



The 'English' Cadence: Reading an Early Modern Musical Trope

DOI:

[10.1093/em/caaa082](https://doi.org/10.1093/em/caaa082)

Document Version

Final published version

[Link to publication record in Manchester Research Explorer](#)

Citation for published version (APA):

Chan, E. (2021). The 'English' Cadence: Reading an Early Modern Musical Trope. *Early Music*, 49(1), 17-34.
<https://doi.org/10.1093/em/caaa082>

Published in:

Early Music

Citing this paper

Please note that where the full-text provided on Manchester Research Explorer is the Author Accepted Manuscript or Proof version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version.

General rights

Copyright and moral rights for the publications made accessible in the Research Explorer are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Takedown policy

If you believe that this document breaches copyright please refer to the University of Manchester's Takedown Procedures [<http://man.ac.uk/04Y6Bo>] or contact uml.scholarlycommunications@manchester.ac.uk providing relevant details, so we can investigate your claim.



The ‘English’ cadence: reading an early modern musical trope

IN the section on composing ‘syncopation’ in his treatise *A plaine and easie introduction to practicall musicke* (1597), Thomas Morley (c.1558–1602) provides a faulty example (ex.1). Morley states that its particular failing lies in

the close in the counter[tenor] part[, which] is both naught and stale like unto a garment of a strange fashion, which being new put on for a day or two will please because of the noveltie, but being worne thread beare, wil growe in contempt ...¹

Morley does not name this offensive ‘close’, and indeed it remained nameless until historical musicologists in the latter half of the 20th century somewhat contentiously gave it one: the ‘English’ cadence.² Nevertheless, Morley’s dismissal belies the way in which this ‘stale’ cadence captured the musical imagination of early modern England. Elsewhere he quips that such a device is ‘robbed out of the capcase of an old organist’ and a ‘deformitie ... hidden by flurish’;³ presumably the particular ‘old organist’ Morley had in mind was John Taverner, to whom he attributes the passage in example 1.⁴ However, Morley’s is the only surviving contemporary account that refers to the musical figure that became known as the ‘English’ cadence. A cursory survey of the surviving music of the period reveals that his opinion was not shared by many of his contemporaries, or indeed the composers who followed. English cadences can be found in the works of that great (and non-English) pioneer of choral polyphony Josquin des Prez (c.1450–1521); were beloved of William Cornysh (1465–1523), Philippe Verdelot (c.1480–1540), Philip van Wilder (1500–1554), Thomas Tallis (1505–85), William Byrd

(c.1540–1623),⁵ Thomas Weelkes (1576–1623) and Orlando Gibbons (1583–1625); and were given a new lease of life, if arguably deployed as conscious archaisms, in the music of Henry Purcell (c.1659–95) and his contemporaries.⁶ Most confusingly, they can be found in the work of Morley himself (in his madrigal *Round about about a wood*, published in 1600; see ex.2).⁷ What, then, might be made of this mercurial and contradictory cadence—cliché, trope—that would have been familiar to listeners in 1597, and yet which as a concept must always be considered anachronistic?

The term ‘trope’ is apt; while it has obtained the sense of triteness in its 21st-century usage and so is certainly appropriate given Morley’s criticisms, the older, rhetorical, 16th-century understanding is also at play.⁸ A rhetorical trope is a ‘pattern in which thoughts are developed’,⁹ one that alters literal meaning towards the figurative. Abraham Fraunce defined ‘a trope or *turning*’ as

when a word is *turned* by his natural signification, to some other, so convenientlie, as that it seeme rather willingle held, than driven by force to that other signification. This was first invented of necessitie for want of words, but afterwards continued and frequented by reason of the delight and pleasant grace thereof. Sometimes these Tropes bee excessive, signifying in word, more than can be true in deed, and then are they tearmed Hyperboles.¹⁰

Framing the English cadence as a musical trope allows us to contextualize Morley’s disapproval, and to move towards an understanding of how it functioned in early modern musical culture as a matter of intellection (thought, reading, comprehension) as well as a clichéd musical figure.

The English cadence has received little critical attention, save for that of Jeremy Summerly's brief 1996 survey, which describes it as a 'decorated perfect cadence'.¹¹ As Summerly notes, it is also curiously absent from dictionaries of music,¹² though the advent of the internet has gone some way towards remedying this fact by providing some brief technical descriptions. It appears briefly as a 'melodic tag' in Diane Kelsey McColley's account of 17th-century music and poetry, and as a key feature of Reformation English music in the work of Peter Phillips, Rebecca Herissone and Kerry McCarthy, but none of these address the curious question of what lay behind the appeal of the cadence, nor indeed the intended function of 'decorat[ion]' of standard cadential figures in early modern English music.¹³ A full musicological

description of the origins and characteristics of the English cadence, and its range of meanings, is beyond the scope of this article;¹⁴ however, I hope to demonstrate that a partial, suggestive genealogy can be derived by paying close attention to inferences that linger behind and beyond the notes on the page. Likewise, the present study does not aim to establish how 'English' the cadence truly is. That said, it is important to observe that non-English origins do not necessarily invalidate the 'Englishness' of the English cadence, particularly given contemporary concepts of authorship and intellectual property. Like tea, chips, Saint George and so many other things enshrined in English culture, it was adopted and appropriated until it became part of the bricolage of early modern English musical style.

This article instead aims to shed light on the English cadence by situating it firmly within the broader cultural milieu of early modern England, the time and place within which it rose to popularity in the works of Tallis and Byrd, fell out of favour with these two during the 1570s and 1590s respectively, and then rose to prominence again in the works of Weelkes, Gibbons and Tomkins. Along the way, it will explore the context of Morley's critique, and the inferences he aims to prompt from his readership. In so doing, this article aims to establish a dialogue across disciplinary boundaries, exploring on the one hand what can be gained from looking at musical material for those whose work seldom touches on such material, and on the other hand what musicologists can learn through looking at this



Ex.1 Morley's example of English cadence, taken from a Kyrie by Taverner; the melodic curve is in the Altus

Ex.2 Thomas Morley, extract from *Round around about a wood*, c.1600

musical trope through the eyes of its contemporary visual culture. In turn, it is hoped that this approach might lead us towards an understanding of what the English cadence might have meant to its original hearers.

Anatomizing the cadence

Defining the English cadence remains contentious, not least because it was simply not recognized as a discrete category in early modern music-theoretical writing. An anachronism both in being criticized by Morley in 1597 as ‘stale’, old-fashioned, and in being the coinage of 20th-century musicologists, it has little in the way of clearly definable parameters. Nevertheless, this section will explore two commonly accepted aspects of the cadence and its structure, contemplating the associations and allusions they might have held in the early modern period. In this way, it is hoped that it will be possible to shade out the nuances of this musical ‘pattern in which thoughts are developed’, and initiate new strategies for understanding its significance.

