**MUSIC, MYSTIQUE AND SHAKESPEARE’S SONNETS**

John Bigelow

Monash University

*Astronomie* and *Musike* are Sisters, saith Plato.

Dr. John Dee (1570, p. 15).

***Prelude***

For those scientists who know how to read the Signs in God’s ‘Book of Nature’, the heavens above us contain visually observable, harmonious, mathematical ratios among measurable quantities like the diameters of the orbits and the orbital periods of the Sun, Moon, Planets and Stars. That was the core claim in a landmark masterpiece in the history of astronomy, *The Harmony of the World*, by Johannes Kepler (1619/1997). Kepler argued, especially in Book 3 and Book 5 of this work, that these very same harmonious, mathematical ratios underlie the observable and emotionally charged harmonies and discords between musical notes. The first of these harmonies is the frequency-ratio of 1 to 1 for the ‘perfect consonance’ of unison; the second is the frequency-ratio of 2 to 1 for the ‘perfect consonance’ of the octave; and so on.

 In Book 3 Chapter 15 of this work, Kepler considers ‘Which Modes or Tones serve Which Emotions’; and in a ‘Political Digression’ at the end of Book 3 Kepler boasts that, ‘Certainly if I had acquired knowledge of the state, and was dealing with politics in this book, … Bodin would have learnt from this Harmony of mine, independently of Aristotle, how to be a better philosopher’; see Kepler (1619/1997, p. 275). Bodin was at that time the leading authority on political philosophy.

 Kepler dedicated his *Harmony of the World* to King James I of England, implying in the Dedication that it was knowledge of these same celestial harmonies that had helped King James to create a political harmony between Scotland and England. Kepler was transparently fishing for patronage; and he did indeed receive an invitation to the Jacobean Court, although in the end he did not take up the offer.

 It will be argued here that these very same harmonious ratios that are visible in the heavens and audible in music can also be both seen and heard when you read or recite the sonnet sequence by Shakespeare that was published in London in 1609. This suggests that it is relatively likely that Shakespeare, like Kepler, anticipated that King James might bestow patronage on the author of a work that articulated, in a microcosm, the harmonies that God placed visibly above us in the heavens. An esoteric knowledge of ‘the heavenly harmonies’ could presumably have amplified the confidence King James invested in the doctrine of the ‘Divine Right of Kings’; and Shakespeare was not above the art of flattery.

**Shakespeare’s Sonnets**

A sonnet sequence was published in a quarto edition by Thomas Thorpe in London in 1609, entitled *Shake-speares Sonnets, Neuer before Imprinted*. In that text, these sonnets are preceded by an enigmatic dedication to an unidentified ‘Mr. W.H.’, which is signed ‘T.T.’. The sonnets are then followed by a narrative poem, also said to be by Shakespeare, entitled *A Louers Complaint*. This narrative poem has been largely neglected; but the sonnets have been studied intensively by numerous industrious, curious, knowledgeable, sensitive, influential and respected commentators. Yet – starting with the identity of Mr. W.H. − many mysteries remain. Evidently this sonnet sequence contains yet more hidden treasures to be discovered.

 One such discovery, which has occupied me over the last decade, is that the text of this 1609 sonnet sequence contains formal patterns that systematically mirror a series of Renaissance musical scales. These musical scales characterize a series of possible ‘tuning systems’, or ‘diatonic divisions of the octave’, which in Renaissance Europe were called the ‘modes’.

 As will be shown below, there are a number of formal correspondences between Shakespeare’s sonnets and musical scales, and these correspondences are readily observable − when you know what to look for. It is conceivable, as a remote possibility, that formal correspondences like these could have arisen by mere chance − or by magical − or divine − or subliminal forces of some kind or other. However, when you closely consider the details in this particular case it becomes manifestly far more credible that these particular formal correspondences arose by deliberate design. It therefore follows that, almost certainly, Shakespeare must have had some comprehensible motive for weaving musical patterns like these into this sonnet sequence.

