# STUDIES

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## MELODIC MODELS AND MODELLING – THE FUNDAMENTAL SYSTEM OF KNOWLEDGE ACQUISITION IN MUSIC

**Abstract:** In the pursuit of developing a fundamental understanding of terms, phenomena, rules and meanings in music, vital to the performance and interpretation of a musical work, it is necessary to apply a methodologically grounded system to the reading of a score that efficiently establishes a basis for understanding the musical content and contributes to the development of musical abilities and musicality more broadly. In the musical-pedagogical process, as part of the wider set of music disciplines (harmony, counterpoint, music forms, knowledge of music styles), the most crucial are the methods and systems of work which allow the reading of musical notation and the understanding of a musical piece to be generated and profiled. The system of *models and modelling* is a form of work about the perception and reception of a musical work composed on a musical model and the process of working with that model, i.e. modelling. The complexity of the system is reflected in the two sub-elements of modelling: the development of associative abilities by recalling the sound of the model, and gaining an automatic response to sound. Until now, work on models and modelling has been treated using a musical-pedagogical approach. In this study it is defined as a system which is applicable to the process of reading and interpreting

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a musical text, without being predicated on musical style or the tonal bases of music.

**Keywords:** system, notational text, understanding of musical content, model – modelling, association, automatism

Solfeggio,[1] broadly, encompasses all known forms of reading music notation, understanding musical content, performing music (vocally and by naming tones in solmization), and writing down an understood and memorised music sequence. It represents a methodologically grounded musical-pedagogical process of working on understanding music as a set of music disciplines (harmony, counterpoint, music forms, knowledge of music styles, etc.), music text and meaning in music. It takes place in the context of the eponymous educational subject at all levels of music education in a number of European countries (France, Russia, Bulgaria, Bosnia and Herzegovina, Montenegro, Croatia, etc.) and Serbia. Of crucial importance are the methods used to generate this understanding, and especially the way it is transmitted and further profiled. In addition to methodological exposure, in the process of gaining functional musical literacy, during systematic musical education, future professional musicians are exposed to different approaches towards music content.

Generally, methodological inconsistencies and errors that appear and indicate an informal understanding of Solfeggio as a subject and a discipline lead to a lack of understanding of certain elements in the fields of melody and rhythm. This is generated over time and (much like a continuously repeated mathematical error) the collection of unclear terms, phenomena and rules of music and their relationships progressively grows. The tendency towards the fragmentation of knowledge leads to the fragmentation of abilities and methods of gaining new knowledge, so the process of learning must, sooner or later, be restarted, renewed or updated to fill in the gaps with meaning and an understanding of musical content.

The above mentioned isn't a rare phenomenon so for the purposes of understanding, or rather fundamental comprehension of the terms, phenomena, rules and meaning of music, a branching approach must be taken, returning to the roots of musical education and systematically filling in the missing pieces.

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[1] The term "solfeggio" has multiple meanings. In addition to denoting the subject in systematic musical education, it's a music-pedagogical discipline, i.e. a phonic system of reading a notational text or stave by naming tones (solmization).

This requires a methodologically grounded system which efficiently lays the groundwork for the understanding and knowledge of music and creates a reinforced foundation for not only the understanding of music as an art form but also a basis for further development, or rather building up of musical abilities, as well as musicality more broadly. Teleologically speaking, in the context of "understanding the goals of an action, or the set of activities aimed at achieving a set goal",[2] work in a developed system should be directed towards achieving the goal of teaching music literacy—creating functionally musically literate individuals.

A system generally represents a "complex and functionally atomic whole (structure) consisting of a number of mutually interconnected parts, with established functional connections and relationships between them, which govern the ways in which the structure will function as a system".[3] The relationships established between those parts determine the way the whole structure will function, as well as its individual components within the larger whole. When talking about a system in the sense of a model and modelling in the field of musical knowledge acquisition, the specific, methodologically grounded work on developing musical literacy, comprising the musical model and the process of working on that model—modelling—creates a sort of binary system that is fundamental to musical education. The connection that exists between two elements (model and modelling), the function established between them and the goal of their use in the process of forming a musically literate individual is the defining property of the structure of this system. The complexity is reflected in the two sub-components that make up the modelling process—the development of associative abilities through recalling the sound of a model and gaining an automatic reaction to sound.

