

Towards the Semantics of Music: the 20th Century¹

Mihailo Antovic

Faculty of Philosophy, University of Nis, Serbia

Abstract

This paper discusses the problem of musical meaning from the perspective of some 20th century approaches to linguistic semantics. The text briefly covers the issue as it was viewed in the first half of the previous century, and then reviews some studies of musical meaning within the structural, generative, and cognitive frameworks. The author's opinion is that conceptual metaphor theory, in its search of the conceptualization of music, provides the most solid grounds for the foundation of a true 'musico-semantics'.

Key words: language, music, meaning, semantics, cognition.

The relationship between language and music has been of interest for centuries. Although structural ('grammatical') comparisons have occurred throughout the history of language study, and have been topical in the last twenty odd years, it is the problem of musical meaning that has been central to many theoretical discussions, most notably in the aesthetics of music. In this paper, I will try to outline the principal currents in the modern study of music and meaning, analyzing the issue in the framework of linguistic semantics.

To define the problem, I will first elaborate on Bernstein's term 'musico-linguistics' (Bernstein, 1976: 9) and introduce the central question related to 'musico-semantics': does music have any meaning, and if it does, what is its nature and possible relationship to the same term as used in linguistics?

The problem of musical signification emerges from the nature of musical phenomena. While music has no clear reference to extramusical reality, it does provoke psychological reactions in listeners comparable to few other arts. The former apparently denies musical semantics, while the latter craves for an extramusical interpretation as the psychological impact that music causes urges listeners to articulate their reactions, be they emotions, associations, or explicit linguistic descriptions. This cognitive paradox brought about two opposing approaches in the interpretation of music: 'formalist' and 'referentialist'. Indeed, the entire twentieth century in music theory may be viewed as a pendulum, where the two have been replacing one another depending on the author's preferences or more general *Weltanschauung*. The formalists, perhaps influenced by German classical idealism, have claimed that the phenomenon to study is music on its own, that it has no meaning 'but itself', that musical tones carry no content, that the only legitimate discussion of music should exclusively deal with formal relations, elements of higher and lower order, harmonic progressions or incoming cadences. The referentialists, commonly influenced by Anglo-American psychology, would

¹ Antovic, M. (2009). Towards a Semantics of Music – the 20th Century, *Language and History*, 52(1): 119-129.

claim that ‘things by themselves’, including music, are non-entities, and that what counts should be only how humans react to music. Naturally, this leaves a huge uncharted territory of possible signification, be it music referring to disenchanted lovers, mystical rivers, clowns in the orchestra, or passionate emotions. The former group would say music has no meaning parallel to that found in language. The latter would tacitly or openly acknowledge at least some common points between the two.

The text that follows will discuss some examples of both approaches to music that appeared in various 20th century incarnations. The sequencing will be historical, with the focus on musical meaning as viewed through conceptions traditionally used in linguistic semantics. I will first briefly cover the period around the beginning of the 20th century, followed by post-World-War-Two structuralist, post-structuralist and semiotic attempts (1). After this, treatments of musical signification during the reign of cognitivism will be discussed: first, in the generative paradigm, strongly influenced by the conceptual system of Chomsky and theories of Lerdahl and Jackendoff (2), and then in the world of cognitive semantics, most notably marked by Lakovian embodied realism (3). A possible reconciliation of the two confronted schools in musical aesthetics will be discussed in the concluding section (4).

1. Musico-semantic theories: structuralism, poststructuralism, semiotics

The search for musical meaning in the past century can be traced back to the period in which Romanticism in music slowly gave way to Modernism. For the leading music theorists (Schenker, Hanslick) the pendulum moved toward the formalist position. Music was to be perceived in itself only, an attitude soon fervently embraced by composers, most notably Schoenberg and Stravinsky. This view would hold until well past the heyday of modernism, by the 1960s (Webern, Boulez). When analogues with the language science are made, the paradox comes from the fact that ‘semantics’ as we know it today started emerging exactly in this period: scholars introduced now standard dichotomies such as connotation and denotation (Mill, 1843), sense and reference (Frege, 1892), langue and parole (De Saussure, 1916). The situation in the emerging study of semiotics was similar, with the popular triads of type, token, tone and icon, index, and symbol (Peirce, 1894).

