

VIOLETTA KOSTKA

<https://orcid.org/0000-0002-1655-8485>

Faculty of Conducting, Composition and Theory of Music,  
The Stanisław Moniuszko Academy of Music in Gdańsk

## Second Movement of Compartment 2, Car 7 for Vibraphone, Violin, Viola and Cello by Paweł Szymański in Light of Cognitive Musical Grammar

**ABSTRACT:** The article is composed of two parts. In the first I discuss Lawrence Zbikowski's *Foundations of Musical Grammar*, published by Oxford University Press in 2017, which is one of the major musicological works inspired by the latest achievements in cognitive science. Musical grammar, sometimes called cognitive musical grammar by the author, is based mainly on two concepts: an analogy (the mapping of systematic structural relationships between a source domain and a target domain), and a dynamic process (a coherent sequence of phenomena that is distributed over time and typified by parametric modulation or change). The second part of the article is my attempt to apply Zbikowski's theory to a piece of music. As a musical example I have chosen the second movement of *Compartment 2, Car 7* for vibraphone, violin, viola and cello by Paweł Szymański. At the end I conclude that the composer created an analogy between music and a dynamic process known to us from everyday life — a journey by train, seen from a passenger's perspective.

**KEYWORDS:** Lawrence M. Zbikowski; cognitive musical grammar; analogy; dynamic process; Paweł Szymański's *Compartment 2, Car 7*; Edward Hopper's *Compartment C, Car 293*

One of the major musicological works inspired by the latest achievements in cognitive science is *Foundations of Musical Grammar* by Lawrence Zbikowski, published by Oxford University Press in 2017. Musical grammar, which constitutes the subject of the book, sometimes called cognitive musical grammar by the author, is a concept which did not appear all of a sudden. It took the author about a dozen years to prepare for its formulation, and he did so taking into consideration research conclusions, important for music, which were published over a period of time.

According to Lawrence Zbikowski, to understand the grammar of music, one first has to understand the role music plays in human cultural interactions. One way to do so is to contrast music with the function of language. The author proposes to see the role of language as manipulating 'the attention of another person within the context of a joint attentional scene', and the role of music as representing 'dynamic processes through sequences of patterned sound' (Zbikowski, 2017, pp. 203–204). These different functions are supported by two different kinds of reference: 'language makes almost exclusive use of symbolic reference,

in which symbolic tokens [...] are systematically correlated with various referents and with other symbolic tokens', while music, for its part, 'makes almost exclusive use of analogical reference, which requires that a token share structural features with the entity or phenomenon to which it refers' (Zbikowski, 2017, p. 204).

Many contemporary researchers assert that 'human beings are the only species that have a robust capacity for analogy and thus the only species to regularly connect tokens with events or phenomena through shared structural features' (Zbikowski, 2017, p. 204). Although there has long been an assumption that the main form of reference is a connection between signifier and signified, recent research on analogy has cast this into doubt. Defining analogy as 'the mapping of systematic structural relationships between a source domain [...] and a target domain [...]' (Zbikowski, 2017, p. 29), the author of the book takes analogical references as just as appropriate for music.

A dynamic process – Zbikowski says – is 'a coherent sequence of phenomena that is distributed over time and typified by parametric modulation or change' (Zbikowski, 2017, p. 42). There is a host of dynamic processes important in human cultural interactions. These include the movements of physical bodies through space, like: pursuing a path towards some goal, departure and return, movement through the topography of pitch space. There are also three other domains characterized by dynamic processes, which simultaneously have long associations with music: emotions, gestures and dance (Zbikowski devotes three chapters to the connections between music and these areas). Many dynamic processes are relevant to the organization of musical materials. When the analogical correlation occurs we can speak about sonic analogs for dynamic processes.