The English cadence is one of a group of cadential figures that incorporate false relations. Given that it is at least in part a 20th-century concoction, it is perhaps best to approach it using modern musicological terminology. In essence it is a perfect authentic cadence constructed around the V–I chord progression, spiced by a dominant chord in which the 3rd of the chord is heard both in minor and major forms, thereby creating a false relation—usually between adjacent sonorities, but sometimes simultaneous—between the relevant, most often internal parts (see again ex.1 and ex.2). It requires at least three voices or parts, but is more often found in works of four, five or six parts. Usually (though not exclusively) it is associated with vocal music; Morley’s jibes about ‘old organist[s]’ suggest that it is best considered rather as ‘vocal-’ or ‘choral-related’. From a modern perspective the key identifying feature, however, is the melodic curve of five notes, that creates a fleeting, (most often) non-simultaneous false relation with another part that sounds the leading note. This curve frequently arches over the dissonance at the heart of the English cadence: the 4–3 suspension over the dominant. Their synchrony (or near synchrony), united by the melodic curve, creates a

striking dialogue between the false relation and the dissonance of the suspension. The curve is sometimes extended to a seven-note melodic arch in one voice or part (as in Tallis’s Mass *Puer natus est nobis* of c.1554, Byrd’s *Civitas sancti tui*, 1589, the Magnificat of Weelkes’s virtuosic Ninth Service, c.1603, or Gibbons’s *Hosanna to the son of David*, c.1634), winding sinuously up to the flat 7th before returning down to the 3rd. A particularly masterful late example of the five-note manifestation can be found at the conclusion of the middle section of Henry Purcell’s anthem *I Was Glad* (1685), in the alto part, a figure that passes evocatively between the Alto and Soprano 2 throughout the concluding ‘Amen’ section. The final Soprano 2 entry at bars 110–11 interestingly decorates the resolution of a I–IV6/4–I progression rather than the more typical V–I.

As a definitive feature of the English cadence the melodic curve is problematic for a number of reasons. It is not unique to the English cadence (for evidence of which we need look no further than Weelkes’s curve-laden *Alleluia I Heard a Voice* of c.1616, or his madrigal *Sit Down and Sing*, 1597). It occupies the murky hinterland between composition and improvisation in a manner that is pugnacious even in the context of contemporaneous musical culture.¹⁵ *O sacrum convivium* (c.1575), for example, began life as a fantasia laden with English-cadence melodic curves that Tallis later removed, but which it is reasonable to assume could have been reinstated by musicians with or without knowledge of the earlier fantasia: the shape of the music still allows for the inclusion of flexuous chromatic curves.¹⁶ Nevertheless, for the purposes of this article the English cadence will be defined as a perfect authentic cadence interlaced with a melodic curve peaking at the minor 3rd of the dominant chord.

Other members of this mercurial group of cadential figures are the 14th- and 15th-century ‘Landini cadence’¹⁷ and the (more typically instrumental) mid-17th-century ‘Corelli cadence’:¹⁸ all three play in various ways with the aural expectations surrounding the leading note. To these we might add the Phrygian, Lydian and upper-leading-note cadences and the *tierce de Picardie* as more distant relatives.¹⁹ All of these patterns arise (either directly or indirectly) from the stylistic forms of the voice-leading

practices of modal music. They began in the prioritization of counterpoint over harmony: Morley himself acknowledges that they arose ‘for lack of other shift’. However, as new styles such as the Italianate madrigal came into fashion, focused on harmonic progression as a compositional entity in itself rather than as a by-product of melodic lines, false-relation cadences were increasingly avoidable; hence Morley goes to some pains to provide three dozen examples in which they are meticulously avoided.²⁰ What distinguishes the English cadence from its fellows is the way in which it teasingly alludes to this older style of composition: the audacious way the melodic curve unfurls from the texture, a voice literally leading the pull of the music. The false relation registers as a kind of harmonic fog, smudging rather than grazing the tonal core of the music as it shimmers over the authentic cadence at its core, and creating a sense of irresistible undertow towards the tonic. The English cadence luxuriates in the very idea of false relation, turning accidental necessity into a swashbucklingly self-aware stylistic feature.

It is worth lingering over the nature of false relations in the early modern period. The situation was not quite as Morley or indeed modern fables such as that of the ‘forbidden’ *diabolo in musica*, the tritone, might have us believe. False relations were a distinctive element of early modern music and enjoyed widespread currency from the late 15th century until the mid 17th, though they were heavily discouraged by the rules of concordance prescribed in contemporary music-theoretical treatises. They were both graphically and sonically evasive. Because false relations were often implied rather than explicitly written out as accidentals, they required the notation to be read in a different way; false relations demanded a different kind of visual acuity and a different kind of literacy, an ability to see through the patterns of what is notated to what the notation guides the eye towards. Moreover, they were incredibly unstable as harmonic entities.²¹ Since early modern tuning systems resulted in widely varying sizes of semitone, both between and within particular intonations, the false relation between the two versions of the seventh degree of the scale could sound radically different between performances and even from one cadence to the next. False relations such as the split 7th displayed in the English cadence were thus intrinsically

unstable and utterly personal: each performance of each instance of false relation would necessarily differ, relying upon the interpretation and ears of the performer(s).

It is not hard to see the appeal in such perilous harmonic acrobatics, and why they might have seemed so excitingly ‘novel’ in the 16th century.²² Nor indeed is it hard to understand Morley’s objection to these showy sonic tricks, and his belief that they would soon become ‘stale’. Nevertheless, they were extremely popular. Perhaps it was this sort of effect that Henry Peacham had in mind when he observed in 1622 ‘how doth Musicke amaze us, when assures [*sic*] of discords she maketh the sweetest Harmony?’²³ Even earlier, in the dedicatory epistle to Edmund Spenser’s *Shepherdes Calendar* (1579), we read that ‘oftentimes a dischorde in Musick maketh a comely concordance.’²⁴ Both comments encapsulate perhaps the biggest conundrum at the heart of false relations: they were not superfluous but crucially structural, impelled by the logic of voice-leading and ‘foisted in at the close, for lack of other shift’.²⁵

The parameters of the present article do not allow for a thorough exploration of the role of early modern false relations. However, for the present it is possible to propose that they were frequently used as markers of skill, and that they were rhetorical devices that utilized the eloquent power of ‘discord’ and dissonance.²⁶ We can witness this rhetorical power in action in the English cadence, in the way that the fleeting non-simultaneous false relation frequently coincides with the 4–3 suspension over the dominant, deictically emphasizing the dissonance. They transcended their status as unintended by-products to become stylistic hallmarks, because they possessed an expressive, semantic capital that chimed with the broader culture of early modern Europe.²⁷ In many cases this role is accentuated by the melodic curve: far from serving as a ‘flurish’ to hide the ‘deformitie’ of the music, the English cadence utilizes the melodic curve as a means of framing the moment of dissonance, the sonic near-miss. The curve need not be considered as only the seven-note ‘plangent melodic arch’ figure identified by Summery;²⁸ at the end of Byrd’s *Sacerdotes Domini* (1605), for example, it is arguably the falling five-note figure that emerges from the texture that encourages appreciation of the sonic sweep from flattened 7th

to 3rd, creating a similar sense of lingering, coiling frame. Both false relation and melodic curve have a similar function within the texture of the music; respectively, they magnify the sense of pulse, and the sense of tonality of the music, as Gurminder Kaur Bhogal notes of Debussy's diaphanously chromatic musical arabesques three centuries later.²⁹ They are devices for both horizontal (temporal) and vertical (tonal) hiatus.³⁰ Together these stylistic features continue to exude the raucous appeal of pungent bad taste well into the 21st century. Nevertheless, it is clear that the English cadence offers far more than a frisson of sonic kitsch, or of rules broken. As an embryonic musical arabesque it luxuriates in the idea of the texture and timbre of sound.³¹ It delights in the complexities brought about by the compositional practice of voice-leading by providing a ready-made, easily inserted 'trope or turning': a form of creative shorthand.

