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New Music inspired by Old Hispanic chant[1]

Litha Efthymiou and Emma Hornby

Introduction

Countless composers have turned to the Middle Ages for inspiration, a practice described by Pugh and Weisl as 'medievalism.'[2] Multiple strategies have been developed, ranging from use of existing medieval melodies[3] to being inspired by medieval art or architecture.[4] In what is perhaps the most familiar approach, composers use identifiable musical signposts that signify – to modern audiences – an imagined medieval sound. For example, in much music by Tavener, the medieval past is arguably evoked through recognisable modern signifiers rather than building on concrete aspects of medieval Greek chant.[5] Use of such signifiers relies on listeners recognising stereotyped ideas of medieval music. Many of the prevailing strategies adopted by composers since the 19th century are explored in detail in the forthcoming *Oxford Handbook of Music and Medievalism*.[6] In the present article, we discuss an example of recent practice-based research falling under the umbrella of 'creative medievalism.'[7] The works discussed here were generated through collaborative research undertaken by a composer and a group of medievalists.

We begin by introducing the research project and, in particular, EH's work on Old Hispanic melismas. Old Hispanic chant survives almost exclusively in unpitched notation, and has particular characteristics that are aesthetically alien from a modern perspective (e.g. a single syllable carrying 200+ notes). It is challenging to respond to this music through 'creative medievalism': a composer cannot be inspired by the medieval pitch content (since we do not know what it was); and a modern vocal piece with 200 notes on one syllable would probably alienate rather than engage listeners. This stimulated LE to consider new modes of intellectual and creative engagement with the medieval past, pinpointing and conveying something of the essence of these chants in a contemporary musical idiom. In the second part

[1] The research leading to these results was funded by the European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013) / ERC grant agreement n° 313133

[2] Tison Pugh and Angela Jane Weisl, *Medievalisms: Making the Past in the Present* (Abingdon: Routledge, 2013), 1. On specifically musical medievalism, see Annette Kreutziger-Herr, 'Medievalism,' *Grove Music Online*, accessed 5 Jan. 2019, http://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0002261008.

[3] To give just one illustrative example, Maxwell Davies' *Worldes Blis* (1969) has plainchant permeating the music on every level. For detailed discussion of some examples by Pärt and Tavener, among others, and for further bibliography, see Kirsten Yri: *Medieval Uncloistered: Uses of Medieval Music in Late Twentieth Century Culture*, (PhD dissertation, SUNY at Stony Brook, 2004).

[4] See, for example, Paul Rapaport, 'The Music of the Symphony' in Paul Rapaport and Harold Truscott, *Havergal Brian's Gothic Symphony: Two Studies*, London: The Havergal Brian Society, 1978, p. 77. We were also influenced by Lisa Colton, 'Past Tense: The Middle Ages as Creative Stimulus in the works of Margaret Lucy Wilkins,' Bristol University Music Research Seminar, 2015. Our thanks to Dr. Colton for sharing her transcript of this presentation with us; a developed version of this paper is included in the forthcoming *Oxford Handbook of Music and Medievalism*, edited by Stephen C. Meyer and Kirsten Yri (Oxford University Press, forthcoming 2020).

[5] Ivan Hewett, *Music: Healing the Rift* (London: Continuum, 2003), 212.

[6] See fn4, above, for a reference

[7] For this term, see Kreutziger-Herr, 'Medievalism.'

of the article, we outline some of the compositional techniques that LE applied in pursuit of this goal.