Zbikowski writes that his cognitive musical grammar 'is conceived of as a species of construction grammar, in which all grammatical elements, from the smallest to the largest, are combination of form and function. The overall function of the grammatical elements of music is to provide sonic analogs for dynamic processes; the forms grammatical elements take reflect the means through which sounds are organized to create these analogs' (Zbikowski, 2017, p. 16). The author underlines that the new grammar of music is quite different from the grammar of language. There are at least three features which distinguishes it from linguistic grammar:

First, the basic elements of musical grammar are holistic structures that combine and temporally order various sonic events to create analogs for dynamic processes. [...] Second, the basic elements of musical grammar are organized through syntactic processes that are themselves analogs for dynamic processes. [...] Third, musical utterances typically involve multiple syntactic layers (Zbikowski, 2017, pp. 16–17).

Explorations of musical meaning often involve the application of semiotic theories to music, but Zbikowski's approach is of another kind. It 'is of a rather basic sort and focuses on the function of a musical utterance within a given cultural context' (Zbikowski, 2017, pp. 19–20). According to the author, his theory has four distinct advantages:

First, it incorporates cultural context from the outset, rather than adding it in as an afterthought. Second, placing the function of a musical utterance front and center conforms with the overall framework assumed by cognitive grammars, in which grammatical units are form-function pairs. Third, this notion of meaning begins with sequences of musical sound rather than with semiotic theories originally developed to account for language. And fourth, it is open to the influence of embodied experience on meaning [...] (Zbikowski, 2017, p. 20).

Paweł Szymański's music, which is openly intertextual and displays the features of postmodern intertextual poetics (Kostka, 2018) is well-received by many listeners (Kostka, 2011). What does this music mean for them? Is it only an intertextual game between new and commonly known texts, or is it something more? The texts which have been published to date show that a lot of recipients associate Szymański's music with emotions, with certain real-life circumstances, as well as with being touched metaphysically. Here are some excerpts from selected utterances of that kind:

1. [*Singletrack* for piano is a space filled with] thousands of echoes, which seem to be created by swinging clappers of many small and big bells (Erhardt, 2006, p. 40).

2. It seems that Szymański in his *Concerto* for piano and orchestra proved that a contemporary composer can still paint beauty, evoke feelings and emotions and provide intellectual satisfaction (Cichy, 2007, pp. 293–294).

3. From the very first bars I have the feeling that I know this music [...]; from the very first bars I feel a certainty that something has appeared to which I will devote perpetual [...] attention, and I sense that this is not a conscious decision but is happening of its own accord, in the body, as happens in situations of danger or mystery, or those that promise us an elusive happiness... (Lupa, 2006, p. 1).

4. The hidden meaning we hear in the compositions does not result only from their sophisticated structure. [Szymański] tells us about the real hidden meaning – the metaphysical one (Szwarcman, 2006, p. 87).

Based on the opinions of various recipients, which are known to me, as well as on my own feelings, I would like to formulate a hypothesis that Szymański's works have a potential to move listeners, and to stimulate analogies with various life experiences. Below is the interpretation of the second movement of *Compartment 2, Car 7* for vibraphone, violin, viola and cello, based on Lawrence Zbikowski's cognitive grammar of music.

The work I have selected was composed in 2003. It had been commissioned by Alonzo King, an American choreographer, as music to a ballet, and had its first night performance in San Francisco, 2003. On King's request the ballet with Szymański's music was titled *Vibraphone Quartet*. Soon after the American ballet premiere it was presented in Poland, in its stand-alone version and under an original title *Compartment 2, Car 7*. The work in this autonomous version consists of two clearly diverse movements (*attaca*). It is available to musicians in the form of a computer print, which they can obtain from the composer, and to music lovers in the form of recordings on CD and DVD. Its function in our global

culture is rather obvious – it is a piece to listen to, to evoke aesthetic feelings, as well as to discover meanings connected with embodied experience.

The second movement of *Compartment 2, Car 7* is a chordal composition in 2/4 metre and moderate tempo (a crotchet = 63). The composer's instruction is to use soft drumsticks when playing on the vibraphone, and to produce sounds detached from each other (*détaché*) on string instruments. Following Zbikowski's suggestion, I have distinguished two syntactic layers – rhythmic and harmonic – in this work. The rhythmic layer is special and very easy – the chords flow in steady semiquaver movement and moderate tempo, almost until the very end of the composition. Such kind of sound movement, which is by no means rare in Szymański's works, gives the listeners an impression of regularity and monotony, which clashes with other impressions during the perception.

