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## Scientific Researches in the Musical Semiotics

### Abstract

The main aim of this research is to explore the development and application areas of musical semiotics within the field of musicology. The study seeks to analyze how semiotic methods are aimed to understand the language and structures of music, how music encodes meaning and interpretation, and how this approach is connected to music theory. The semiotics of music studies the “mechanisms” within the meaning is created the musical language. Analyzing the semiotic models of music is crucial for understanding the impact of music on human emotions and consciousness and interpreting musical works in a broader cultural context. The article focuses on analyzing the symbolic language of music and its intercultural and temporal variability, distinguishing it from other fields like literature, visual arts, and cinema.

**Keywords:** *music, semiotics, sign, encoding, semantics*

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## Musiqi semiotikasında elmi axtarışlar

### Xülasə

Bu tədqiqatın əsas məqsədi musiqi semiotikasının elm sahəsi daxilindəki inkişafını və tətbiq sahələrini araşdırmaqdır. Tədqiqat musiqinin dilini və strukturlarını anlamaq üçün semiotik metodların necə istifadə edildiyini, musiqinin məna və izahını necə kodlaşdırdığını və bu yanaşmanın musiqi nəzəriyyəsi ilə əlaqəsini təhlil etmək məqsədini güdür. Musiqinin semiotikası musiqi dilində məna yaratmaq “mexanizm”lərini öyrənir. Musiqi semiozusu modellərinin təhlili musiqinin insan emosiyaları və şüuruna təsirinin başa düşülməsi və musiqi əsərlərinin ümumilikdə mədəni kontekstdə interpretasiyası üçün olduqca aktual problemdir. Məqalədə, musiqi semiotikasının digər sahələrdən (ədəbiyyat, vizual sənət və kino) fərqli olaraq, musiqinin özünəməxsus simvolik dilini və bu dilin mədəniyyətlərarası və zaman içindəki dəyişkənliyini təhlil etməkdədir.

**Açar sözlər:** *musiqi, semiotika, işarə, kodlaşma, semantika*

### Introduction

Semiotics (or semiology) is the field of study that examines signs and systems that store and transmit information. Semiotics refers to the communicative systems and signs used in the process of communication. In addition to studying sign systems, semiotics also work on explaining cultural achievements such as rituals, myths, and the nature of human hearing and perception. This science attempts to explain the text as a phenomenon of spoken language by focusing more on its nature as a sign. The sign systems studied by semiotics can include art forms such as music, cinema, theater, visual art languages, scientific theory languages, and visual sign systems.

“A semiotic approach plays a special role in music culture in that musicians work with musical signs they interpret in the process of performance” (Khagba, 2023, p. 59).

Semiotics divides the study of sign systems into three levels. These levels correspond to three aspects of the semiotic problem. They are syntax, semantics, and pragmatics. Syntax studies the syntax of sign systems, their structure, nature, and function, regardless of how they are organized and transformed. Semantics studies sign systems as tools for expressing ideas. Here, the main focus is on the compatibility and interpretations of the signs. Depending on various linguistic and semiotic concepts, the subject of semantics can be defined in different ways. The difference lies in the definition of the sign, as well as the idea of the reality it represents. Pragmatics studies the relationship between sign systems and their interpreters, analyzing the information within them. This level concerns the communicative function of sign systems and describes the activities of the society in which the systems operate.

Semantics is the branch of semiotics that studies the relationship between signs and meaning. Semantics examines the relationship between the interpreter and the interpreted. The semantics of musical language, as a means of expression in music, the image-emotional arrangement, and the analysis of a musical work, are inseparable concepts. In musical works, each element of the musical language can carry a different function. Two of these functions are more important. The first is the semantic function – traditionally referred to as expressive text. The other is the communicative formation function, which is the constructive function of musical language, meaning it determines the dependence of the work on the “material” existence (Molino, 1975).

