

Univerzita Karlova

Filozofická fakulta

Ústav anglického jazyka a didaktiky

Bakalářská práce

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Cohesive devices and their counterparts in music

Prostředky koheze a jejich protějšky v hudbě

The best way to know a thing is in the context of another discipline.

- *Leonard Bernstein*

Prohlášení:

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Prague, 5. August 2019

Jméno a příjmení

Acknowledgments

I would like to thank PhDr. Tomáš Gráf, PhD. for his exceptional leadership and observations during the process of writing. I also greatly value his guidance that was given to me when needed and the time he dedicated to me and my work.

Abstrakt (česky)

Tato bakalářská práce se zabývá podobností mezi textem a krátkým úsekem hudební kompozice. Konkrétně zda v hudební kompozici existují vztahy, které mohou být považovány za paralelní k lingvistickým kohezním prostředkům. V lingvistice tyto prostředky zaručují textovou povrchovou provázanost a celkovou soudržnost. Práce se tedy věnuje otázce, zda v hudební kompozici existují vztahy, které fungují na podobném principu. První kapitoly nejprve shrnují definici koheze a kohezních prostředků a demonstrují je na textové ukázce. Následně se práce zamýšlí nad podobnostmi mezi textem a hudbou a snaží se pomocí hudební analýzy zjistit, zda lingvistické kohezní prostředky jsou aplikovatelné na hudební kompozici a také, zda zaručují její soudržnost.

Při analýze byl pozorován zřejmý rozdíl mezi sémantikou v hudbě a v textu, který způsobil problém nejen ve snaze rozlišit koherenci a kohezi v hudbě, ale také v potřebě najít hudební protějšky k větným členům nebo ke slovním druhům. Analýza potvrdila, že veškeré protějšky v hudbě nelze nalézt a také, že nelze provést kompletní kvantitativní analýzu. Nicméně bylo konstatováno, že lingvistické kohezní prostředky mají své protějšky v hudbě a že tyto vztahy u obou médií zaručují jejich soudržnost a celistvost. Hledání určité podobnosti mezi nimi je tedy oprávněné.

Klíčová slova (česky)

koheze, koherence, kohezní prostředky, hudba, struktura, text, soudržnost

Abstract (in English):

This bachelor thesis deals with the similarity between a text and a short musical composition. Particularly, whether there are relationships in the musical composition that could be considered as parallels to linguistic cohesive devices. In linguistics these devices ensure the text's surface linkage and its overall connectedness. Therefore, this thesis considers the question whether musical composition contains ties that function on similar principal. The first chapters summarize the definition of cohesion and cohesive devices and subsequently demonstrate them on a textual analysis. Then the thesis discusses the similarities between text and music and by means of musical analysis attempts to find if linguistic cohesive devices are applicable to musical composition and also if they establish its overall unity.

During the analysis, the obvious difference between the semantics in text and in music was observed. This resulted in many difficulties when trying to distinguish cohesion and coherence in music but also when trying to find counterparts to word functions or word classes. The analysis confirmed that not all counterparts are able to be found and also that the same quantitative overview as in a text is not possible to be done. It was stated that musical counterparts to cohesive devices do exist and that in both phenomena they ensure its connectedness. Therefore, certain similarities between them can be observed.

Klíčová slova (anglicky):

cohesion, coherence, cohesive ties, music, structure, text, connectedness

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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 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 famous speech by King George VI, 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 a clear whole. A sonata movement has been chosen as its definition seems to be very close to the description of text and 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 – or at least similar and comparable – rules, that form the text into a whole, can be applied to an analogous musical section and whether the linguistic structural theories can be deemed as relevant to music.

2. Theoretical background

Etymologically, the word *text* is derived from the metaphorical use of the Latin verb *texere* ‘to weave’, therefore “suggesting a sequence of utterances or sentences ‘interwoven’ structurally and semantically” (Wales, 2001: 390). From a linguistic point of view the definition has been formulated by many linguists with various results. Text is not defined by its size; it may be “prose or verse, dialogues or monologue [...] anything from a single proverb to a whole play, from a momentary cry for help to an all-day discussion on a committee” (Halliday & Hasan, 1976: 1). The definition that text is a “structured sequence forming a unitary whole” and “a stretch of spoken or written language with a definable communicative function” (Tárnyiková, 2002: 14) is the most widespread and accepted. In order to uphold its communicative function, and thus be considered as a text, de Beaugrande and Dressler (1981) suggest it has to meet 7 standards of textuality: cohesion, coherence, intentionality, acceptability, informativity, situationality, and intertextuality. “If any of these standards is not considered to have been satisfied, the text will not be communicative. Non-communicative texts are treated as non-texts” (ibid.).

From these standards both cohesion and coherence are text-centred notions; therefore they are designating operations directed at the text materials. Cohesion and coherence indicate how the text elements fit together and make sense (de Beaugrande & Dressler, 1981: 43). According to these text-centred notions, text is not a grammatical unit, but rather a semantic and even a pragmatic one. If a stretch of language seems appropriately coherent in actual use, that is the text is coherent in its real world, and it is also internally or linguistically linked through cohesion, it can be considered as a text (Quirk et al., 1985: 14).

2.1 Cohesion

The general meaning of the word cohesion is “the act or state of sticking together”.¹ Thus, the concept of linguistic cohesion refers to 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.). The texture is crucial for distinguishing the text from something that is not a text. Even though, texture is created through units that are structured together to form a text (ibid.), these cohesive relations are not exclusively structural units.

In order to understand structure of the text, text needs to be perceived as a different structural unit altogether. “The relations that hold the parts of a text together are not similar in nature to those holding a sentence together. In generative terms, a sentence can be generated through a number of phrase structure rules. Even if we had the same type of rules to generate a text – something like van Dijk’s (1980) macrostructures – we could not account for the properties of a text” (Taboada, 2004: 156). Cohesive relations, therefore, need some other structural relations, that would make the text a proper structural unit. These relations are often referred to as *discourse relations* or *coherence relations* and they will be discussed in the following chapter.

This would suggest that cohesive relations are only between parts of a text or between sentences and they do not exist within a sentence. However, this is not always true. “Although intra-sentence relations do exist, they are not directly responsible for the hanging together of the sentence – structural relations are” (Taboada, 2004: 157).

¹ Cohesion www.etymonline.com

The final definition of cohesion could be then proposed that the term refers specifically to non-structural text-forming relations; they are semantic relations that have nothing to do with sentence boundaries (Halliday & Hasan, 1976: 8), and they work alongside the structural relations to provide texture (Taboada, 2004: 156).