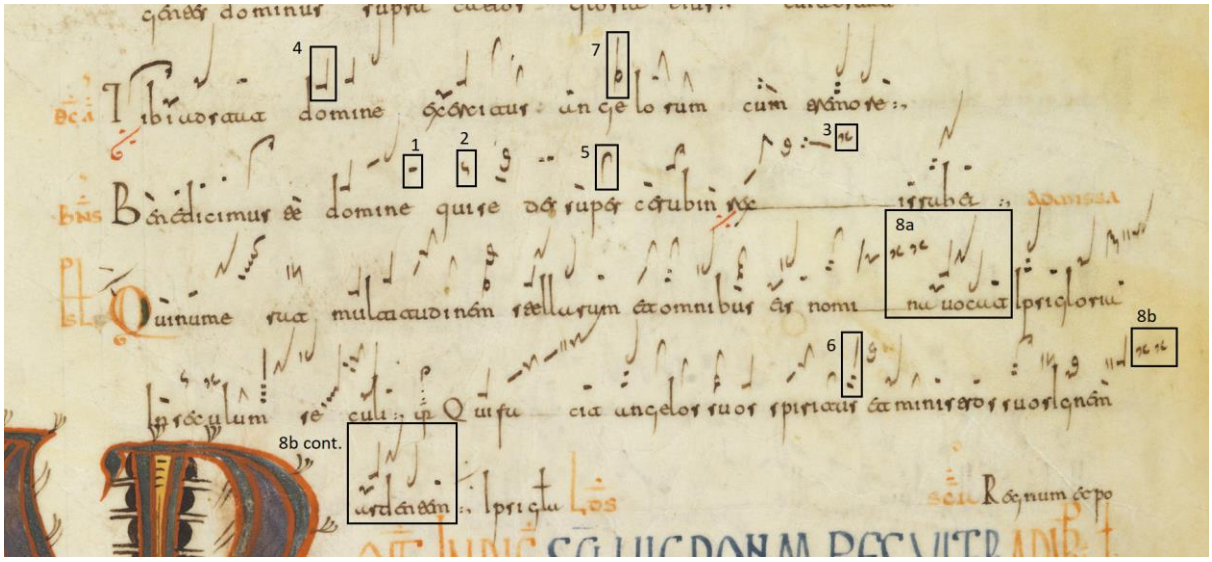
The Old Hispanic Office project

The ERC-funded project *Shaping text, Shaping melody, Shaping experience in and through the Old Hispanic Office* focused on the Old Hispanic liturgy. This Christian rite, while Latin, was independent of the familiar Roman liturgy and its Gregorian chant, and it was practised on the Iberian peninsula until its suppression at the Council of Burgos (1080AD). During the project, EH and Rebecca Maloy wrote publications on: the relationship between text, melody and theology in Old Hispanic chant; the repertoire's melodic transmission; and its musical language. There were two postdoctoral researchers: a music palaeographer (Elsa De Luca), and a cultural historian (Kati Ihnat). A PhD student (Raquel Rojo Carrillo) undertook a case study of the vespertinus, which opened each Old Hispanic liturgical day.

One major challenge in sharing this research with a wide audience was that fewer than thirty chants (out of thousands) are preserved in Aquitanian notation that shows intervals. These are mostly rather simple, for subdued occasions (e.g. the Maundy Thursday foot washing and the funeral service).[8] All the rest of the repertoire is preserved only in unpitched neumes. The neumes signal how many notes there are, and when the melody rises or falls within each notational sign. The precise pitches and intervals are unrecoverable. In this notation, the metaphor that time passes from left to right across the page is already established; so is the convention that a rise in pitch is represented by a rise on the page. Each note is represented by a dot, a curved line, a straight line, a wavy line, or an angle. Some of these shapes can appear alone, as a single neume signifying a single note: straight line (Example 1, box 1), wavy line (box 2), and curved line (box 3), where the two curves signify two unison notes). The shapes can be combined in various ways to signify two or more notes within a single neume. As they combine, they intersect with an angle (box 4; two straight lines, the second one higher, connected via an angle), a curve (box 5; two curved lines, the second one falling, joined via a curve) or a small gap (box 6; three rising notes, with small gaps between them, smaller than the gaps we encounter between neumes). An angled or curved connection sometimes results in a looped penstroke (box 7; a rising straight line, a curve, and another straight line, all joined by curves, with a loop, signifying three rising notes). These components combine in multiple ways, resulting in a very rich notational vocabulary, where any melodic contour can be (and is!) represented in multiple ways. This means that, when we encounter recurring combinations of neumes, it is likely that they were written identically on purpose, to represent the same musical gestures (see, for example, boxes 8a and 8b; note that this example was selected entirely at random; such recurring combinations are absolutely characteristic of the repertoire).

Example 1: The León antiphoner, folio 237v

[8] These are edited in Casiano Rojo and Germán Prado, *El Canto Mozárabe* (Barcelona, 1929), 73-81.



In public presentations, should the research team focus on the pitched chants, limiting people's impression of the repertoire's soundworld and conceptual scope? Or find non-auditory ways of communicating historical findings about medieval music, risking dry abstraction? We took a third approach. A PhD composition student, LE, was included in the research team, responding to the historical findings compositionally, to communicate elements of Old Hispanic musical values and religious ritual experiences. Rather than trying to recreate such values and experiences within liturgy, LE chose to create music in a modern idiom, for modern audiences and for modern secular contexts, that evokes the experience medieval liturgical practitioners might have had of Old Hispanic chant. In the present article, we introduce two compositions emerging from LE's practice-based research. These engage with the musical language of thousand-year-old chant, yet avoid creating a theme-park imagining of its original sound world.

