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Conceptual blending and music.
How and what we think of the piano composition
Singletrack by Paweł Szymański

Most of our thoughts arise as a result of conceptual blending, otherwise known as conceptual integration or amalgam, and we ourselves live among such blends. This hypothesis underpins the theory of conceptual blending put forward by Gilles Fauconnier and Mark Turner, presented in full in their 2002 book titled *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*.[1] Conceptual blending happens to us in every discipline, including that of music. This subject has been addressed by Lawrence Zbikowski,[2] Mihailo Antović,[3] Danae Stefanou, Juan Chattah, Michael Spitzer and many other scholars.

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[1] G. Fauconnier and M. Turner, *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities* (New York, 2003).

[2] L. Zbikowski, *Conceptualizing Music: Cognitive Structure, Theory, and Analysis* (Oxford, 2002); idem, *Foundations of Musical Grammar* (Oxford, 2017).

[3] M. Antović, 'Persuasion in musical multimedia: A conceptual blending theory approach', in J. Pelclová and Wei-Iun Lu (eds), *Persuasion in Public Discourse: Cognitive and Functional Perspectives* (Amsterdam, 2018), 303–328; idem, 'Multi-level grounded semantics across cognitive modalities: Music, vision, poetry', *Language and Literature*, 30/2 (2021), 147–173.

The year 2018 saw the publication of a special edition of the journal *Musicae Scientiae*, under the title *Creative Conceptual Blending in Music*,[4] which may be regarded as a kind of compendium of our knowledge about this subject.[5] The new direction of research into music initiated in this way adds support to existing trends towards achieving the main aim: arriving at the most accurate description of musical phenomena and formulating the rules by which they are governed. Where it differs from the approaches used to date is that it seeks a key to answering the fundamental questions in what it regards as the source of music's existence: the abilities of the human mind and the processes of human cognition. This article presents the main premises of the theory of conceptual blending and the various types of blending to have emerged under the influence of the piano piece *Singletrack* by the Polish composer Paweł Szymański.

The premises of the conceptual blending theory

Fauconnier and Turner consider that people blend together concepts with which they are already familiar in order to create new ones, and then use these to think in wider or different contexts. Conceptual blends arise mainly unconsciously, but may be perceived when carefully analysing various thought processes. According to the authors, thought is based on a process of conceptual integration, in which 'mental spaces' become active.[6] The term 'mental space' may be defined as a small, conceptual packet or, more precisely, an area of concepts concerning a framework or domain of meaning. The basic diagram of a network of integrated concepts contains four such mental spaces: two input (initial) spaces, one generic space and one blended space.

The relations between all the mental spaces in a network are based on constitutive and governing principles. Constitutive principles claim that: 1. the concepts of one input space have their counterparts in another input space; 2. the blend is constructed out of selected concepts from both input spaces, 3. both input spaces originate from the all-encompassing generic space.[7] The nature of the governing principles is more complex. Most of these principles concern the compression

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[4] *Musicae Scientiae*, 22/1 (2018). Special issue: *Creative Conceptual Blending in Music*, ed. E. Cambourupoulos, D. Stefanou and C. Tsougras.

[5] See V. Kostka, '*Musicae Scientiae* 22 (2018) No.1 [special edition] *Creative Conceptual Blending in Music*, ed. Emilios Cambouropoulos, Danae Stefanou, Costas Tsougras, [essay review]', *Muzyka*, 66/4 (2021), 154–163.

[6] G. Fauconnier and M. Turner, 2003, *The Way We Think*, 40–44.

[7] Ibidem, 309–312.

of vital relations such as Time, Space, Unity, Difference, Cause–Effect and Analogy.[8] The compression that takes place 'behind the scenes' is most often explained by the authors of the book using examples that involve visual impressions. For instance, when we look at a cup, we do not perceive a unitary object at all, but its various aspects, such as the colour of the cup, the shape of its opening, the location of the handle and the texture of its surface. As neuroscience tells us, it is only our consciousness that creates a single thing out of these aspects, thus performing an act of compression aimed at Unity.