1) Models       →      2) Modelling

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                                        2a) development of associative abilities

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                                        2b) gaining automatic reaction skills

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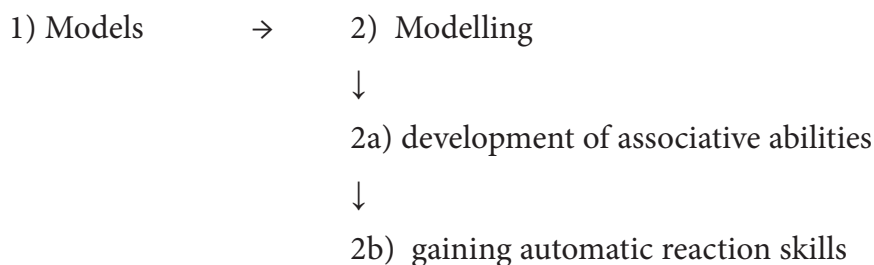
[2] Радован Антонијевић, *Утемељење система знања у педагогији*, Београд: Филозофски факултет Универзитета у Београду, Институт за педагогију и андрагогију, 2014, 74.

[3] Ibid.

And so, the process of modelling (associations and automatisms) is a sort of subsystem, and simultaneously a symbiotic part of the wider models-modelling system. Associations (with a specific melodic model) and automatisms (unconscious, rapid sound recall) can be isolated from the wider system and from the subsystem, and observed independently of them, with the caveat that they do nonetheless arise from the *models-modelling* system and its structure, context and methodological purpose.

The term "model" has multiple meanings, and can be interpreted from multiple aspects within the sciences and humanities. In the original meaning, a model (Latin *modellus*, French *modèle*, Italian *modello*) is the basic pattern that describes a thing, i.e. a definition or description, a notable example or the crucial factor that determines the aim and purpose of certain phenomena or objects.[4] In the more specific meaning of the word, the model is the blueprint, pattern or scheme according to which something is created or which it is based on.[5] One of the meanings within musical art regards the term as related to the process of composing, or, as noted by Mirjana Veselinović-Hofman: the process of "a compositional-technical procedure for the purpose of creating a new context".[6] In composing practice, there is a distinction between the terms pattern, model and basis, which are, in written texts on music, all used "with their own meaning".[7] The musical pattern is, then, a characteristic piece of musical material that "represents the context it is derived from", and is therefore akin to a fragment or an excerpt "a part of a composition which is introduced to a different, new composition, as a building block".[8] Furthermore, a pattern "subjected to a compositional-technical procedure for the purpose of creating a new context" becomes a sort of "*model* for work".[9] Finally, Veselinović-Hofman defines a basis as "a model that is not worked with as specific content, but certain rules of which are visible [...] within the composer's own individual expression".[10]

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[4] Иван Клајн, Милан Шипка, *Велики речник страних речи и израза*, Нови Сад, Прометеј, 2006, 782.

[5] Милан Вујаклија, *Лексикон страних речи и израза*, Belgrade, Prosveta, 1986, 576.

[6] Mirjana Veselinović-Hofman, *Fragmenti o muzičkoj postmoderni*, Novi Sad, Matica Srpska, 1997, 25.

[7] Ibid., 21.

[8] Ibid., 22.

[9] Ibid., 25.

[10] Ibid., 27.

Within the models-modelling system, the term modelling in the process of working on musical literacy is used in its universal sense—shaping, forming, building. To more fully define this fundamental system of knowledge acquisition in the context of music pedagogy, and to clarify the strict usage of the term "model", it is necessary to note the terminological distinction that appears between the terms "model" and "basis". The meanings of both terms can be taken as synonymous with: an example of someone or something, a norm for something, prototype, paradigm, etc. The basis can fundamentally be mutable, while the melodic model is strict, methodologically grounded and may only be used literally. The sole exception which is unavoidable and methodologically grounded is the transposition of the model into identical tonalities.

Musical models are melodies, either patterned off of songs or methodically purpose-made melodies with lyrics, which are memorised. They have, as a rule, a simple melodic, rhythmic and harmonic texture, as well as a formal structure.

The melodic model must be sung many times, first with lyrics, then with solmization of tones, with the purpose of embedding it deep in long-term or permanent memory. Based on the memorised melodic models, sound impressions and deposits are created, as a firm basis upon which the skills and abilities of translating notation into sound (singing and playing instruments), as well as the skills and abilities of translating sound into notation (writing down music) can be built up.

The initial, characteristic parts of melodic models have an identical, if not more important, purpose to the entirety of the model, particularly in the second stage of work when, in the process of modelling, the phenomenon of association with an already memorised melodic model plays a role. That is to say, the stage where the skill of associating sound impressions with the way the initial part of the model evokes in the mind the placement and functionality of the tone in the scale or tonality is gained. According to Ivana Drobni, "we must first establish foundations for sound, relying on them to isolate tones based on associations with [...] models, which creates cohesion between tonal functions and tonal logic. Afterwards, we actualise tonal names by isolating the initialis and associating it with its position in the stave".[11]

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[11] Ивана Дробни, "Тонално – апсолутно, или у потрази за методичким консензусом", *Настава и васпитање*, 57/1, 2008, 40.