Old Hispanic Liturgy and Experiential Medievalism

Medieval liturgy is made up of rituals in which, as Flanigan states, 'there are no audiences…since the entire congregation participates in them.'[9] LE aimed to reproduce something of medieval ritual experience. Such an engagement with the medieval past could be described using Pugh and Weisl's term 'experiential medievalism.'[10] Although Pugh and Weisl's examples are far removed from musical performance (they identify jousting and medieval fairs as a way of 'becoming, or indeed, being medieval'),[11] their term could apply to any artistic practice that gives its audience first-hand experience of something that medieval people may have experienced. Within the project team, the historical researchers introduced LE to a variety of potentially inspiring topics. One departure point was some particularly vivid Old Hispanic rituals and rites of passage. LE explored levels of initiation,

[9] C. Clifford Flanigan, 'Medieval Liturgy and the Arts,' in *Liturgy and the Arts in the Middle Ages: Studies in Honour of C. Clifford Flanigan*, eds. Eva Louise Lillie and Nils H. Petersen (Copenhagen: Museum Tusculanum Press, 1996), 9-35, at 9–10. Flanigan goes on to say that in contrast to ritual 'the arts are marked by some sort of division between audience and performers' (10).
[10] Pugh and Weisl, *Medievalisms*, 122.
[11] Pugh and Weisl, *Medievalisms*, 122.

stimulated by the Palm Sunday liturgy. The special rites of this day centred around initiation of those to be baptised the following week; they were given access to parts of the church that were usually reserved only for clerics. In *Myisi*, LE gave audience members a directly parallel experience: some were given a clear view of the dramatic action; others could view only through peepholes; and others could see nothing at all, paralleling the experience of the laity for whom the liturgical action was hidden behind a screen.[12] Here, the audience members shared something of the hierarchical experience of different members of medieval society, from full engagement with the liturgy, through partial or temporary access to proceedings, to the tantalising frustration of hearing something happening without being able to see it.

Old Hispanic melisma

LE and the musicologists also discussed further aspects of how liturgical participants' experiences were shaped by melody. EH, Maloy and Rojo Carrillo all worked on the melodic density of particular chants. This approach began with a simple count of the number of notes per syllable within a chant, resulting in a growing understanding of the melodic norms associated with particular chant genres. Although we cannot know the pitches, we can uncover some aspects of how the liturgical melodies nuance and heighten the textual message, pacing it (through the number of notes per syllable), punctuating it (through cadence placement), and making connections between different pieces of text (through recurring melodic passages). The temporal control of text delivery affects liturgical participants' understanding of time passing.[13] This temporal control is achieved in two ways. First, short melismas are often employed to emphasise particular words or phrases, nudging listeners and singers to ruminate on their meaning. Second, long melismas (40-200+ notes on one syllable) are often found at the end of a chant or chant section. During such long melismas, it is very difficult to keep track of the word being sung, and textual meaning may have receded into the background for singers and hearers alike.[14] If this was the case, then liturgical participants experienced an extended moment of textual stasis.

EH explored what these lengthy melismas might have meant to medieval liturgical participants. Here we briefly summarise the results that LE found most stimulating as a springboard for her practice-based research. Medieval liturgy is fundamentally text-centred, and the primary role of liturgical text was to engender and articulate orthodox belief. What, then, is the theological justification for melody that obscures text, and what was its purpose? The writings of Augustine of Hippo (354-430) were widely influential across medieval Europe. We have some sense of how they were read in early medieval Iberia through the writings of Isidore of Seville (ca. 570-636), who selectively quoted many of Augustine's

[12] See short film of Myisi here: https://vimeo.com/135793871. See also Litha Efthymiou, 'Devising an Opera: Myisi,' *Contemporary Music Review* 35 no. 6 (2017): 599–611.
[13] Emma Hornby, 'Musical Values and Practice in Old Hispanic Chant,' *Journal of the American Musicological Society* 69 (2016): 595-650. The findings of this article are summarized in the following passage.
[14] We should bear in mind that many of these biblical texts were used only once or twice a year within the liturgy; we have very few Old Hispanic settings of the familiar Mass Ordinary texts (Kyrie, Gloria etc). These texts were not necessarily familiar to all liturgical participants.

passages pertaining to music. Augustine's attitude towards music was ambivalent. In *Confessions*, he acknowledged the crucial role that music played in his own conversion. Music could distract the listener from focussing on God, though, and was therefore dangerous. According to Augustine, rational attention towards God should be rooted in the religious text being sung, instead of purely musical appreciation overtaking reason. For him, simple recitation was 'safer' than elaborate melodies. These ideas were selectively adopted by Isidore, who repeated the ideas about the positive power of sacred chant, but omitted Augustine's anxieties about music's potential to distract. If Iberian theology were purely Augustinian, it would be difficult to understand why Old Hispanic chant has such elaborate melodies. However, within Isidore's theology – which was influential across medieval Iberia – it is readily explicable.