The harmonic layer is much more complex than the previous one. It was created from the chord structure in the main C-minor key, composed by Szymański according to historical rules, which further on will be referred to as the initial/historical structure. Almost all the chords of this initial structure consist of four pitches. The chords are triads, with a repetition of one of the basic pitches, seventh chords or incomplete ninth chords. At a further stage of composing, the initial structure was algorithmically expanded in such a way that the chords were separated from each other by seven semiquavers, and each of them was repeated seven times, every fourth semiquaver (Kostka, 2018, pp. 192–193). As a result of this compositional technique, the whole sound structure is divided into 85 regular sections, each of them lasting 3.5 bars and containing 28 semiquaver chords. Each pitch of each chord is performed by one of the four instruments. The harmonic progression is a certain variety of major-minor tonality – a strange variety, which seems to contain mistakes. In every section there are two sound orders – grammatical and ungrammatical – which permeate each other. The grammatical, i.e. tonal order is made of chords distant from each other by seven semiquavers, which are, in fact, subsequent chords of the initial structure. The ungrammatical, post-tonal order is made up of groups of four chords following one another, which move in the direction opposite to that in the initial/historical structure, so, for example, instead of the progression of chords I-II-IV-V<sup>7</sup> there is here V<sup>7</sup>-IV-II-I.

A listener does not hear all the details of this refined chord construction, but she/he definitely realises that the composition is slowly moving in a certain direction – forward – and numerous V<sup>7</sup> chords, unfolding into I chords after seven semiquavers, constitute a 'driving force' here. Apart from this, a listener can hear that various places in the composition display different degrees of ungrammaticality in major-minor tonality. Here we can observe a clear dependence between the degree to which the music is ungrammatical and the extent to which harmonics was diversified in the initial/historical structure. The places where it was harmonically diverse to a small extent (for example where there were frequent repetitions of I chords in different inversions) produced music almost grammatical, while those where there were many different consecutive chords, sometimes as a result of modulations from one key into another, created music with a high degree of tonal ungrammaticality.

In addition to two syntactic layers, the second movement of *Compartment* features systemically elaborated accentuation of sounds. In the vibraphone part Szymański introduced three ways of accent distribution: accentuation of every seventh subsequent sound, which is a component of a newly introduced chord; accentuation of a seven-sound series of the same pitch class (a seven-accent series); and accentuation of a few such series (a stretto of seven-accent series). Since the accentuation of short vibraphone sounds, which are slightly distant from each other, causes these sounds to stand out and obscure the neighbouring ones, the accentuated sounds are transformed into a melody. There are eleven such melodies, freely distributed throughout the composition. Accentuation in string parts looks entirely different. Apart from the three ways of accent distribution used in the vibraphone part, there are several other ways here, and all of them are applied synchronously or non-synchronously. The accents in string instrument parts begin from the eighteenth section and last until the end of the composition, but we can perceive here the following principle: a fragment accentuated to a smaller or greater degree is always followed by one where there is no accentuation, or where accentuation is very slight.

The syntactic layers (with accentuation) described above superimpose onto each other, and together they create one long sonic analog for a dynamic process. This long sonic analog divides into ten shorter episodes, which are also sonic analogs for dynamic processes. Rhythmics in all the episodes is uniformly semiquaver, while the harmonics, accentuation in string parts and vibraphone melodies change.

In the first episode music emerges from silence: single semiquaver pauses appear alternately in string instrument parts, and their number gradually decreases until they disappear completely. In the second episode we have calm progression of full chords, characterised by low level of ungrammaticality, and thus evoking strong associations with some tonal music of the past. There are new elements here – the vibraphone melody, timidly played, and one seven-accent series in the viola part. The third episode introduces single, isolated accent series, which strengthens the expression of the composition, and two vibraphone melodies.