No wonder then that, even at the peak of formalism in music theory, in the early 20th century already there were some authors who tried to use these newly-introduced semantic concepts in their study of music. Most prominent were music hermeneuticians who insisted that music should be viewed interpretatively. Kretzschmar’s theory (1911) proposed two layers of referentiality in music: *Affektenlehre* and *Figurenlehre*, where the former would deal with musical affect and the latter with musical rhetorical figures, allegories originating from the times of Baroque. Although musical hermeneutics was strongly criticized by formalists in its own time, and is often dismissed by modern-day music theorists, in its two-layer search of musical meaning (through affect and rhetoric) it gave some impetus to the more elaborate systems that would emerge after World War Two, in the age of structuralism.

An early relevant description of musical meaning from the structuralist perspective would be that by the English musicologist Deryck Cooke (1959). His book *The Language of Music* provided an interesting thesis that musical elements might have (almost) denotative value. Cooke sought musical meaning mainly in harmonic relations, and thus proclaimed that

chord sequencing should be taken as the root of a musical semantics. For him, it is the succession of major and minor thirds in a chord that may be used almost as a catalogue from which a composer would select and trigger a desired emotion in the listener. For instance, the ascending movement 1-(2)-3-(4)-5 in a major key would be used to express an “outgoing, active, assertive emotion of joy” (Cooke, 1959: 115). Somewhat naïve, Cooke’s theory fails in two important segments (cf. Wilkinson, 1992: 195-202): identical chord successions in different compositions do not necessarily arouse identical emotions in the same listeners; also, the same successions in the same composition may cause varying emotions (if any) in different listeners. Attempts to tackle this problem from a new angle had to wait for another thirty years and the advent of cognitive science (cf. Dennett, 1991; Jackendoff, 1992 below).

Theories of the American philosopher Susanne Langer looked equally attractive in their time. Her neo-mimetic philosophical texts attempted to view all the arts, including music, as systems manipulating symbols. In her view, though not explicitly discursive, music abounds in *presentational symbols*. Borrowing the distinction from Mill, she claims that musical elements may, though rarely, have denotations (mimicking, for instance, the flow of a stream, or the thump of hooves). If denotations are rare, connotations in music are ubiquitous. A good example may be found in the question she asked a young violinist ‘What is a harmonic minor?’, where the response was that this was the scale in which you ask a question ascending, and you provide an answer descending (Langer, 1957). Though the theory may be groundedly attacked, especially in the implied concept of denotation that is so rare, and thus almost trivial in music, the response in the example above reveals that in noting the metaphoricity of musical comprehension in children Langer might have been on the right track.

The problem of musical meaning is attractive to semioticians, and the school of music semiotics has provided interesting output in the last thirty or so years. These authors find numerous, though sometimes far-fetched, musical parallels of conceptions traditionally used in linguistic semantics. Strongly rejecting the formalist position, they insist that music should be viewed as a symbolical form functioning in a given cultural and historical context. Among other things, they have introduced the smallest unit of musical meaning, a *museme*, clearly parallel to a morpheme (Seeger, 1960), embraced the distinction between musical connotations and denotations (Mazzola, 1997), and provided in-depth discussions of musical referentiality (Noth, 1984: 429-34). While they admit that absolute classical music usually resists semiotic analysis, they still claim that popular music is suitable for referential interpretation (Tagg, 1987). This is so because popular music is often aggressively used in, and thus easily associated with, particular extramusical contexts. Variations in the music, or the context, cause extramusical effects, and this sometimes works as a useful ideological device. Examples may include the gist of the Imperial March theme to suggest that a lovely young boy would soon become an archvillain (*Star Wars*, music by John Williams) or hearing a piece from *The Terminator* (music by Brad Fiedel) when a video game character says ‘I’ll be back!’ (Antovic, 2004). A semiotic approach seems useful in analysing and undermining such contextual use, and potential abuse, of music.