Among the various types of integrated networks of concepts, four schemas recur more often than others: simplex, mirror, one- and double-scope.[9] In the first type of network, an organising frame with specific roles (e.g. the roles of father and son) appears in one input and the values (e.g. John and Paul) in the other input, and the blended space integrates these elements (e.g. John is Paul's father). The mirror type is characterised by the fact that all the spaces have the same organising frame, that is, the same nature of vital activities, events and their participants. A network of this type is created when, for example, we try to solve the following puzzle: at what point would a Buddhist monk meet himself on a mountain path if one day he started to climb the mountain at dawn and reached the top at dusk, and on another day he started climbing down the mountain at dawn and reached the bottom at dusk? In this case the input spaces include the monk on a mountain path, and the blended space contains two monks going in opposite directions and meeting at one point. In a single-scope network, each input has a different organising frame, but only one of them is used to organise the blend. Networks of this type serve to explain metaphors as 'source–target', described exhaustively by Lakoff and Johnson. The last type of network – double scope – is characterised by inputs with different organising frames and a frame which organises the blend that contains elements of each frame of the inputs. An example here may be 'computer desktop', created from the input of office work (folders, files, rubbish bins) and input with the standard computer instructions. Since in this type of network there are often violent collisions that activate imagination, it has been recognised as particularly important in creating and interpreting art.

According to Fauconnier and Turner, there is much evidence of conceptual blending in the form of inventions, linguistic phrases, literature and art. A prehistoric ivory figurine representing a lion-man found nearly a hundred years ago in a cave in southern Germany may serve as an example here.[10] In order for it

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8 Ibidem, 312–352. The spelling of vital relations is taken from the authors of the theory.

9 Ibidem, 120–135.

10 M. Turner, *The Origin of Ideas: Blending, Creativity, and the Human Spark* (Oxford, 2014), 13.

to be created, two organising frames were juxtaposed: lion and man. Only some concepts from each input were used in the blend, such as the head of the animal, its body and four limbs, and an upright human posture. Thus the blend includes concepts which are not fully aspects of either lions or humans. These selected concepts were blended together into one precise idea of a lion-man. Similar principles apply in the creation of the Greek Minotaur, Egyptian Sphinx, Warsaw Mermaid, Batman, Spiderman, computer desktop, Pendolino trains and many other concepts.

The composition process of *Singletrack*

When music researchers seek to describe conceptual integrations arising from contact with individual works, they usually distinguish two kinds of blending, which they discuss separately or together: purely musical, referring to the combination of elements of the structure of the work that serve to create new melodies, harmonies or whole textures, and inter-domain blending, which encompasses integrations of musical and non-musical spaces, serving mainly to create meanings. In this article, devoted to the cognitive processes behind the piano composition *Singletrack* (2005)[11] by Paweł Szymański (b. 1954), I will discuss three kinds of conceptual blends which to some extent broaden our current knowledge about blends with the participation of music. I will present first the probable process of the work's composition (an unusual musical and extra-musical hyperblend) and then, from the listener's perspective, ideas about the intraopus style (purely musical blends) and the semantics of the work. In the latter case, alongside my own proposal, I will also quote interpretations by others (musical-extramusical blends).

I start by discussing conceptual blends relating to the method by which *Singletrack* was composed. They are based on Szymański's declared poetics,[12] my own analysis of the work and my earlier experiences in the area of intertextuality.[13] One could say these are my attempts to recreate the composer's thought

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[11] Recordings: *Paweł Szymański. Works for piano. Maciej Grzybowski. Piano*, EMI Classics (CD), Warsaw 2006; *Festiwal muzyki Pawła Szymańskiego* [4-disc DVD album], Warsaw 2006, DVD No. 2, played by Maciej Grzybowski. Unpublished score.
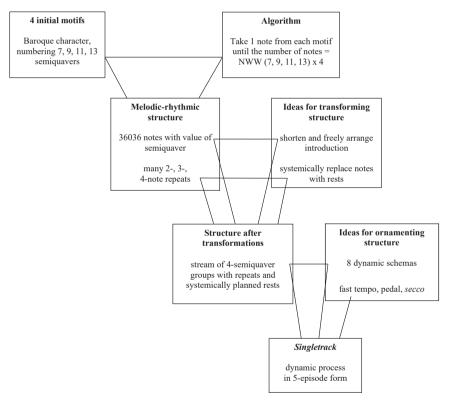
[12] See V. Kostka, *Muzyka Pawła Szymańskiego w świetle poetyki intertekstualnej postmodernizmu* [Paweł Szymański's music in light of the intertextual poetics of postmodernism] (Kraków, 2018), 41–58.