2.2 Coherence

Coherence is traditionally defined as “a context-dependent, hearer- (or reader-) oriented and comprehension-based, interpretive notion” (Bublitz et al., 1999: 2). Even though coherence is a “text-centred” notion, it is not a text-inherent property at all. “It is not given in the text invariantly and independently of an interpretation, but rather 'comes out' of the text in the sense that it is based on the language of the text” (ibid.). This suggests a sort of “*mental* representation of the text” (Sanders and Sanders, 2006: 598), which broadens the object of the study into different kinds of science. This results in neither a generally accepted definition nor any comprehensive theory that could clarify the linguistic term (Bublitz, 1999: 1). What the majority of approaches agree on is that coherence needs to be defined “in terms of the cognitive representation people have or make of a discourse, and not so much in terms of the explicit linguistic characteristics” (Bublitz, 1999: 235). Coherence is also intrinsically indeterminate because it is relative to the way in which language users ascribe their understanding to what-they-hear (or what-they-read) (Jansová, 2017: 13).

Because coherence and cohesion are both text-centred notions and they are closely related, they may be often mistaken, yet it is essential to view them as independent phenomena. Unlike cohesion, which is a property of the text, coherence is seen as a property of discourse “which is derived within the process of instantiation of the interpretation potential of a text” (Tanskanen, 2006: 21). In contrast to cohesive devices that define the structural linkage and progression of elements on the surface of the text, coherence deals with

“the underlying relations among the propositions of the text” (Taboada, 2004: 106). The terminology of these relations differs radically depending on various approaches. They may be called *coherence relations*, *discourse relations* or *rhetorical relations*. To avoid ambiguity, from this point onwards, they will be referred to as *coherence relations*. In order to understand coherence relations, the notion of rhetorical structure theory needs to be explained.

Rhetorical structure theory (RST) is defined as “a descriptive theory of a major aspect of the organization of natural text” (Mann and Thompson, 1988: 243). It describes the relations among clauses in the text and it can be used as an analytical tool for a wide range of text types (ibid.). Coherence relations are understood as “semantic relations that connect two discourse units [...] and are often signaled by an explicit discourse-structuring device, like conjunctions, sentence adverbs etc.” (Zikánová, 2015: 13). However, because of the knowledge of particular contexts and the sort of mental aspect of coherence, there may be many different interpretations of the same text, which disproves the claim that “finite set of *coherence relations* will be sufficient to enable an analysis of every coherent text” (Knott and Sanders 1998: 136). The cognitive representation of the coherence relations is crucial, and even though it is hard to prove “determining the coherence relations in a text is part of the process of understanding it” (Knott and Sander, 1988: 138). Therefore, there can never be a set or a number of particular coherence relations that would analyse every text in the same manner.

Coherence is “textual relatedness that is associated with cohesion, a textual property signaled by semantic relations between lexical items and grammatical structures which overtly connect clauses and/or clause complexes in a text” (Navratilova, 2017: 10). Cohesion, on the other hand, is a textual property which fosters coherence as cohesive devices guide the reader in text processing. [...] the interpretation of cohesive relations is also context-dependent and affected by the background knowledge of the reader; therefore, the relations

established by different readers need not be identical. (Navratilova et. al., 2017: 10) The final relationship between these two phenomena results in a successful communication or text “depending on both cohesion and coherence, which are simultaneously independent and intertwined” (Tanskanen, 2006: 21).

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 is a semantic relation that deals with grammar and words, therefore, it is realized through the lexicogrammar level which comprises both the grammar and the vocabulary. According to Halliday, the choices of lexicon are the most sensitive in the system: “the general meanings are expressed through the grammar, whereas the more specific ones are expressed through the vocabulary of the language” (Taboada, 2004: 159). 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 either grammatical or lexical.

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).

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). Two different linguistic interpretations are distinguished: endophoric and exophoric reference. Exophoric reference points to “the context of the text” (Taboada, 2004: 160) or in other words, outside of the text itself as it “refers to discourse entities, which may be further linked to extralinguistic objects.” (Zikánová, 2015: 54) and, thus, it is not an interest of cohesion nor is it recognized as a cohesive device. Endophoric reference, on the other hand, aims to some other element that is located in the text itself (Halliday & Hasan, 1976 : 31). Endophoric reference can be of two types: anaphoric and cataphoric. Anaphora points to the preceding text, cataphora to the text which follows (Taboada, 2004: 160). Further, depending on the way they are realized, **personal**, **demonstrative** and **comparative** references are classified.

Personal reference is realized by personal and possessive pronouns, such as *I, you, we, mine, yours*, etc. **Demonstrative reference** uses determiners (both modifiers and heads) or adverbs, such as *then, here, this, these*, etc. (Halliday & Hasan. 1976: 38) and it usually also includes the definite article *the*. **Comparative reference** “establishes relations of identity of similarity with the use of adjectives and adverbs: *same, identical, better, more, less*, etc.” (Taboada, 2004: 161).

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 lexicogrammatical level that deals with grammar and vocabulary (Halliday & Hasan, 1976: 89). Furthermore,

reference (or coreference) can appear as a determiner accompanying noun phrases but substitution involves only pronominalization and it does not necessarily need to be coreferential (Dušková, 2004: 114). Depending on the item being substituted, **nominal**, **verbal** or **clausal** substitutions exist. **Nominal** most commonly uses *one*, *ones*, **verbal** is realized through auxiliary verbs, such as *do*, *be*, *have* and in **clausal substitution** the presupposed item is not an element with a clause but the clause itself, and the items used are *so* and *not* (Halliday & Hasan, 1976: 130).

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). The same categories as for substitution apply: **nominal**, **verbal** and **clausal** (ibid.).

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. The use of consistent tense throughout the text “creates a very strong cohesive network” (ibid.).

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. “The cohesive link based on passivization can contribute to a ‘depersonalized’ text” (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, conditional in hypothetical or meditative texts, etc. (Tárnyiková, 2002: 37). This then contributes to the cohesive ties in the text.

3.1.4.2 Syntactical means

Multiple recurrence of a sentence pattern

Cohesion of the text can also be expressed by the so-called structural parallelism. It deals with repetition of the same sentence patterns that can occur either in isolated sentences or in sentence complexes, e.g. *There was a house...and there was a meeting..* (Tárnyiková, 2002: 38).

Recursiveness

This is a term traditionally used in “generative linguistics to refer to rules which are capable of repeated application in generating a sentence” (Tárnyiková, 2002: 40). No limitation of the usage of *that* – clause, specifying the content of the preceding predicate in a sentence, can serve as an example.

Pairs and triads

These parallels exploit the coordination in a text. ‘A pair’ are two clauses connected by sequence and ‘triad’ are three coordinated clauses of equal status. The coordination of a triad “achieves the seemingly impossible task of giving three units equal status and yet of making the third climactic” (Quirk, 1985: 1473).

