

KOHEZNÍ PROSTŘEDKY V TEXTU A JEJICH PROTĚJŠKY V HUDBĚ

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1. Introduction

The question of whether music and language can be related or if they are, in any way, connected, is not unexplored. The subject is, however, extremely broad and parallels between music and language can be explored in different fields of science, not just linguistics. The most closely related fields are literary theory, acoustics, psychology or pedagogy. Each of these branches delves into a different section of the actual branch, like utterance, sound, organization, or cognitive functions. The resemblance in each of these aspects functions in different ways and it is impossible to try to unite them. The not so explored parallel, that is between actual linguistics and music, seems to be the most theoretical and analytical as one of the main goals of linguistics is to construct a general theory of the structure of language and not, for example, its real production or aesthetic form.

In music, the idea of musical structure has been thoroughly explored and described. It was as early as 1903, that Heinrich Schenker introduced the so-called *Tonal Theory of Music*, where he described music as structured into different layers and establishing the concept of parallelism explained how these layers are connected and how they make a unified whole. In linguistics, this could perhaps be related to such concepts as Noam Chomsky's theory of *generative grammar*, textual linguistics or discourse analysis. An interesting way of looking at the obvious analogy between the structure of music and language was introduced by Leonard Bernstein in his Harvard lecture series called *The Unanswered Question*.

In these six lectures Bernstein opens the possibility of explaining music and human musical mind in a manner comparable to Noam Chomsky's generative grammar. Bernstein themes his lectures on different linguistic branches, such as "phonology", "syntax" and "semantics" and tries to apply this linguistic structure to the musical one. He bases this theory on a conclusion that music is similar to language in its hierarchical structure and therefore "all musical ideas may be similarly perceived by all listeners" (Bernstein, 1973: 2).

This idea of music perception inspired many other linguist and musicologist, such as Lerdahl and Jackendoff and their *Generative Theory of Tonal Music* (1983), which explores the mental and cognitive perception that creates the so-called musical coherence. Worth mentioning is also the Manzara & Witten (1991) experiment, which proved that knowledge of certain genre and therefore context, can lead to deducing the next notes in Bach's chorales, or the work of John Sloboda, which focuses on the psychology of music. All these lead to certain analogy to textual coherence, however, they are also different from the approach in the current thesis as they also have a psychological basis.

This paper will in turn explore the structural organization of two different types of self-contained works, one linguistic and the other musical. Or, to be more precise, a text, and a sonata movement (in this case 1st movement of Beethoven's Piano Sonata no. 14). Both are considered to be structurally interwoven and form some sort of a whole. A sonata movement has been chosen as it is seen as "a major structural unit perceived as the result of the coincidence of relatively large numbers of structural phenomena" (Spencer, 1994: 45). Thus, this paper proposes a question as to whether the same rules, that form the text into a whole, can be applied to an analogous musical section and whether the linguistic structural theories can be relevant to music.

2. Cohesion in text

The general meaning of the word cohesion is to “stick together” or “the act or state of sticking together.”¹ Thus, the concept of linguistic cohesion deals with how “the words we hear or see are mutually connected within a sequence” (de Beaugrande & Dressler, 1981: 59) and how these relations work. In text, cohesion deals with the surface structure linkage between the text’s elements; the way certain words or grammatical features of a sentence can connect to its predecessors and successors (Hoey 1996: 3) and how they are dependent on each other (Halliday & Hasan 1976: 4). These linguistic features “contribute to the text’s total unity and give the passage a texture” (ibid.).

3. Cohesive devices

A single instance of cohesion is called *a tie* and it is “one occurrence of a pair of cohesively related items” (Halliday & Hasan, 1976: 3). Cohesion, being expressed through the system of language, is also dependent on language’s layered organization. It is usually organized around three different levels of coding: the semantic level, the lexicogrammar level and the phonological or orthographic systems. The semantic level is expressed through the lexicogrammar one and the lexicogrammar is in turn realized by the phonological or orthographic systems (Halliday & Hasan, 1976: 5). Cohesion and cohesive ties function in the same pattern, with some meanings “expressed through the grammatical system, and some through the lexical one” (ibid.). Depending on their linguistic level of concern, cohesive ties are arranged into grammatical and lexical cohesion.

3.1 Grammatical Cohesion

Grammatical cohesion deals with the relations between the grammatical system. They are all resources found in the grammar of the language and they enter into their cohesive function only when they relate to some other item outside their own clause (Taboada, 2004: 160).