Another recent approach to musical connotation may be found in the work of Joseph Swain. His book *Musical Languages* (Swain, 1997), among other things, attempts to defend structuralist-style parallels between meaning in language and music. Swain introduces the ‘paradox of musical semantics’, where ‘music seems full of meaning to ordinary and extraordinary listeners, yet no community of listeners can agree [...] about the nature of that

meaning' (Swain, 1997: 45). Swain claims that the difference between musical and linguistic reference lies not in quality but in range. For instance (Swain, 1996: 140), one would need little effort to decide if Beethoven's *Appassionata* connotes 'explosive fury' or 'peaceful contemplation'. However, deciding if it has to do with 'explosive fury' or 'passionate determination' would be much more difficult. In other words, if the distinction is binary, and concepts underlying a musical motive are diametrically opposed, musical meaning is grasped easily. If, however, there is a finer discretisation, agreement among listeners is lost. Therefore, compared to linguistic meaning, the range of musical semantics is rather limited, as musical and linguistic structures have 'varying degrees of semantic potential' (Swain, 1997: 49). As music does not have an explicit discursive function the way language does, this conclusion should not come as a surprise. The thesis of 'potentiality' of musical meaning, however, has still remained a favourite of modern-day music hermeneuticians (Kramer, 2004).

I close this section with an attempt to discuss musical meaning in the post-structuralist context. Expanding on the theories of Derrida (Deleuze and Barthes may be given some credit, too), Cobussen (2002) views music as a text showing the properties of textuality, intertextuality, and contextuality. He introduces *intermusicality* as a parallel to Derrida's concepts, discussing the relationship between music and extramusical reality and musical elements as opposed to one another. Quite appropriate for a poststructuralist system, and teeming in possible interpretations, this discourse seems to be but an elaborate metaphor for music as a target domain, a problem I discuss in section 3.

2. Musico-semantic theories: early cognitivism and the generative paradigm

Music analysis could not long resist the cognitive revolution of the 1960s. Yet, despite its profound influence on most social sciences, the generative paradigm has not given much to musical semantics. While Chomsky himself has remained wary of attempts to compare the language faculty with virtually any other cognitive function, some followers have been interested in a more integrative approach to cognition that sometimes encompasses musical phenomena, including the issue of musical meaning. Most advocates, however, would remain in the formal school.

The early credit here goes to Leonard Bernstein (1976), who was among the first to notice how important metaphor is in the comprehension of music. Bernstein viewed metaphor as a fully formal device, which had more to do with musical structure ('syntax') than anything extramusical. Drawing on an earlier distinction by the musicologist Leonard B. Meyer (1953: 34), Bernstein introduced *intrinsic* and *extrinsic* metaphors: the former would deal with the musical material only and comprise anticipations, repetitions, theses or antitheses while the latter would incorporate, for example, descriptions of nature in *The Pastoral*. A supporter of the former, Bernstein was reluctant to ascribe any conceptual content to music, and would adhere to motivic work, repetition of slightly changed musical cues, and the listener's comprehension of them as 'pretty much the same, yet a bit different', as musical metaphors. With the advent of Lakovian cognitive semantics, this restricted view of metaphor would soon be given up. One more thing that Bernstein acknowledged in his 'musico-semantics' was the overwhelming importance of *ambiguity* in music perception. For Bernstein, all art may be reduced to the composer's skilful use of ambiguities and the resulting play with the listener's expectancies.

One does not need to particularly stress how important this concept is for modern linguistics, and perhaps all cognitive science. Bernstein's early incorporation of it into music analysis would remain probably his most important legacy in the field.

The interest of Chomsky's former student Ray Jackendoff in a theory of the mind that would supersede linguocentric generativism resulted in a few interesting publications (Jackendoff, 1983; 1987; 1992). One of them, done in collaboration with Fred Lerdahl, a prominent composer and music theorist, became the most important treatise in cognitive musicology to date. Proposing abstract structural connections between Chomskyan linguistics and Western music perception, *A Generative Theory of Tonal Music* (Lerdahl and Jackendoff, 1983) still says little about the problem of musical meaning. The highest level of musical cognition it postulates, *prolongational reduction*, seems responsible for the succession of tension and relaxation, continuity and progression in the musical flow. This might result in the emergence of *affect* in perception. At that time, Lerdahl and Jackendoff were reluctant to analyze the concept, claiming that after the presentation of a very elaborate theory they 'have not even begun to approach the problem of musical affect, so crucial to artistic concerns' (Lerdahl and Jackendoff, 1983: 249). In later work, however, this problem was given some attention. Jackendoff (1992) analysed musical affect as a result of parallel processing of musical data by the listener, where compliance with or disruption of the parser's expectancies would result in subconscious affective reactions of tension or relaxation. Based on Dennett's multiple drafts theory (Dennett, 1991), this proposal seems to solve the mystery of the same tune causing the same affective reaction in the listener time and again, no matter how many times it has been heard. Basically claiming that musical emotion results from the subconscious activity of unintelligent parsers, and not conscious effort of the listener, it remains a formidable construct. In their latest paper together (Jackendoff and Lerdahl, 2006) the two authors insist that, as most phenomena in cognition, musical affect seems to have a music-specific and a general component (for instance, when long term memory plays a role in triggering the statement 'Darling, this is our song!'). In musical meaning, too, a complex combination of the inborn and the acquired, of a universal and a mental grammar, is constantly at play. Jackendoff remains the principal defender of this duality with regard to practically all cognitive capacities.