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 The class of general nouns

On the borderline between grammatical cohesion and lexical is a general noun. It in itself is both an item of lexis (member of an open word class) and grammar (member of a closed word class). From the lexical point of view, general nouns can function as a kind of synonyms (e.g. people, person, man, boy, child). From a grammatical point of view, “general nouns in cohesive function are almost always accompanied by the reference item *the*” (Halliday & Hasan, 1976: 275), therefore, they are in itself very similar to a reference item. The important function of these general nouns is their interpersonal meaning, in other words, they can convey a particular attitude on the part of the speaker. That can be expressed either through the word itself, e. g. *fool, idiot, dear*; or general noun can be accompanied by an attitudinal modifier, e. g. *the poor old girl* (ibid.).

3.2.2 Paradigmatic relations

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

3.2.2.1 *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. Depending on the nature of their lexical relationships, these are paradigmatic ties that can be based either on similarity in form (**polysemy, homonymy**) or on meaning (**synonymy, antonymy, hyponymy, meronymy**) (Lipka, 2002: 140).

Homonymy vs. polysemy

As both of these 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). Synonymy can be categorized into **absolute** (all meanings are the same, such as: *everybody/everyone*), **cognitive** (they are not identical in all meanings as they may differ in registers, dialects etc., such as *die/ pass away*) and **near-synonyms** (there is a similarity in the meanings but they are not identical: *mist/fog*) (ibid.).

Antonymy

This relation can be described as an “oppositeness of meanings” (Lipka, 2002: 145). According to Lipka, there are three types of antonymy: **contrary** (the opposite gradable poles: *long/short*), **complementary** (ungradable opposition: *male/female*) and **converse** (relational antonyms: *husband/wife, precede/follow*)

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 *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*).

3.2.3 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).

Collocations

Collocations are the words that co-occur more frequently than expected by chance because of reciprocal associations. They have “the tendency to share the same lexical environment” (Halliday & Hasan, 1976: 286). Examples include pairs of words, such as: *dollar/cent, collect/stamps, candle/flame* (ibid.).

Lexical bundles

These multi-word expressions appear more frequently than expected by chance, but they differ from collocations because in addition they “help shape meaning in specific contexts and contribute to our sense of coherence in a text” (Hyland, 2007: 5). Examples include: *it should be noted, as we have seen* etc. to characterize academic prose and *I don't know, do you have to* etc. to be used in, for example, conversation (ibid.). Further, they can be subdivided in connection to their function into: **content-oriented**, **text-oriented** and **participant-oriented** (ibid.).

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 can be performed by either 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 (Quirk, et al., 1985: 631)

4. Material and Method

4.1 Material

The first task of the analytical part was to find two different types of self-contained works in both linguistic and musical fields. As for the linguistic analysis, the goal was to find a short passage of a text that would be perceived as structurally interwoven and form some sort of a whole. Transcript of a political speech by King George VI was also chosen as a general representation of the highest form of English language as royal political speeches are usually considered to be the most formal ones.

In music, the attempt was to put focus on the purest form of music regarding harmonies, chords, melody and music as such. This meant that the selected piece must have met with many specifications. Ludwig van Beethoven's composition was chosen as Classical period, in which Beethoven composed, is an era known for its clear homophonic melody lines. These melodies have usually only one musical subject and therefore the pieces are not too harmonically complex for understanding and analysing. Regarding musical form, a sonata was preferred because of its appropriate length and complexity, in contrast to, for example, symphony, where many harmonies overlap, have too complex melody lines and would be simply too long for purposes of this analysis. The same is being applied to concertos with soloists, which were also omitted during the selection. On the other hand, monophonic music would have been too simple for the work with harmonies that was needed when carrying out this analysis. Concerning instrumentality, only instrumental pieces were taken into consideration as the inclusion of vocalic line into the analysis would have created many difficulties since lyrics and their semantics would also have had to be considered.

From this specification comes the need for only one instrumental line, yet harmonically sufficiently complex so as to be able to create variety of harmonies and melodies. Therefore, a

piece composed for piano has been selected because of the instrument's ability to play multiple melodic lines at the same time. The outcome of the findings was the 1st movement of Ludwig van Beethoven's Piano Sonata no.14.

4.2 Method

The linguistic analysis was mainly motivated by the Halliday & Hasan (1985) text analyses performed in their *Cohesion in English*. First, after becoming familiar with each definition of the cohesive device presented above, the analysis involved a thorough reading of the text, followed by intuitive collection of data and a thorough inspection. These examples are first framed into a quantitative chart and then more detailed analysis of each example is executed. If not stated otherwise, such as it is with Lexical bundles (5.2.2) or Conjuncts (5.3), the analysis, more detailed subdivisions and descriptions are completed according to Halliday & Hasan (1985).

The chart first includes the number of line in which the specific tie has been found. Then for each line it is indicated how many ties it actually contains: "how many instances of a cohesive element that are not resolved by presupposition within the sentence" (Halliday & Hasan, 1985: 332). After that, the specification of each of the device with direction and distance of the tie follows including a reference to the corresponding chapter. If the presupposing item is in a contiguous line, the direction is IMMEDIATE, therefore 0 is noted. Otherwise, the direction is NON-IMMEDIATE. If it is not immediate, it may be 'mediated' (it has one or more intervening lines that enter into a chain of presupposition) or 'remote' (the lines are not involved with the presupposition). In both cases, the number of lines follows. The tie can finally be either anaphoric or cataphoric; "cataphoric ties are relatively infrequent and almost always immediate" (Halliday & Hasan, 1985: 339), therefore a tie is assumed to

be anaphoric unless marked K. This description can be summarized into a following table, which Halliday & Hasan (1985) suggest:

IMMEDIATE	0
NON-IMMEDIATE:	
Mediated (number of intervening lines)	M(n)
Remote non-mediated (number of intervening lines)	N(n)
CATAPHORIC	K

This scheme provides a representation of frequency of the ties and visualization of the organisation of linkage between the elements in the text. Before every detailed analysis the number of occurrences of the particular device in the text is also established. Even though, the collection of data includes this quantitative overview, the main goal of the textual analysis is not to perform percentual analysis, it is only to find adequate examples of most of the devices and examine them.

The linguistic terms presented in the analysis below and described above are then applied to the musical composition. The aim is to determine whether these terms can have their counterparts in an analogous musical section. That includes the search for situations that are most similar and suitable to the linguistic definitions in order to determine whether the linguistic structural theories are relevant to music.

Again, it is impossible to presume that counterparts to all devices will be found in one composition, therefore the musical analysis also includes hypothetical ideas where each of the situations could occur assuming that some of the musical functions are modified. On the other hand, this complicates the quantitative overview and thus, the data collected in the musical analysis are much looser.