The preceding exploration of ways to define the English cadence has touched frequently on the broader associations at play within musical culture, and the ways that we might move towards understanding of how and why this enigmatic musical figure came to be so popular, and for so long. A vital clue lies in Summerly's description of the cadence as a 'decorated perfect cadence'. The description has its equivalent in Morley's critique, in the 'flurish', the sartorial metaphor of the 'garment of strange fashion', even perhaps the 'capcase' (a small chest for carrying items of apparel such as collars, gloves and caps, 'laces, pinnes, needles').³² Such metaphors suggest that the problem with the English cadence lies in the fact that it is too decorative, too frivolous for Morley's tastes. Melodic curve and false relation are both implicated in this, as respectively the 'flurish', and the 'deformitie' that it conceals. The potential reasons behind Morley's rejection of overly decorated musical figures will be discussed below. However, in concluding this section on the anatomy of the cadence it is worth observing that his critique intimates that he understood the combination of melodic curve and false relation as an important aspect of the musical figure that came to be known as the English cadence.

Morley's reliance on analogies from the visual culture of the period implies a strong conceptual connection between the musical and the visual in

contemporary thinking. In such a context it is interesting to note that visual arabesques, by contrast, appear to have been considered thoroughly appropriate to the decoration of musical instruments in early modern England. Arabesques, strapwork and rinceaux were popular patterns for ornamentation generally in the 16th century, and covered a variety of textiles as well as wooden, ceramic and stone surfaces. However, they were approached with special care when it came to musical surfaces. Extant instruments (particularly, extant English-made instruments) are vanishingly rare, but from what we have inherited it is clear that the appropriate visual appearance of musical instruments was extremely important. The Westwood virginals (1537; illus.1), for example, were carefully inlaid with arabesque forms that coil around stylized daisies, in parallel with the arched structure of many English cadence manifestations.

The Rose orpharion (1580; illuss.2 and 3) is a particularly fine surviving example. A six-course, metal-stringed member of the cittern family, the stylized floriate form of its body combines appropriate resonant shape with appropriate visual appearance. A beautifully calligraphic manuscript label behind the jewelled rose proclaims that the orpharion was completed at Bridewell on 27 July 1580, by John Rose; it is believed to have been presented to Elizabeth I as the first example of its kind, and the rubies and pearls used to embellish the rose, echoing the colours of the Tudor rose, support this speculative early history.³³ The extraordinary visual shape of the instrument is complemented by *trompe l'œil* intaglio decoration on both soundboard and bowl, in the form of stylized arabesque curls and coils (culminating in lily-like forms) surrounding the rose on the soundboard, and a pearwood rendering of a scallop shell on the bowl. Each rhythmic form leads the eye around the orpharion, inviting appreciation of its undulating curves.

The style of the Rose orpharion prompts a process of thought, a 'sauce of sweetness [to] awaken the appetite'³⁴ that encourages reflection on contemporary thinking that understood sound itself as being curved. Thomas Wright wrote of 'the crispling of the aire (which is in effect the substance of musicke)';³⁵ his contemporaries Pierre de la Primaudaye and John Davies both adopted the metaphor of flowing



1 The Westwood Virginals, inlay in walnut, instrument by Stephen Mutinensis, decoration by artisan(s) unknown, c.1537, 17 × 100 × 39cm (National Trust: Westwood Manor, Wiltshire)

water, Davies stating that ‘as streames, which with their winding banks are / stopt by their creeks run softly through the plaine, / So in the Eares Labyrinth, the voice doth stray / And doth with easie motion touch the braine.’³⁶ An instrument like the Rose orpharion resonates with such thinking, through its undulating form.

To return to the explicit topic in hand, the logic of the arabesque follows into the English cadence. The perfect authentic cadence is used to bring phrases and pieces to a close: it is a form of sonic punctuation; a full stop, comma, colon or semi-colon, leading to a new phrase. In this sense the English cadence’s potential role as a musical arabesque becomes more compelling. Printers’ flowers or ‘fleurons’ were often used in the early modern period to mark the edges of pieces of music (see *illus.4*).³⁷ In other book forms, one could typically find them at the end of the text. This, however, is only the topmost surface layer of their meaning: literary scholars such as Juliet Fleming have explored the way that they break the ‘stranglehold’ that ‘semantic function otherwise exerts over

phonetic writing’ by encouraging readers to think about writing (broadly defined) under the ‘aspect of [visual] appearance’.³⁸ Although printers’ flowers derive from imitation of plant forms, they were more often in abstract arabesque ‘strapwork’ or ‘rebeske’ form, echoing the forms of script and creating a unexpected assonance between the meaningless and the meaningful.

By analogy, the English cadence could productively be considered a musical form of printer’s flower.³⁹ It patterns thought in a way that plays with the complex relationship between notation and music in this period, inviting reflection about the visual ideas that music is able to represent. It encourages listeners to think about the grain of mellifluous sound sweeping through the melodic curve as it brings the phrase to a close: an English cadence prompts listeners towards heightened awareness of the individual voices or instruments, the separate melodic lines, that entwine to make up its style of music.

To reframe the English cadence as a musical contemplation of a visual ornament is no mere



2 The Rose Orpharion, intaglio decoration on walnut with pearwood, pearls and rubies(?), John Rose, 1580, c.80 × 30 × 25cm (private collection; by kind permission)

throwaway or whimsical act. The musical ornament has largely diverged from the visual ornament in the 21st-century understanding of these terms, but both nevertheless continue to carry echoes of the pejorative burden of superfluity that Morley implies through his sartorial metaphors. Something of this can be sensed in McColley's above-quoted definition of the English cadence as a 'melodic tag'; a tag is something superfluous, extra, added on. Ornament in all its forms tends to be dismissed as



3 Detail of bowl and scallop shell decoration, the Rose Orpharion, walnut with pearwood, John Rose, 1580, c.80 × 30 × 25cm (private collection; by kind permission)

merely paratextual; parergon or 'needless grace' in Peacham's words,⁴⁰ and thus disconnected from the real meat of the object of study. There are now admittedly many fine accounts of the way in which ornament should be considered structural, in a wide variety of fields. Patricia Fumerton, Ethan Matt Kavaler, Clare Lapraik Guest, Alina Payne and the several contributors to an essay collection edited by Bella Mirabella have all demonstrated the manner in which ornament facilitates the reading of a variety of objects, from text to architecture, clothing, furniture, jewellery, gloves and scissors.⁴¹ Nevertheless, the belief that the ornamental or decorative is somehow superfluous to the way an object creates meaning continues to be pervasive.⁴²

Scholarship arguing for the importance of ornament necessarily verges on the polemical: the importance of ornament as a concept has yet to be taken seriously in the 21st-century imagination. Yet it is vital that such a position is taken seriously

VII. BASSVS.

doeft to slaie mee, but doe then doe, ij. kil mee and vaunt thee,

ij. yet my ghost still shall haunt thee, shall haunt thee.

C.ij.

