


REPETITIVE MODELS IN TWENTY-FIRST-CENTURY MUSIC: TEMPORALITY AND EXPRESSION

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Abstract: Unlike the pointillist-serial aesthetics of the mid-twentieth century, contemporary music employs narrative strategies that stimulate listeners to form mental constructs. This involves using the potential of mid-level formal units to establish orientation points for the listener, exploring two repetitive models (deadlocked time and frozen time) that emerge as discrete building blocks from the current cognitive-theoretical perspective. Through analogical thinking, this article seeks to explain the potential references of these repetition-occurrences towards a temporal suspension and provides multiple examples based on selected passages from Ivan Fedele (b. 1953), Matthias Pintscher (b. 1971), Gérard Pesson (b. 1958), Unsuk Chin (b. 1961) and Michael Jarrell (b. 1958). This inquiry suggests an apprehension capable of bringing an expressive stand to the forefront. It also scrutinises how cognitive approaches revolving around analogical thinking can be employed extensively in the analysis of post-tonal music.

Beyond Pointillist-Serialism

The twentieth century provided a significant amount of scholarly writing on post-tonal music, from both historical and theoretical perspectives. Music-theoretical studies on contemporary music have mainly focused on the internal working mechanisms of musical parameters, specifically in terms of pitch, rhythm and harmonic structures. Some scholarly work has dealt with the expressive qualities of twentieth- and twenty-first-century abstract concert music; more has addressed the challenging listening experience, particularly in works pursuing a pointillist-serial aesthetic. The causes and effects of this experience have been addressed by several scholars; in *Postmodern Music and Listening*, for example, Jonathan Kramer focuses on the inevitable result of ordering all musical parameters by the same rule: constant change and, as a result, an ongoing sameness:

The obsession with synchronic unity thus reaches its logical extreme in multi-parameter serialism, early minimalism, and indeterminate and aleatoric procedures, all of which can produce pieces or sections of unchanging sameness.¹

¹ Jonathan D. Kramer, *Postmodern Music Postmodern Listening* (New York: Bloomsbury Publishing Inc., 2016), p. 92. See also Jonathan D. Kramer, *Time of Music* (New York: Schirmer Books, 1988).

In *New Sounds, New Stories: Narrativity in Contemporary Music*, Vincent Meelsberg outlines a similar challenge:

In serial music, however, the whole notion of form, or, perhaps more accurately, of perceptible musical structure is problematized. Because linearity, goal directedness, and repetition – those musical characteristics that are vital for the listener during the act of structuring the music – are hard to recognize (and in some cases even absent) in serial and other atonal music, the possibilities to structure the music, and thus to comprehend it, diminished it as well.²

As Kramer and Meelsberg suggest, the constant juxtaposition of micro-events, unfolding in a discontinuous manner, creates a challenging listening experience because the music's narrative does not establish larger formal units, groupings or, as they are termed in this article, mid-level formal units. As Denis Smalley argues, perceptible groupings are avoided and perceptible affinity is obscured.³

In *The Macroform in Post-Tonal Music – Listening and Analysis*, Mario Baroni considers formal structures in three layers, macroform, medioform and microform, where medioform is 'a succession of adjacent microformal units containing acceptable elements of similarity; by macroform we mean the maximum possible reduction of number of parts'.⁴ In this article I follow Baroni's example but use the term 'mid-level formal unit' to describe a formal component with perceptible borders and a clear beginning and ending generated by the juxtaposition of similar microformal units (small musical events with clear borders and individual character). Thus, a mid-level formal unit is a formal component that affords the listener the time necessary to become familiar with the musical material.

Taking Kramer's description of unchanging sameness, Meelberg's description of missing linearity, repetition and goal-directedness and Smalley's description of perceptual groupings as starting points, this article argues that all these views point towards an organisation of audible musical events of various scales (from, for example, musical gestures to the mid-level formal units of which they form components) that mediates a direct connection between music and its listener.⁵ It also argues that mid-level formal units can provide points of orientation for the listener and, in particular, points of temporal orientation,⁶ and that the use of these as building blocks in post-serial

² Vincent Meelberg, *New Sounds, New Stories: Narrativity in Contemporary Music* (Leiden: Leiden University Press, 2006), p. 109.