One more issue seems to deserve consideration: the well-known concept of generative linguistics that sees intuition as 'unconscious knowledge'. Nowadays, Jackendoff believes (personal communication) that 'native listeners' do have intuitions with regard to 'what comes against what', i.e. what kind of music is appropriate in what kind of extramusical situations. Naturally, music cannot have a formal semantics in any Fregean sense, as there are neither strict denotations nor propositional compositionality involved. However, if it were shown that the interpretation of the same content, for instance a short animation, changes if the background music is altered, this would probably be the closest to a formal, intuitive semantics of music one could get. An interesting study based on a related concept, utilizing the thematic apperception test, is that of Carlton and MacDonald (2004), who report that the 'emotional valence' of background musical stimuli influences the participants' interpretations of pictorial information. Further research is probably warranted, and projection techniques might be a good psychological procedure to start with.

I would like to wrap up this section underlining that there has been some interest in language and music among cognitive neuroscientists, who often base their work on broad assumptions of generative linguistics. In terms of semantic connections, a promising study is

that by Koelsch et al (2002), in which Wernicke's area, a part of the left temporal lobe of the brain cortex long known to be important for linguistic meaning, was found to be active in various musical tasks (chord modulations, tonal clusters, timbre change). Progressing quickly as they do, imaging studies are still in their infancy, so one should not jump at conclusions. Nevertheless, researchers should not rule out the possibility that neural connections between linguistic and musical meaning might support efforts to find parallels on the theoretical or psychological plane.

3. *Musico-semantic theories: Lakovian cognitive semantics*

Ten years after George Lakoff's breakup with Chomsky, and five years after his all-out breakup with generativism, *Metaphors We Live By* (Lakoff and Johnson, 1980) introduced a new way of thinking about metaphor – that of a powerful underlying cognitive mechanism, and not a mere stylistic device. Publications that followed in the next twenty years (Lakoff, 1987; Lakoff and Turner, 1989; Lakoff and Johnson, 1999) introduced source and target domains, conceptual mapping, image schemata and embodied realism as constructs that would have major impact – not only on linguistic semantics, but also on the connections between language and other cognitive capacities. Studies expanding on the study of metaphor have touched upon literature, fashion, law, economics, religion, politics, and various other domains. Music is no exception.

The 'cognitive semantics of music' seems appropriate since it turns the question of musical meaning upside down: the issue is no longer whether music has meaning, not even whether listeners project a meaning into music which is itself meaningless; rather, the question becomes what our conceptualization of music can tell us about our conceptual system in general. This shift of approach has, I believe, provided a sound basis for the foundation of a true musical semantics.

If one agrees that perception of music 'in itself', through phenomenological reduction, is a myth, then one most certainly needs to conceive of this music some way. Different cultures do this differently, for instance, seeing pitches as a waterfall (Feld, 1981), a bamboo (Zemp, 1979), fathers and sons (Zbikowski, 2002), or, closer to us, as being in vertical space ('high and low'). One does not need to invoke a more obvious referential description, such as fate in Beethoven's *Fifth* or infatuated lovers in a film piece. Even at the basic level of 'high and low' tones the standard vocabulary of music theory is metaphorical. Music is an abstraction, and the only way to approach it is to metaphorise – i.e. map the concrete onto the abstract, be it through waterfalls, bamboos or dots on a vertical line.