4 Thomas Morley, *Madrigals to Foure Voices*, Bassus, p.xvi (London: Thomas Este, 1600) (Cambridge: Cambridge University Library)

if we are to understand some of the more peculiar remnants of early modern culture, including the English cadence. The remainder of this article will assess the value of considering the English cadence as an ornament that responds to, contemplates, even translates into aural form, a printer's flower. Each of these nouns is appropriate once it is recognized that musical figures like the English cadence did not happen in isolation from their physical surroundings or 'venues',⁴³ whether these were decorative page borders, the bodies of musical instruments or indeed the spaces within which music was performed. Departing from the explicitly musical realm of the notes on the page, the next section of this article will survey the relationship between the flirtation with the idea of dissonance in a musical context enshrined in the English cadence on the one hand, and, on the other, dissonance understood in a visual sense. In so doing, it seeks to demonstrate the value of thinking about this early modern musical trope within its wider visual, symbolic and cultural milieu.

Decorated cadences

Dissonance had a vibrant critical following in the immediate sphere of early modern English musical culture, and this notoriety was echoed by a parallel vogue for visual dissonance. In the visual sphere, however, dissonance was seemingly nowhere near as controversial. Indeed it does not appear to have been perceived as an issue, and is seldom mentioned in the contemporary literature. Nevertheless, dissonance has long been recognized as a characteristic feature of the visual culture of England within this period, enshrined by 20th-century art-historical accounts written with eyes attuned to Italianate principles of realism.⁴⁴ Surviving English paintings such as the anonymous double portrait *The Cholmondeley Ladies* (c.1600–1610; illus.5), the likewise anonymous portrait of Sir Henry Unton (c.1596; illus.6) and the 'Ditchley' (c.1592) and 'Hampden' (c.1560) portraits of Elizabeth I (for the former see illus.7) are all unapologetic about their queasy, skewed perspectives. These approaches to perspective have often been taken as crude or at best naïve approaches, driven by ignorance of Italian stylistic developments.⁴⁵

On the other hand, there is now a well-established body of scholarship on the visual culture of England in the 16th and early 17th centuries demonstrating that rather than indicating a lack of skill, these works were driven by different preoccupations to those of their Italian counterparts.⁴⁶ While Italian painters of this period sought to capture reality through fixed-point perspective,⁴⁷ English painters were more invested in capturing the play of light, the texture of jewels and fabrics, narrative, movement and the ambient experience of seeing from multiple perspective points. As a result, English paintings of the 16th and early 17th centuries are driven rather more by interests in pattern and surface, and in depth in the sense of texture rather than of space. Dissonance is part of this way of seeing. It is driven by the constant negotiation of a choppy balance between compositional elements. The dissonant perspectives of these images arguably serve as tactics to draw attention to these aspects of the visual composition, as can be seen particularly in *The Cholmondeley Ladies*.

This portrait is commonly taken to celebrate the survival of two ladies, believed to be sisters or possibly cousins, and their infants, through childbirth. The object notes provided by the Tate Britain Gallery (where the painting is now on display) observe that the poses of the two women were unknown in other English paintings of the period, but familiar from tomb sculpture of the time. According to family legend, the ladies—whose exact identities are unknown—were 'born and married on the same day' (that is, they shared the same birthday and wedding anniversary);⁴⁸ as such they are often interpreted as having been twins, but again there is no concrete evidence of this. Nevertheless, it is the insistence on similitude that first arrests the eye, emphasized both by their differences (their eye colours, their jewels, the pattern of their embroidered bodices and the wrappings of their infants, the shapes of their noses) and their similarities. As is typical of other surviving English paintings from this period, such as the miniatures of Nicholas Hilliard and Isaac Oliver, there is little interest in creating an illusion of depth.⁴⁹ The eye of the viewer is instead drawn to the rhythmic surface repetition of pillow to pillow, woman to woman, eye to eye to eye to eye, sleeve to sleeve, infant to infant. The awkward angle of



5 Anonymous, *The Cholmondeley Ladies*, oil on panel, c.1600–1610 (London: Tate Britain; by permission)

the infants encourages this restless movement. *The Cholmondeley Ladies* is designed to be read in the same manner as the undulating patterns of embroidery on the bodices of the ladies themselves, with no fixed intended direction. The visual cadence of this image is arguably epitomized in these restless curves.

The manner in which the eye is invited to explore such images is a key feature of the tactics of visual dissonance. Rebecca Olson notes that the relative popularity of tapestry as a medium as opposed to painting in this period appears to have been driven by the fact it ‘provided an aesthetically pleasing narrative model that was complex, multi-dimensional, and non-linear.’⁵⁰ Her observations are of course inseparable from the way in which tapestries were displayed,⁵¹ but nevertheless can offer insight into the visual culture of England in general. This model of seeing has no predetermined or fixed route, but rather is synoptic in principle: it is intended to be viewed all at once, such that the viewer is provided with a sense of the density of the image through the intricate interplay of subsequent layers, none of which is presented as the primary or dominant one. The route through these images is left for the viewer to determine.

There are a variety of different terms for this kind of reading.⁵² One of the most compelling is David Evett’s contention that English Renaissance images were governed by a planar or two-dimensional aesthetic, and the concept of ‘parataxis’. Evett’s contention was that the apparent clumsiness of the early modern English image derived from their ‘paratactic’ structure. These images were ‘built up by the serial addition of elements of relatively equal importance, rather than by the formal as well as the logical subordination of some elements to others.’⁵³ Italianate images, on the other hand, were constructed around the principle of ‘hypotaxis’, that is, an established hierarchy of separate elements:

Where the parataxis of Traditional art in effect trusts viewers to place their own emphases, Renaissance [*sic*] hypotaxis tries to control them in advance. Vanishing point perspective forces the viewer into a fixed position vis-à-vis the images in the picture ... The result is to lock the audience into a state of dependency.⁵⁴

The notion of ‘parataxis’ is not without its issues, not least in a musical context: hierarchical musical structures were becoming increasingly important in the late 16th and early 17th centuries. Nevertheless, it



6 Anonymous, memorial portrait of Sir Henry Unton (c.1558–96), National Portrait Gallery (NPG 710; © National Portrait Gallery, London; by permission)

is a useful conceptual tool when it comes to addressing the English visual culture of this period on its own terms, and the ways in which it uses and plays with visual dissonance.

Viewed alongside its contemporary visual culture, the English cadence gains a fresh eloquence. To draw a connection between musical and visual culture may appear illogical to the 21st century listener/viewer, but in the 16th and 17th centuries it would have made sense. Early modern psychology was built on the concept of a set of inward wits as post-sensory faculties that paralleled the outward senses. These were conceived architecturally, as a series of chambers within the mind, whereby information was gleaned by the senses and moved from the *sensus communis* (or common sense), through the *phantasia* (the imagination), the *cogitatio* (the intellect), and finally to the *memoria*, where these sense impressions or *phantasmata* were stored.⁵⁵ Auditory and visual *phantasmata* thus coexisted side by side, recorded in the same ‘waxy’ matter of the *memoria*. Whilst these are intellectual concepts that would have been taught at the universities, it is highly likely that this understanding of the mind would have percolated throughout society. Bottom’s ‘eye of man hath not heard’ speech in Shakespeare’s *Midsummer Night’s Dream* is merely one example of this kind of thinking in popular literature;⁵⁶ indeed, Morley’s sartorial choice of metaphor in the ‘thread bare’ English cadence hints towards these ideas. Musical and visual dissonance would not have been considered such separate entities as they are today.

