REFRAMING THE LISTENING EXPERIENCE THROUGH THE PROJECTED SCORE

David Kim-Boyle

ABSTRACT: Over the past ten years, performance scores have been radically foregrounded in a variety of performance practices. Whether such notations assume a prescriptive function, visually projected for musicians to interpret, or a descriptive one, unfolding as a documentation of a live coding performance, how might such a foregrounding reframe the listening process for an audience? Does a notational schema help promote a deeper, structural level understanding of a musical work? This article will consider these various questions, exploring how principles of graphic design and the transparency of notation contribute to the listening experience. It will suggest that works featuring projected scores find aesthetic value in the juxtaposition of notation’s traditionally mnemonic function and the unique temporal modalities that projected scores establish.

INTRODUCTION

From the perspective of the listener, the radical experiments with notational schemas in the 1950s and 1960s by composers such as Wolff, Brown, Stockhausen, Haubenstock-Ramati, Cardew, and Cage, typically remained in the background. The innovative approaches to musical form and the performance challenges presented by the musical notation adopted in works such as Wolff’s Edges, Cage’s Cartridge Music, or Brown’s December 1952, were only ever manifest in an aural space. In sharp contrast, in a growing body of contemporary performance practice, the score has been radically foregrounded, visually projected or otherwise displayed for an audience and offering not only an enriched aesthetic experience, but an opportunity for the listener to develop a deeper understanding of the processes and structures underlying a musical work or performance.

Like their traditional print-media counterparts, projected scores showcase a diverse range of approaches to the use of notation. As these are often generated by computer, however, they often feature information which is dynamically updated or transformed during a live performance. Many also integrate non-linear processes within...
these generative processes. In Nicolas Collins’s *Roomtone Variations* (2013), for example, a series of pitches displayed for an ensemble varies with respect to the resonant tones of the performance space, while in Jason Freeman’s *Shadows* (2015), for piano and computer, the displayed score is modified in response to the live interpretation of the pianist, requiring the performer to engage in a type of extreme sightreading.

Projected scores need not adopt common practice notation, nor do they necessarily need to be generated by computer. Jobina Tinnemans’ panoramic scores, for example, feature hand drawn graphic notation presented on printed media spanning an entire performance space. In her *Imagiro Landmannalaugar* (2017) for small ensemble, for example, the score spans over 20-metres in length, requiring performers to physically navigate through the performance space as they read the score (see Figure 1).

Projected scores also need not be prescriptive in nature. Live coding performances, for example, often routinely display programming script edited by performers in real-time which outline the processes, albeit in highly coded form, that shape a musical structure. But even live coding performances need not feature programming script, in some respects the code equivalent of common practice notation, as evidenced in Thor Magnusson’s *Threnoscope*, a live coding instrument with a unique graphic interface which is used for the instantiation and transformation of drone-based algorithmic processes, see Figure 2.

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1 Pedro Rebelo refers to such scores as reactive scores – Pedro Rebelo, ‘Notating the Unpredictable’, *Contemporary Music Review* 29/1 (2010), pp. 17–27.
2 Jason Freeman, ‘Extreme Sight-Reading, Mediated Expression, and Audience Participation: Real-Time Music Notation in Live Performance’, *Computer Music Journal* 32/3 (2008), pp. 25–41.
3 Common practice notation is arguably used far less often than other forms of notation in this practice.
4 Jobina Tinnemans, Imagiro Panoramic Score, https://jobinatinnemans.com/portfolio/imagiro/. (2017). Accessed 2 January 2018.
5 Thor Magnusson, ‘The Threnoscope – A Musical Work for Live Coding Performance’, in *First International Workshop on Live Programming in Conjunction with ICSE 2013* (San Francisco, 2013).
Irrespective of the type of notational schema projected or the motivation for projecting it, the overt display of the score reframes the listening experience in distinctly unique ways. Does such a foregrounding necessarily promote a deeper structural understanding of a musical work or underlying performance processes? Might not the inherent decoding process inhibit such an understanding? How might the visual design or temporal modality of a dynamic score support this understanding? To better address these questions, a useful starting point is to consider how the visual design constraints of scores created on screens and intended for projection affect the ways in which composers articulate musical forms.