¹ Cohesion www.etymonline.com

3.1.1 Reference

Reference is “a link relationship, which is established between pronouns, determiners or adverbs and their referents” (Carter and McCarthy, 2006: 345). The referring item is one “that cannot be interpreted semantically on its own, but needs to find its resolution somewhere else” (Taboada, 2004: 160).

3.1.2 Substitution

Substitution refers “to a previous element in the text through the use of a substitute element” (Taboada, 2004: 162). It is often mistaken with reference, however, reference functions on a semantic level, it is a relation between meanings “which implies an identity in the meaning or ultimate referent for the terms entering into the relation” (ibid.). Substitution is a relation between linguistic terms: “one linguistic term is used to substitute and point to another linguistic item, not to its referent” (ibid.). It is a relation on a more lexicogrammar level that deals with grammar and vocabulary (Halliday & Hasan, 1976: 89).

3.1.3 Ellipsis

Ellipsis may be described as an instance of substitution, in that it involves “the substitution by zero” (Halliday & Hasan. 1976: 89). There is no item used for the substitution, instead “the hearer/listener is left to fill in the gap where the substitute item, or the original item, should have appeared” (Taboada, 2004:163).

3.1.4 Other means of grammatical cohesion

As grammatical cohesion deals with devices from morphology and syntax, other categories from these levels need to be considered as well.

3.1.4.1 Morphological categories

Verbal tense

These links need to be seen from a larger perspective of the overall structure of the text. “Most texts have a consistent temporal perspective, which is projected into surface

structure by temporal ties” (Tárnyiková, 2002: 35), such as: verbal tense, temporal adverbials and adjectives etc.

Verbal voice

There are multiple roles of using consistent verbal voice that contribute to the information structure of the text. When the text is written in active voice, the agents of the action are expected to be foregrounded, on the contrary, in passive voice, the agent is suppressed and the event is foregrounded (Tárnyiková, 2002: 36).

Verbal mood

Mood in texts functions as a style marker, each mood is prototypically linked with particular texts, i. e. indicative in narratives, imperative in instructions (Tárnyiková, 2002:37).

3.1.4.2 Syntactical means

Cohesion of the text can also be expressed by the so-called structural parallelism or **multiple recurrence of a sentence pattern**. It deals with repetition of the same sentence patterns, e.g. *There was a house...and there was a meeting..* (Tárnyiková, 2002: 38). Another syntactical term that expresses cohesion is **recursiveness** that “refers to rules which are capable of repeated application in generating a sentence” (Tárnyiková, 2002: 40). No limitation of the usage of *that* – clause, can serve as an example. Next syntactical phenomena can be the usage of **pairs and triads**, or in other words, clauses connected by sequence that exploit the coordination in a text.

3.2 Lexical Cohesion

Lexical cohesion is the cohesive effect achieved by “the selection of vocabulary” (Halliday & Hasan, 1976: 275). It “does not entail identity of referent; two items in related semantic fields can also enter in a cohesive tie” (Taboada, 2004: 164). The cohesive effect in text is produced either by **repetition** (exact reproduction) or **reiteration** (related word)

(Taboada, 2004: 165). Further they can be subdivided into **paradigmatic** (substitutional) or **syntagmatic** (combinatorial) depending on their semantic relationship.

3.2.1 Paradigmatic relations

These relations hold among words “of the same distributional class, which in principle may be substituted for each other” (Kearns, 2006: 587).

3.2.1.1 Reiteration

Reiteration is a form of lexical cohesion “which involves the repetition of a lexical item, at one end of the scale; the use of a general word to refer back to a lexical item, at the other end of the scale; and a number of things in between – the use of a synonym, near-synonym, or superordinate” (Halliday & Hasan, 1976: 278). In other words, one lexical item refers back to another, to which it is related by having a common referent.

Homonymy vs. Polysemy

As these both terms involve the similarity in form, therefore, the word looks the same, but has multiple meanings, it is crucial to differentiate between homonymy and polysemy. The main distinction between them is the fact, that in polysemy, there is a motivated relation between the multiple meanings of one word. For example, the word *get* can have both meaning as “to become” or “to understand” and both meanings are derived from the same foundation. On the contrary, homonymy has no link between the meanings, they are simply accidental (Lipka, 2002: 138), such as *race* (competition and human race).