What, then, can be gained from considering the English cadence in the light of visual dissonance? It is important to note that in its very form the English cadence flirts with the concept of parataxis. With the shifting of the harmonic underlay sounding the false relation, the structure of the cadence both pulls against and pushes towards the melodic curve. The overall effect is one of the shifting of tectonic plates, of which the melodic curve is merely the topmost stratum. The ear is constantly drawn to different elements of the cadence, never allowed to settle until the ultimate gathering together of the tonic chord. Like Evett’s concept of visual parataxis, it draws its hearer in multiple directions, insisting that they ‘place their own emphases’; this, again, is part of its seductive risk factor. A degree of caution is no doubt required in adopting the concept of parataxis wholesale in relation to the English cadence, but by looking to some of the ways in which the art of early



7 Marcus Gheeraerts the Younger (1561/2–1636), 'Elizabeth I—The Ditchley Portrait', c.1592 (NPG 2561; © National Portrait Gallery, London; by permission)

modern England has been rethought in recent years it is nevertheless clear that there is much to learn about how we interpret the English cadence.

A paratactic image has no strict boundary marking where the image begins and ends; as such it has no paratext, no parergon.⁵⁷ As it is not a discrete entity it can interact with its surroundings, borrowing from and infusing into the visual language of the chair, carpet, tapestry or curtain that shares its space. It follows that the paratactic image also broadly eschews the division between decorative and fine art. The paratactic image is liminal between the two; as can be seen from *The Cholmondeley Ladies*, it adopts the operations of the decorative and ornamental in order to emphasize its overall statement. The reader will recall that Summerly noted that the English cadence is strictly a 'decorated' perfect cadence.⁵⁸ Yet as the preceding analysis demonstrated, the decorative elements of the English cadence are entirely structural in the way that it creates meaning. It guides the ear, encouraging the listener to appreciate the smooth gradient of its melodic curve, and the grain of the voice or instrument that utters it. It displays (indeed, almost flourishes) the recognizable perfect cadence at its core, showcasing the harmonic skill involved in executing it. In this way the English cadence eschews the concept of the harmonic core and the ornamental decoration: its 'decoration' is inherent in its anatomy.

The question of how the English cadence might have been interpreted remains outstanding. A clue can be found in the conceptual history of the word 'ornament'. Ornament has a long rhetorical history, frequently associated with sophistry;⁵⁹ however, this was not the only meaning it held. Clare Lapraik Guest notes that many of its other connotations are lost in traditional accounts of ornament from the 19th century onwards,⁶⁰ not least in the writings of commentators such as Owen Jones, John Ruskin, Gottfried Semper and Alois Riegl—all of whom bound up the idea of ornament with that of craft.⁶¹ These accounts overlook the crucial origin of 'ornament' in the Latin *ornatus*. As Lapraik Guest points out, *ornatus* is a translation of the ancient Greek *κόσμος* or *kosmos*, which connoted not only 'ornament' but also 'order' and (in the sense most familiar to us today), the universe; for Lapraik Guest this was epitomized in the concept of 'music as *harmonia mundi* [which] leads

us to the dual understanding of the Greek *kosmos* as order and ornament'.⁶² The shadow of these meanings prevailed into *ornatus*, in which guise it took on the figurative meaning of 'honour or commendation, worthy of praise', and the meaning of 'equipment', in the sense of 'properly furnished': the properly ornamented object revealed the fundamental order and harmony of the cosmos.⁶³ The shift in understanding that superseded this way of thinking occurred across the Renaissance, with the revival of ancient rhetoric, antiquarianism, and the development of an art theory centred on the essential nature of form.⁶⁴ Of particular importance for the present investigation is Lapraik Guest's observation that

the shift in the conception of ornament is also illustrated by the transformation in the understanding of music from the representation of the universal context (*harmonia mundi*) to a form of affective experience, as it is discussed in the 17th century.⁶⁵

The focus of Lapraik Guest's study of ornament is the Italian Renaissance, and she does not touch explicitly upon the musical; thus her observations cannot be transposed directly onto the present study. Nevertheless, her attempt to reinstate ornament not just as a 'thing' but also 'a mode of conceiving and perceiving' enables us to approach the English cadence with freshly focused ears and eyes.⁶⁶ Ornament was thus a tool, a thing with an explicit use, during the 16th century. The English cadence speaks of and to an earlier, older understanding of what it meant to render something ornamental or ornamented. We can witness this shift at play in Morley's rejection of the cadence as a musical trope. In describing the English cadence as 'a garment of strange fashion', Morley demonstrates that he understands ornament in the new manner, as a 'thing' and associated with the relationship between the artwork and the beholder, rather than the 'mediation between the adorned object and what is beyond or outside it';⁶⁷ arguably this is to be expected given the publication date of *A plaine and easie introduction* in 1597, right at the end of the 16th century. From this point it is possible to begin to consider what it might mean to approach the English cadence as equipment or as a tool.

Conclusion: ordered cadences

This article aimed to unlock some of the ways the English cadence might once have been understood in the early modern era. In so doing it has reached beyond the sole account of the cadence in contemporary musical theoretical treatises to assess how far concepts from different spheres of culture in the 16th century, and from later time periods, can enlighten understanding of the English cadence today in the 21st century. By way of conclusion, this article will briefly assay the suitability of applying a relatively new concept from the field of cognitive science, which is proving beneficial to literary historians and musicologists alike.⁶⁸

The concept of Predictive Processing (commonly associated with Bayesian Inference) has been gaining traction since the late 1990s, with its origins in Hermann von Helmholtz's 'unconscious inference' of 1867.⁶⁹ This theory of cognition, in recent years represented by Lisa Barrett, Karl Friston, Anil Seth and Andy Clark amongst others, holds that human sensory perception functions via a prediction model, meaning that the brain can essentially be thought of as 'an action-oriented engagement machine ... that is perfectly positioned to select frugal, action-based routines that reduce the demands on neural processing and deliver fast, fluent forms of adaptive success [known as the "free energy principle"]'.⁷⁰ Incorrect predictions are used to generate better, more correct predictions in future. The vast majority of the literature on Predictive Processing has focused on visual perception, but there is every indication that there are comparable neural processing systems involved in the perception of sound, touch, taste and smell.⁷¹

At the core of Predictive Processing and its associated theories is the idea that human perception is governed by the desire to avoid 'surprise'.⁷² Surprise in this sense specifically refers to the moment when the model constructed by the predictive process does not match what the brain receives through sensory perception: colloquially speaking, this is 'cognitive dissonance'. Predictive processing has been applied to music in many ways that touch upon the English cadence.⁷³ It would of course be outlandish to suggest that Predictive Processing can provide a definitive answer as to how cognition functioned in the early modern period (not least due to the strikingly different conception of how the world worked,

as discussed briefly above in the second section of this article). Nevertheless, it is clear that as a theory it can provide some constructive food for thought in approaching the enigmatic English cadence.