5. Text Analysis

1. In this grave hour, perhaps the most fateful in our history, I send to every household
2. of my peoples, both at home and overseas, this message, spoken with the same
3. depth of feeling for each one of you as if I were able to cross your threshold and
4. speak to you myself.
5. For the second time in the lives of most of us, we are at war.
6. Over and over again, we have tried to find a peaceful way out of the differences
7. between ourselves and those who are now our enemies; but it has been in
8. vain. We have been forced into a conflict, for we are called, with our allies, to meet
9. the challenge of a principle which, if it were to prevail, would be fatal to any civilized
10. order in the world.
11. It is a principle which permits a state, in the selfish pursuit of power, to disregard its
12. treaties and its solemn pledges, which sanctions the use of force or threat of force
13. against the sovereignty and independence of other states.
14. Such a principle, stripped of all disguise, is surely the mere primitive doctrine that
15. might is right, and if this principle were established through the world, the freedom
16. of our own country and of the whole British Commonwealth of nations
17. would be in danger.
18. But far more than this, the peoples of the world would be kept in bondage of fear,
19. and all hopes of settled peace and of the security, of justice and liberty, among
20. nations, would be ended.
21. This is the ultimate issue which confronts us. For the sake of all that we ourselves
22. hold dear, and of the world order and peace, it is unthinkable that we
23. should refuse to meet the challenge.
24. It is to this high purpose that I now call my people at home, and my people across
25. the seas, who will make our cause their own.
26. I ask them to stand calm and firm and united in this time of trial.
27. The task will be hard. There may be dark days ahead, and war can no longer be
28. confined to the battlefield, but we can only do the right as we see the right, and
29. reverently commit our cause to God. If one and all we keep resolutely faithful to it,
30. ready for whatever service or sacrifice it may demand, then with God's help, we shall
31. prevail.

32. May He bless and keep us all.

Line	Number of ties	Cohesive item	Type of cohesion	Distance	Presupposed item
2	4	<i>household of my peoples this this message the same</i>	Ellipsis (3.1.3) Demonstrative ref. (3.1.1) Ellipsis (3.1.3) Comparative ref. (3.1.1)	0 K 0 0	<i>who are message which is as if I were able to cross your threshold</i>
3	1	<i>I</i>	Repetition (3.2.2.1)	N2	<i>I (line 1)</i>
4	2	<i>I you</i>	Repetition (3.2.2.1) Repetition (3.2.2.1)	N3 N1	<i>I (line 1) you (line 3)</i>
5	1	<i>The</i>	Demonstrative ref. (3.1.1)	K	<i>lives of most of us</i>
6	3	<i>Peaceful Over We</i>	Morphologically related words Collocation (3.2.3) Repetition (3.2.2.1)	N16 0 N2	<i>peace (line 22) over again we (line 5)</i>
7	5	<i>and those but it enemies</i>	Pair (3.1.4) Demonstrative ref. (3.1.1) Junction (3.3) Personal ref. (3.1.1) Antonymy (3.2.2.1)	0 K M1 M1 N1	<i>ourselves – those who are now our enemies line 6-7 line 6 allies</i>
8	3	<i>for we we</i>	Junction (3.3) Repetition (3.2.2.1) Repetition (3.2.2.1)	0 N3 N3	<i>line 8 we (line 5) we (line 5)</i>
9	4	<i>If the it</i>	Junction (3.3) Demonstrative ref. (3.1.1) Personal ref. (3.1.1)	0 K 0	<i>line 9 challenge of a principle, which... the challenge of a principle</i>
11	4	<i>It its principle selfish</i>	Personal ref. (3.1.1) Personal ref. (3.1.1) Repetition (3.2.2.1) Collocation (3.2.3)	K 0 M2 0	<i>Principle state principle (line 9) pursuit</i>
12	4	<i>Its force solemn</i>	Personal ref. (3.1.1) Repetition (3.2.2.1) Collocation (3.2.3)	0 0 0	<i>state force (line 12) pledges</i>
13	1	<i>sovereignty</i>	Collocation (3.2.3)	0	<i>independence</i>
14	3	<i>Principle the Such</i>	Repetition (3.2.2.1) Demonstrative ref. (3.1.1) Comparative ref. (3.1.1)	M5 K M3	<i>principle (line 9) mere primitive doctrine that might is right lines 11-13</i>
15	5	<i>and if this principle world</i>	Junction (3.3) Junction (3.3) Demonstrative ref. (3.1.1) Repetition (3.2.2.1) Repetition (3.2.2.1)	M1 M1 M6 M6 N5	<i>line 14 line 14 principle principle (line 9) world (line 10)</i>
16	3	<i>and British Commonwealth of our own country</i>	Pair (3.1.4) Collocation (3.2.3) Ellipsis (3.1.3)	0 0 0	<i>of our own country – of the whole British Commonwealth of nations freedom</i>
18	2	<i>far more than this this</i>	Conjunct (3.3) Demonstrative ref. (3.1.1)	M2 M2	<i>lines 16 – 17 lines 16 – 17</i>

19	3	<i>and justice peace</i>	Junction (3.3) Collocation (3.2.3) Morphologically related words	M1 0 N16	<i>line 18 liberty peaceful</i>
21	3	<i>This For We</i>	Demonstrative ref. (3.1.1) Lexical bundle (3.2.3) Repetition (3.2.2.1)	M3 0 N16	<i>lines 18 – 20 the sake of we (line 5)</i>
22	7	<i>And hold world peace world it it we</i>	Junction (3.3) Collocation (3.2.3) Repetition (3.2.2.1) Repetition (3.2.2.1) Collocation (3.2.3) Personal ref. (3.1.1) Lexical bundle (3.2.3) Repetition (3.2.2.1)	M1 0 N4 N3 0 K 0 N17	<i>line 21 dear world (line 18) world (line 19) order and peace lines 22-23 is unthinkable we (line 5)</i>
23	3	<i>meet the this</i>	Collocation (3.2.3) Demonstrative ref. (3.1.1) Demonstrative ref. (3.1.1)	0 N14 0	<i>the challenge challenge high purpose</i>
24	4	<i>It and this high</i>	Personal ref. (3.1.1) Pair (3.1.4) Demonstrative ref. (3.1.1) Collocation (3.2.3)	K 0 0 0	<i>line 24 people at home – people across the sea high purpose purpose</i>
26	3	<i>and (2x) this stand</i>	Triad (3.1.4) Demonstrative ref. (3.1.1) Collocation (3.2.3)	0 K 0	<i>calm – firm – united time of trial calm and firm and united</i>
27	4	<i>and war the task</i>	Junction (3.3) Repetition (3.2.2.1) Demonstrative ref. (3.1.1) Collocation (3.2.3)	0 M22 M1 0	<i>line 27 war (line 5) task hard</i>
28	4	<i>but and we we</i>	Junction (3.3) Junction (3.3) Repetition (3.2.2.1) Repetition (3.2.2.1)	M1 0 N23 N23	<i>line 27 line 28 we (line 5) we (line 5)</i>
29	4	<i>if one it we</i>	Junction (3.3) Collocation (3.2.3) Personal ref. (3.1.1) Repetition (3.2.2.1)	M1 0 M1 N24	<i>line 28 all lines 28-29 we (line 5)</i>
30	4	<i>it then God's We</i>	Personal ref. (3.1.1) Demonstrative ref. (3.1.1) Collocation (3.2.3) Repetition (3.2.2.1)	M1 M1 0 N25	<i>lines 28-29 line 29 help we (line 5)</i>
32	1	<i>bless</i>	Collocation (3.2.3)	0	<i>keep</i>