### **Research**

In the modern era, there are two systems for expressing musical sounds: alphabetical and syllabic. The alphabetical system was created before the syllabic system, and in this system, Greek letters were used to indicate the pitch of sounds. However, starting from the 6th century, Latin gradually displaced the Greek language, and over time, the Greek alphabet was no longer used in musical notation. The syllabic system, on the other hand, is based on the first syllables of the verses of a Catholic hymn in honor of Saint John Chrysostom. This hymn was written around the year 700 by Paul the Deacon. It is known that linguistic analysis in music began to be applied in the 20th century. However, towards the end of the last century and in the 21st century, this has expanded significantly. Ferdinand de Saussure regarded semiology as the science that studies the nature of signs within the framework of social life. Saussure emphasized for the first time in the history of linguistics the importance of distinguishing between language and speech. His proposal became the foundation of modern linguistics. Saussure viewed language as a system of arbitrary signs and regarded speech as the norm for the existence of this system.

Contemporary researcher Harold Powers notes that “Many researchers following in Saussure's footsteps make a mistake. When applying linguistic methods to music, one must be cautious. Because, unlike linguistic models designed for languages of different origins and tested in various contexts, musical methods are based on serious models derived from simple music theory” (Powers, 1980, p. 25).

In musicology, linguistics, and semiotics have been addressed later than in art studies. Music is closer to spoken language than other fields of art. The kinship between music and spoken language is also explained by the fact that both involve the concepts of time, duration, sound, and measure. Finally, music can be compared to the phonological system of spoken language and the notational system that follows strict laws. This allows for the identification of discrete units in music and provides the opportunity to apply linguistics in its study. This issue was first explored about music by the linguist A.A. Reformatski. Italian composer Luciano Berio, in his work *When Remembering the Future*, considers music as a multi-dimensional text that exists in continuous evolution (Berio, 1993). Music semiotics is one of the main directions of modern art semiotics, and it deals with the semiotic problems of musical signs, the process of their formation, and their initial sources. This science is concerned with the possible main types of semiosis in music and the nature of their essence. The first composer and theorist to apply linguistic semiotic methods to music was French composer Pierre Boulez. Boulez mastered the compositional style of the new era between 1945 and 1949, studying the music of A. Schoenberg. In the 1950s and 1960s, he developed the idea of “musical

syntax” conducted experiments in electronic, concrete, and monochromatic music, and wrote numerous articles on composition techniques and aesthetics.

American philosopher, founder of semiotics Charles Peirce (19th-20th century) developed the primary classification of signs used in music—indexes, icons, and symbols. Index signs are based on the principle of proximity. That is, the form of the sign depends on its meaning. For example, a cry is an indicator of pain. Index signs reflect events happening in the world. In this sense, one could cite Beethoven's 5th Symphony in C minor. The “fate” theme in the opening of the work truly sounds like fate knocking at the door. Iconic signs are descriptive. They unequivocally express the content of the object as well as its psychological state. Symbol signs reflect historically established artistic ideas. These could be the title of the work, the musical remarks that define the character of the piece, or musical rhetorical figures. The concept of the semiotic unit of musical language is quite intriguing. It includes sound, motif, interval, rhythm, tempo, musical idea, and texture. Tone, rhythm, and composition are the degrees of musical language. “We only think in signs, and everything can be a sign as long as it is interpreted” (Peirce, 1983, p. 155). Semiotics is of particular importance for the analysis of symbolic systems, including music. “Peirce’s model of signs consists of three parts—the representant, the object, and the interpretant. In music, representants can be many things. Music itself, movement, melody, rhythm, genre, performance, sound recording, sound effects, the listening environment, etc. These can all be considered musical signs as long as they are interpreted as something other than themselves. The object is the specific thing to which the sign refers, initially in the form of an abstract concept. The entire diversity of sign tools used in culture is its semiotic field.” (Tkac, 1990). Peirce's semiotic concept allows for the approach of music as a symbolic system. The art of music, by influencing the hearing ability with signals, can create a certain reaction in a person, forming a sensitive realm of images. Although it is similar to spoken language in many respects, the unique structure of music demands a different semiotic approach.

Harold Powers emphasizes the importance of approaching the application of linguistic methods in music with caution. In this sense, the semiotic nature of music, based on Peirce's concepts of index signs, iconic signs, and symbol signs, should be the subject of research. This theory primarily forms the basis of the concepts of Russian researchers L. Mazel, A. Soxor, V. Medushevsky, and Y. Kholopov, who explain the nature of musical sound.