**DESIGN PRINCIPLES AND CONSTRAINTS**

Projected scores are uniquely bound by several principles of visual design which frame the way in which performers and listeners engage with the work and musical processes they denote. For those scores which are prescriptive in nature, these principles in turn facilitate certain modes of musical expression while inhibiting others.

Despite the obvious advantages of common practice notation, not least of which is its widespread familiarity, its informational density makes it not particularly well suited for visual projection, one of the reasons, perhaps, why graphic notation is frequently used in this practice. This problem is exacerbated further when multiple parts are embedded within a page. As a result, when common practice notation is projected for performers to interpret, it tends to operate within unique constraints – rhythmic complexity is avoided, pitch selections are often confined to smaller registral tessituras, and traditional expressive indications whether denoted by symbols or text are minimized.

While page turns are somewhat of an anachronism in projected scores, the constrained spatial area of a display has seen composers adopt a range of animation techniques in order to present performers

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6 While these may indeed include a desire to provide listeners with a deeper understanding of underlying musical processes, they may also be driven by a response to pragmatic challenges involved in presenting screen scores to small ensembles or simply an appeal to visual aesthetics.

7 Jeff Bezemer and Gunther Kress, Multimodality, Learning and Communication: A Social Semiotic Frame (London: Routledge, 2016).
with new musical information. Cat Hope’s screen scores, for example, often employ scrolling techniques to display new information to an ensemble, directly correlating the display methodology to the drone-based forms that underlie much of her work. In *Longing* (2013), for example, the score is presented to each member of the ensemble on networked iPad displays and also projected for the audience. The performers are presented with a small display window that slowly scrolls from left to right across a master score image (see Figure 3a). Scrolling need not adopt the familiar left-to-right

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**Figure 3:**

(a) Windowed image as presented to performers from the master score of Cat Hope’s *Longing* (2013) and (b) Still image from Cat Hope and Lindsay Vickery’s *The Talking Board* (2011). Images included by kind permission of Cat Hope and Lindsay Vickery.

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8 David Kim-Boyle, ‘The Visual Design of Real-Time Scores’, *Organised Sound* 19/3 (2014), pp. 286–94.
9 The types of animation techniques employed in a screen score often underscore a work’s formal structure. Consider, for example, how performers might approach a performance of Hope’s *Longing* should a ‘pages’ methodology for displaying new information be used, or how the event-driven textures of Ryan Ross Smith’s various percussion works are related to temporal synchronicities and collisions between on-screen graphic primitives.
10 The scrolling animation technique that underscores Hope’s work is one of a series of animation types embedded in the Decibel Score Player application, required for a
paradigm, as evidenced in Hope and Vickery’s *The Talking Board* (2011), in which various coloured circles (*planchettes*) drift across a master image, framing new information to be interpreted by the performers (see Figure 3b).

New musical information can also be embedded within a single display through the animation of notational descriptors. In Bergrún Snæbjörsdóttir’s *Esoteric Mass* (2014) for 16 wind instruments, for example, notes are denoted by circles of light which orbit along concentric rings projected onto the floor of the performance space around which the performers stand (see Figure 4a). The duration of notes is correlated to the speed at which the circles orbit. I adopt a similar method of embedding information within a display frame in my *point studies no. 6* for string quartet where rotating nodes, radials and arcs denote various natural harmonics to be performed by members of the quartet with colour used as a means of denoting string and harmonic numbers (see Figure 4b).

![Figure 4](image-url)

Figure 4:
(a) Still image taken by Henrik Beck/nyMusikk from a performance at nyMusikk’s Only Connect festival of Bergrún Snæbjörsdóttir’s *Esoteric Mass* (2014) (b) Still image from the score for David Kim-Boyle’s *point studies no. 6* (2016) (right). Image included by kind permission of Bergrún Snæbjörsdóttir and Henrik Beck/nyMusikk.