Chart 1: A quantitative overview of cohesive ties in text

5.1 Grammatical Cohesion

The text contains 31 instances of grammatical cohesion. The number consists of 24 examples of reference, 3 examples of ellipsis and 4 other morphological and syntactical means. There have been found no examples of substitution. Regarding morphological categories, such as mood or tense, there is no persistence in the text as it involves imperative, optative and declarative mood and the author is also alternating between present and past tense.

5.1.1 Reference

Personal reference

Personal reference consists of personal and possessive pronouns. “Only the third person pronouns are inherently cohesive (they typically refer anaphorically to a preceding item in the text). First and second person forms usually express speech roles and do not normally refer to the text at all” (Šaldová, 2004: 191). An example of this would be the first person pronoun **I** (lines 1 and 3), where the pronoun does not refer to any item in the text but a referent outside the text and it is, therefore, considered as an exophoric reference. But as it has already been established only endophoric reference is relevant to cohesion, since it provides a link with a preceding context. Consequently, the pronouns can be used in ‘specific functions.’ (Quirk, et al., 1985: 348)

- (1) **it** (line 7) = an anaphoric reference pointing to the sentence preceding it: *we have tried to find a peaceful way out of the differences between ourselves and those who are now our enemies.*
- (2) **it** (line 9) = an anaphoric reference pointing to *the challenge of a principle*
- (3) **it** (line 11) = third person pronoun introducing a cleft sentence, also known as “focusing it”
- (4) **it** (line 2) = a cataphoric reference pointing to the clause *that we should refuse to meet the challenge*, also known as “anticipatory it”
- (5) **it** (line 24) = “anticipatory it” referring to the clause *that I now call my people at home*

- (6) **it** (line 29) = anaphoric reference with the antecedent being two clauses connected by sequence (a pair): *do the right thing and commit our cause to God*
- (7) **it** (line 30) = identical reference as in line 29

Possessives can function either as proforms or determiners and only instances of the latter were found in this text. Again, only endophoric reference is considered.

- (8) **its** (line 11) = possessive pronoun anaphorically specifying the noun *treaties*
- (9) **its** (line 12) = possessive pronoun specifying the noun phrase *solemn pledges*

Demonstrative reference

Demonstrative reference is kind of “verbal pointing and can thus be used to refer anaphorically to entities in the text or portions of text” (Šaldová, 2002: 192). The speaker identifies a referent by locating it on a scale of proximity, which results in either near or distant reference: *this, that, these* and *those* (Halliday & Hasan, 1976: 193). Again, demonstrative pronouns can be used as determiners or proforms and can be exophoric or endophoric. There has been found three instances of endophoric proform in the text:

- (10) **this** (line 18 and 21) = demonstrative pronouns anaphorically referring to a larger portion of text
- (11) **those** (line 7) = cataphoric reference to a clause *who are now our enemies*

There were found three instances of demonstrative determiners:

- (12) **this** message (line 2) = demonstrative pronoun cataphorically referring to the following text
- (13) **this** principle (line 15) = anaphoric reference to *challenge of a principle which...*(line 9)
- (14) **this** high purpose (line 23) = anaphoric reference to a larger portion of the preceding text
- (15) **this** time (line 26) = cataphoric reference to the following *of trial*

Another means of demonstrative reference that must be mentioned are demonstrative adverbs. They consist of four adverbs: *here, there, now* and *then*, “although *now* is very rarely cohesive” (Halliday & Hasan, 1976: 74). There is only one instance of cohesive demonstrative adverb in the text:

- (16) **then** (line 30) = embodies “anaphoric reference to time; the meaning is ‘at the time just referred to’” (Halliday & Hasan, 1976: 75).

As has been mentioned, also the definite article *the* is considered to express demonstrative reference. Like demonstratives, *the* is “a specifying agent, serving to identify a particular individual or subclass within the class designated by the noun” (Halliday & Hasan, 1976: 72). The difference between the article and referential pronouns is that *the* refers only through dependence on something else, it does not contain any specifying element. (ibid.) However, it indicates where the information necessary for identifying is recoverable, either in situation (exophoric) or in the text (endophoric). Again only endophoric reference is important for the purposes of this paper, which subsequently refers either forward or backward in the text. However, “*the* can never refer forward cohesively. It only refers to a modifying element within the same nominal group as itself.” (ibid.) Therefore, it is only limited to the structural type.

- (17) **the** (line 5) = determiner defining *lives of most of us*
(18) **the** (line 9) = determiner defining class of general nouns *challenge of a principle which, if it were to prevail [...]*
(19) **the** (line 14) = determiner referring to *mere primitive doctrine that might be right*
(20) **the** (line 23) = determiner defining *challenge*, which anaphorically refers to *the challenge of a principle which [...]* (line 9)
(21) **the** (line 27) = determiner defining *task* and anaphorically referring to the sentence preceding it: *to stand calm and firm and united [...]* (line 26)

Comparative reference

Comparative reference “sets up the relation of contrast” (Šaldová, 2002: 195) by means of identity or similarity (Halliday & Hasan, 1976: 79). There have been found two examples of comparative reference.

- (22) Spoken with **the same** depth of feeling **as if I were able to cross** your threshold. (line 2)
- (23) **It is a principle** which permits a state, in the selfish pursuit of power, to disregard its treaties and its solemn pledges, which sanctions the use of force or threat of force against the sovereignty and independence of other states. **Such a principle**, stripped of all disguise, is surely the mere primitive doctrine [...] (lines 11-14)

5.1.2 Substitution

There have been found no examples involving substitution in the text.

5.1.3 Ellipsis

As has already been mentioned, ellipsis can be either **nominal**, **verbal** or **clausal** depending on what part of the text is being omitted. There have been found examples of nominal ellipsis and ellipsis of relative pronouns and copular *be* in the analysed text

- (24) line 2: [...] of my peoples, (**who are**) both at home an overseas [...]
- (25) line 2: [...] this message, (**which is**) spoken with the same [...]
- (26) line 16: [...] our own country and (**the freedom**) of the whole British Commonwealth [...]