Recently there have been a few theorists interested in approaching music this way. Johnson's neo-Kantian image schemata were utilized in music analysis by Janna Saslaw (1996) and Candace Brower (2000). That viewing music as metaphor could ultimately disrupt the dualism of 'intramusical' and 'extramusical' was first suggested by Leo Treitler (1997), while more detailed accounts of the ubiquity of metaphor in Western music theory have been given by Lawrence Zbikowski (1998; 2002) and Halljerd Aksnes (2002). Zbikowski in particular insists that whatever way we conceive of music, we metaphorise. Thus, musical space is not equal to physical space in any rational way, while omnipresent musical 'motion' is apparent, at best. To substantiate the thesis, Zbikowski goes on to find conceptual metaphors in the analytical systems of some of the sternest advocates of formalism in music. Analyzing texts of

Heinrich Schenker, for instance, he finds metaphors such as MUSICAL PITCHES are LIVING ORGANISMS or MUSICAL ENTITIES are PARTS OF A BUILDING. Even those who fully reject musical referentiality cannot avoid metaphor if they wish to say anything sensible about music. Zbikowski also sides with Lakoff with regard to the embodied mind concept: musical metaphors are not haphazard. Few people would compare pitches to apples and bananas (Zbikowski, 2002: 70). Rather, there must be a relevant connection between the physical stimulus and the conceptual metaphor, and it is most commonly based on the metaphorical extension of our early bodily sensations. Thus, in most cultures, pitches are ‘high and low’, ‘big and small’, or ‘fathers and sons’, which all may be interpreted as a metaphorical elaboration of the way our body relates to the external world.

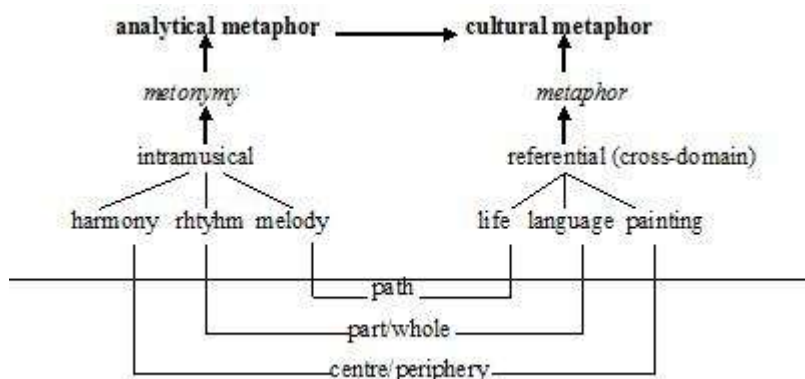
In an interesting discussion, Johnson and Larson (2003) also approach the problem of musical meaning from a cognitivist perspective. For them, three typical metaphors westerners use to conceptualize music include MUSICAL MOTION, MUSICAL LANDSCAPE, and MUSICAL FORCE. The novelty in this paper is their use of Lakoff and Johnson’s cross-domain mapping to explain the grounding of such metaphors. This seems to be the first analytical system from a linguistic semantic theory that works in the domain of music directly (Johnson and Larson, 2003: 70):

THE MOVING MUSIC METAPHOR SOURCE DOMAIN	→	TARGET DOMAIN
Source (physical motion)		Target (music)
Physical object	=	Musical event
Physical motion	=	Musical motion
Speed of motion	=	Tempo
Location of observer	=	Present musical event
Objects in front of observer	=	Future musical events
Objects behind observer	=	Past musical events
Path of motion	=	Musical passage
Starting/ending point of motion	=	Beginning/end of passage
Temporary cessation of motion	=	Rest/cesura
Motion over same path again	=	Recapitulation, repeat
Physical forces (inertion, gravity, magnetism)	=	Musical forces (inertion, etc.)

Whenever we say things like ‘Here comes the recapitulation’, ‘The strings slow down now’, or ‘The music goes faster here’, we actually visualise this music as a series of physical objects moving through space at different speeds. The physical (motion) is related to the abstract (music), the source domain maps onto the target, and musical conceptualisation is fully accorded with Lakoff and Johnson’s system.