³ Structuring according to the serial rule problematises the listener's 'perceptual affinity with its material and structure'. Denis Smalley, 'Spectro-Morphology and Structuring Processes', in *The Language of Electroacoustic Music*, ed. Simon Emmerson (London: Palgrave Macmillan, 1986). See also Denis Smalley, 'The Listening Imagination: Listening in the Electroacoustic Era', *Contemporary Music Review*, 13, no. 2 (1996), pp. 77–107.

⁴ Mario Baroni, 'The Macroform in Post-Tonal Music – Listening and Analysis', *Musicae Scientiae*, 7, no. 2 (2003), p. 226.

⁵ See, for example, Susanne Langer's discussion of 'movement of audible forms' in Susanne K. Langer, *Feeling and Form: A Theory of Art* (New York: Charles Scribner's Sons New York, 1953), p. 125.

⁶ In the twentieth century, the music of György Ligeti, Witold Lutosławski and Krzysztof Penderecki provided examples of works in which textural formations at the mid-level became the main musical building blocks. Within the European post-war avant-garde Ligeti's music holds a unique position, its clearly perceptible trajectory accommodated by unified mid-level formal units, some of which project extramusical references of time and space. These are discussed by Ulrich Dibelius in his book on Ligeti; he discusses how particular musical units have certain effects, defines them as 'types' and explains that they are used by Ligeti as 'Satztechnischen Modellen'. Ulrich Dibelius, *Ligeti, Eine Monographie in Essays* (Mainz: Schott, 1994), pp. 79–80. See also Amy Bauer, 'Tone Color, Movement, Changing Harmonic Planes: Cognition, Constraints and Conceptual Blends in Modernist Music', in *The Pleasure of Modernist Music*, ed. Arved Ashby (New York: University of Rochester Press, 2004), pp. 121–52.

music represents a crucial difference between this repertory and its pointillist-serial predecessors.⁷ Finally, the article explores two repetitive models that appear at the mid-level, labelled here as deadlocked time and frozen time, and their potential implications for temporal suspension, in works by Ivan Fedele (b. 1953), Matthias Pintscher (b. 1971), Gérard Pesson (b. 1958), Unsuk Chin (b. 1961) and Michael Jarrell (1958).

Music as Dynamic Process and Analogy

The kinship between musical gesture, expression and meaning has been examined widely by various branches of academic scholarship, and extensive research has focused on music perception and cognition.⁸ In this article a musical gesture is understood as a form of musical behaviour, with a clear beginning and ending, that is distinct from its surroundings and in which pitches unfold in an intelligible contour over time. Such a definition allows a musical gesture to be understood as a dynamic process: Lawrence M. Zbikowski suggests, for example, that a descending glissando performed by a violin could 'serve as an analog for the process of an object falling off a shelf'.⁹ In this case, a shared dynamic process in different domains prompts an analogy through cross-domain mapping; this in turn invests the musical gesture with extramusical referentiality.

Both models of mid-level formal units discussed in this article are understood as dynamic processes, and their labels, deadlocked time and frozen time, are paradoxical metaphors since time is best known for its perpetual forward motion. Music is, however, capable of creating its own temporal relationships, freely manoeuvring in the time-space in which it unfolds. For example, in suggesting the possible suspension of time in music, musical temporality is being correlated with an extramusical phenomenon: 'suspension' is a word that usually refers to music that moves at an extremely slow pace or is immobile and is used here as a conceptual metaphor, affording music the status of an object capable of moving in a particular way within spacetime.¹⁰ In cross-domain mapping, on the other hand, the structure of the behavioural act in the source domain can be

⁷ Adessi and Caterina, for example, compare the degrees of segmentability in the music of Darius Milhaud, Bruno Maderna and Anton Webern, in Anna R. Adessi and Roberto Caterina, 'Perceptible Musical Analysis: Segmentation and Perception of Tension', *Musicae Scientiae*, 4, no. 1 (2000), pp. 31–54.