5.1.4 Other means of grammatical cohesion

There have been found 4 instances of some of the morphological and syntactical means of grammatical cohesion.

Pairs and triads

- (27) line 7: between ourselves **and** those
- (28) line 24: my people at home **and** my people across the seas
- (29) line 26: calm **and** firm **and** united

Recursiveness of a sentence pattern

- (30) But far more than this, the peoples of the world would be kept in bondage **of fear**, and all hopes **of settled peace** and **of the security, of justice** and liberty, among nations, would be ended. (lines 18 - 20)

5.2 Lexical Cohesion

There have been found 49 examples which might be classified as lexical cohesion including every instance of repetition.

5.2.1 Paradigmatic relations

The text includes 33 examples of relations that are considered to be paradigmatic and that Halliday & Hasan (1976) group under the lexical cohesion of reiteration. The data consist mainly of repetition, whereas examples of paradigmatic relations, such as **meronymical** relation between a part and a whole or **synonymy** were not found in the text.

While Halliday & Hasan (1976) do not explicitly mention the prevailing repetition of pronouns in a text, it is unnoticeable that in the selected text there are many instances of the repetition of the pronouns *we*, *you* and *I*. These pronouns also appear in different forms, such as possessive or objective from the reference point of view they are an exophoric reference, therefore not cohesive. In the text these pronouns not always refer to the same item: “A written text as a whole still has its outer context of situation, in which the writer may refer exophorically either to himself, as *I* or *we*, or to his reader(s), as *you*, or to both. This happens in letter-writing, in first person narrative, in advertising, in official documents addressed to public, and in notices.” (Halliday & Hasan, 1976: 50) This constant repetition gives the text a clear sense of thematic unity and thus seem to have a very strong cohesive effect nevertheless.

Repetition

- (31) **we** (lines 5, 6, 8, 8, 21, 22, 28, 28, 29, 30)
- (32) **you** (line 3, 4)
- (33) **I** (line 1, 3, 4)
- (34) **principle** (lines 9, 11, 14, 15)
- (35) **force** (line 12)
- (36) **world** (lines 10, 15, 18, 22)
- (37) **peace** (lines 19, 22)
- (38) **war** (lines 5, 27)

Antonymy

- (39) **enemies** (line 7) - **allies** (line 8)

Grammatical metaphor

Another type of lexical reiteration that does not satisfy neither the definition of paradigmatic nor syntagmatic relations completely, yet must be mentioned, because it is considered to be an instance of lexical cohesion. It is what Halliday term grammatical metaphor and it contains “lexical items that are morphologically related” (Šaldová, 2004: 197). These items are seen as another instance of reiteration considering that “for a lexical item to be recognized as repeated it need not be in the same morphological shape” (Halliday, 1994: 572). “Besides the purely lexical aspect of word-formation process, grammatical metaphor allows stylistic variation and makes it possible to refer to contents of clauses from different points of view” (Šaldová, 2004: 197).

- (40) **peace** (line 19) – **peaceful** (line 6)

5.2.2 Syntagmatic relations

There were found 16 examples of syntagmatic relations from the text. These relations can appear to be subjective, therefore the main task was to collect the most apparent data.

Collocations

- (41) line 11: **selfish pursuit**
- (42) line 12: **solemn pledges**
- (43) line 13: **sovereignty and independence**
- (44) line 19: **justice and liberty**
- (45) line 16: **British Commonwealth of nations**
- (46) line 22: **hold dear**
- (47) line 22: **world order and peace**
- (48) line 23: **meet the challenge**
- (49) line 24: **high purpose**
- (50) line 26: **stand calm and firm and united**
- (51) line 27: **task will be hard**
- (52) line 29: **one and all**
- (53) line 30: **God’s help**
- (54) line 32: **bless and keep us all**

Lexical bundles

These multi-word expressions make “language more predictable to the hearer” (Hyland, 2007: 5) According to Hyland, the bundles have different functions depending on their focus of intention and whether they refer either to the writer or the reader. As a result, bundles can be divided into **research-oriented**, **text-oriented** or **participant-oriented** categories.

(55) line 21: **For the sake of** = research oriented

(56) line 22: **it is unthinkable** = participant-oriented

5.3 Junction

The elements that fulfil the clausal linking function are coordinators, subordinators or conjuncts.

Coordinators

They are the “constituents at the same level of constituent structure” (Quirk et al., 1985: 920). They mainly include three conjunctions *and*, *or*, *but* with *but* being recognized as adversative conjunction and *and*, *or* as additives.

(57) **but** in line 7

(58) **and** in line 15

Subordinators

Subordinators, in contrast to coordinators, “form a hierarchy, the subordinate unit being a constituent of the superordinate unit” (Quirk et al., 1985: 920). The most common subordination is usually being introduced by conjunctions *for*, *so that*, *if*, *because*.

(59) **for** line 8

(60) **if** line 9

Conjuncts

When considering conjuncts, it is necessary to “look beyond the particular grammatical unit in which they appear” (Quirk et al., 1985: 631). The units may be large or small, sentences or paragraphs may be in concern as well. They are mainly related to the speaker’s comment and how he “views the connection between two linguistic units” (ibid.). According to Quirk, each conjunct also entails a specific function depending on its semantics.

- (61) line 18: **far more than this** = this conjunct could be classified under the group of *listing* conjuncts with a subdivision of *additive*

The selected text contained 31 examples of grammatical cohesion, 49 examples of lexical cohesion and 4 instances of junction. The analysis of the selected speech has shown that the cohesion of the text is partly due to the deployment of the typical cohesive ties described in literature. While not all cohesive devices were found in the text, which might be on account of the length of the selected text, many examples were present. Apart from the obvious number of repeated words in repetition, the ties categorizable as grammatical cohesion were found to be most common. In the following section this quantitative survey will be used as a basis for establishing whether similar structural relations exist in the analysed sonata.

6. Musical Theoretical Background

It has been established that text is a structured sequence that forms some sort of unitary whole on the basis of ties inside and outside the text. The ties inside the text are referred to as cohesive devices and the outside text ties are called coherence relations. According to the assumption that has been stated at the beginning that both music and language are similar because of their ability to be disintegrated into layers and levels, the question whether the same wholeness that is essential to text is also visible in musical composition arises.