In *Confessions*, Augustine gives hints about how music could affect liturgical participants' perception of time passing. During a familiar song, hearers move between memory of what has already been sung and anticipation of what is to come, while also being attentive to the present moment. This process of anticipation and remembering ('distension') can distance humanity from God, who transcends time and place. The danger is that participants can be distracted from the part of the song that is present at any one moment, as their memory extends over that which has already been sung, and anticipates that which is yet to be sung.[15] Despite this, according to Augustine, a concentrated focus on the present moment can result in transcendent experience of the divine.

Some aspects of Old Hispanic melismas seem to encourage distension. Long melismas often have repeating neume combinations, resulting in structures such as AABBCCD, AA'BB'C, etc. During such repeating patterns, the singer (and perhaps the listener) is simultaneously aware of what has just been sung and what is about to come. This might make it hard to be rooted in the present. But, conversely, as the natural flow of text halts in a long melisma, temporal awareness fades into the background. Thus, melisma has the potential to promote a stable grounding in the present moment, avoiding distension and facilitating divine connection.[16]

Discussions of this research inspired LE to compose music that aspires to concentrated stasis, to meet Augustine's ideal of a transcendent present moment, harnessing past (memory) and future (expectation). Rather than writing music that mimics Old Hispanic melismatic repeat structures, LE used other compositional devices to harness past, present and future in audience and musician perception of time passing. The resulting compositions aim to make possible a perceptual experience that mirrors those engendered by the medieval chants. The static forms of composers such as Messiaen and Pärt were a good starting point here. Both Pärt and Messiaen sought to create a sense of timelessness in their music. LE found

[15] For Augustine's confessions, see St. Augustine, trans. Henry Chadwick, *Confessions* (Oxford: Oxford University Press, 1991). For a critical account of Augustine's views, see Carol Harrison, *Beauty and Revelation in the Thought of St. Augustine* (Oxford: Oxford: University Press, 1992).
[16] For more information about the philosophy of time perception, see Robin Le Poidevin, 'The Experience and Perception of Time,' in *The Stanford Encyclopedia of Philosophy* (Summer 2015 Edition), ed. Edward N. Zalta, accessed 1 Aug. 2017 https://plato.stanford.edu/archives/sum2015/entries/time-experience/.

Messiaen's approach particularly useful, especially his use of palindromes and symmetry.[17] Pärt's use of irregular phrase structure was also inspiring. [18] The American minimalists (including Reich, Glass, Riley, La Monte Young, Adams, and Feldman) promote stillness in their work in a very different way. They use repetition to avoid tension and release, resulting in uncertainty about the music's beginning, middle and end. Without taking on a minimalist aesthetic, LE drew on some of their techniques. This research resulted in two contrasting works: *Present Shadows* for flute, clarinet, piano, cello, and double bass;[19]and *Moments Held* for symphony orchestra.[20] Three main techniques were used to evoke a sense of stasis in the two works: pitch centricity; slow-moving macroharmonies; and some techniques associated with 'vertical time.'[21] In what follows we explore each of these techniques in turn.

Pitch Centricity

Pitch-centric music focuses on a single pitch class, leading the listener to perceive that pitch class as having priority. All tonal music is pitch centric, although non-tonal music can also be pitch centric, 'organised around referential centres' that are emphasised through techniques including frequent repetition or sustained notes.[22] Pitch centricity can be a useful description of the sense of 'home' in non-tonal music. Lack of a tonal tonic can undermine teleology, while a single recurring pitch centre or pitch set can result in an extreme static quality, providing aural cohesion across the piece.