Performance of the work. Further information on the application is available at Cat Hope & Lindsay Vickery, ‘The Decibel Score Player – A Digital Tool for Reading Graphic Notation’, *Proceedings of the TENOR2015 First International Conference on Technologies for Music Notation and Representation*. (Paris, 2015). Available at <http://tenor2015.tenor-conference.org/program.html>.
Animated event descriptors can also be combined with traditional notation in a hybrid form. In Ryan Ross Smith’s *Study No. 10* (2013) and Ingibjörg Fríðriksdóttir’s *Right is Wrong* (2013), both for solo piano, only one grand stave is displayed, addressing the information density weakness of common practice notation, with discrete pitches scrolled across the display from right-to-left (Figure 5).

![Figure 5: Still images from the scores for (a) Ryan Ross Smith’s *Study No. 10* (2013), and (b) Ingibjörg Fríðriksdóttir’s *Right is Wrong* (2013). Images included by kind permission of Ryan Ross Smith and Ingibjörg Fríðriksdóttir.](image)

Irrespective of the type of animation adopted, the speed of dynamic change is constrained by the inability of the eye to accurately track rapid visual transitions, especially when that information is distributed over a large spatial area. 11 Visual information is never animated at a speed greater than that which it can be accurately tracked by the performers, unless the failure of accurate tracking happens to be of aesthetic importance as in the case of a work such as Lindsay Vickery’s *Escadaria do Diablo* (2017) where the performer faces the challenge of reading a score in which notation randomly disappears. In order to facilitate the accurate tracking of animated descriptors, many projected scores are designed such that the field of vision of the performers is deliberately constrained, much in the same way as the performer reading common practice notation linearly interprets a

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11 Lindsay Vickery, ‘Music Screen-Reading: Indicative Results from Two Pilot Studies’, *Proceedings of the 2015 Conference of the Australasian Computer Music Conference* (Sydney: Australasian Computer Music Association, 2015), pp. 119–125.
relatively small area of information. In both Hope’s *Longing* and Smith’s *Study No. 10*, for example, a virtual *playhead* which in Hope’s work also functions as a means of synchronising non-linear processes, directs attention to a small area of the score. Similarly, in *The Talking Board*, the coloured *planchettes* constrain the notational information to be interpreted to a very small area. In Smith’s *Study 22* for 24 percussionists, despite the wealth of graphic information displayed, each of the percussionists focuses on intersections of individual graphic primitives within a very narrow area rather than monitoring intersections across all 24 moving primitives (see Figure 6). For the listener viewing the score of such a work, observing the correlations between discrete parts will be somewhat easier, as they are absolved of the need to monitor a small visual area.

Colour assumes a more constructive role in scores generated by computer and projected in performance. It can be used to help distinguish different parts within an ensemble piece, as seen in Cat Hope’s *Longing*, or mark different dynamic levels of individual notes as in Ingibjörg Friðriksdóttir’s *Right is Wrong* for solo piano (see Figure 5). Along with other text-formatting parameters, colour is also an inherent feature of programming script, used to facilitate

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12 Thomas W. Goolsby, ‘Eye Movement in Music Reading: Effects of Reading Ability, Notational Complexity, and Encounters’, *Music Perception* 12/1 (1994), pp. 77–96.

13 This is not to suggest that colour has not been used in paper-based scores, refer for example to the use of colour in fourteenth-century *Ars Subtilior* notation, as a means of clarifying complex mensural division.
accurate and rapid editing, a particularly necessary feature in live coding performances.14

While colour has a purely functional role when used as a means of distinguishing or denoting musical information in a notational script and results in a correspondingly constrained range of colours employed, colour sometimes has an undeniable aesthetic importance in scores designed for projection. In Marina Rosenfeld’s WHITE LINES (2003–), for example, a pair of parallel white lines is superimposed on a series of short colour video projections. The lines vary in width and opacity, with performers mapping those variations to musical parameters. While colour certainly has a functional role in helping distinguish the white lines from the background image, it also has a fundamental aesthetic value in drawing attention to concepts of stasis and becoming.15