Again, multiple similarities must be pointed out. A musical composition, no matter the length, is structured into and appears to form a whole on the basis of the ties inside and outside the composition. Correspondingly, the outside ties also require the operation of some kind of mental mechanisms, possibly even the same cognitive abilities that are crucial for the perception of coherence in text, therefore the same term can be applied here. “As with language, the perception of coherence in music requires more than the recognition of independent, well-formed musical segments: It requires that connections be perceived between the segments, these connections link the segments into a larger, organized whole” (Patel, 2007: 337). Even though, this would also be a relevant focus of attention, it is not the main subject of this thesis as the paper deals with the surface structure and not the connectedness through context and content.

The inside ties that create cohesion in text are more complicated in music. The problem arises mainly due to the missing semantics in the music as the author’s intention is never clear and fairly subjective for the listener as well as for the composer. This also creates difficulties when distinguishing between the inside and outside ties of the composition, or in other words, between cohesion and coherence of musical composition because the content is merely too abstract. Nonetheless, there are elements that make the composition more cohesive

and it cannot be doubted that it is indeed the author's intention to implement them. These include forming and working with motifs or themes, variations, composing the piece in one key or simply working with harmonies which makes the music intertwined and united.

These relations, even if sometimes they may appear as similar to those in text, are not recognized as such nor are they being assigned to those in linguistics. It is mainly because they fulfil either multiple functions or no function at all in the composition and thus, linkage is not considered their primary purpose. Therefore, the main goal of the following analysis is to try to assign linguistic terms of cohesive devices to similar instances in music or try to find some parallels between them. It should arise from the analysis which devices accomplish the same function in music as they do in the text. It also needs to be noted that not all parallels are possible to be found also because of the missing semantics in music.

As has briefly been discussed above, music can be decomposed into different levels and layers in the same manner as text. 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. Leonard Bernstein proposes his own theory how layers of each field correspond. It 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 studying 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. While musical analysis typically does not employ linguistic terminology, in the following sections the thesis will deploy linguistic terms used for the purposes of analysis of textual cohesion. Whilst these are tentative labels, in this context they enable to consider the similarities between the cohesion in language and musical texts.

6.1 Musical counterparts of “grammatical cohesion”

As grammatical cohesion was found to be frequently represented in the textual analysis, the musical analysis will now explore the most frequently represented ties in the composition. These are tentatively labelled also as instances of grammatical cohesion.

There are 278 possible instances of grammatical cohesion in the 1st movement. That includes 268 instances of repetition, 3 instances of ellipsis and 7 instances of one motif being repeated by a different note or a different hand, recognized as reference. This amount does not include instances of substitution due to the impossibility to determine every situation in the composition where one musical function could be substituted for another.

6.1.1 Musical counterparts of “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 serves as an object of analysis, one of the main motives is the dotted rhythm which first appears in the 5th bar (Fig. 1). The same motive is then repeated in different variations, such as repeated by a different note and in a different key (Fig. 2) or performed by different hand (Fig. 3).



Figure 1: Reference



Figure 2: Reference



Figure 3: Reference

6.1.2 Musical counterparts of “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 of 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 (Fig. 4) and in theory can substitute each other.

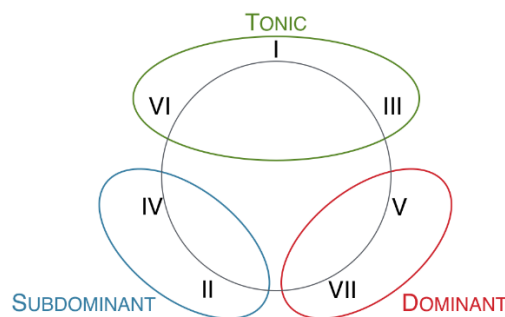


Figure 4: Harmonic functions³

² Harmonic functions www.openmusictheory.com

³ Harmonic functions www.openmusictheory.com

In Beethoven's Sonata, it could be suggested that, for example in a 2nd bar (Fig. 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 (Fig. 6).



Figure 5: Substitution

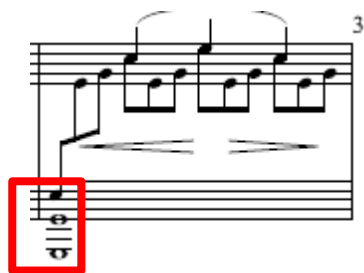


Figure 6: Substitution

6.1.3 Musical counterparts of “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 (Fig. 7) and when there is simply silence, because another musical phrase is being introduced (Fig. 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.



Figure 7: Ellipsis



Figure 8: Ellipsis

6.1.4 Musical counterparts of “other means of grammatical cohesion”

6.1.4.1 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 holds the musical piece together.

Verbal voice and mood

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. The same is relevant for the recognition of mood.

6.1.4.2 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 (Fig. 9), that prevail throughout the whole movement.



Figure 9: Repetition

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 structural parallelism. According to the organization as was proposed above the triplets are only repeating motifs and, therefore, it corresponds to simple repetition and it is a counterpart to lexical cohesion. 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.

6.2 Musical counterparts of “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. Again, as the analysis below includes mainly the hypothetical ideas that go with the selection of harmony, it is not possible to count all possibilities in which each instance could appear.

6.2.1 Musical counterparts of “paradigmatic relations”

It is impossible to find a note or a chord that could be substituted for each other, which is one of the conditions for paradigmatic relations in linguistics. The easiest and most obvious relation, repetition, was already presented above. 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 and, therefore, they could be seen as replaceable, each of them conveys different function that could be portrayed as opposite. The oppositeness is not only visible in the chords’ functions and rules, but also in the hearer’s perception of the chords.

6.2.2 Musical counterparts of “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.

6.3 Musical counterparts of “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 as 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” at the same time (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 fulfil 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 therefore 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 Fig. 10), it could be compared to an additive coordinators *and*, *or*.



Figure 10: Junction

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 and 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 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.

7. Conclusion

The thesis dealt with the comparison between structures in music and in text. The main goal was to find if certain linguistic structural theories relevant to text are applicable to a piece of classical music, specifically whether textual cohesive devices have their counterparts in music. The thesis confirmed that the structural organization of both phenomena can be arranged on the basis of similar ties, however, it is not transparent, as a lot of modification and adjustments of each of the phenomena must have been made.

Even though this comparison may seem too hypothetical, the attempt to make analogies between these two fields is justifiable. Both text and musical composition are perceived by either the reader or listener as comprehensive and complete. The logical assumption then remains whether principles that create this unity are universal or specific only for each of the phenomena. On the other hand, because this comparative theory is too complex as two completely different fields are being examined, many simplifications are needed.

The first two chapters contained definition and description of cohesion on its own and also in comparison to coherence. It discussed the problem of defining text and what rules must be completed in order for the text to be cohesive and coherent. The next chapter listed and defined each of the cohesive device, mainly according to Halliday & Hasan's (1985) definitions. These devices were consequently illustrated on the analysis of King George's speech. It was expected that not all cohesive devices would be present in one text, however, the main aim of the analysis was to try to collect at least one instance of each device and analyse it according to Halliday & Hasan or other linguistic subdivisions. The collected data were also entered into a chart for a quantitative overview.