Model songs for establishing tone pitches, among others, comprise the *functional method on folk bases* of Miodrag A. Vasiljević (1903–1963)[12] and the *combined functional method* established and codified by Zorislava M. Vasiljević (1932–2009).[13] The term "functional" in both methods stems from the reliance on the placement and action of tones and their auditive meaning and role within the tonality of the major-minor tonal system. In Miodrag Vasiljević's case, the starting point for the initial phase of the development of musical literacy are folk songs, and instructional, i.e. melodic examples are primarily based on national musical patterns, followed by the basics of the Western European major-minor system.[14] The first steps towards achieving impressions of tonal sounds require the selection of adequate melodic models, or "model-songs". Zorislava Vasiljević worked to define and methodologically interpret this principle within the framework of the Functional Method, and the choice of musical material was expanded from folk songs to other musical genres (children's songs, popular music, composed melodic models with a clear methodological purpose, etc.). In the context of the aforementioned, Aleksandra Jović-Miletić notes:

> One of the more significant benefits of the system is moving beyond intervals as a listening and intonation technique. As the inventor of the system, Vasiljević uses models to establish individual tonal pitches and enables seamless shifts, as there is no internal cohesion between tones that would interfere with a skip between the inner tones of a melody, or in a scale, because the tones are made independent. Thanks to the free functioning of different sound reference points, cognitive processes for organising sound materials into higher order structures are enabled. The key foundation of tonal pitches is not a solmization syllable, but rather a process of creating connections with sounds via association and memory, where the initial tone of a song jogs the memory of a specific tonal pitch...[15]

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[12] Serbian folk songs –  musical models or "model songs", as they are termed in music pedagogy and the methodology of music literacy, are "the most famous innovation of music pedagogue and ethnomosicologist Miodrag A. Vasiljević". Cf. Александра Јовић Милетић, *Почетно музичко описмењавање на српском музичком* језику, Београд, 2011, 18.

[13] Over time, in the course of teaching practice, these were modernised and built upon, foremost through the work of music pedagogue Zorislava M. Vasiljević (1932–2009). They are used and are applicable in their original meaning in modern teaching practice in the initial stages of music education in the teaching of Solfeggio. Cf.  Александра Јовић Милетић, op. cit.

[14] Ibid., 19.

[15] Ibid., 18.

The function and importance of controlling the musical model can be interpreted as "part of the process of developing thinking according to certain rules".[16] Establishing tonal pitches is performed by modelling the melodic model with the goal of permanently implanting sound in the consciousness by creating clear sound impressions. Modelling, as a building block of the system, assumes the use of the phenomenon of association with melodic models, which leads to the phase of developing automatisms, the reflexive detection of tonal pitches in the natural scale or tonality, and later those elements of music that they are intended for. The initiator of the whole process is the recall of a known melodic model.

The phenomenon of "associations" as a process of creating mental relationships or memories on the basis of similarities, as an inevitable part of the process, contributes to the creation of sound deposits. The associative process represents a sort of transition from the acquisition of a musical deposit to a fundamental comprehension of the terms, phenomena and rules of music, as well as the ability not only to correctly perform music, but also to create one's own interpretation of a musical piece.

Association, generally, refers to intrinsic or developed connections which condition the action of certain psychological processes.[17] Within the *models-modelling* system, this refers to the acquired ability to recognise and make use of previously learned sound, or rather previously acquired sound impressions, or learned melodic models. Zorislava Vasiljević notes that "it is necessary that the process of association of a larger number of musical elements be taken to and embedded in the process of developing automatisms, without analytical examination and study of musical content and its details".[18] By creating sound deposits and impressions, a process of driving associations and creating connections between sound impressions and the notational image is initiated, and "through the reinforcement of certain associations, responses and behaviour in new circumstances will be quicker, more confident and finally, automatic".[19]

Within the process of modelling, the final phase is the acquisition of a reflexive response—recalling the sound of the model or its initialis with the

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[16] Ивана Дробни, "Тонално-апсолутно…", op. cit., 37.

[17] Mladen Vilotijević, *Didaktičke teorije i teorija učenja*, Beograd, Naučna Knjiga, Učiteljski fakultet, 1999, 103.

[18] Zorislava Vasiljević, *Metodika solfeđa*, Beograd, Fakultet muzičke umetnosti, 1991, 26.