 It is tempting to ask whether abstract, formal correspondences like these resonate aesthetically with the manifest poetic virtues of these ‘deepe brain’d sonnets’[[1]](#footnote-1) − or whether, on the contrary, they are mere distractions from all the many other things that are manifestly of deep aesthetic value in this multi-layered sonnet sequence. However, it is hard to see how formal patterns like these could conceivably have been regarded by the author as an aesthetic success if no one but the author (and his God) could reasonably have been expected to notice them. Consequently, it is natural to ask whether perhaps there were reasons, available to Shakespeare, for anticipating that at least a few private friends or potential patrons might appreciate formal poetic patterns of this kind.

 Given the tenor of the times, many of Shakespeare’s private friends and potential patrons would almost certainly have thought that musical scales like these underlie the divinely created ‘music of the spheres’. Furthermore, we have ample evidence about many of these potential patrons in Tudor and Jacobean England − from surviving publications and letters, from documented patronage practices, and from many other documented sources. The evidence is especially abundant in the case of King James VI of Scotland, who in 1603 became James I of England − and who was the patron of any of Shakespeare’s other plausible patrons. A historical context like this did afford writers like Shakespeare with a credible motive for mirroring the ‘heavenly harmonies’ in poetic forms, if poetic forms of a suitable kind − and a suitable patron − could indeed be found.

 However, before inviting a great variety of readers to set sail on a voyage of discovery, it is polite to offer something like a travel brochure containing a succinct description of at least the first few ports of call. Here it is.

***Three initial discoveries***

**(1) Rhyme-anomalies**

If the 154 sonnets in Shakespeare’s *Sonnets* (1609) are set down in the order in which they were originally published in 1609, then there are about two dozen minor ‘rhyme-anomalies’ that will be distributed at varying intervals across the entire length of this sonnet sequence.

 Thus, for instance, sonnets 1 and 2 fit the familiar Shakespearean rhyme-scheme: *abab cdcd efef gg*. But sonnet 3 has a deviant rhyme-scheme: *abab cdcd dede dd*. There are rhyme-anomalies like this in about two dozen of Shakespeare’s 154 sonnets. For the sake of completeness, I will set down my tally of 22 sonnets,[[2]](#footnote-2) which includes sonnets 3, 4, 6, 24, 29, 43, 44, 45, 46, 51, 55, 66, 90, 96, 99, 122, 125, 126, 133, 134, 135, 136.

 The rhyme-anomalies in sonnets 3 and 6 are intimately inter-linked. The very same word ‘thee’ is used *twice* as an end-rhyme in sonnet 3:

Sonnet 3:

line 9: Thou art thy mothers glasse and she in thee

line 14: ‘Die single and thine Image dies with thee.

And the same word ‘thee’ *again* used *twice* as an end-rhyme in sonnet 6:

Sonnet 6:

line 7: That’s for thy selfe to make an other thee,

line 10: If ten of thine ten times refigur’d thee.

These repetitions of end-rhymes break the very first of the Rules that Shakespeare’s King had laid down in *The Essayes of a Prentise, in the Divine Art of Poesie* (1585), namely, ‘That ze ryme nocht twyse in ane syllabe’ [*That ye rhyme not twice in one syllable*].

 Ironically, Shakespeare apparently comments on the striking formal *regularity* of his sonnets: ‘Why is my verse so barren of new pride? / So far from variation or quicke change? … For as the Sun is daily new and old, / So is my loue still telling what is told.’ (sonnet 76). There is room here for a curious question: Why did Shakespeare not revise sonnets 3 and 6, to remove these minor ‘blemishes’? Did he fail to notice them? Or was he confident King James would not notice them? Or was he utterly unconcerned about whether or not these sonnets might either please or displease King James?

 Very few commentators mention the presence of minor formal anomalies like these. In one rare exception, one commentator says, ‘Nineteen of the sonnets have one of the rhymes of the octave recurring in the sestet, but this never seems to be a deliberate contrivance, except for 135 … One sonnet, 46, has the unusual sestet EEFF FF. and the effect, while certainly intended, is really rather clumsy’; see Spiller (1992, pp. 158-9).