For some, pitch centricity exists on a symmetrical plane: the central note is the pitch centre, and other notes emerge on either side.[23] A similar conceptualisation has been applied to monophonic medieval music, although not specifically to Old Hispanic chant. According to Crocker and McAlpine, medieval monophony has a central pivot note or reference pitch, with pitches being used less and less frequently (and imprinting on listeners' minds less) the more distant they are from the pivot.[24] For Kleppinger, pitch-class centricity can be present to different degrees in different works.[25] At one extreme lies Tavener's *The Lamb*, with palindromic pitch symmetry around G. At the other extreme, Carter's woodwind quintet movement I (1948) applies pitch centricity at key moments for local emphasis.[26]

[17] See Andrew Shenton, 'Observations on Time in Olivier Messiaen's Traité,' in *Olivier Messiaen: Music, Art and Literature*, eds Christopher Dingle and Nigel Simeon (Aldershot: Ashgate Publishing, 2007), 173-90.
[18] See Robert Sholl, 'Arvo Pärt and Spirituality,' in *The Cambridge Companion to Arvo Pärt*, ed. Andrew Shenton (Cambridge: Cambridge University Press, 2012), 140-58.
[19] A recording of the piece can be heard at https://soundcloud.com/litha-efthymiou/sets/present-shadows
[20] A recording of the piece can be heard at https://soundcloud.com/litha-efthymiou/moments-held
[21] We are grateful to David Greenhorne, for drawing our attention to two of these devices as a means of creating unity. See David Greenhorne, 'Pictures on Silence' (PhD diss., University of Bristol, 2015).
[22] Joseph N. Strauss, *Introduction to Post Tonal Theory* (New York: Norton, 2016), 131. For similar definitions, see Dmitri Tymoczko, *A Geometry of Music*: *Harmony and Counterpoint in the Extended Common Practice* (Oxford: Oxford University Press, 2011), 4, 177, and 179.
[23] See Stanley V. Kleppinger, 'Reconsidering Pitch Centricity,' *Theory and Practice* 36 (2011): 65-109, at 72.
[24] See Richard Crocker, *An Introduction to Gregorian Chant* (New Haven and London: Yale University Press, 2000), Chapter 2, and Fiona McAlpine, 'Trouvère Song: Analysis and Performance,' *Studies in Music Australia* 23 (1989): 1-12.
[25] Kleppinger, 'Reconsidering Pitch Centricity'.
[26] Kleppinger, 'Reconsidering Pitch Centricity,' 84.

In *Present Shadows*, LE evoked both stasis and motion by using a pitch set (C, D, B, and A) rather than a single pitch centre. Usually, in pitch-centric pieces, different sections of the piece might have different pitch centres, but only one pitch centre is used at a time, across the entire texture. In *Present Shadows*, LE decided instead to use any or all of her four central pitches concurrently,[27] although each instrument focuses on just one central pitch at a time. In the first half of the opening movement, each instrumental line (apart from the piano's opening cluster chord) starts from one of the four central pitches, and has a melody rooted in a prominent iteration of the minor 2nd and smaller microtonal intervals from its starting pitch. Each instrumental part moves between different pitch centres. For example, in the first 20 bars, the flute line moves no more than a semitone above or below its opening pitch of c' (see Example 2). The multiphonic at bar 21 moves the flute's focus to pitch class D, around which the line hovers before moving to pitch class A (bar 27). Similarly, the double bass begins by establishing pitch class C, moving, as the other instruments do, only a minor 2nd above or below this until bar 30.[28] Unlike the flute, however, which moves beyond the confines of a minor 2nd interval approximately half way through the piece, the double bass maintains a close connection to the central pitch classes C, D, B, A for the whole first movement. This close concentration on a single pitch class at a time gives the music a static foundation, whereas in the flute line there is much more rapid shifting between pitch classes.

Example 2: *Present Shadows*, movement 1, bars 1-30

[27] Sometimes only one pitch class is in use across the ensemble (e.g. from bar 5 -9, only C is used, apart from the piano's sustained cluster from bar 1), and at other times they sound simultaneously in different instrumental parts (e.g. bar 44 includes all four notes).

[28] With the exception of the pizzicato chord at 21.

I

Score in C

Litha Efthymiou

Because the four pitch classes are all constantly iterated through *Present Shadows*, there is much less overt evocation of pitch centricity than in many pitch-centric works, where only one pitch class operates at any one time. At any given moment in *Present Shadows*, there are up to four different goal points at which the music might arrive, each struggling for a place in the foreground. This undermines a sense of complete stasis but, equally, the constant returns to these pitches suppress forward motion. By employing pitch centricity in this way, LE aimed to create music that evokes a timeless present, rooted in the static quality of Old Hispanic melisma, yet with a sense of the motion that a 200-note melisma must also have embodied.