Synonymy

Synonymy is the relation between “two words with more or less the same meaning” (Lipka, 2002: 141).

Antonymy

This relation can be described as an “oppositeness of meanings” (Lipka, 2002: 145).

Hyponymy vs. Meronymy

Hyponymy is the relation “of lexical subordination or superordination” (Lipka, 2002: 144). The subordinate term is called *hyponym*, the superordinate is denoted *hyperonym*. For example, *tulip* is a hyponym (‘a kind of’) of a *flower*, which is a *hyperonym* to the *tulip*. Meronymy, on the other hand, is a “part-whole” relationship. The superordinate terms are called in this case *holonyms*. (e.g. *hand* is a holonym to a *finger*).

3.2.2 Syntagmatic relations

Syntagmatic relations “hold among words in construction, such as verb-object, or adjective-noun modification” and they cannot be substituted for each other (Kearns, 2006: 557). They are either words or multi-word expressions that appear more frequently than expected by chance (Hyland, 2007: 5). These are distributed into **collocations** and **lexical bundles**. They “help shape meaning in specific contexts and contribute to our sense of coherence in a text” (Hyland, 2007: 5).

3.3 Junction

Junctive elements are cohesive not in themselves but indirectly, “by virtue of their specific meanings; they are not primarily devices for reaching out into the preceding (or following) text” (Halliday, 1976: 226). They express certain meanings which expect the presence of other components in discourse (ibid.). These conjunctions and connectives have dual role: to create cohesive links and to indicate a kind of semantic relation holding between the connected elements (ibid.). The linking function is usually performed either by coordinators, subordinators and conjuncts. In addition, coordination can be linked either

asyndetically or syndetically. “The difference between the two construction is that syndetic coordination is marked by overt signals (*and, or, but*), whereas asyndetic connection is not overtly marked” (Quirk, et al., 1985: 918). Conjuncts have a specific function, because they relate to the speaker’s comment: his assessment of how he views the connection between two linguistic units, such as *therefore, however* etc. (Quirk, et al., 1985: 631).

4. Musical Theoretical Background

The conclusion, that music is similar to language in its hierarchical structure, has already been established. Following this concept, music can be disintegrated into different levels and layers in the same manner as the language. In order to demonstrate, whether relations between structures in a musical piece can work in the same way as in text, analogous relationship between these layers need to be found. Bernstein proposes his own theory how layers of each field are corresponding, that can be summarized subsequently:

1. note = phoneme
2. motive = morpheme
3. phrase of music = word
4. musical section = clause
5. movement = sentence
6. piece = piece

Bernstein's theory is, however, inadequate for the purposes of this paper, as Bernstein uses more linguistic units rather than layers, that are not suitable enough for analysis of cohesion, and the analogy is too extensive. Phonology as well as the actual utterance is irrelevant for the purposes of cohesion in a text. Therefore, there is no need for the parallel in music, even though the note = phoneme analogy seems to be absolutely valid for the matter of quality of the note, such as the duration, pitch etc. Next, Bernstein compares the syntactical layer of language (sentence) to movement. Musical syntax is a very much defined term that is based on perceptual coherence, therefore needs some sort of cognitive function: "the study of syntax deals not only with structural principles but also with the resulting implicit knowledge a listener uses to organize musical sounds into coherent patterns" (Patel, 2007: 240). In other words, musical syntax is context dependent and therefore, it is again irrelevant for the purposes of cohesion. Subsequently, the most suitable analogy, could be as proposed:

1. word (noun phrase) = motive
2. grammar = harmony
3. semantics = melody (key)

According to this organization, a brief summary of some of the features which are recognized as the binding components within a piece of classical music will follow, that could be regarded such as cohesive devices.

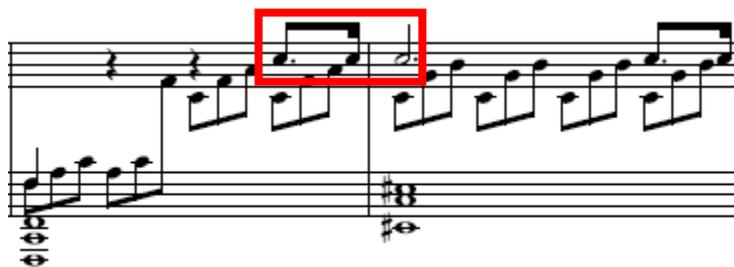
4.1 Grammatical Cohesion

4.1.1 Reference

Following the distribution above, the semantic link relationship between referents should be in music established between motifs. Motive in music is established “as the smallest structural unit possessing thematic identity” (White, 1976: 26). In Beethoven’s Piano Sonata No. 14, which will serve as an object of analysis, one of the main motives is the dotted rhythm which first appears in the 5th bar (picture no. 1). The same motive is then repeated in different variations, such as repeated by a different note and in a different key (picture no.2) or performed by different hand (picture no.3).