The sixth chapter then dealt with the search for counterparts of these cohesive devices in music. First, it was essential to deal with the examination of what could be musical

counterparts to linguistic terms of cohesion and coherence. Therefore, the question of what hold a musical composition together was discussed. Afterwards, the speculation about the similarities between music and text followed. On the basis that both music and text can be disintegrated into different levels, analogous relationships between these layers were attempted to be found. The analogy was inspired by Leonard Bernstein's *The Unanswered Question* lecture series and was adjusted to fit further analysis. According to this analogy the counterparts in music were presented.

These analogous relationships were sought in a wider range of units, including harmonic functions and chords, rather than simple notes. This was complicated by the fact that the semantics in music is more subjective and is not the same as it is in a text. Subsequently, the difference between harmonic functions and word functions had to be considered. In music, word functions, such as object or subject do not exist and they do not have any similar counterpart. Harmonic functions, which may be mistaken for them, 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". This resulted in the impossibility to find counterparts to each linguistic device, such as verbal mood and voice, and also in the impossibility to make the same quantitative overview as in the text analysis.

It has been found that the linguistic definitions can be related to those in music and that there are many similarities between them. 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. Therefore, the thesis confirmed that similarities between text and music can be found on this level and that in both phenomena they fulfil the same cohesive function.

8. Resumé

Tato bakalářská práce se zabývá vztahem mezi krátkým hudebním úsekem a textem a snaží se nalézt paralely mezi vztahy, které zaručují povrchovou provázanost v textu a v hudbě. Obě média jsou vnímána posluchači i čtenáři jako ucelená a soudržná, logická otázka tedy vyplývá, zda jsou si principy, které toto uskutečňují, něčím podobné, nebo zda jsou specifické pro dané médium. Textová povrchová provázanost a soudržnost je zaručena na základě koheze a kohezních prostředků, které jsou v práci definovány a demonstrovány na textové analýze. Tyto lingvistické prostředky jsou následně aplikovány na hudební kompozici, ve které je snaha zjistit, jak moc jsou si kohezní prostředky a vztahy, které provazují hudbu, podobné.

První část práce se věnuje shrnutí strukturalistických podobností mezi hudbou a lingvistikou, které byly nalezeny jinými lingvisty a muzikology. Zahrnuje také možnosti různých podobností na základě kognitivních nebo jiných vjemových procesů. Nicméně, jelikož práce se věnuje podobnostem mezi textem a hudbou ze strukturalistického hlediska, je nutné nejprve definovat text jako takový. Další kapitola se tedy věnuje popisu na jakých základech může být text postaven a také definuje další podmínky, kromě koheze a koherence, které musí být dodrženy, aby text byl považován za celistvý a dávající smysl. Následné podkapitoly definují podrobněji kohezi jako takovou a také vysvětlují rozdíl mezi kohezí a koherencí.

Dále se práce věnuje vyjmenování a popsání kohezních prostředků. Prostředky byly rozděleny do podkapitol Gramatická koheze, Lexikální koheze a Spojky zejména na základě rozdělení, které z většiny poskytují buďto Halliday & Hasan (1985) nebo Tárnyiková (2002). Další podkapitoly se věnují definicím nejdůležitějších kohezních prostředků a také shrnutím druhotného dělení každého z prostředků.

Další část práce se věnuje popisu, jakým způsobem byly vybírány analyzovaný text a hudební úsek. Text byl vybrán pouze na základě své stručnosti, délky a celistvosti, ale hudební ukázka musela splnit mnohem více parametrů, aby byla vhodná pro potřeby kohezní analýzy. Nakonec byl vybrán instrumentální úsek z klasicistního období hlavně pro své harmonické a melodické přednosti, které zajistily, aby hudební protějšky mohly být hledány v širokém harmonickém spektru a nemusely být příliš modifikovány. V následující části práce je popsáno, jakým způsobem vznikaly analýzy. Textová analýza vychází především z obvyklého způsobu kohezní analýzy, který představují Halliday & Hasan a kromě popisu jednotlivých příkladů z textu přidává kvantitativní popis dat. Textová analýza si neklade za cíl najít ukázky všech jednotlivých prostředků, ale pouze snahu demonstrovat a rozebrat co nejvíce prostředků na daném textu. Prostředky, které jsou představeny v této analýze, jsou dále aplikovány na vybraný hudební úsek.

Následující část práce obsahuje porovnání hudebních a textových struktur a jejich rozčlenění. Tato rozčlenění jsou následně analogicky přirovnána, aby bylo rozpoznáno z čeho vychází hudební analýza a také v jakých strukturalistických úrovních analýza probíhá. Analogie je inspirována teorií, kterou zavedl Leonard Bernstein a je upravena pro účely kohezní analýzy. Kapitola také obsahuje zamyšlení nad tím, zda existují podobné vztahy v hudbě, které by zaručovaly její ucelenost a soudržnost. Bylo konstatováno, že nejen vztahy, které zaručují povrchovou provázanost jsou si v textu i v hudbě podobné, ale i ty vztahy, které potřebují nějaké jiné kognitivní a myšlenkové procesy a zaručují komunikativní soudržnost, mají v sobě určitou podobnost. Tedy i protějšky textové koherence by bylo možno v hudbě nalézt. Toto však nebyl účel této práce a analýze způsobil spíše komplikace.

Hudební analýza si klade za cíl zjistit, zda v hudbě existují protějšky lingvistickým kohezním prostředkům. Tyto protějšky jsou hledány pomocí přirovnání textových a hudebních vazeb a jejich následné modifikaci, aby vyhovovaly hudebním harmonickým

pravidlům. Tedy vztahy, které zaručují celek v textu jsou porovnávány s těmi hudebními a naopak.

Při analýze byl pozorován hlavně problém s chybějící sémantikou v hudbě. Ten způsobil obtíže při rozhodování správné analogie strukturalistických úrovní a také v odlišení hudební koheze a koherence. Na základě toho bylo také potvrzeno, že nelze nalézt veškeré hudební protějšky kohezních prostředků, jako například protějšky ke slovesnému způsobu nebo rodu. Toto také zkomplikovalo kvantitativní přehled, jelikož některé protějšky byly pouze hypoteticky vydedukovány, a tak spočítání výskytu v hudební ukázce nebylo možno provést. I přes to bylo konstatováno a potvrzeno, že protějšky v hudbě existují a že také zaručují hudební celistvost a spojitost. Snaha najít podobnost mezi hudbou a textem na této úrovni je tedy oprávněná.

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