Macroharmony

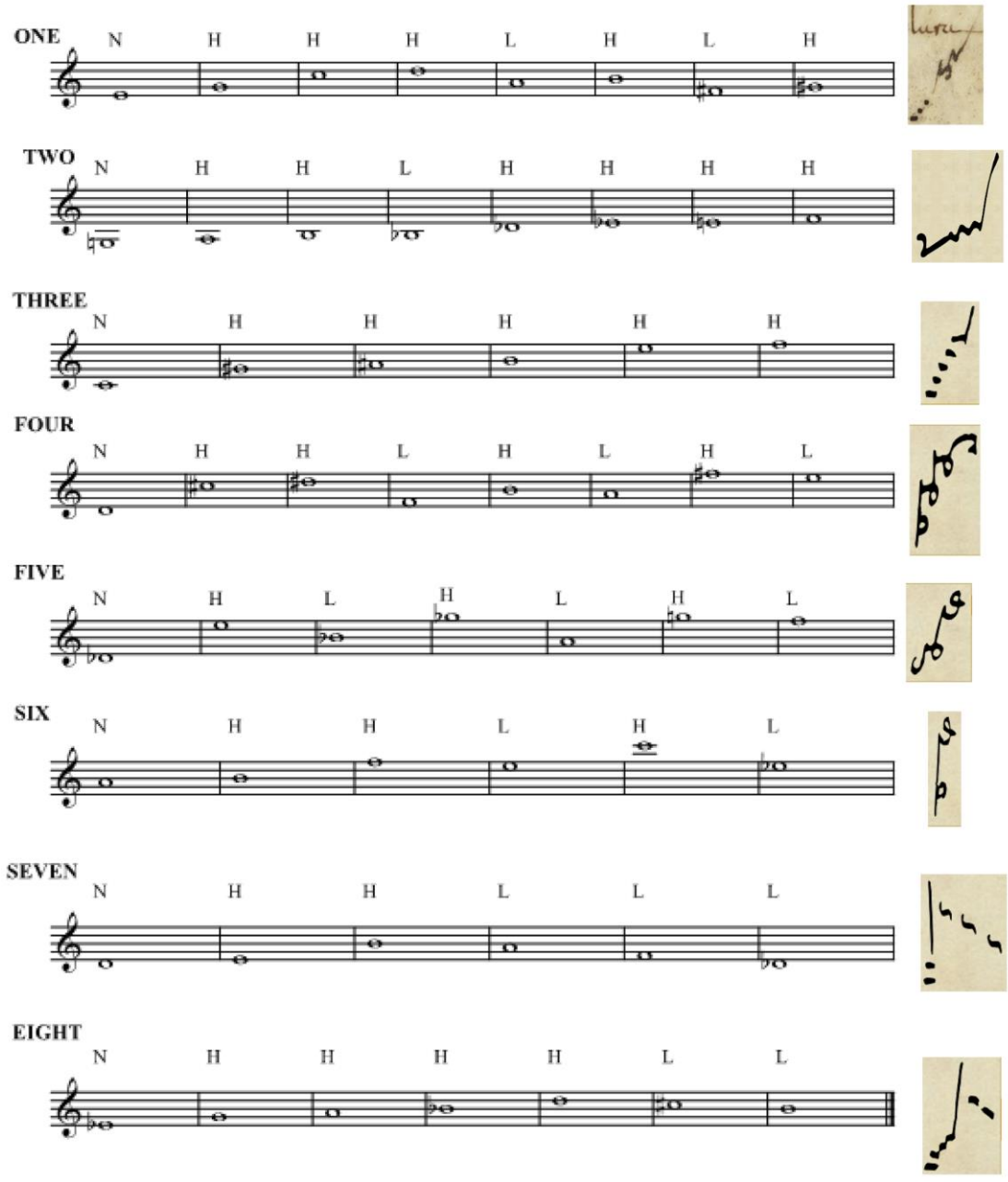
Static macroharmony is a different technique for creating music with the illusion of timelessness. A macroharmony is a collection of notes that is heard – to the exclusion of all other notes – over a span of musical time. [29] Macroharmonies, like harmonies, can be consonant or dissonant. They can change at a fast rate within any one piece, resulting in a sense of motion.[30] Static macroharmony is created when a single set of notes is used across a whole piece. This might comprise all 12 notes of the chromatic scale, and thus serialist pieces can be said to operate within static macroharmonic structures.[31]

In *Moments Held*, LE used static macroharmony to create an illusion of timelessness. Rather than having a single macroharmony throughout (limiting the pitches across the whole piece, or applying serialist techniques), the music shifts slowly between different macroharmonies. Eight complex neume shapes used in Old Hispanic melismas were the point of departure. For each neume, LE generated a corresponding pitch outline, following the rise and fall of the melody (see Example 3).[32] In a sense, the connection between these pitch groups and the Old Hispanic neumes is arbitrary, since LE had no aspiration to generate pastiche medieval melodies (as is clearly visible in Example 3).[33] The neumes do preserve the gestures of the medieval melodies, however: two arch shapes (say) may be conceptually related, even if they share no intervals. In this way, the medieval gestures inspired the shape of the modern composition. In order to reconcile these neume-inspired gestures with a macroharmonic structure, LE constructed the pitch sets in order to avoid directionality: no note functions as a leading note or tonic, for example.