[13] See V. Kostka, P. F. de Castro and W. Everett (eds), *Intertextuality in Music: Dialogic Composition* (London, 2021).

processes.[14] The following statement by the composer was of great significance for the formulation of these ideas:

> Thus besides abstract ideas there must appear musical ideas that are heard internally. The different nature of these two kinds of ideas means that they do not fit together in an obvious way. The ability to contain 'irrational' musical imagination within the rigours of an abstract formula is for me the essence of the art of composing.[15]

Adapting this statement to the theory being applied, one may claim that *Singletrack* was created through a blending of musical ideas with abstract ideas taken from mathematics. My way of thinking about the process of this work's composition is presented in a diagram:

4 initial motifs

Baroque character, numbering 7, 9, 11, 13 semiquavers

Algorithm

Take 1 note from each motif until the number of notes = NWW (7, 9, 11, 13) x 4

Melodic-rhythmic structure

36036 notes with value of semiquaver

many 2-, 3-, 4-note repeats

Ideas for transforming structure

shorten and freely arrange introduction

systemically replace notes with rests

Structure after transformations

stream of 4-semiquaver groups with repeats and systemically planned rests

Ideas for ornamenting structure

8 dynamic schemas

fast tempo, pedal, *secco*

Singletrack

dynamic process in 5-episode form

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14 This is a blend of a post-hoc type. See T. Rohrer, 'Mimesis, artistic inspiration and the blends we live by', *Journal of Pragmatics*, 37/10 (2005), 1686–1716.

15 P. Szymański, 'Imaginacja w rygorze formuły abstrakcyjnej. Paweł Szymański odpowiada na pytania Ewy Gajkowskiej' [Imagination within the rigours of an abstract formula: Paweł Szymański answers Ewa Gajkowska's questions], *Ruch Muzyczny*, 1993/26, 1.
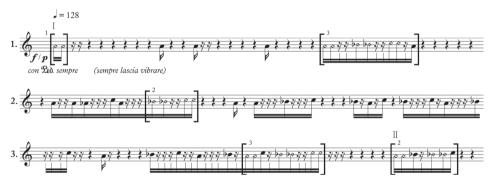
This is double-scope network in the form of a hyperblend, which means that at least one of the inputs is already a blend. We have here three linked networks. In the first such network, the first input is musical, the second is mathematical. The musical input contains four Baroque motifs with 7, 9, 11 and 13 semiquavers. Its Baroque nature is evidenced by the material of the F major scale, the lability of degrees IV and VII, the Mixolydian cadence and the uniform semiquaver rhythm. The second input includes an algorithm used to construct the melodic-rhythmic structure from the initial motifs. It might be expressed as the following instruction: proceeding always from the shortest to the longest motif, take one note from each in alternation for the structure being composed until the number of notes is four times larger than the lowest common multiple of the number of semiquavers in each motif. The result of this musical-mathematical collision of ideasis a mechanically shaped structure numbering 36036 notes with semiquaver values grouped into fours, characterised by numerous two-, three- and four-note repeats (two, three, four notes of the same pitch next to each other).

This blend now becomes the input with which the composer juxtaposed the next input, containing ideas for transforming this structure. They include shortening the structure, freely arranging the introduction and systemically replacing notes with rests. The systemic nature of this procedure consists in the fact that at the beginning of the structure the number of rests exceeds the number of notes, then the number of rests gradually decreases until about two-thirds of the way along the structure it ends up with no rests at all. The effect of blending these two conceptual sets is a second-level melodic-rhythmic structure characterised by note repeats and systemically distributed rests in groups of four semiquavers. The next conceptual network, linked to the above, introduces an input with ideas for ornamenting the structure after transformations. We can see that groups of four semiquavers are assigned eight four-element dynamic schemas, where the dynamic types *forte* and *piano* refer to single notes, and the first note is always *forte*, e.g. *ffpp*, *fppp*, *fpfp*. Other ideas are also introduced: fast tempo, pedal and *secco*. This whole series of blends ultimately produces the general idea of *Single-track*, encapsulated in an unobtrusively changing form.
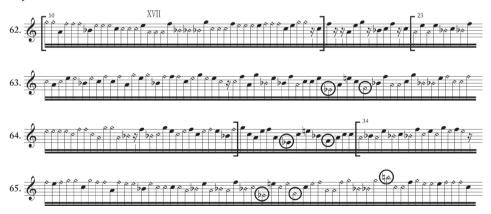
Obviously the idea of this composition has its material anchor in the form of the score. Analysing the score, one can easily see there the growing number of pitches and the falling number of rests, which determine the duration of *forte* motifs and the density of the sound material. These two criteria allow one to divide the work into episodes which can be characterised as follows:

1. first episode (staves 1–12): three pitches (A4, B♭4, C5) and a large number of rests (see Example 1),

2. second episode (staves 12–17): four pitches (A4, B♭4, C5, E5) and a smaller number of rests than in the preceding episode,

3. third episode (staves 17–63): six pitches (A4, B♭4, C5, E5, F5, G5) and a small number of rests (see Example 2),

4. fourth episode (staves 63–103): nine pitches (E♭3, F3, A4, B♭4, C5, E5, F5, G5, B5) and no rests (see Example 2),

5. fifth episode (staves 103–106): twelve pitches (chromatic scale) and increasing number of rests.

Example 1. Paweł Szymański, *Singletrack* for piano, staves 1–3, p. 3, © Copyright Paweł Szymański.[16]

Example 2. Paweł Szymański, *Singletrack* for piano, staves 62–65, p. 6, © Copyright Paweł Szymański.

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[16] All the examples come from an unpublished score with manuscript copyright, made available by the composer. All the examples are published with the permission of the composer.

Changes in the individual episodes of the composition are perceptible aurally without any great difficulty. It will not escape the listener's attention that in the first four episodes the *forte* motifs and *forte* melodies (made up of a number of *forte* motifs) grow increasingly longer, while in the fifth there is the opposite tendency: the fading of the melodies and a gradual transition from music to silence. One easily recognises also that the expanding *forte* motifs and melodies are tonal, while the shrinking planes in *piano* are post-tonal, which ultimately leads to the work becoming increasingly more tonal (except for the ending). The dynamics also change in individual episodes; in the first three, the number of dynamic schemas gradually increases; by the fourth, all the schemas are already in use. Moreover, it is in the fourth episode, where the accumulation of the sound material and dynamic schemas is the greatest, that one may gain the impression of the presence of some special articulation, while in fact these are side effects of the workings of the dynamics.

The style of *Singletrack*

The descriptions of cognitive processes associated with individual aural perception and its conceptualisation are based on my experiences as a music historian, but I am also guided by the following two hints from Szymański:

> In order for this [two-level composing] not to be pure speculation, one has to do it in such a way that the listener can distinguish what belongs to the original structure from what constitutes its transformation or comes from outside. In other words, one needs to give the listener the chance to guess this subtext.[17]

> There is thus here [in the *Sonata* for 9 (27) violins, 1 (3) double bass and percussion] a collision of something Baroque-like with something very alien to Baroque (Rafał Augustyn said that it was a mixture of Telemann and gamelan).[18]

What is important in these statements is the fact that on each occasion the composer speaks of only two kinds of contrasting materials. In *Singletrack* we also have two kinds of such materials: on one hand, Baroque elements, like

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[17] P. Szymański, 'Autorefleksja' [Autoreflection], in L. Polony (ed.), *Przemiany techniki dźwię-kowej, stylu i estetyki w polskiej muzyce lat 70.* [Transformations of sound technique, style and aesthetics in Polish music of the 1970s] (Kraków, 1986), 297.
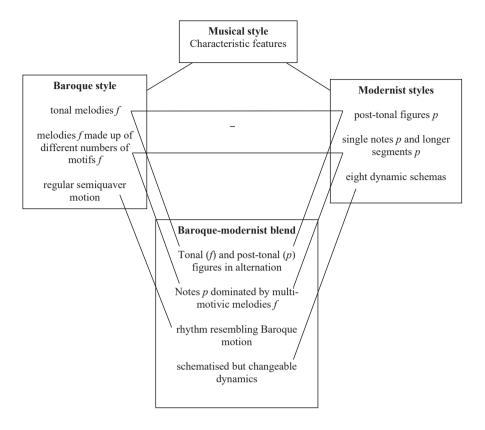
[18] Ibidem, 298.

melodies with modal cadences and semiquaver motion; on the other, modernist elements, such as post-tonality and systemically arranged dynamics. Such compositions are usually described as polystylistic, and this category harmonises with the network of concepts integrated around the category of style that immediately comes to mind. It is a network of the mirror type, which contains generic space with abstract musical style, input spaces with Baroque and modernist styles, and a blended space with the style of *Singletrack* (intraopus style). In order for this network to be fully accurate, we have to clarify the name of the second input, since modernism (absorbing postmodernism[19]) did not generate one clearly defined style but is a set of the many styles of individual composers, known as idioms, and the styles of single works, known as intraopus styles.[20] For this reason, I propose that the organising frame of the second input should be described by the phrase 'idioms and intraopus styles of modernism' or, more briefly, 'modernist styles' (plural).