 Contrary to the very natural impression recorded by Spiller, it is possible that these anomalies might all have been deliberate. They might all have been crafted (or at least noticed − and then deliberately left uncorrected) precisely *because* they are ‘rather clumsy’ and strike what might be thought of as a slightly discordant note within the sequence.

**(2) Discordant musical intervals**

If 154 musical notes are laid out in a series of musical scales, then these scales will feature about two dozen pairs of notes that are seriously dissonant with one another. For instance, if we begin with an upwards scale for the Renaissance Dorian mode (DEFGAB … ), then in this scale the notes F and B are separated by the notoriously dissonant interval of a ‘tritone’ (three ‘whole tone’ intervals). This interval of the tritone was regarded as discordant under all the rival tuning systems that were current in the Renaissance.

 You can hear the tritone in the name ‘*Maria’*, as it is sung in Leonard Bernstein’s musical, *Westside Story* (a retelling of Shakespeare’s story of *Romeo and Juliet*) − where the three syllables ‘*Ma-ri-a’* can be sung to the upwards sequence of notes F-B-Fo (the superscript in ‘Fo’ here indicating ‘an octave above the previous F’). The tritone is also heard in the famous ‘Tristan chord’ F-B-D#-G# in bar 3 of Wagner’s *Tristan und Isolde* − where it evokes an unrequited longing that is only finally and fully resolved with the death of both the hero and the heroine (also reminiscent of *Romeo and Juliet*) at the close of the opera. The tritone is used (for effect) very frequently in post-Enlightenment music. But in Tudor and Jacobean England it was virtually *taboo* − except in a few very special musical contexts in which it leads immediately to a ‘perfect consonance’.

**(3) A testable, alleged, musico-poetic alignment**

Under one canonical series of musical scales, all the relevant poetic anomalies and all the relevant musical discords in these two parallel sequences will line up as neatly as the irregularly frayed edges that are created when a sheet of parchment is torn in two. Or so it will be argued here.

 It will take time to check all the numerous details that are entailed by this alleged alignment between anomalies and discords; but it can readily be verified that we do at least find promising early indicators in the alignment sonnets 3 and 6 with the tritone separating the notes F and B.

 This alignment of anomalies with discords will turn out, on further investigation, to be almost as neat as some historically important analogous alignments that arise in spectroscopic analysis of rays of light. The light from a distant star can be diffracted into a spectrum; and in this spectrum there will be a handful of thin ‘spectral lines’. The pattern of distribution for those spectral lines aligns perfectly with the pattern of distribution of spectral lines extracted from the light emitted from or transmitted through various identifiable chemicals here on Earth. Spectral lines of this kind furnish virtually the only evidence we have that the stars are made from the very same kinds of atoms and molecules that we have here on Earth. No one has ever visited a star, to directly verify that the same spectral lines are generated in the stars in exactly the same way they are generated here on Earth; nevertheless, it is manifestly irrational to harbour any really serious doubts. These patterns of distribution of black lines in a spectrum are analogous, in this respect, to the patterns of distribution of poetic anomalies in a sonnet sequence, or of musical discords in a series of musical scales.

***Initial conclusion*:**

Nothing to be said here will either presuppose or imply that Shakespeare ever summoned musical scales consciously to mind while he was originally writing any of his individual sonnets.

 Nevertheless, when Shakespeare gathered together a large number of his previously-written sonnets and compiled them into the extended 1609 sequence comprising 154 sonnets altogether, he might then credibly have deliberately altered some of the end-rhymes here and there, and slightly re-adjusted the ordering of some of these sonnets within the overall sequence.

 Consequently, it is reasonable to conclude that there are at least sufficient grounds to motivate further investigation of the speculative hypothesis that Shakespeare may have deliberately mirrored musical scales in his sonnet sequence of 1609.