The English cadence, as we have seen, flirts heavily with the concept of ornament, both in terms of the visual forms it evokes and as a rhetorical device. It fulfils a similar function to that of a printer's flower, using its form to mark the boundaries of a piece of music or a musical phrase, and to blur the threshold between music and mellifluous sound. As Katherine Butler has noted, printers' flowers can also be used as a kind of authorial or maker's mark on the part of publishers of music, 'to style an individual print or group publication'.⁷⁴ One wonders whether this use also translated onto the English cadence, given the high preponderance of the cadence in the work of Tallis and Byrd: a form of musical maker's mark.⁷⁵ In all of these potential usages, the false relation at the crest of the melodic curve is a vital signifying element. Meaning is gained from the 'strange[ness]' which Morley found so offensive. The dissonance functions almost as a training exercise, equipping the listener and the performer against the surprise of its discordance by allowing a more efficient prediction in what Vera Tobin has referred to as the 'well-made surprise'.⁷⁶ Considered in the guise of a 'well-made surprise', the English cadence in fact asserts order. It overtly displays the fact that its harmonic texture is properly equipped, allowing the authentic cadence it contains to peek through its form like the silk beneath a fashionably slashed 16th-century sleeve. The cadence invites its listeners and performers into an ornamental way of hearing and uttering, one that argues for the overall order and harmony of the cosmos.

In seeking to explore the potential associations that the English cadence may have held in the early modern period, this article has demonstrated that the cadence is rather more cerebral than its great dissenter, Morley, would have us believe. Far from being simply an embellishing 'garment' over the skeleton of its proper musical structure, the ornamental elements of the English cadence are ornamental in a sense proper to the original rhetorical sense of the word as it was used in the early modern era. The English cadence offers insight into musical thinking in the early modern period, in a manner

that invites its listeners and performers to entertain the old sense of music as ‘representation of the universal context.’⁷⁷ The pleasure the cadence offered as a musical trope lay in the way it echoed the fundamental order of the cosmos. This necessarily had little to do with its ‘novelty’ (by the time Morley wrote those words the cadence had been in popular use for at least 50 years),⁷⁸ and much to do with the perilous harmonic acrobatics involved in realizing the false relation, together with the near-ubiquitous 4–3

suspension, through insouciant allusion to the logic of voice-leading. In the English cadence, the reassuring order of the cosmos ultimately asserts itself. The cadence demonstrates the way back to order from this beautifully crafted, dissonant surprise. Recognizing these aspects of the English cadence allows us to salvage it from its status as ‘threadbare’ flea market curiosity,⁷⁹ and to begin to explore its role as a vital component of the cognitive style of early modern English musical culture.

Eleanor Chan is currently Leverhulme Early Career Fellow in the Music Department at the University of Manchester, working on a project examining false relations in the English Renaissance. She has previously held research fellowships with the Society for Renaissance Studies, Paul Mellon Center for Studies in British Art and Leverhulme Trust. Her research focuses on the intersection between musical and visual culture in early modern Europe, particularly in the concept of musical ‘writing’. eleanor.chan@manchester.ac.uk

My thanks to Rebecca Herissone, David Skinner, Jeremy Summerly, Tim Shephard, Simon Jackson, Raphael Lyne, the Tollemache Family and Emma Close-Brooks, who all provided generous assistance with this article at some point in its long development, to the anonymous reviewers of this manuscript, and to the Society of Renaissance Studies, the Paul Mellon Centre and the Leverhulme Trust, whose fellowships have funded this research. An honorable mention, too, to the many ‘English’ cadence enthusiasts who have contributed examples and ardour over the past six years.

¹ Thomas Morley, *A plaine and easie introduction to practicall musicke* (London: Peter Short, 1597), p.154; see also J. Summerly, ‘The English cadence’, *Leading Notes*, vi/1 (1996), pp.7–9, at p.7.

² Summerly, ‘English cadence’, p.8.

³ Morley, *Introduction*, p.164.

⁴ Morley, *Introduction*, pp.153–4.

⁵ Peter Phillips claims that Byrd even invented a ‘new’ kind of English cadence; see P. Phillips, *English sacred music 1549–1649* (Oxford, 1991), p.56; this was refuted by Lionel Pike in his review in *Music & Letters*, lxxiv/1 (1993), pp.68–71.

⁶ For specific examples, see Josquin des Prez, *Adieu mes amours*, in the *Isabella d’Este Songbook*, Biblioteca Casanatense (Rome), Ms. 2856 (c.1479–81); William Cornysh, *Ah Robin, Gentle Robin* in the Henry VIII Manuscript, British Library, Add. Ms. 31922, fols.53v–54r (c.1510–1520); Philip van Wilder, *Du bon du coeur ma chiere dame*, in 31 *Chansons nouvelles a cinq et a six parties*, Livre 6 (Antwerp: Tielman Susato, 1546); William Byrd, *Bow thine ear O Lord / Civitas sancti tui*, in *Cantiones Sacrae* (London: Thomas East, 1589); Orlando Gibbons, *Hosanna to the son of David*, Durham Cathedral Library, Mss. A1, C2, C9 (c.1635); Henry Purcell, *I Was Glad*, in Cambridge University Library, Ms. EDC 10/7/6, p.210; *Full Fathom Five*, from *The Tempest*, probably by John Weldon (formerly attrib. Purcell), Bodleian Library, Ms. Tenbury 1266.

⁷ Thomas Morley, *Madrigals to foure voices* (London: Thomas Este, 2/1600), item 21; see also Cambridge, Fitzwilliam Museum, MU Ms. 36; J. E. Uhler, ‘Thomas Morley’s madrigals for four voices’, *Music & Letters*, xxxvi/4 (1955), pp.313–30; T. Murray, *Thomas Morley: Elizabethan music publisher* (Cambridge, 2014).

⁸ Musical theorists of the time saw rhetoric as an appropriate and useful analogy for music, see Joachim Burmeister, *Musica poetica* (1606); B. Varwig, ‘“Mutato semper habitu”’: Heinrich Schütz and the culture of rhetoric’, *Music & Letters*, xc/2 (2009), pp.215–39.

⁹ R. Lyne, *Shakespeare, rhetoric and cognition* (Cambridge, 2011), p.29; for contemporary evidence, see also Richard Sherry, *A Treatise of Schemes and Tropes* (1550); Thomas Wilson, *The arte of rhetoricque* (1553).

¹⁰ Abraham Fraunce, *The Arcadian rhetoricke* (London: Thomas Orwin, 1588), sig.A2r (my italics).

¹¹ Summerly, ‘English cadence’, p.7.

¹² Summerly, ‘English cadence’, p.7.

¹³ D. K. McColley, *Poetry and music in seventeenth-century England* (Cambridge, 1997), p.77; Phillips, *English sacred music*, p.56; R. Herissone, *Music theory in seventeenth-century England* (Oxford, 2001), pp.170–1; K. McCarthy, *Byrd* (Oxford, 2013), p.146.

¹⁴ A full exploration of early modern false relations, including the way in which the English cadence travelled into early modern musical style in

England, is currently in preparation by the author.

¹⁵ R. Wegman, 'From maker to composer: improvisation and musical authorship in the Low Countries, 1450–1500', *Journal of the American Musicological Society*, xlix/3 (1996), pp. 409–79; M. Everist, *Discovering medieval song: Latin poetry and music in the conductus* (Cambridge, 2018), pp.151–80.

¹⁶ J. Milsom, 'A Tallis fantasia', *The Musical Times*, cxxvi (1985), pp.658–62; for the fantasia itself, see British Library, Ms. Harley 7578, fols.92r–93r, and Add. Ms. 31390, 'A Book of Solfaing Songes' (1578), fols.113r–114r.

¹⁷ J. Bain, 'Theorizing the cadence in the music of Machaut', *Journal of Music Theory*, xlvii/2 (2003), pp.325–62.

¹⁸ See W. Apel and T. Binkley, *Italian violin music of the seventeenth century* (Bloomington and Indianapolis, 1990), p.56. Both cadences also gained their names *post facto*.