⁸ Recent research in music cognition offers an alternative view on perception and cognition of musical gesture as an embodied experience. Marc Leman argues that 'The mechanism behind gesture in music seems to be that, through embodiment, sonic forms can be understood from the viewpoint of the listener's action-oriented ontology, and this ontology can be linked with a framework of other gestures and topics, both intra- and extra musical. The reason we call musical patterns "gestures" has to do with the fact that they can be imitated through human body.' Marc Leman, 'Music, Gesture, and the Formation of Embodied Meaning', in *Musical Gestures Sound, Movement, and Meaning*, eds Rolf Inge Godøy and Marc Leman (London and New York: Routledge, 2010), p. 148.

⁹ Lawrence M. Zbikowski, 'Conceptual Blending Creativity and Music', *Musicae Scientiae*, 22(1) (2018), p. 13.

¹⁰ Zbikowski provides this clear distinction between the conceptual metaphor and its linguistic expression: 'A conceptual metaphor is a cognitive mapping between two different domains; a linguistic metaphor is an expression of such mapping through language. For instance, the conceptual metaphor STATE OF BEING IS ORIENTATION IN VERTICAL SPACE maps relationships in physical space onto mental and physical states. The cross-domain mapping wrought by this conceptual metaphor then gives rise to innumerable linguistic expressions.' Lawrence M. Zbikowski, *Conceptualizing Music: Cognitive Structure, Theory, and Analysis* (New York: Oxford University Press, 2002), p. 66.

denoted through image schema, as established by Mark Johnson and many cognitive theorists.¹¹

In this article the analogies of deadlocked time and frozen time are grounded in two aspects: their own repetitive internal mechanisms and their sudden emergence in a musical flow that is both inherently non-repetitive and without regular rhythmic structure.¹² Although the repetitive nature of both deadlocked and frozen time leads to a sense of temporal suspension, their internal working mechanisms differ slightly, as their names suggest. Deadlocked time is based on the sudden appearance of repeated musical gestures in a fast tempo, like a loop in which each repeated musical gesture is perceived as a separate musical event. If the repeated musical event consists of more than a single ictus, it proceeds from beginning to end and is then repeated. If it is a single ictus, this is repeated constantly. In both cases the cyclic nature of the event creates the effect of a mechanised, deadlocked time, in which developmental progression and the natural flow of music is halted. Yet, at the same time, because the repeated musical events are individually perceptible, this model has its own temporal frame.

In contrast, frozen time does not present a perceptible temporal frame. It is the product of the superimposition of multiple layers of repetitions, moving at various paces. A non-developmental, static situation is established on two levels: on the first, the unchanging pace of each layer creates a sense of stasis and a perceptible temporal frame; on the second, the superimposition of various layers moving at their own pace cancels the perception of a temporal frame and creates a flat temporal plane. Unlike deadlocked time, here individually repeated musical gestures are not perceptible since all the superimposed layers are part of a textural unity. As with deadlocked time, forward motion is cancelled, but here the absence of a temporal frame creates a sense that time is completely frozen.

Both models can be understood as block-like structures that consist of recurrent microformal events repeated one after another, as if an ostinato background has suddenly appeared without a foreground stratum. Although their modes of repetition differ slightly, they share a comparable time perception that clearly differentiates them from their surroundings. Since both interrupt the natural flow of music, deadlocked time and frozen time also function as orientation points for listeners. In this, it should be noted, they differ from the ongoing repetitions in minimal music. As Elizabeth H. Margulis remarks, 'repetition makes it possible for us to experience a sense of the expanded present, characterized not by the explicit knowledge that x will occur at time point y, but rather by a heightened sense of orientation and involvement'.¹³

Deadlocked Time

The first model in this study might appear simple: regular chord repetitions or repeated units generated by the superimposition of various

¹¹ Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason* (Chicago: University of Chicago Press), p. 29.

¹² The idea of repetition is a phenomenon that exists in different dimensions in twentieth-/twenty-first-century music, including works based purely on immediately repeated material, as in minimal music or works incorporating loops as compositional strategy. See Tristan Murail, 'The Revolution of Complex Sounds', *Contemporary Music Review*, 24, nos 2/3 (2005), p. 124.

¹³ Elizabeth H. Margulis, *On Repeat: How Music Plays the Mind* (New York: Oxford Academic, 2014), p. 9.