The consecutive episodes can be presented in pairs, where the first one consists in a calm progression of chords, while the second one displays a restless chord flow. I am going to describe only the second episodes from these pairs. The fifth one is characterized by a medium level of ungrammaticality and an average number of accent series, which are put together non-synchronously. The seventh one is the most restless episode of the composition, a certain climax, as the ungrammaticality and accentuation reach their extremes here. In turn, the ninth episode contains synchronous accentuation, which introduces a small element of order into the composition. The tenth episode is, like the first one, completely different from the remaining ones; there is a sudden slowdown (*rallentando molto*) here, as well as falling glissandi, which signal the end of the composition.

Is it possible for a composition written in such a way to evoke any analogies in the minds of its recipients? Can it be regarded as an equivalent of dynamic processes known to us from other areas of life? Paweł Szymański, who titled

his musical piece *Compartment 2, Car 7*, is one of those who have answered these questions. The title is a paraphrase of the title of Edward Hopper's painting, *Compartment C, Car 293*, from the year 1938. In the painting we can see a woman, sitting in a train compartment, who is engrossed in a book. The fact that Paweł Szymański used the paraphrased title of that painting for his composition means that he had associated his work with a train journey; that he had regarded it as a musical supplement of Hopper's picture, as a potential world of sounds heard by the person depicted there. This way he pointed to the analogy between music and a dynamic process known to us from everyday life. In this case it is a journey by train – one of those which were in use before the advance of Pendolino – seen from a passenger's perspective. Table 1. shows this analogy in detail. I am of the opinion that many people who have listened to the second movement of *Compartment 2, Car 7* would agree with it.

Table 1. Analogy between the second movement of *Compartment 2, Car 7* and travelling by train, as seen by a passenger

No.	<b>Structure of features in the second movement of <i>Compartment 2, Car 7</i></b>	<b>Structure of features of a train journey from a passenger's perspective</b>
1)	the beginning marked with a gradually increasing number of sounds	the train starts off slowly
2)	regular and monotonously rhythmic progression of chords at a moderate tempo	not too fast, steady movement of the train, when one can hear repeated, regular sounds made by the vehicle, which create the impression of monotony
3)	calm and restlessness in the musical construction, depending on the changing level of ungrammaticality and accentuation in string parts	changing views observed by the passenger through the train window
4)	eleven different vibraphone melodies constituting the second level of musical narration	the moments when the passenger stops listening to the train sounds and concentrates on reading
5)	the end, using the slowdown and disappearing glissandi	the train brakes at the station, sometimes with a screech of wheels

Translated by Joanna Skibicka

## References

- Cichy, D. (2007). 'Koncert fortepianowy' Pawła Szymańskiego na tle filozoficznych idei postmodernizmu. [Paweł Szymański's 'Piano concerto' in the context of the philosophical ideas of postmodernism.] In A. Jarzębska, J. Paja-Stach (Eds.). *Idee modernizmu i postmodernizmu w poetyce kompozytorskiej i w refleksji o muzyce* [The ideas of modernism and postmodernism in composers' poetics and reflection on music] (pp. 277–296). Kraków: Musica Iagellonica.
- Erhardt, L. (2006). Szymański w EMI [Szymański in EMI]. *Ruch Muzyczny*, 24, 40.
- Kostka, V. (2011). Wartości muzyki Pawła Szymańskiego [The Values of Paweł Szymański's Music]. In *Krytyka muzyczna*, 5, 1–11. Retrieved from: [www.demusica.pl/cmsimple/images/file/krytyka\\_5\\_kostka1.pdf](http://www.demusica.pl/cmsimple/images/file/krytyka_5_kostka1.pdf)
- Kostka, V. (2018). *Muzyka Pawła Szymańskiego w świetle poetyki intertekstualnej postmodernizmu* [Paweł Szymański's Music in the Light of Intertextual Poetics of Postmodernism]. Kraków: Musica Iagellonica.
- Lupa, K. (2006). [without any title]. In [booklet to CD] *Paweł Szymański. Zaratustra* (pp. 1–5). Warszawa: EMI (0946 3 71876 2 3).
- Szwarcman, D. (2006). Kompozytor surkonwencjonalny [The Surconventional Composer]. *Polityka*, 47, 13–16.
- Zbikowski, L. (2017). *Foundations of Musical Grammar*. New York: Oxford University Press.