Previous analyses of Szymański's composition demonstrate that it is not uniform throughout, but changes over time, and is made up of five episodes. These internal formal divisions obviously influence the perception of internal changes in the intraopus style. We will thus regard this style as a series of five Baroque-modernist blends, characterised by the changing proportions of contrasting means. Let us examine in detail one of them: the blend that arises while listening to the fourth episode of the work. The schema of my ideas about the intraopus style of this episode is as follows:

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[19] See M. Gołąb, *Musical Modernism in the Twentieth Century*, tr. W. Bońkowski (Lausanne, 2015), Chapter 6: 'Modernism liberated'.

[20] Terminology after L. B. Meyer, *Style and Music: Theory, History, and Ideology* (Philadelphia, 1989).

Musical style
Characteristic features

Baroque style

tonal melodies *f*

melodies *f* made up of
different numbers of
motifs *f*

regular semiquaver
motion

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Modernist styles

post-tonal figures *p*

single notes *p* and longer
segments *p*

eight dynamic schemas

Baroque-modernist blend

Tonal (*f*) and post-tonal (*p*)
figures in alternation

Notes *p* dominated by multi-
motivic melodies *f*

rhythm resembling Baroque
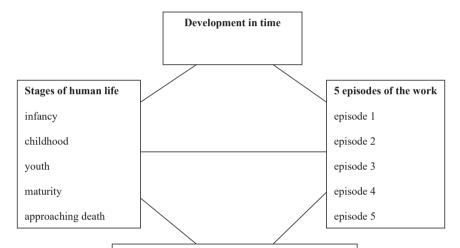motion

schematised but changeable
dynamics

The network of conceptual integrations includes a generic space with a generally defined musical style and two input spaces: 'Baroque style' and 'modernist styles'. In each input space there are elements that have their counterparts in the other input: tonal melodies in *forte*, based on nine pitches, correspond to post-tonal shapings in *piano*, also based on nine pitches; melodies in *forte*, made up of various motifs in *forte*, correspond to single notes and longer sections in *piano*. In addition, there are also concepts lacking counterparts, such as a regular semiquaver motion in the first input and eight dynamic schemas in the second input. All these concepts together help to create a unique stylistic blend in which a significant role is played by the following concepts: *forte* tonal and *piano* post-tonal figures in alternation; *piano* notes dominated by long *forte* polymotivic melodies ; a rhythm resembling Baroque motion; highly schematic but constantly changing dynamics. Looking at the whole composition in the wider context of various polystylistic or collage compositions, it must be said that the degree of blending of the various components is extremely high. For example, let

us consider the melodies in *forte*: they are Baroque only in their structure; the rest of their 'existence' is modernist.

The meanings of *Singletrack*

Alongside the already mentioned blends, individual perception of the work under analysis may give rise to hermeneutic, semantic blends that contain associations of this work with something non-musical. I personally associate the work with the stages of human life, where the experience of life gradually grows. This is the schema of my thinking about its meaning:

Development in time

Stages of human life

infancy

childhood

youth

maturity

approaching death

5 episodes of the work

episode 1

episode 2

episode 3

episode 4

episode 5

***Singletrack* as stages of human life**

The scenario of human life creates a cohesive frame for understanding the work: first three stages of life are reflected in three increasingly melodic and texturally developed episodes of the work: the fourth stage is a schema for the episode without rests and with the greatest number of melodies in *forte*; the last stage is a schema for the episode in which the sound material transforms into silence

The network of integrated concepts is based on two different inputs, one of which contains the stages of human life: infancy, childhood, youth, maturity and approaching death, and the other contains the five episodes of *Singletrack*.