The musical processes denoted by the projected score are clearly conditioned by these and various other principles of visual design and organisation. And while the ability of the projected score to contribute to a deep structural understanding of a work may be open to conjecture,16 the foregrounding of the score nevertheless invites the listener to enter into a decoding process to support a better understanding of the musical and performance processes underlying the work itself.17

**DECODING**

to listen is to adopt an attitude of decoding what is obscure, blurred, or mute, in order to make available to consciousness the ‘underside’ of meaning18

In his influential 1986 essay ‘Listening’, Roland Barthes identified three ways in which sound can provide meaning: firstly through acting as an indice and thus providing a means of orientation, secondly through acting as a sign and functioning in a semiotic mode, and thirdly through functioning as a shimmering of signifiers that draws attention to what is unsaid. Barthes associates the third mode of listening with that of the experience of listening to the work of experimental composers such as John Cage, where awareness is brought to the verticality of sound rather than its syntagmatic extension. While in many respects Barthes modes are woefully general,19 they do provide a useful framework for helping to understand the experience of listening to musical works the scores of which are visible to the audience.

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14 Alex McLean, Dave Griffiths, Nick Collins, and Geraint Wiggins, ‘Visualisation of Live Code’, EVA’10 Proceedings of the 2010 International Conference on Electronic Visualisation and the Arts, (London: 2010), pp. 26–30.
15 Personal communication with the composer.
16 Theodor Adorno, ‘Types of Musical Conduct’, in *Introduction to the Sociology of Music* (New York: The Seabury Press, 1976), pp. 1–20. For a critique of Adorno’s structural listening, see Rose R. Subotnik, ‘Towards a Deconstruction of Structural Listening: A Critique of Schoenberg, Adorno, and Stravinsky’, in *Deconstructive Variations – Music and Reason in Western Society* (Minneapolis: University of Minnesota Press, 1996); and Andrew Dell’Antonio, ed., *Beyond Structural Listening? Postmodern Modes of Hearing* (Berkeley: University of California Press, 2004).
17 In effect a reversed type of syncretic listening where the image provides insight into the aural space, see Michel Chion, *Audio-Vision: Sound on Screen* (New York: Columbia University Press, 1994).
18 Roland Barthes, ‘Listening’, in *The Responsibility of Forms*, trans. Richard Howard (trans.), (Oxford: Basil Blackwell, 1986), pp. 245–60.
19 For a more detailed analysis of the shortcomings of Barthes modes of listening, the reader is referred to A.W. Jing, ‘Affective Listening: China’s Experimental Music and Sound Art Practice’, *Journal of Sonic Studies* 2/1 (2012). Available at http://journal.sonicstudies.org/vol02/nr01/a11.
As noted, through the foregrounding of the score, listeners are invited to engage in a deciphering process to help understand the musical processes to which they are attending. In Rosenfeld’s *WHITE LINES* this deciphering is even encouraged when the notation is exhibited in non-concert settings. All this despite Barthes assertion that we do not listen to music in a deciphering sense. To explore the process of deciphering a little more, consider the three notations with an equivalent sounded result which might be presented in a hypothetical performance situation (see Figure 8).

![Figure 7: Still image from a performance of Marina Rosenfeld’s *WHITE LINES* (2003–). Image included by kind permission of Marina Rosenfeld.](image)

Even for listeners unable to read music notation, given its widespread general familiarity it is reasonably safe to assume that they will associate each note symbol of (a) with a particular pitch that varies with respect to the position of the note-head on the stave, and develop an understanding that the beaming of these notes denotes a rhythmic pattern. Now consider the second example. Again, assuming the same sounded result, a listener will likely assume that notes are represented by nodes with pitch denoted by node colour and

![Figure 8: Three notations producing the same sounded result: (a) common practice notation, (b) graphic notation, (c) Supercollider programming script.](image)