Michael Spitzer’s *Metaphor and Musical Thought* (2004) is a comprehensive account of the metaphoricity of music. In a dialectic attempt to reconcile metaphor as a cognitive mechanism and a trope, Spitzer contends that both the analytical vocabulary of music theory and the referential, cross-domain descriptions of music in our culture are metaphorical. Both have clear origin in the common practice period of Western music. The view of music in

Baroque was mostly based on the CENTRE/PERIPHERY image schema, which resulted in the analytical musical metaphor of ‘harmony’ and also the referential metaphor of music as a ‘painting’. Classicism, on the other hand, based its comprehension of music on the image schema PART/WHOLE, providing the analytical metaphor of ‘musical rhythm’, and also the cross-domain mapping of music as ‘language’. Finally, in Romanticism, the PATH schema provided the analytical metaphor of musical ‘lines’ in a ‘melody’. The corresponding referential metaphor of music is that of ‘life’ itself. The grand scheme of western musical metaphor might look like this (Spitzer, 2004: 59):



Spitzer goes on to provide concrete realisations of this system found in the treatises of numerous composers and music theorists from the last three centuries. This competent account results in an elaborate musical metaphor theory. Though extending the Lakovian system quite a bit, it may still be considered the strongest advocate of Lakoff and Johnson’s conceptual metaphor theory in the domain of music.

4. Reconciliation?

Music is clearly not a language. Some structural comparisons between the two may hold, and these have been extensively discussed in the last quarter century. In terms of meaning, the situation is even shadier and most analogies between the two forms collapse. Music certainly cannot be right or wrong, so it cannot be based on a correspondence theory of truth. Musical ‘sentences’ can have no compositional interpretation in any way comparable to formal linguistic semantics. Moreover, and more traditionally, musical elements can have no real sense (Fregean *Sinn*). Even the concept of musical denotation seems quite artificial. On the other hand, experienced listeners can have intuitions of the suitability of music to extramusical contexts. This provides a good ground for discussions in the semiotics of music, and also opens up some room for the concepts of musical reference and connotation, akin to their linguistic counterparts.

It is the metaphorical conceptualisation of music that, I believe, provides most connections. Analysis of music by means of conceptual metaphor theory can be very relevant to musical aesthetics, as it seems to make the old distinction between ‘intramusical’ and ‘extramusical’ phenomena redundant, since both groups of concepts are metaphorically

grounded. For one, cross-cultural analysis of musical metaphor, and also experiments with children, may try to penetrate ‘deeper’ than classical metaphor theory. For instance, what could be the common denominator for pitches described as ‘high and low’, ‘young and old’, and ‘big and small’ (Antovic, 2008)? If underlying similarities among seemingly disparate musical metaphors are found, this might give a new impetus to discussions in linguistic semantic theories. The conceptual metaphor theory may turn out to be suitable on the surface, while more abstract connections should be sought in collaboration with other theories, such as Jackendoff’s conceptual semantics. Paradoxically, this might be the venue where music can help purely linguistic semantics, and a place where a musico-semantics should be welcomed.

References

- Aksnes, Halljerd. 2002. ‘Music and its resonating body’. *Danish Yearbook for Music Research*. 29: 81-101.
- Antovic, Mihailo. 2004. ‘Linguistic semantics as a vehicle for a semantics of music’. In: *Proceedings, Conference on Interdisciplinary Musicology*. Ed. by Richard Parncutt, Annekatriin Kessler and Frank Zimmer, Graz, Austria.
- Antovic, Mihailo. 2008. ‘High and low or big and small: conceptualization of musical relations in children’. Poster presentation at the conference *Music, Language and the Mind*. Tufts University, USA. 11-14 July 2008.
- Bernstein, Leonard. 1976. *The Unanswered Question*. Harvard University Press.
- Brower, Candace. 2000. ‘A cognitive theory of musical meaning’. *Journal of Music Theory*. 44 (2): 323-79.
- Carlton, Lana and Raymond A.R. MacDonald. 2004. ‘An investigation of the effects of music on Thematic Apperception Test (TAT) interpretations’. *Musicae Scientiae*. 7: 9-31.
- Cobussen, Marcel. 2002. *Deconstruction in Music*. Doctoral dissertation. Department of Art and Culture Studies. University of Rotterdam, the Netherlands.
- Cooke, Deryck. 1959. *The Language of Music*. Oxford University Press.
- De Saussure, Ferdinand. 1916 [1972]. *Course in General Linguistics*. Open Court Classics.
- Dennett, Daniel. 1991. *Consciousness Explained*. London: Viking.
- Feld, Steven. 1981. ‘Flow like a waterfall: the metaphors of Kaluli musical theory’. *Yearbook for Traditional Music*. 13: 22-47.
- Frege, Gottlob. 1892 [1980]. *On Sense and Reference*. In: *Translations from the Philosophical Writings of Gottlob Frege*. Ed. by Peter Geach and Max Black. Blackwell.
- Jackendoff, Ray. 1983. *Semantics and Cognition*. MIT Press.
- Jackendoff, Ray. 1987. *Consciousness and the Computational Mind*. MIT Press.
- Jackendoff, Ray. 1992. *Languages of the Mind*. MIT Press.
- Jackendoff, Ray and Fred Lerdahl. 2006. ‘The capacity for music – what is it and what’s special about it?’. *Cognition*. 100 (1): 33-72.
- Johnson, Mark and Steve Larson. 2003. ‘Something in the way she moves: metaphors of musical motion’. *Metaphor and Symbol*. 18 (2): 63-84.
- Koelsch, Stephan, Thomas C. Gunter, D. Yves v. Cramon, Stefan Zysset, Gabriele Lohmann and Angela D. Friederici. 2002. ‘Bach speaks: a cortical “language network” serves the processing of music’. *Neuroimage*. 17: 956-966.