Example 1:

Gérard Pesson, *Wunderblock (Nebenstück II)* (2005), bars 21–24 (score reduction by the author); reproduced by kind permission of Éditions Henry Lemoine, Paris.

gestural units, all within a temporal frame in which there is a strong single pulse. The repetition-based mid-level formal units in Gérard Pesson's *Wunderblock (Nebenstück II)* (2005), for accordion and orchestra, exemplify such a model.¹⁴ The work's overall trajectory is based on the juxtaposition of mid-level formal units with forward-moving temporal aspects and suspended temporality caused by the successive repetition of microformal events. In this context the use of repetitive textural units prompts an audible sense of not being able to move – the deadlock effect – like a looped vinyl record that suddenly stops moving forwards and repeatedly jumps back to its starting point.¹⁵ Although such formal units are frequent throughout the work, those notated with repeat signs reflect the effect of the time and deadlock situations most eloquently, and such a unit is present near the beginning of the piece, as shown in [Example 1](#).

The passage starts with a two-measure unit: cowbells project a melodic idea, accompanied by a repetitive rhythmic background primarily performed by string instruments. Here, the tenuous sound quality of the background emphasises the audibility of the foreground melodic structure. Initially the repetition of the two-beat melodic idea in bars 21 and 22 suggests a continuation in tonal manner. The juxtaposition of the melodic cell at bar 23 eliminates the rest, separating the basic motive between bars 21 and 22, and its ninefold repetition at bars 23–24 creates a completely unexpected sense of deadlock. The repeated two-beat melodic cell and ongoing background figure clearly define the borders of the looped gesture (micro-event) in the 2/4 metre. This grouping also creates a hierarchical order, making the first beat stronger than the second. The repetition suddenly cuts on the second beat of bar 24, and the passage concludes with a strong forte chord at the end of bar 24, which functions as a full stop. Although motivically connected with the preceding events, such a formal unit, based on synchronised repetition, behaves like a self-contained, mechanical event, separated from its surroundings.

Matthias Pintscher's *Reflections on Narcissus* (2004–2005), for orchestra and solo cello,¹⁶ is similar in its use of mid-level formal units. In the second movement repetitive textural loops suddenly emerge as

¹⁴ Gérard Pesson, *Wunderblock (Nebenstück II)*, for accordion and orchestra (Paris: Éditions Henry Lemoine, 2005).

¹⁵ Such a situation correlates with the boundary schema discussed by Johnson: 'The experience of blockage involves a pattern that is repeated over and over again throughout our lives.' Johnson, *The Body in the Mind*, p. 45.

¹⁶ Matthias Pintscher, *Reflections on Narcissus*, for violoncello and orchestra (2004–2005) (Kassel: Bärenreiter Verlag, 2006).

Example 2:

Matthias Pintscher's *Reflections on Narcissus* (2004–2005) (score reduction by the author), bars 229–31; reproduced by kind permission of Bärenreiter Verlag, Kassel.

non-developmental, isolated islands within the musical narrative, shaped within the framework of directionality and continuous development. See Example 2; and similar moments occur in bars 241–43 and 248–49. In all three passages these units are formed by the repetition of smaller, one-beat-long, self-contained gestural units in different orchestral layers, forming noticeable mid-level formal units within the work's gestural landscape before eventually becoming part of an extended climax between bars 256 and 262.

Example 2 is a score reduction of bars 229–31, showing seven superimposed rhythmic layers. The first layer repeats a chromatic melodic figure, each beat starting with B \flat 5 and ending on the second eighth-note of a triplet. Each initial B \flat is supported by string pizzicati, harp and the left hand of the celesta. The remaining layers consist of melodic cells, predominantly starting at the beginning of each beat and gradually disappearing towards the end of the beat. Thus the borders of repeated gestures (their segmentation) become clear and a regular triple division of the beat is audible. The dynamics, starting with *sfz* and followed by a *diminuendo*, and the string pizzicati at the beginning of each beat contribute to the perception of grouping and the triple division of the beat. As in the example from Pesson's *Wunderblock*, the abrupt introduction of deadlock formations at bar 229, in the middle of a developmental situation, and their equally abrupt termination at bar 231 project a sense of time in which forward motion and directionality is cancelled.