The resulting notes were combined vertically as well as horizontally, generating both melody and harmony for *Moments Held*. Each macroharmony is used in turn through the work, and LE limited her pitch choices to a single macroharmony at a time. Each macroharmony can generate material for a relatively long period of time – patterns 1 and 8, for example, are each used for 25% of the work. Here, the listener is firmly rooted in one un-changing sound world at a time, reflecting the static nature (in terms of text delivery and hence rational thread of discourse) of an extended Old Hispanic melisma, and sharing some of a melisma's musical gestures.

Example 3: Macroharmonic structures underpinning *Moments Held*.

[29] See Tymoczko, *Geometry*, 4.
[30] Stravinsky's *Rite of Spring* is used as an illustrative example by Tymoczko, *Geometry,* 162.
[31] On pitch class change in Schoenberg's Op.11 no.1, see Tymoczko, *Geometry,* 163.
[32] Hornby and Maloy have developed a neume labelling system. Each component of a neume is defined in relation to the previous component as: N (neutral, or don't know), H (higher), S (same), L (lower), U (same or up), D (same or down). For a full introduction to interpreting the neumes, see Hornby, Ihnat, Maloy and Rojo Carrillo, *An Introduction to the Old Hispanic Office* (forthcoming), chapter 4.
[33] These neumes are derived from the tenth-century León antiphoner. Images of the full manuscript are available at https://bvpb.mcu.es/es/consulta/registro.do?id=449895



In *Moments Held*, LE attempted to create transcendental timelessness through macroharmonic structures in two ways. First, the past is signalled through a reprise of earlier material. The major 2nd interval is established early on, reflecting the prominent intervals chosen for each macroharmony, penetrating the texture until the middle of the work. It returns towards the end. Further, previous macroharmonies are alluded to, especially at transition moments (e.g. notes from macroharmony 1 (D, F#, Gnat) are employed in the piano and first flute at bar 63–67 as macroharmony 3 is being introduced). Second, musical events are overlapped from the beginning of the piece, the present, and the future. From bar 77 onwards, the background harmonic trajectory transitions rapidly through macroharmonies

5–8, but the foreground figures in the woodwind (sometimes doubled in the strings) allude to past and future macroharmonies, as illustrated in Table 1.

Table 1

Bar	Main macroharmony	Allusion	Pitches that make the allusion	Instruments making the allusion
77	5	Macroharmony 3	G#	Piccolo, oboe 1, xylophone
77	5	Macroharmony 4	D, D# and B	Flute 2, oboe 2
77	5	Macroharmony 1	C, D, B, G#	Clarinet 1 and 2
77	5	Macroharmony 7	D and B	Flute 1 and oboe 3
81	6	Macroharmony 7	C# and D	Flute 1 and violin 2
81	6	Macroharmony 1	F#, G#, D, G	Piccolo and flute 2
81	6	Macroharmony 3	A# and G#	Oboe 1 and clarinet 1
81	6	Macroharmony 3	F# and C#	Oboe 3

Macroharmonic structure is not immediately obvious on listening to *Moments Held*, and certainly not by comparison with the more tangible static devices used by minimalists such as repetition, palindromes, and drones. Instead, LE placed static macroharmonic qualities in the background structure, over which she explored more linear features, such as punctuating percussive moments. In this way the music achieves a subtle evocation of stasis in a context of musical motion, responding to the paradoxical quality of Old Hispanic melismas, where melodic virtuosity combines with a suspension of textual communication.

Vertical Time

Music composed to suspend 'linear interrelationships between past, present and future' is described by Kramer as using Vertical Time.[34] Such music resonates with Augustine's idealisation of a transcendent experience in the present moment. Attempts to achieve such a state are particularly familiar from some minimalist works.[35] While minimalist music often uses repetition structures to this end, LE instead applied other techniques associated with Vertical Time: expansion and contraction; and musical mirroring.