Obrázek 1



Obrázek 2

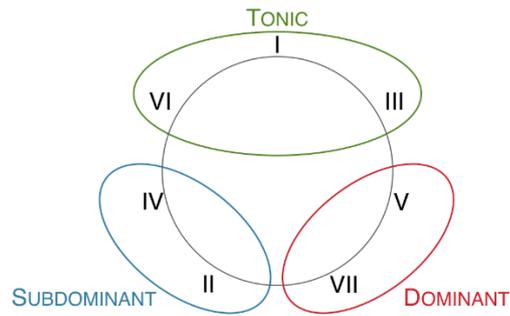


Obrázek 3

4.1.2 Substitution

As linguistic substitution functions on the grammatical level, correlation in harmony must be found. However, considering that a note would represent any linguistic element, it is impossible to say which note would be suitable enough to substitute a different one. In this case, a single note should be extended to the substitution of a whole chord. It is also inevitable to delve into a more hypothetical analysis, as in which chord could possibly substitute a different one and keep as many its properties without damaging the musical structure. Then the substitution of musical functions could be proposed. Each chord has its own musical function that is based on three principles: 1) Chords are collections of scale degrees, 2) Each scale degree has its own tendencies, 3) The collective tendencies of a chord's scale degrees in combination is the chord's function.² Depending on their function, chords are grouped together (picture no.4) and in theory can substitute each other.

² Harmonic functions www.openmusictheory.com



Obrázek 4³

In Beethoven's Sonata, it could be suggested that, for example in a 2nd bar (picture no.5), the VII degree of the movement's key, that is a note B played by left hand, could be replaced with V degree, that is in this case G sharp. This replacement occurs in bar 30, where left hand plays V degree, and the right hand above plays the same harmony as in the first case, only with slight variation (picture no.6).



Obrázek 5



Obrázek 6

4.1.3 Ellipsis

The "substitution by zero" can be in music expressed simply by omitting any musical unit, starting from a note to a larger musical phrase. There can be obvious ambiguity between something being omitted (picture no.7) and when there is simply silence, because another

³ Harmonic functions www.openmusictheory.com

musical phrase is being introduced (picture no.8). An instance of actual ellipsis is suggested by the musical structure, it implies something has been left out and therefore “the hearer/listener is left to fill in the gap” (Taboada, 2004: 163). The same definition applies to linguistic ellipsis, as the “zero item” is implied from the structure.



Obrázek 7



Obrázek 8

4.1.4 Other means of grammatical cohesion

4.1.4.1 Morphological categories

Verbal tense

As tense in a text needs to be seen from a larger perspective of the overall text, the same must be used for a piece of classical music. The most consistent element that prevails throughout the whole movement is the movement’s key. The key is also the foundation for the music’s tonality, “a system of harmonic relationships” (Feng, 2012: 39). Beethoven’s Sonata’s key is C sharp minor and even though, the author is allowed to deviate, the key forms the musical piece together.

Verbal voice

Even though Bernstein (1973) tries to assign linguistic units, such as noun, adjective and other, to their musical counterparts, many authors after him agreed that this was an

unnecessary step and it is impossible to try to find an analogous relationship. The same goes for linguistic grammatical function, such as object or subject. Thus, the voice in music is impossible to find. Music does not have any agent that could be foregrounded, or anything that could contribute to its information value.

Verbal mood

As has been established, the category of mood functions as a sort of style marker. In classical music each era or period has its own form or genre that the period either created, developed or adjusted and subsequently used. This genre later became characteristic of that period. The analyzed musical excerpt is a sonata, which, including its variation to different instruments was one of the principle genres of the Classical era period in which Beethoven was born.

4.1.4.2 Syntactical means

As mentioned above, the musical syntax is more elaborate term and, therefore, finding an analogy to linguistics is very sensitive and a lot of adjustments are necessary. Yet, the notion of **recurring patterns** is possible. In Beethoven's Sonata, it would most probably be the recurring triplets (picture no. 6), that prevail throughout the whole movement.