- Kramer, Lawrence. 2004. *Musical Meaning*. University of California Press.
- Kretzschmar, Hermann. 1911. *Gesammelte Aufsätze aus den Jahrbüchern der Musikbibliothek Peters*. Leipzig: Peters.
- Lakoff, George. 1987. *Women, Fire and Dangerous Things*. University of Chicago Press.
- Lakoff, George and Mark Johnson. 1980. *Metaphors We Live By*. University of Chicago Press.
- Lakoff, George and Mark Johnson. 1999. *Philosophy in the Flesh*. Basic Books.
- Lakoff, George and Mark Turner. 1989. *More than Cool Reason*. University of Chicago Press.
- Langer, Susanne. 1957. *Problems of Art*. Macmillan.
- Lerdahl, Fred and Ray Jackendoff. 1983. *A Generative Theory of Tonal Music*. MIT Press.
- Mazzola, Guerino. 1997. 'Semiotic aspects of musicology: semiotics of music'. In *A Handbook on the Sign-Theoretic Foundations of Nature and Culture*. Ed. by: Roland Posner, Klaus Robering, Thomas A. Sebeok. Walter de Gruyter, Berlin. Vol. III, Art 152: 1-110.
- Meyer, Leonard. 1953. *Emotion and Meaning in Music*. University of Chicago Press.
- Mill, John S. 1884 [2002]. *System of Logic*. University Press of the Pacific.
- Noth, Winfried. 1984. *A Handbook of Semiotics*. Indiana University Press.
- Peirce, Charles. 1894 [1965]. *What is a Sign*. In: *The Collected Papers of Charles Saunders Peirce*. Ed. by: Charles Hartshorne, Paul Weiss and Arthur W. Burks. Harvard University Press.
- Saslaw, Jenna. 1996. 'Forces, containers, and paths: the role of body-derived image schemas in the conceptualization of music'. *Journal of Music Theory*. 40 (2): 217-43.
- Seeger, Charles. 1960. 'On the moods of a musical logic'. *Journal of the American Musicological Society*. 13: 224-61.
- Spitzer, Michael. 2004. *Metaphor and Musical Thought*. University of Chicago Press.
- Swain, Joseph. 1996. 'The range of musical semantics'. *Journal of Aesthetics and Art Criticism*. 54(2): 135-152.
- Swain, Joseph. 1997. *Musical Languages*. New York: W.W. Norton and Company.
- Tagg, Philip. 1987. 'Musicology and the semiotics of popular music'. *Semiotica*. 66 (1/3): 279-98.
- Wilkinson, Robert. 1992. 'Art, emotion and expression'. In: *Philosophical Aesthetics*. Ed. by Oswald Hanfling. Blackwell Publishers and Open University. 179-238.
- Zbikowski, Lawrence. 1998. 'Metaphor and music theory: reflections from cognitive science'. *Music Theory Online*. 4 (1).
- Zbikowski, Lawrence. 2002. *Conceptualizing Music: Cognitive Structure, Theory, and Analysis*. Oxford University Press.
- Zemp, Hugo. 1979. 'Aspects of Are'are musical theory'. *Ethnomusicology*. 23 (1): 5-48.

Contact details: Mihailo Antovic
 Department of English
 Faculty of Philosophy
 University of Nis
 Cirila i Metodija 2
 18000 Nis
 Serbia
mantovic@gmail.com