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20 Installation/Performance Notes provided courtesy of the composer.
rhythmic organisation denoted by spatial distribution. The efficiency with which variations in spatial height (a) or colour (b) can be mapped to a particular pitch is not of concern at this time although it should be noted that (a) perhaps better represents the relative changes in pitch across the phrase. In any event, the relationship between the notational schemas of (a) and (b) and the sounded result is unambiguous and in the semiotic tradition both notations would be said to be denotative signifieds. The third example by contrast is, despite its intrinsic simplicity, the most highly codified of the three and would arguably require a fundamental knowledge of programming syntax to understand the relationship between what is presented and its sounded output. While one cannot point to a direct one-to-one relationship between sign and signified, and while each part of the code exists within a complex chain of meaning, for a competent Supercollider programmer, the relationship between the programming script and the sounded result may conceivably be more easily decoded than that of (a). Clearly, in all three examples, understanding the relationship between the notational schema presented and the sounded result involves developing fluency in a particular referential code.  

It does not necessarily follow that simply understanding a referential code or syntactic structure of a notational schema allows a listener to more easily draw associative relationships across sensory modalities. This is particularly the case when various non-linear processes are embedded within a musical form. Consider a variation of the previous three examples (Figure 9).

When presented with notations (a) or (b), a listener will likely continue to ascribe denotative relationships between note symbols (a) or spherical nodes (b) and pitches, but as that relationship cannot be unambiguously determined given the non-linear sequence of pitches, the notation is seen more to denote a prescriptive process rather than describe a particular sounded result. While it maintains a referential function, it also begins to assume a more poetic one.  

Despite the non-linear process embedded within Figure 9 (c), it maintains the same complex association of referential functions as that of Figure 8 (c) and as such, the listener response is unlikely to be greatly dissimilar. It requires much the same knowledge of programming code and syntax to properly understand its relationship.

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21 Roman Jakobson, ‘Closing Statement: Linguistics and Poetics’, in Style in Language, ed. Thomas A. Sebok (Cambridge, MA: MIT Press, 1960), pp. 350–77.

22 Linda R. Waugh, ‘The Poetic Function in the Theory of Roman Jakobson’, Poetics Today 2/1a (1980), pp. 57–82.
to a sounded result and, to that end, continues to be framed as a
description of a process rather than a particular musical outcome
per se.

The referential function of notational schemas is made somewhat
easier to decode through the use of animation techniques in certain
generative scores to denote the onset of particular note events. In
Smith’s Study No. 22 (Figure 6) or Bergrún Snæbjörnsdóttir’s Esoteric
Mass (Figure 4a), it is not difficult for the listener to perceive that
the collision of graphic primitives in the former work, or the intersec-
tion of moving circles with the spatial location of performers in the
latter, corresponds to the articulation of note events. Similarly in scrol-
ling scores which employ a playhead paradigm such as Cat Hope’s
Longing (Figure 3a), or Ingibjörg Friðriksdóttir’s Right is Wrong
(Figure 5), the relationship of graphic shapes to relative pitch is easily
decoded through observance of the vertical point of intersection of the
shape with the playhead. In each of these four pieces, the referential
functions of the notation employed are facilitated through the manner
of their temporal unfolding.

Somewhat counterintuitively, perhaps, the referential function of
notation can also be suggested through an a priori physical relationship
between the performer and the visually presented score. This relation-
ship is at the core of Snæbjörnsdóttir’s Esoteric Mass, where the score is
physically embodied within the performance space, but it is also
explored in Jobina Tinnemans’ Imagiro Landmannalaugar (Figure 1),
where the decoding process is facilitated through the manner in
which the performers choreograph their movement through the per-
formance space in order to be able to read the 24-metre-long score.

As notational schemas become more complex, their various refer-
ential functions become more ambiguous and difficult to decode. In
a work such as Lindsay Vickery’s nature forms I (2014) for three instru-
ments and electronics, for example, it is unlikely that the listener will
be able to ascribe any referential function to the notation as these
functions themselves are not semantically disjoint, with each of the
three players interpreting the notation according to different rules
(see Figure 10). Clearly, in a work such as this, the poetic function
of the notational schema assumes as much importance as any referen-
tial one. Nelson Goodman goes even further, claiming that a variable
compliance relationship such as this fails to meet the semantic require-
ments of a notational schema, i.e. it is not semantically disjoint, and
can therefore no longer be considered to be a notation at all.23

Figure 10:
Excerpt from the score for Lindsay
Vickery’s nature forms I (2014). Image
included by kind permission of
Lindsay Vickery.