Obrázek 9

However, even though, these are structure parallels that are repeating in music, the layer organization is crucial. If the triplets are seen as whole sentence patterns, then it could be analogous to linguistic structure parallelism, yet, according to the organization as was proposed above the triplets are only repeating motifs and, therefore, it is corresponding to

simple repetition. Concerning **pairs and triads** only different terminology is being applied in music, as triads are three note chords and a pair simply two notes being played at the same time.

4.2 Lexical cohesion

In a text, linguistic cohesion concerns with a selection of vocabulary, in music, then the analogy should be the selection of different notes or chords.

4.2.1 Paradigmatic relations

It is, again, impossible to find a note or a chord that could be substituted for each other. Regarding polysemy or homonymy there is an obvious disruption in music, as one musical unit simply cannot have two different meanings. The same applies for hyponymy or meronymy, when there are simply no rules according to which it can be said that one musical unit is superordinate or subordinate to different one.

Synonymy

One of the possible solutions to finding a musical unit that would have the same “meaning” could be different note arrangements of the same chord. One chord can be arranged differently, depending on how many notes it contains. A simple C major triad has three different arrangements: 1) CEG 2) EGC 3) GCE. The chords’ functions remain the same, only their form changes.

Antonymy

In music, the most basic and obvious oppositeness is between major and minor chords. Even though, they can be distributed in the same way (are replaceable), each of them conveys different function, that can be seen as opposite.

4.2.2 Syntagmatic relations

As has been already established, trying to find musical counterparts to linguistic elements, such as noun, adjective etc. is ineffective and mostly speculative. Therefore, the

question of syntagmatic relations in music that would be similar to those in text is unanswerable.

4.3 Junction

The linking function is in music most generally established through chord progression. That is used in music “to establish (or contradict) a tonality founded on a key or tonic chord” (Feng, 2012: 49). As linguistic junction functions both as cohesive ties and indication of some semantic relation, the same applies for chord progression in music. The progression involves both the motion in which the chords and their voices move (melody), and the harmony that comes out of the rules of tonality. This makes melody and harmony independent and “constantly influencing each other” (Feng, 2012: 30). The outcome seems to be that when chord progression is distributed according to the appropriate rules to express a connective function, then it depends only on the motion of the melody to distinguish between different “meanings”. All coordinators, subordinators and conjuncts fulfill the cohesive function in a text, therefore in music they all are a chord progression.

The rules for the chord progression differentiate depending on the tonality and certain alternation between chords can appear. The crucial analogy to linguistics is the progression’s motion and the order of the chords that are being harmonized. That is what creates a sort of “meaning” that can correspond to connectives in text. For example, if all the voices in chords move in the same direction (*parallel motion*, movement of left hand in picture no. 10), it could be compared to a coordinator *and*.



Obrázek 10

The question, then, remains, what if the melody leaps from pitch to pitch with no connection to tonality or according to no rules. The same term as in linguistics can be applied here. In linguistics disjuncts have no connective function, they simply relate to the speaker's comment and have no function of making a unitary whole. In music, disjuncts usually make a big leap in melody and after "there is a tendency for it to return to the jumping-off point" (Feng, 2012: 28). They do not contribute or connect to the tonality or key in any way.

Another chord progression that must be mentioned in music is modulation. Modulation occurs when a piece of music temporarily moves into a different key (Feng, 2012: 42). There are several ways in which the modulation can come into effect, yet, yet the crucial thing is, that the whole key changes. In a text, this could be analogous to the change of topic altogether and thus, it does not have any counterpart to linguistic cohesive device.

5. Conclusion

It has been shown that certain linguistic structural theories that are relevant to text are applicable to a piece of classical music. The organization of both phenomena can be arranged on the bases of same rules. However, it is not transparent, as a lot of modification must be made. The analogous relationships must be applied to a wider range of units, including harmonic functions and chords, rather than simple notes. Consequently, the difference between harmonic functions and word functions must be made. In music, word functions, such as object or subject do not exist and they do not have any similar counterpart. Harmonic functions refer to description of chord's role in a larger harmonic progression and it is more similar to meaning and semantics in language. Schenker (1903) broadened this term specified as a sort of "chord significance" and contrasted it with the "chord's grammar". Even though, the musical counterparts to cohesive devices in text that have been found are not all compulsory for every musical piece, same as in text, they connect the musical piece into a whole.

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