The semiotics of music studies the “mechanisms” of meaning creation in musical language. Music is the art of sound. Its power lies in the system of sound symbols created by music, which requires specific analysis. Semiosis is a special type of understanding and interpretation of music. Claude Lévi-Strauss, N. Ruyve, and J. J. Nattiez are scholars who work in the field of music semiotics. The significance of semiotic analysis is deeply reflected in the creative work of L. Berio. “Music semiology was an attempt to break away from the dualistic frameworks established in musical experiences and reduce the distance between music and analysis” (Berio, 1993, p. 124). Levi-Strauss notes that in the hierarchical structure of scales (the arrangement of parts or elements from top to bottom), music finds its first level.

The second level of articulation, however, is related to the listener's perception, their physiological and psychological state, and contains the meaning of the music. Levi-Strauss applies his concept in semiotics to M. Ravel's Bolero. As a result, he notes that the story of the piece can be represented in three planes—real, symbolic, and imaginary. These explain the complexity of the piece, and to convey this contradiction, M. Ravel resorts to timbre. At the highest point of the climax, the orchestra discovers an unexpected resolution, raising its volume and entering modulations. The opening of the knot brings an end to all contradictions (Levi-Strauss, 1971, p. 45).

Unlike K. Levi-Strauss, Belgian researcher N. Ruwet implements a more consistent linguistic approach to music. His ideas show traces of K. Levi-Strauss’s influence. Ruwet sought to make his model scientifically grounded and accessible to other researchers by adhering to rigorous regularities. To achieve this, he first aimed to clarify and narrow the framework of linguistics applied to music, uncovering its true connection to spoken language, and fully adopting the works of linguists. Based on these considerations, Ruwet concludes from his analyses that many linguistic terms can be used in music in one way or another. Ruwet applies the approach and principles he developed to the

analysis of specific works. He expresses his analysis method as follows: “First, take the work as a whole, then break it down into elements, and finally view these elements concerning each other and, ultimately, in terms of their complete integrity” (Ruwet, 1972, p. 75). The analysis should be synchronous. The division should be made based on the repetition or variation of the melodic line. In this case, pitch and duration should be considered as criteria. Ruwet emphasized the importance of seriousness in the analysis process, recommending a strict approach to the criteria and completing them with necessary explanations. He analyzed the works of C. Debussy most frequently. “The perception of music, the performance of the work, analysis, history, and music composition itself become possible types of interpretation. Because all of these are, in fact, the result of semiosis” (Albalkan, 2022, p. 58).

One of the contemporary authors conducting research in the field of music semiosis is J. J. Nattiez. Jean-Jacques Nattiez is one of the key and leading figures in Western European music semiotics. Among his numerous works in this field, his 1976 book *The Foundations of Music Semiology* stands out. This work is the first fundamental text in the field of music semiotics. The development of the trends proposed here is continued in his 1987 work *General Musicology and Semiotics*. Nattiez defines the main directions of music semiotics as follows: “The general theory of music semiotics”, “Types of signs”, “Development of already known theories”, “Semiolinguistics in music: comparative semiology of music and spoken language, the study of the export possibilities of linguistic models in non-linguistic contexts”, “The semantics of music”, “The three-dimensional concept of music semiotics”, “Music semiology in non-linguistic models” (Nattiez, 1987, p. 23).

When we talk about semantics, we refer to the possibility of distinguishing between the internal and external characteristics of language. If it is possible, the study of external characteristics can also be included in semantics. If it is not, then the search for meaning must be made in the various forms of musical semantics. “J.J. Nattiez bases his first idea on this and distinguishes three approaches in music semantics: interpretation approaches: studying the context of the work (the author's biography, historical period, etc.); musicological reconstruction. This involves determining the precise relationship between the musical elements used in the text and their meaning; uncovering the associations presented in the music. Classifying verbal responses related to music. Thus, Nattiez attempts to consider and systematize all the possibilities of music semiotics that are effective in various scientific approaches” (Nattiez, 1987, p. 23). In all these approaches, the study of the symbolic-natured signs in music stands out as a relevant point. This is one of the specific types of interpretation approaches. In his 2010 work *Music, Images, Words*, Nattiez slightly changes the direction of his research. He develops a semiological theory of various symbolic artistic forms based on extensive empirical material. In this regard, he presents two important trends. One expresses the tendency towards unity, completeness, and synthesis. The other is based on the methodological individuality proposed by sociology. In the 1970s, with the rise of postmodernism, the situation changes. At this time, the second trend comes to the forefront. Everywhere, differences and diversity find their confirmation. Nattiez affirms: “Indeed, the only thing that exists is fragmentation, decay, and chaos” (Nattiez, 2010, p. 260).