23 Nelson Goodman, Languages of Art: An Approach to a Theory of Symbols (Indianapolis: Bobs-Merrill, 1968).
Despite the inherent difficulties inherent in the decoding process, it does not necessarily follow that the inability to unambiguously ascertain referential relationships between image and sound prevents the listener from developing a deeper understanding of a musical work, just as it does not necessarily follow that someone who can fluently read common practice notation automatically has a deep understanding of traditionally notated works. Somewhat ironically perhaps, this supports Barthes original assertion that we do not listen to music by way of deciphering,\textsuperscript{24} despite the overt invitation to do so through the foregrounding of the score. While Barthes argues for a vertical signifying in his third mode of listening, which he contends is the manner of listening encouraged by the contemporary art music tradition of the early 1970s, he does not explore in great depth the temporality of the listening process. I would argue that the temporal modality of scores foregrounded through projection presents perhaps the most interesting insights on how composers working in this area of practice frame listener engagement with the work.\textsuperscript{25}

**TEMPORAL MODALITY**

The projected score encourages an engagement with procedural relationships as they temporally unfold in the score and are musically sounded in the performance space.\textsuperscript{26} While this engagement is to a certain extent more easily recognised in those scores that employ various animation techniques, it is also strongly featured in scores such as Tinnemans’ *Imagiro Landmannalaugar*, where sounds’ becoming is underscored through the evolving physical relationship between the body of the performer and the materiality of the score. For those scores that do feature the animation of notational descriptors, the animation techniques employed ground the work in a particular temporal modality which fundamentally frame listener engagement.

In her critique of structural listening, Rose Subotnik argues that musical style ‘defines the conditions for actual structural possibilities, and that structure is perceived as a function of style more than as its foundation’.\textsuperscript{27} This observation is particularly manifest in the temporal modality of projected scores. In Hope’s *Longing* or Tinnemans’ *Imagiro Landmannalaugar*, for example, the drone-based flow of musical texture is strongly supported and musically reinforced by the scrolling model adopted in the display of musical information as well as the overt use of horizontal, graphic lines in the score. Similarly, in many of Ryan Ross Smith’s works for percussion, such as *Study No. 22* (Figure 6), the gradual acceleration and deceleration of sonic events which results in complex rhythmic textures is strongly supported by the manner in which sonic events are represented in the score through the collision of graphic primitives. It is hard to imagine the processes employed would be as transparent for the listener if sonic events were represented through a scroll-based score. In Marina Rosenfeld’s *WHITE LINES*, the becoming of musical processes is strongly reinforced by the concurrent dissolution of the white lines in the score through variations in visual opacity. In all of these works, the temporal modality of the score underpins formal musical structure.

\textsuperscript{24} Barthes, ‘Listening’, p. 259.
\textsuperscript{25} See Bezemer and Kress, *Multimodality, Learning and Communication*.
\textsuperscript{26} This, perhaps, as opposed to an idealized Adornian structural listening, see Adorno, ‘Types of Musical Conduct’.
\textsuperscript{27} Subotnik, ‘Towards a Deconstruction of Structural Listening’.
The mnemonic function of notation is extended in the projected score such that it serves as an aide-memoire not only for the performers but for the audience, providing the visual support to relate current events to past but also to better anticipate how future events might unfold. In non-linear forms, open forms, or in visual scripts where denotative relationships cannot be unambiguously determined, this anticipatory function is fundamentally unique. As a live coder edits the parameters of an iterative loop, for example, a listener reasonably cognisant of programming structure can anticipate sonic outcomes. Similarly, as a scrolling score unfolds, transitions from one sonic texture to another can be anticipated even though denotative relationships between graphic typographies and sounded results are not strictly unambiguous. Cat Hope has indicated that the ability of the listener to anticipate outcomes is one of the reasons she would rather an audience not see a score.