[19] Ивана Дробни, "Тонално-апсолутно…", op. cit., 39.

inner ear. Automatism ensures the speed of sound detection, especially tonal pitches and durations, but also including reactions to other musical parameters: tempo, character, dynamics, articulation, etc.

Generally speaking, the goal of working with musical models and the application of their modelling is establishing relative relationships between tones within the tonalities of the major-minor system. That is to say, it concerns tonal melodics.

**Example 1**: Instructional melodic example based on Benjamin Britten's *Nocturne*, from the collection *On this Island* for vocals and piano, op. 11



The above monophonic example is derived from a Benjamin Britten piece, intended to be sung, with the solmization naming of tones in Solfeggio class. The tonalities written below the stave are not codes for harmonic progression (harmonic analysis of a stave) but rather indicators for how to think about a line, which entails modelled relationships between tonalities which are mainly heard with the inner ear.

**Example 2**: Benjamin Britten, *Nocturne*, from the collection *On this Island* op. 11, with lyrics by W. H. Auden (1937) *Andante Piacevole*, bars 20 to 75

The way of musical thinking demonstrated here, which entails modulating into temporary (imaginary) tonal centres, is effective when singing the vocal line by naming tones, in situations where there is no "affirmation of a specific tonality",[20] i.e. cadence, between melodic phrases. In these situations, the perception and reception of musical progression are enabled by imagined micro-tonalities which are detected by one's inner ear and by the modelled tonal relationships within them, whose vocal performance has been taken to the level of a reflexive or automatic reaction.

The process of linear reading and learning of a score ensures intonational accuracy, accurate and fluent performance of the melodic and rhythmic components, as well as the perception of all other musical parameters recorded in the score. The process of learning is complemented by accompaniment with a harmonic instrument (in the case of the solo Benjamin Britten song, the piano) which allows one to gain a clear impression of the harmonic language of a piece.

This method of reading and singing from a sheet by naming tones with solmization syllables is also functional when performing lines where the absence of a tonic centre and tonality is evident (Example 3) as well as in the realm of atonal music (Example 4).

**Example 3**: Borivoje Popović, instructional melodic example[21]



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[20] Дејан Деспић, *Хармонска анализа*, Београд, Универзитет уметности, 1970, 175.
[21] Borivoje Popović, *Intonacija*, Beograd, Univerzitet umetnosti, 1992, 60.

**Example 4:** Fragment from Petar Ozgijan's *Sigogis* for orchestra (1967).
Counterpoint structure of melodic line/melodic-horizontal polyphony—six-tone
model in the fundamental form and inversion



In conclusion, in the process of working on forming a functionally musically literate individual, the expression and concept of a model is terminologically, structurally and functionally clearly defined, and in conjunction with the process of developing associations and automatisms forms a specific and unique musical-pedagogical system "with respect to its significant structural components and their elements, character and the nature of connections and relationships that exist between them, and the dynamism and functioning of the system both as a whole and of each of its individual components".[22] Within the framework of learning other music disciplines, in particular harmony and counterpoint, the *models-modelling* system, with some necessary adaptations and transformations, can be quite functional, especially if structured in correlation with the music disciplines of solfeggio, harmony, music forms/analysis of musical works, and music styles.

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[22] Radovan Antonijević, *Утемељење система знања у педагогији*, op. cit., 73.

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## Summary

In the process of reading a score, translating a notational image into sound (singing), understanding music content and meaning in music, solfeggio encompasses all known forms of reading a musical text, understanding music content, performing music as well as writing down an understood and memorised musical sequence. For the purposes of all-encompassing understanding, that is to say a fundamental comprehension of terms, phenomena, rules and meaning of music, a high degree of importance is placed on the implementation of a methodologically formulated system which efficiently lays the groundwork for understanding musical art and the knowledge thereof, and the performance and interpretation of a musical work. A constructive system in the field of gaining musical knowledge is a unique, methodologically grounded process composed of a musical model and the process of working with that model—modelling. The process is made up of models and two sub-components of modelling: the development of associative abilities and the acquisition of an automatic response to sound. Based on memorised melodic models, sound impressions and

deposits are formed, as a basis on which the abilities and skills of translating a notational image can be developed, entailing translating a sheet into sound (singing and playing instruments) and translating sound into a notational image (writing down music). In the process of working on modelling, the final phase is the acquisition of a reflexive response—recalling the sound of a model or its initialis with the inner ear. The essence of working with musical models and applying their modelling is establishing relative relationships between tones within the tonalities of the major-minor system. However, that work is constructed as a mode of thinking that is applicable in all music styles and tonal relationships (tonal and atonal).