¹⁹ D. Cooke, *The language of music* (London, 1959), p.57.

²⁰ Morley, *Introduction*, pp.135–9.

²¹ M. Lindley, *Lutes, viols and temperaments* (Cambridge, 1984) and *Mathematical models of musical scales* (Bonn, 1993).

²² Morley, *Introduction*, p.154.

²³ Henry Peacham, *The compleat gentleman* (London: Francis Constable, 1622), especially ch.11, 'Of Musicke', pp.103–4.

²⁴ 'E. K', 'Dedicatory Epistle' to Edmund Spenser, *The shepheardes calendar* (London: Hugh Singleton, 1579).

²⁵ Morley, *Introduction*, p.154.

²⁶ For two good accounts of how this functioned in an earlier context, see E. E. Leach, 'Gendering the semitone, sexing the leading tone: fourteenth-century music theory and the directed progression', *Music Theory Spectrum*, xxviii/1 (2006), pp.1–21; B. J. Blackburn, 'The lascivious career of B-flat', in *Eroticism in early modern music*, ed. B. J. Blackburn and L. Stras (London, 2017), pp.19–42.

²⁷ See, for example, Peacham, *Compleat gentleman*, p.103; Abraham Fraunce, *Arcadian rhetoricke*, p.91.

²⁸ Summerly, 'English cadence', p.7.

²⁹ G. K. Bhogal, 'Debussy's arabesque and Ravel's *Daphnis et Chloé* (1912)', *Twentieth-Century Music*, iii/2 (2007), pp.171–99; Bhogal, 'Visual metaphors in music analysis and Criticism', in *The Routledge companion to music and visual culture*, ed. T. Shephard and A. Leonard (London, 2014), pp.191–5; Bhogal, *Details of consequence: ornament, art and music in Paris* (Oxford, 2013).

³⁰ It is worth noting that 'circumlocution', the delay of meaning, was considered a proper form of rhetorical trope by at least one rhetorician in the 1550s; Thomas Wilson, *The arte of rhetorique* (London: Richard Grafton, 1553), p.91.

³¹ I am not the first to suggest that these forms can productively be thought of as embryonic musical arabesques; see, for example, Debussy's citation of the winding melismas of Palestrina and Lassus as his inspiration for his *Arabesques* in his letter to Eugene Vasnier dated 24 November 1885, quoted in Bhogal, *Details of consequence*, pp.165–6.

³² Thomas Dekker, *The Belman of London* (London: 1608), sig.D4v.

³³ See the orpharion's object notes at Helmingham Hall, Suffolk; there is some discussion of the instrument's provenance in I. Harwood, *Wire strings at Helmingham Hall* (Guildford, 2002), p.2, and in C. Page, *The guitar in Tudor England: a social and musical history* (Cambridge, 2015), pp.60–61.

³⁴ William Scott, *The model of poesy*, ed. G. Alexander (Cambridge, 2013), fol.3r, line 5, and fol.18r, line 32.

³⁵ Thomas Wright, *The passions of the minde in generall* (London, 1604), p.168.

³⁶ John Davies, *Nosce teipsum* (London, 1599; R/1622), p.43; see also Pierre de la Primaudaye, *The second part of the French Academie* (London, 1594), especially fol.57r.

³⁷ K. Butler, 'Printed borders for sixteenth century music or music paper and the career of music printer Thomas East', *The Library*, xix/2 (2018), pp.174–202, at p.178.

³⁸ J. Fleming, *Cultural graphology: writing after Derrida* (Chicago, 2016), p.84. See also J. Fleming, 'How to look at a printed flower', *Word and Image*, xx/2 (2006), pp.165–87; 'How not to look at a printed flower', *Journal of Medieval and Early Modern Studies*, xxxviii/2 (2008), pp.345–71; 'Changed opinions as to flowers', in *Renaissance paratexts*, ed. H. Smith and L. Wilson (Cambridge, 2011), pp.48–64; 'Damask papers', in *The Elizabethan top ten: defining print popularity in early modern England*, ed. A. Kesson and E. Smith (Farnham, 2013), pp.179–92.

³⁹ Certainly Morley's concept of the 'flurish' to 'hide deformitie' seems to suggest as much; the etymological root of 'flourish' is *florere*, flower, and printers' flowers are thought to have originated as a tool to support the paper surface and prevent smudging ('deformitie') during printing impressions.

⁴⁰ Henry Peacham, *Graphice, or the Art of Drawing* (London: 1612), p.45.

⁴¹ P. Fumerton, *Cultural aesthetics: Renaissance literature and the practice of social ornament* (Chicago, 1991); E. M. Kavalier, *Renaissance Gothic: architecture and the arts in northern Europe 1470–1540* (New Haven, 2012); B. Mirabella (ed.), *Ornamentalism: the art of Renaissance accessories* (Ann Arbor, 2011); C. Lapraik Guest, *The understanding of ornament in the Italian Renaissance* (Leiden, 2016).

⁴² Largely this is due to the continuing influence of the Kantian division of *ergon* and *parergon*; see Immanuel Kant, *Critique of judgement* [1790], trans. J. C. Meredith, ed. and rev. N. Walker (Oxford, 2008), especially 'Second Moment, of the Judgment of Taste, §14' and '§51'. This is a particular issue in the case of Reformation England, as the surviving examples of its visual culture tend to belong

overwhelmingly within the domain of the 'decorative' rather than 'fine' arts—to the extent that that Patrick Collinson was able to claim that 16th-century England was suffering from 'visual anorexia'. Collinson's concept was developed three decades ago, but even at the time of writing most defences of 16th-century English visual culture have been carried out by literary historians rather than art historians, demonstrating the pervasiveness of such thinking. P. Collinson, *The birthpangs of Protestant England: religious and cultural change in the sixteenth and seventeenth centuries* (Basingstoke, 1988), p.119.

⁴³ T. Shephard, *Echoing Helicon: music, art and identity in the Este studioli, 1440–1530* (Oxford, 2014), pp.141–2; see also F. Dennis, 'Interior spaces for music', in *The Cambridge history of sixteenth-century music*, ed. I. Fenlon and R. Wistreich (Cambridge, 2019), pp.260–87.

⁴⁴ Collinson, *Birthpangs*, p.119; M. Baxandall, 'English disegno', in *England and the continental Renaissance*, ed. E. Chaney and P. Mack (Woodbridge, 1990), pp.203–14; R. Strong, *The English Renaissance miniature* (London, 1983).

⁴⁵ Collinson, *Birthpangs*, p.119.

⁴⁶ See particularly Fumerton, *Cultural aesthetics*; L. Gent, *Picture and poetry 1560–1620: relations between literature and the visual arts in the English Renaissance* (Leamington Spa, 1981) and 'The rash gaze: economies of vision in Britain, 1550–1660', in *Albion's classicism: the visual arts in Britain, 1550–1660*, ed. L. Gent (London, 1995), pp.379–91; G. Kury, "'Glancing surfaces": Hilliard, armour and the Italian model', in *Albion's classicism*, ed. Gent, pp.395–421; B. R. Smith, *The key of green: passion and perception in Renaissance culture* (Chicago, 2009); R. Olson, *Arras hanging: the textile that determined early modern literature and drama* (Newark, 2013).