An unexpected deadlocked-time formation appears in bar 27 of the second movement of Unsuk Chin's *cosmigimmicks* (2011–12) (see Example 3),¹⁷ described by its composer as a 'musical pantomime for seven musicians'. The movement starts with percussive sixteenth-note repetitions in the guitar, presenting an audible time frame based on quarter-notes that are further divided into four. In bar 2 the mandolin presents a syncopated second layer, again dividing each beat into four. As other percussion instruments join the rhythmic fabric, the

¹⁷ Unsuk Chin, *cosmigimmicks* (London: Boosey & Hawkes, 2012).

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Musical score for Example 3, showing staves for Tpt, Perc, Mand, Guit, Hp, Pno, and VI. The score includes various musical notations such as notes, rests, and dynamic markings like 'f' and 'p'.

Example 3:

Unsuik Chin, *cosmigimmicks*, bars 26–27; reproduced by kind permission of Boosey & Hawkes, London.

Musical score for Example 4, showing staves for picc. + fl. + cl., ob. + cl., and cl. + hn. + vc. + vlna. The score includes various musical notations such as notes, rests, and dynamic markings like 'f' and 'p'.

Example 4:

Michael Jarrell, *Reflections* (score reduction by the author), bars 139–41; reproduced by kind permission of Éditions Henry Lemoine, Paris.

initial two layers recede into the background. Since the foreground elements present scattered short figures in the harp, piano and violin, the first occurrence of a quintuplet, in the piano in bar 20, does not disrupt the time frame established by the repeated sixteenth-notes. Around bar 26 the background stratum also disappears and a division of the beat into five becomes dominant but, because there is no vertical correlation between instrumental parts, the metric division into five is not clearly perceptible until bar 27, when the whole ensemble suddenly starts repeating a multi-layered self-contained musical figure that moves in quintuplets. Starting in m. 27, beat 1, and concluding at the end of the bar, the deadlocked-time formation is neither initiated in the previous measures nor continued afterwards. As in the previous examples it appears as an isolated event.

A final example of this type appears towards the end of the third movement (bars 139–41) of Michael Jarrell's concerto for piano and large orchestra, *Reflections* (2019) (see [Example 4](#)).¹⁸ In this passage, notated in 2/4, a temporal frame suddenly emerges, dividing each measure into three. The passage is based on constantly repeated chords in sixteenth-notes. At bar 140, the same temporal frame is

¹⁸ Michael Jarrell, *Reflections* (Paris: Éditions Henry Lemoine, 2019).

retained but the repeated sixteenth-notes are developed into a two-pitch melodic cell in flutes, clarinets, horns, trumpets, marimba, bongo and piano; although a contrasting idea develops in the bassoons, trumpets (second and third), piano and harp from the third beat of bar 140, the triple division of the measure remains audibly dominant throughout the passage.

Frozen Time

Frozen time, occurring as a mid-level formation based on repetition, is an easily recognisable phenomenon in contemporary music. Although regular repetition is the salient factor in this type, there is no temporal frame: the repeated micro-elements do not align in clear vertical rhythmic groupings and no unified pulse governs the motion of the repeated gestural unit. As in deadlocked time, textures are generated by superimposing instrumental layers, but each layer moves at its own pace, repeating the same pitch classes/chords and thus cancelling the notion of rhythmic grouping and regular pulsation. A flat surface with no hierarchy among different layers and musical parameters is created, eliminating forward motion, development and tension-resolution relationships and producing a situation reminiscent of Jonathan Kramer's description of 'vertical time':¹⁹

The result is a single present stretched out into an enormous duration, a potentially infinite 'now' that nonetheless feels like an instant. In music without phrases, without temporal articulation, with total consistency, whatever structure is in the music exists between simultaneous layers of sounds, not between successive gestures.

