, we suggest, the use of music intuition can significantly favour the development of L2 communicative competence/performance.

NOTES

1. See: Ray Jackendoff and Fred Lerdahl, *A Deep Parallel Between Music and Language* (Bloomington: Indiana University Linguistics Club, 1980), p. 3.

2. Joan Sundberg and Lindblom Bjiorn, "Generative Theories in Language and Music Description," *Cognition*, No. 4 (1976), pp. 99-122. Milton Babbitt, "Contemporary Music Composition and Music Theory at Contemporary Intellectual History," in B. S. Brook *et al.* (eds.), *Perspectives in Musicology* (New York: Norton, 1972), pp. 151-184.
3. *Russkij jazyk, Ėnciklopedija*, ed. by F. P. Filin (Moscow: "Sovetskaja ėnciklopedija," 1979), sv. "Slovosočĕtanie."
4. See: Jackendoff and Lerdahl (1980).
5. *Russkij jazyk, Ėnciklopedija*, s.v. "Fraza."
6. S. Barber, *Selected Vocal Works* (Moscow: Muzgiz, 1961), p. 5, op. 2, No. 2.
7. For definitions see Jackendoff and Lerdahl, p. 4.
8. In Russian phonology, the phoneme is considered to be the main structural element of phonological segmentation, see Note 9.
9. *Russkij jazyk, Ėnciklopedija*, s.v. "Fonema."
10. B. O. Unbegaun, *Russian Versification* (Oxford: Clarendon Press, 1966), p. 11.
11. A. S. Puškin, *Evgenij Onegin*, in his *Sobranie sočinenij v desjati tomach*, Vol. IV (Moscow: „Xudožestvennaja literatura," 1975), p. 55.
12. O. S. Axmanova, *Slovar' lingvističeskix terminov* (Moscow: "Sovetskaja ėnciklopedija," 1966), p. 179.
13. In our segmentation we have modified the Jackendoff and Lerdahl segmentation, but departed from their interpretation.
14. P. I. Tchaikovsky, *Eugene Onegin. Vocal Score*, English version by Henry Reese (New York/London: G. Schreimer, 1957), p. 83. In this excerpt we have changed: *if you knew how* to: *I'm unhappy* because the latter is more equivalent to Russian both structurally and rhythmically.
15. Unbegaun, pp. 57-59.
16. Tchaikovsky, *Eugene Onegin, Vocal Score*, pp. 118-119.
17. Axmanova, pp. 180-182.
18. *Russkij jazyk, Ėnciklopedija*, s.v. "Intonacija."
19. Tchaikovsky, *Eugene Onegin*, p. 287; Puškin, *Evgenij Onegin*, p. 151.
20. Translation is mine.
21. E. A. Bryzgunova, *Zvuki i intonacija ruskoj reči* (Moscow: „Progress," 1972), p. 17.
22. *Russkij jazyk, Ėnciklopedija*, s.v. "Zvuki reči."

23. L. B. Dmitriev, *Golosovoj apparat pevca. Nagljadnoe posobie* (Moscow: "Muzyka," 1964), p. 27.

24. *Grammatika sovremennogo russkogo literaturnogo jazyka* (Moscow: "Nauka," 1970), p. 10.

25. In Russian, the preceding consonant is influenced by the following one, thus the voiced consonant before the devoiced one becomes voiceless.

26. *Russkij jazyk, Ėnciklopedija*, s.v. "Redukcija."

27. M. Musorgskij, *Romansy i pesni* (Moscow: "Muzyka," 1976), I, 158.