⁴⁷ J. Field, *The invention of infinity: mathematics and the art of the Renaissance* (Oxford, 1997); see also L. Massey (ed.), *The treatise on perspective: published and unpublished* (New Haven and London, 1997) and *Picturing space, displacing bodies: anamorphosis in early modern theories of perspective* (Philadelphia, 2007).

⁴⁸ George Ormerod, *History of Cheshire* (London, 1882), pp.154–5.

⁴⁹ C. MacLeod, *Elizabethan treasures: miniatures by Hilliard and Oliver* (London, 2019), pp.8–18.

⁵⁰ Olson, *Arras*, p.2.

⁵¹ Olson, *Arras*, pp.24 and 45.

⁵² Another example would be Foucault's 'Renaissance episteme'; see M. Foucault, *The order of things: an archaeology of the human sciences* (London, 1970; r/2002).

⁵³ D. Evett, *Literature and the visual arts in Tudor England* (London, 1990), p.10.

⁵⁴ Evett, *Literature and the visual arts*, p.235.

⁵⁵ E. R. Harvey, *The inward wits: psychological theory in the Middle Ages and the Renaissance* (London, 1975); D. Summers, *The judgment of sense: Renaissance naturalism and the rise of aesthetics* (Cambridge, 1987).

⁵⁶ William Shakespeare, *A midsummer night's dream*, Act 4, scene 1. See also the plot of Tomkisi's *Lingua*, which dramatizes a debate amongst the five senses and the personification of voice (the protagonist *Lingua*) to assess whether she should be considered the sixth sense. Thomas Tomkisi, *Lingua, or the combat of the tongue and the five senses for superiority* (London, 1607).

⁵⁷ V. Stoichita, *The self-aware image: an insight into early modern metapainting* (Cambridge, 1997), p.23; S. Merriam, *Seventeenth-century Flemish garland paintings: still life, vision, and the devotional life* (Farnham, 2012), p.8.

⁵⁸ Summerly, 'English cadence', p.7.

⁵⁹ Lapraik Guest, *Ornament*, pp.67–119; B. Vickers, *In defense of rhetoric* (Oxford, 1988), especially

ch.III; J. Wesley, 'Rhetorical delivery for Renaissance English: voice, gesture, emotion and the sixteenth-century vernacular turn', *Renaissance Quarterly*, lxxviii/4 (2015), pp.1265–96, at p.1272.

⁶⁰ Lapraik Guest, *Ornament*, pp.4–8.

⁶¹ O. Jones, *The grammar of ornament* (London, 1856; r/ Wokingham, 1982); J. Ruskin, 'The material of ornament' and 'The treatment of ornament', in *The works of John Ruskin: Vol. 9, The stones of Venice I* [1903], ed. E. Tyas and A. Wedderburn (Cambridge, 2010); Gottfried Semper, *Der Stil in den technischen und tektonischen Künsten* (Frankfurt, 1860); Alois Riegl, *Stilfragen* (1893), trans. E. Kain as *The problems of style: foundations for a history of ornament* (this edition, Princeton, 1993); E. H. Gombrich, *The sense of order: a study in the psychology of decorative art* (London, 1979).

⁶² Lapraik Guest, *Ornament*, p.8.

⁶³ Lapraik Guest, *Ornament*, p.22.

⁶⁴ Lapraik Guest, *Ornament*, p.8.

⁶⁵ Lapraik Guest, *Ornament*, p.8.

⁶⁶ Lapraik Guest, *Ornament*, p.2.

⁶⁷ Lapraik Guest, *Ornament*, p.3.

⁶⁸ T. Cave, 'Introduction', 'Reading literature cognitively', *Paragraph*, xxxvii/1 (2014), pp.1–14; see also M. T. Crane, *Shakespeare's brain: reading with cognitive theory* (Princeton, 2001); Lyne, *Shakespeare, rhetoric and cognition* (Cambridge, 2011); and T. Chesters, 'Social cognition: a literary perspective', in 'Reading literature cognitively', *Paragraph*, xxxvii/1 (2014), pp.62–78.

⁶⁹ Hermann van Helmholtz, *Handbuch der physiologischen optik* (Leipzig, 1867).

⁷⁰ A. Clark, *Surfing uncertainty: prediction, action and the embodied mind* (Oxford, 2016), p.1; see also Clark, 'Beyond the "Bayesian blur": predictive processing and the nature of subjective experience', *Journal of Consciousness Studies*, xxv (2018), pp.71–87; D. Williams, 'Predictive coding and thought', *Synthese*, cxcvii (2020), pp.1749–75, at pp.1750–1;

L. Barrett, *How emotions are made: the secret life of the brain* (New York, 2017), especially ch.2; K. Friston, 'The free-energy principle: a rough guide to the brain?', *Trends in cognitive sciences*, xiii/7 (2009), pp.293–301; A. Seth, 'Interceptive inference, emotion, and the embodied self', *Trends in Cognitive Sciences*, xvii/11 (2013), pp.565–73.

⁷¹ Clark, *Surfing uncertainty*, pp.84–107.

⁷² Friston 'Free-energy', p.293–4; H. Feldman and K. Friston, 'Attention, uncertainty, and free energy', *Frontiers in Human Neuroscience*, iv (2010), article 215, pp.5–6 and p.17.

⁷³ For musicological applications, see M. Long, *Hearing homophony: tonal expectation at the turn of the*

seventeenth century (Cambridge, 2020), D. Huron, *Voice leading: the science behind a musical art* (Cambridge, MA, 2018) and E. Margulis, *On repeat: how music plays the mind* (Oxford, 2014); for readings from cognitive science, see M. Pearce and G. Wiggins, 'Auditory expectation: information dynamics of music and cognition', *Topics in Cognitive Science*, iv (2012), pp.625–52; P. Vuust *et al.*, 'Predictive coding of music—brain responses to rhythmic incongruity', *Cortex*, xlv/1 (2009), pp.80–92; P. Vuust and M. A. G. Witek, 'Rhythmic complexity and predictive coding: a novel approach to modelling rhythm and meter perception in music', *Frontiers in Psychology*, v (2014), article 1111. One can arguably also see the relevance of predictive processing

to studies such as M. Champion, *In the fullness of time: temporalities of the fifteenth century Low Countries* (Chicago, 2017) and N. Atkinson, *The noisy Renaissance: sound, architecture and Florentine urban life* (Philadelphia, 2017).

⁷⁴ Butler, 'Printed borders', p.201.

⁷⁵ Butler's research is particularly pertinent for the present study as her focus is on printers' flowers and the way they allow us to track the early career of Thomas East, Assign to Byrd (and subsequently Morley). Butler, 'Printed borders', pp.174–5.

⁷⁶ V. Tobin, *Elements of surprise: our mental limits and the satisfactions of plot* (London, 2018).

⁷⁷ Lapraik Guest, *Ornament*, p.8.

⁷⁸ Morley, *Introduction*, p.154.

⁷⁹ Morley, *Introduction*, p.154.



American Musical Instrument Society



Founded in 1971 to promote the study of the history, design, and use of musical instruments in all cultures and from all periods. Membership includes collectors, curators, scholars, instrument makers, performers, dealers and conservators.

Annual journal, bi-annual online newsletter, listserv, Facebook page. Publication and service awards. Competitive scholarships to assist student members attend conferences. Annual conference held usually in May.

www.amis.org

Joanne Kopp, Treasurer ♦ j2kopp@aol.com