Bars 77–79 in Pesson's *Wunderblock (Nebenstück II)* present an eloquent passage in which time appears to freeze (see [Example 5](#)). The passage moves with a mechanical orderliness created by the individual temporal behaviour of different instruments. While the bass clarinet regularly divides the measure into six equal segments by repeating a six-note melodic cell, the flutes enter on the third eighth-note of the third beat, which is divided into three. Unlike the previous example, all the layers move at their own pace and repeat the same pitch class, thereby eliminating any resultant metric regularity and the sense of strong and weak beats. The mechanical model is repeated six times, with small changes, at bar 79. The sudden appearance of this textural unit, preceded by the juxtaposition of quasi-tonal phrase formations between bars 69 and 76, creates the effect of suspension. Although Pesson's work generally does not have a dramatic, developmental narrative, and the 4/4 metre is present in most passages, repetitive static textural mid-level forms with strong expressive qualities pointing towards the suspension of time are easily perceptible. Although this article focuses on the listener's perceptual-cognitive experience, it is perhaps useful to quote the composer's programme notes:

In *Wunderblock*, the unfolding of the original score of *Majestoso* from Bruckner's Sixth Symphony (second Leopold Nowak edition; Vienna, Eulenburg, (1990) is strictly respected, bar number by bar number. Certain repetitive passages of the original are sometimes stretched here (iteration also being a form of obliteration, suspension of time).²⁰

¹⁹ Kramer, *Time of Music*, p. 55.

²⁰ Pesson, *Wunderblock (Nebenstück II)*.

m. 77

Example 5:

Gérard Pesson, *Wunderblock* (*Nebenstück II*), bars 77–79 (score reduction by the author); reproduced by kind permission of Éditions Henry Lemoine, Paris.

The fourth of Ivan Fedele's *Études Australes* for piano, 'Aptenodytes', offers, from beginning to end, a unique example of this type of frozen time.²¹ The entire work unfolds through several mid-level formal units, each made up of multiple superimposed layers of repeated chords at different speeds. In each section there is a layer moving in regular eighth-note motion and functioning as a stable reference point; by maintaining one such layer, the degree of deviation of the other layers from this stable point is articulated. An example of such a textural type, containing two rhythmic layers, appears at the very beginning of the work (see Example 6).²² The right hand moves in eighth-note pulsation; the left hand starts simultaneously but at a different pace, namely, a 5×32 nd-note duration. At first we perceive the second chord in the left-hand part as a displacement but, because each layer continues to move at its own pace, the stable eighth-note motion of the right hand loses its function as the departure point. Each layer becomes an individual, moving at a different pace; together they create a serenely non-developmental inertia.²³

The sense of inertia is reinforced in some passages by the superimposition of a layer which creates a rhythmic dissonance with the other layers by the triple division of an eighth- or quarter-note. Such layering first appears in the fourth beat of the second system and later by the triple division of a quarter-note, on the last beat of system 3 on the second page. Roig-Francoli defines such situations as simultaneous speeds, explaining them in terms of tempo stratification.²⁴

²¹ Ivan Fedele, *Études Australes*, No. 4, 'Aptenodytes' (Milan: Edizioni Zerboni, 2003).

²² Roberto Prosseda notes that 'Far from any mystic or explicitly scientific temptations, the reference to Aptenodytes here takes predominantly poetic and formal aspect: the staggering rhythm with which the penguins beat their wings becomes a starting point from which to explore, with the usual precision of writing, certain facets of the realm of timbre produced by piano resonances and the superimpositions of different rhythmic entities'. Roberto Prosseda, 'Ivan Fedele and the Piano', in *Ali di Cantor: The Music of Ivan Fedele*, ed. Cesare Fertonani (Milan: Edizioni Suvini Zerboni, 2011), pp. 359–74. See also Ivanka Stoianova, 'Ivan Fedele: Towards a New Humanism', in *Ali di Cantor: The Music of Ivan Fedele*, ed. Cesare Fertonani (Milan: Edizioni Suvini Zerboni, 2011), pp. 19–44.

²³ This echoes Larson's definition of 'musical inertia' as 'the tendency of a pattern of motion to continue in the same fashion, where the meaning of "same" depends on how that pattern is represented in musical memory'. Steve Larson, 'Melodic Forces: Gravity, Magnetism, and Inertia', in *Musical Forces*, ed. Steve Larson (Bloomington, IN: Indiana University Press, 2012), pp. 82–109.