Through projection of the score, the audience is made aware of a field of structural possibilities that is typically closed with the navigation, decisions, and determinations that the performer/s make

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28 Adorno suggests that rather than developing as an aide-memoire enabling performances to be recreated, notation in fact served as a means of reifying musical practice most notably through techniques for indicating mensuration. Theodor Adorno, *Towards a Theory of Musical Reproduction: Notes, a Draft and Two Schemata*, trans. Weiland Hoban (Cambridge: Polity Press, 2006).

29 The performance challenges involved in interpreting a generative notation are tangential to the focus of this article. The reader is referred to Jason Freeman, 'Extreme Sight-Reading', for more in-depth discussion.

30 Cat Hope, Personal communication, 2016.
embedded as criteria for aesthetic reflection. This is in marked contrast to the experience of a seminal open-form work such as Stockhausen’s *Klavierstücke XI* or Haubenstock-Ramati’s *Liaisons*, in which the virtual pathways through the score remain closed for the listener. The projected score thus concretizes the work’s protentive possibilities.31

As non-linear processes become more deeply embedded in a notated script, the ability of the listener to anticipate or protend sonic outcomes becomes more difficult. Nevertheless, the foregrounding of the score presents the audience with all the work’s latent and virtual possibilities.32 not just those that are actualised. In the author’s $64 \times 4 \times 4$, see Figure 11 for example, the listener is presented with the entire field of possibilities that performers can take through the score although only one is sonically actualised. For the listener, the work becomes a field of potentiality ontologically defined as much by its latent possibilities as by those sounded.33 These potentialities constantly shadow the work’s actualisation, overtly foregrounding the process of production and entelechy.

**CONCLUSION**

The visual presentation of the real-time score, whether that score be prescriptive or descriptive, invites listeners to engage in a decoding process to develop a deeper understanding of the musical processes underpinning a musical work. While this process can rarely be unambiguously undertaken, this ambiguity nevertheless results in perhaps the most ontologically significant outcome in which the latent possibilities visually presented but not necessarily actualised come to establish a world, in a Heideggerian sense, playfully disclosed through sonic realisation.34 The tension between the actualisation of a world through sonic becoming, sound’s haecceity,35 and the historically mnemonic function of notation forms, perhaps, the locus of aesthetic interest in the practice.

Are the creative possibilities afforded by a reframed listening experience and its subsequent ontological effects somewhat tempered by a tendency to fetishise notational schemas? Might not the opportunity for an active, structural listening experience be diluted through presentation of notational schemas?36 On the contrary, I would suggest that a notational schema affords an enriched engagement with a musical performance. Through a rich foregrounding of the score, with its typically inherent non-linearity and protentive suggestion of possibility, the listener is invited alongside the performer/s to playfully engage with a work’s structural processes and in turn develop an intimate understanding of the world it explores.

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31 See Edmund Husserl, *On the Phenomenology of the Consciousness of Internal Time (1893–1917)*, trans. J. B. Brough (Boston: Kluwer Academic Publishers, 1993).
32 Gilles Deleuze, *Bergsonism*, Hugh Tomlinson & Barbara Habberjam (trans.), (New York: Zone Books, 1991).
33 Agamben touches on this in his discussion of the poetics of the open-work, arguing for a negative presence. See, Giorgio Agamben, *The Man Without Content*, Georgia Albert (trans.), (Stanford, CA: Stanford University Press, 1999).
34 See Martin Heidegger, ‘The Origin of the Work of Art’, in *Poetry, Language, Thought*, trans. A. Hofstadter (New York: Harper & Row, 1971), pp. 15–86, and R. Raj Singh, ‘Heidegger and the World in an Artwork’, in *The Journal of Aesthetics and Art Criticism* 48/3 (1990), pp. 215–22.
35 Gilles Deleuze and Felix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis, MN: University of Minnesota Press, 1987).
36 Theodor Adorno, ‘On the Fetish Character in Music and the Regression of Listening’, in his *Essays on Music*, ed. Richard Leppert (Berkeley: University of California Press, 2002), pp. 288–317.