Expansion and Contraction Musical climaxes are often set up to be anticipated by the listener, who is thus aware of time passing. To avoid such clear-cut climaxes, LE used expansion and contraction to generate irregular phrase structures, which undermine any sense of time passing predictably. In *Present Shadows*, movement 1, LE used irregularly expanding and contracting rhythms. For example, the feathered beam in the flute in bars 5-9 (see Example 2, above) accelerates, but is soon countered by rhythmic expansion, the first note of which undermines the pulse suggested by the bar line. Another example is found in bar 11-16 where the double bass and cello rhythms speed up and slow down.

In movement 1, LE expanded and contracted textural density. Old Hispanic chant has striking variety in the number of notes per syllable, and LE transferred this feature to variations in textural density. The texture gradually becomes denser from the opening to the first tutti (bar 18), and contrasts of textural density continue throughout the movement. In this way, LE aimed to create stasis in the music's inner dialogue: the constantly cycling textures prevent any sense of momentum towards a climax.

In movement 2, LE instead used melodic expansion and contraction. In the cello part, for example, two melodic phrases are developed throughout the movement. The first idea is shown in Example 4. From bar 14, the first two notes of the cello's pitch set are used (c#" and b'). The third note (g") is added at bar 19, and the last note (a') at bar 23. The process is then reversed and the melodic line contracts.

Such techniques of expansion and contraction may not be readily apparent on first hearing of *Present Shadows*. Despite this, they combine to undermine any sense of the music moving forward. Instead, phrase length, melody, rhythm and texture expand and contract in irregular cycles. This results in motion without clear directionality.

Example 4: *Present Shadows*, movement 2, bars 14-32

[34] Jonathan D. Kramer, *The Time of Music: New meanings, New Temporalities, New Listening Strategies* (New York: Schirmer Books, 1988), 387.
[35] See Wim Mertens, trans. J. Hautekiet, *American Minimal Music* (London: Kahn and Averill, 1983), 102.

Mirroring A second compositional technique that explores musical time is mirroring. In musical mirroring, musical characteristics are reflected, resulting in a structure that constantly folds in on itself, sidestepping a sense of progression. Mirroring is a well-established compositional tool. Here, Messiaen's use of rhythmic palindromes was of particular interest to LE,[36] as was Tavener's use of symmetrical form in *Ikon of Light* (1984).[37] While *Moments Held* does not make use of rhythmic palindromes or strict symmetrical structures, the overarching structure has broad durational symmetry, and there is mirroring of pitch material. In *Moments Held*, pitch mirroring can occur within a single timbre (see Example 5) or across different instruments, resulting in quite complex patterning (see Example 6).

Example 5: *Moments Held*, bars 17-18:

[36] See discussion by Jonathan Harvey, *In Quest of Spirit: Thoughts in Music* (California: California Press, 1999), 74.
[37] For discussion, see Jeremy S. Begbie, *Theology, Music and Time* (Cambridge: Cambridge University Press, 2000), 133.

Example 6: *Moments Held*, musical mirroring in bars 63-68:

Instrument, bar	Mirrored in, bar
Piano, 65	Horn 1, 66
Horn 1, 66	Horn 3, 66
Horn 3, 66	Harp, 67

The piece also has symmetrical structure on a wider scale. This is achieved: first, through prominent return of the major 2nd interval at the end of the piece; second, through the loosely symmetrical timings of the macroharmonies. These gradually condense and minimally expand in duration, aiming to convey a sense of an overarching lack of progression, before the piece ends with a macroharmony held for the same length of time as the opening one (see Figure 1). Although these forms of mirroring are less explicit than those developed by Messiaen and Tavener,[38] they similarly aim to evoke a non-teleological soundscape that is also imbued with motion.

Figure 1
Macroharmony 1 = 29 bars
Macroharmony 2 = 19 bars
Macroharmony 3 = 19 bars
Macroharmony 4 = 7 bars
Macroharmony 5 = 4 bars
Macroharmony 6 = 3 bars
Macroharmony 7 = 5 bars
Macroharmony 8 = 30 bars

Conclusion

In this article, we have presented a set of compositional techniques applied by LE in response to the potentially transcendent properties of Old Hispanic melisma. LE aimed to offer a modern, secular concert audience an experience of music that conveys a sense of stasis without engaging in a minimalist aesthetic. The static devices applied include pitch centricity, macroharmony, and some of the features of Vertical Time. The resulting works will – we hope – serve as useful examples of an unorthodox approach to creative medievalism, inspired by a repertoire whose original sounds are lost forever.

[38] Especially in *Quartet for the End of Time* (Messiaen) and *The Lamb* (Tavener).