²⁴ Miguel A. Roig-Francoli, *Understanding Post-Tonal Music* (New York: McGraw-Hill Higher Education, 2007), pp. 267–68.

IV - Aptenodytes

Mécanique... (♩ = 66)

ff *pp*

cluster cromatico "muto".
Pedale tonale... *ten. fino alla fine*

Example 6:

Ivan Fedele, *Études Australes*, No. 4, 'Aptenodytes', opening; reproduced by kind permission of Edizioni Suvini Zerboni.

ff *pp*

K ♩ = 44

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Piano

pp

* Appartiene di questi polifonici differenzia, è il tutto, pianissimo per lo tempo stesso. Le
* Appartiene di questi polifonici differenzia, è il tutto, pianissimo per lo tempo stesso. Le

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Example 7:

Michael Jarrell, *Reflections*, bars 163–67 (piano part only); reproduced by kind permission of Editions Henry Lemoine, Paris.

A final example (see [Example 7](#)) of this model appears towards the end of the first movement (bars 163–67) in the piano part of Michael Jarrell's *Reflections*.²⁵ The example starts with C#5 in bar 163 and moves in a quarter-note duration, with the pulse at every eight thirty-second-notes. The second layer starts with an Eb6 on the last beat of bar 163 and moves at a slower tempo, with the pulse at every nine thirty-second-notes. Finally a third layer starts with a C4 in bar 165 and moves at a still slower tempo, the pulse at every ten thirty-second-notes.

²⁵ Jarrell, *Reflections*.

Epilogue

As I explained earlier, mid-level formal units enable an initial comprehension of the musical structure in which they occur. Following this argument, this study has examined the potential of extramusical referentiality in such occurrences by exploring their intrinsic constructs, guided by cognitive approaches formed around the embodied experience. In both deadlocked time and frozen time, the rhythmic parameter seems to have the most important agency in generating suspension, but stable pitch content and stable dynamics also play considerable roles. The repeated ascending gestures in the flute part of [Example 2](#), starting from Eb5 and concluding repeatedly on Cb5, present just such a strong analogical referentiality: the musical gesture starts from the same pitch, goes up to the highest pitch and, as soon as it reaches the highest point, returns to the starting point again. As such, this fact emerges as almost as important as the rhythmic parameter in creating the frozen time effect.

As I have suggested in this article, deadlocked time and frozen time are metaphorical terms, both offering analogies to temporal suspension by cross-domain mapping.²⁶ Although the construction of an analogy between given musical material and an extramusical temporal reference could be related to a number of extramusical phenomena, such as a stuck LP record or a mechanical clock, as Zbikowski proposes, the labels used in the analyses in this article prompt a visualisation or mental construct, facilitating analogies between musical material and physical movement in general.²⁷ As I have suggested, analogical thinking unfolds in two stages: first, the intrinsic musical mechanisms of deadlocked time and frozen time are correlated with our experiences of everyday life or extramusical phenomena; then these analogies take on syntactic functions within a musical work.

This article has suggested that cognitive approaches offer a vast range of possibilities for understanding the expressivity of the apparent abstractions of contemporary music in a way that goes beyond the aesthetics of pointillist-serialism. These approaches offer fresh perspectives for listeners that go beyond formalism. I believe that this subject requires more research and I hope that my exploration of this repertory will provoke the attention of music theorists and musicologists.

²⁶ See, for example, Keith Holyoak and Paul Thagard, *Mental Leaps: Analogy in Creative Thought* (Cambridge, MA: MIT Press, 1994), p. 6: 'the exploration of the analogy is guided by the person's goals in using it, which provide the purpose for considering the analogy at all'.

²⁷ 'That said, what is important for my argument is less the fidelity of such images with Sagregas's compositional inspiration and more the notion that sound sequences can prompt these sorts of mental constructs in the first place. That this should be so reflects humans' capacity for analogy and (building on Barsalou's theory of perceptual symbol systems) the ways conceptual knowledge that is derived from perceptual information can be connected to other kinds of conceptual knowledge through shared configurations of properties and relations.' Lawrence M. Zbikowski, *Foundations of Musical Grammar* (New York: Oxford Academic, 2017), p. 31.