Both inputs are clearly compressed – adjusted 'to the human measure' in the terminology of Fauconnier and Turner. Both are governed by the mental space encompassing a universal idea: development in time, which includes both human life and the musical work. All the concepts of one input find their counterparts in the other, and there is a real relationship of Analogy between the stages of human life and the episodes of *Singletrack.* It is a characteristic feature of this network that, of the two frames which organise the inputs, one – the scenario of human life – is used to organise the blend, which means that we are dealing with the single-scope type. Considering conceptual blending in more detail, we would say that the three increasingly melodic and texturally developed episodes of the composition correspond to the first three stages of human life, characterised by slow physical and mental maturing. The fourth stage of human life, usually characterised by the greatest fitness and experience, would be the schema for the fourth episode of the work, without any rests and with the greatest number of melodies in *forte*. The last stage of the human scenario, with the fading of vital forces, finds its counterpart in the fifth episode of the work, clearly contrasting with the preceding episodes, where we find notes of the chromatic scale and increasingly longer rests, where the melody breaks up and finally fades away.[21]

Other listeners to *Singletrack* have had different non-musical associations, which is not surprising since − according to neurobiologist Semir Zeki – ambiguity is not only a question of different human experiences, but also a characteristic of a single brain that acquires knowledge at different moments in time.[22] I have three examples here. The first comes from the composer himself, Paweł Szymański, an enthusiastic cyclist, who associates his monophonic composition with a single track left by a bike, hence that particular title of the work. Another blend was formulated by Ludwik Erhardt, when he said about *Singletrack* that it is characterised by 'thousand-fold echoes, brought forth as if by the swinging clappers of many bells, big and small'.[23] In this case, the blend makes use of a musical input with strong dynamic contrast and notes extended using pedal and another input with big and small bells. The third blend was created by Andrzej Chłopecki, when he wrote that this work has a rotational organisation of time,

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[21] This is the conceptual metaphor MUSIC IS ORGANIC LIFE (capital letters after George Lakoff and Mark Johnson – ed.), typical of the nineteenth century, here interpreted within the framework of conceptual blending theory.

[22] S. Zeki, *Splendors and Miseries of the Brain: Love, Creativity, and the Quest for Human Happiness* (London, 2009), 61–64.

[23] L. Erhardt, 'Szymański w EMI' [Szymański at EMI], *Ruch Muzyczny*, 2006/24, 40.

since 'the rhythmic formulae "spin" here in accordance with previously adopted numerical models'.[24] I can confirm this last association by the fact that the work does indeed consist of very regularly constructed 252-semiquaver segments; that is, it is cyclical, just like hours, days, weeks, months or years.[25]

As was said at the beginning, the theory of conceptual blending, which is also a research method, concentrates on the processes of human cognition and may have applications in many diverse fields. In studying music, it may provide an alternative to other methods in use, and it is particularly attractive for musicologists and music theorists interested in music semantics, psychology, cognition studies and neuroscience. In my view, it is well designed, since it allows one to capture both complex compositional processes and the mental processes of the recipients of a work, as I have attempted to show in this article. At present, researchers use it primarily to explain the processes through which musical meanings are constructed, but an increasing number of studies reveal the creative thinking of individual composers and describe the creation of music by artificial intelligence. Obviously it would be premature to judge to what extent the theory of conceptual blending will serve systematic musicology and music theory, but already we can see that its contribution to enhancing our understanding of music may be considerable.

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[24] A. Chłopecki, [*Singletrack* for piano], in A. Chłopecki and K. Naliwajek (eds), *Festiwal muzyki Pawła Szymańskiego. 24 listopada − 1 grudnia 2006* [A festival of music by Paweł Szymański: 24 November to 1 December 2006] (Warsaw, 2006), 41.

[25] Cycles of this kind are discussed in V. Kostka, '*Singletrack* na fortepian Pawła Szymańskiego. Algorytm i struktura' [Paweł Szymański's *Singletrack* for piano: algorithm and structure], *Muzyka*, 66/4 (2013), 67–85.

ABSTRACT

The theory of conceptual binding put forward by Gilles Fauconnier and Mark Turner states that people blend together familiar concepts to create new ones, and then use the latter to think in broader or different contexts. This kind of thinking is accompanied by a number of constitutive and guiding principles, and among the integrated conceptual networks there are several types that recur. Conceptual blends occur in every discipline, including music. Paweł Szymański's *Singletrack* for piano involves three kinds of such blends, concerning compositional process, intraopus style and meanings. In the case of compositional process, we are dealing with a hyperblend composed of three component networks, the first one being a double-scope network, which Fauconnier and Turner consider to be the most advanced type of creativity. I personally perceive the style of the work as a series of Baroque-modernist blends characterised by variable proportions of contrasting means. When it comes to semantics, as many as four meanings are mentioned and justified, comparing the work to the stages of human life, a track made by a bicycle on the sand, a bell effect and a cyclical phenomenon.

KEYWORDS: conceptual blending, network of conceptual integration, Paweł Szymański, *Singletrack*

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