The alignment of the main semantic aspects with three aesthetic categories indicates the broad division of these three essences in human consciousness. These are ideas, emotions, and objects. An idea in music represents a symbolic aspect and constitutes the general scope of concepts. It is also the permanent theme of the arts and the various areas of human thought—philosophy, religion, ethics, aesthetics, historical sciences, the sciences of the arts, the individual idea of musical works, and others. Scientific and philosophical ideas have been such an important factor in the development of culture that they have greatly influenced the creators of art, becoming an essential component of their artistic worldview, expressed in their works (Cooke, 1959).

Emotions are the emotional aspect. This is a special heritage of musical content. Throughout different historical periods, these affective states, or the state of the soul, passion, emotion, feeling, mood, character, and so on, have been defined. The concept of music as the excitement of human feelings has been formed in European academic music since earlier times and has maintained its position for nearly 500 years.

Objects represent the descriptive aspect of music. This aspect is not universally depicted as a world of ideas in music. This is initially explained by the impossibility of representing music through visual perception. In the modern period, the descriptive character that could be carried in music through audience imagination lost its significance in the late 18th century, early 19th-century classical period, the beginning of Romanticism, and the 20th century.

Music semiotics, as the process of interpreting music signs, is realized in a special “cultural field” that creates the necessary conditions for the encoding and decoding of musical ideas. This field is preserved in connection with socio-cultural traditions in the history of music development and is passed on to future generations through artistic examples. The semiotic “field” of music perception plays a significant role in the emergence of musical values.

Music semiotics was one of the issues that Russian researcher V.V. Medushevski focused on. He addressed this in his articles “The Problem of Semantics Synthesis (On the Artistic Model of Emotions)” in the eighth issue of the Soviet Music Journal in 1973, “Music Style as a Semiotic Object” published in the third issue of the same journal in 1979, and in his book *On the Laws and Means of Musical Artistic Influence* (1976). However, it is interesting to note that despite substantial analyses and deep scientific reflections, Medushevski did not continue his work in this field. Even after very precise analyses, he expressed regret about it and emphasized that he had spent unnecessary amounts of time on the semiotics problem. Most likely, semiotic issues did not serve as a primary tool for Medushevski to delve into the depths of the essence of music. In the article “Music Style as a Semiotic Object,” Medushevski opposed Saussure's position. According to him, “if this contradiction among linguists conforms to the conventions of the features of natural language, then it is more appropriate to use the terms 'presented-presenter' for the semiotics of art” (Medushevski, 1979, p. 32).

In the contemporary era, there are various concepts of music semiotics. These are as numerous as the number of different theories and theorists. The smallest and most universal definition of semiotics is the science of signs in music. This is based on the classical definition of “St. Augustine's signs.” However, not all researchers agree with this definition. Therefore, achieving a consensus on the nature of music signs is still not possible. Even today, music semiotics remains an object of study for researchers. In this regard, the work *Music and Signs* by Finnish musicologist E. Tarasti is worth mentioning. In this work, music semiotics is analyzed in detail from the perspective of the significance of the sonorous fact.

### Conclusion

Thus, as a result of the formation of new trends, how people perceive music in society change, and the geography of innovations proposed by modern schools expands. The variability in the social environment conditions a new relationship with everything, including music. For example, understanding 20th-century music requires intense attention from the listener, and this music largely addresses the intellectual segment of society. Consequently, the listener requires special preparation when engaging with the new musical language, intonation, and stylistic innovations. The study of classical music, on the one hand, should be based on the extensive practice of the listener and, on the other hand, on semiotic analysis. The semiotic field of music perception influences the formation of style, the determination of forms and genres, playing an important role in the emergence of musical values and the perception of music. In this sense, overall, musical culture is a musical semiotic environment.

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