**Objection 1:**

Nevertheless, despite the evidence marshaled above, some commentators have thought that it is relatively obvious (*a priori*, as it were) that there is something patently wrong-headed about even *investigating* questions like these. As one commentator (a poet) put it:

The trouble is, it’s likely some of the numbers really *are* significant; but this kind of metatextual play on the poet *and* the reader’s part is almost never, ever worth it, as it inspires or pursues just the wrong sort of intrigue, and takes us further and further from the poems.[[3]](#footnote-3)

**Reply:**

Even if speculations like these do sometimes take us – for a time − ‘further and further from the poems’, there may be no long-term harm in that, especially if we learn some history and music theory along the way. It is always possible to return to the poems again.

***Testing the theory*:**

Set out Shakespeare’s sonnets in a sequence, and align them with the notes in an ascending musical scale for the Dorian mode:

Sonnets: 1 2 **3** 4 5 **6** 7 8 …

Notes: **D** E **F** G A **B** C Do …

**D** is in **bold** type because it is the tonic in the Dorian mode. And the notes **F** and **B** are underlined in bold because they are separated by the notoriously dissonant interval of a *tritone*. And the corresponding sonnets **3** and **6** both contain ‘discordant’ rhyme-anomalies.

 By contrast, sonnet 8 stands at the harmonious interval of an *octave* from the tonic. Sonnet 8 opens with the words, ‘Mvsick to heare, why hear’st thou musick sadly…’ and this sonnet is all about musical harmony as a model for a happy family life.

 Thus, just as the first eight lines in an individual sonnet are called the ‘octave’, so too could the first eight sonnets be construed as a ‘macro-octave’, which aptly closes with a sonnet that is all about musical harmony.

 Here is a diplomatic transcription of initial highlights from the raw data from the 1609 quarto edition of Shakespeare’s *Sonnets*, with **bold underlining** for formally ‘wayward’ rhyme-words.

 1

From fairest creatures we desire increase,

That thereby beauties *Rose* might neuer **die**,

But as the riper should by time decease,

His tender heire might beare his **memory**:

But thou contracted to thine owne bright eyes,

Feed’st thy lights flame with selfe substantiall fewell,

Making a famine where aboundance lies,

Thy selfe thy foe, to thy sweet selfe too cruell:

Thou that art now the worlds fresh ornament,

And only herauld to the gaudy spring,

Within thine owne bud buriest thy content,

And tender chorle makst wast in niggarding:

 Pitty the world, or else this glutton **be**,

 To eate the worlds due, by the graue and **thee**.

 3

Looke in thy glasse and tell the face thou vewest,

Now is the time that face should forme an other,

Whose fresh repaire if now thou not renewest,

Thou doo’st beguile the world, vnblesse some mother.

For where is she so faire whose vn-eard wombe

Disdaines the tillage of thy **husbandry**?

Or who is he so fond will be the tombe,

Of his selfe loue to stop **posterity**?

Thou art thy mothers glasse and she in **thee**

Calls back the louely Aprill of her prime,

So thou through windows of thine age shalt **see**,

Dispight of wrinkles this thy goulden time.

 But if thou liue remembred not to **be**,

 Die single and thine Image dies with **thee**.

 4

Vnthrifty louelinesse why dost thou spend,

Vpon thy selfe thy beauties **legacy**?

Natures bequest giues nothing but doth lend,

And being franck she lends to those are **free**:

Then beauteous nigard why doost thou abuse,

The bounteous largesse giuen thee to giue?

Profitles vserer why doost thou vse

So great a summe of summes yet can’st not liue?

For hauing traffike with thy selfe alone,

Thou of thy selfe thy sweet selfe dost deceaue,

Then how when nature calls thee to be gone,

What acceptable *Audit* can’st thou leaue?

 Thy vnus’d beauty must be tomb’d with **thee**,

 Which vsed liues th’executor to **be**.

 6

Then let not winters wragged hand deface,

In thee thy summer ere thou be distil’d:

Make sweet some fiall; treasure thou some place,

With beautits treasure ere it be selfe kil’d:

That vse is not forbidden **vsery**,

Which happies those that pay the willing lone;

That’s for thy selfe to breed an other **thee**,

Or ten times happier be it ten for one,

Ten times thy selfe were happier then thou art,

If ten of thine ten times refigur’d **thee**,

Then what could death doe if thou should’st depart,

Leauing thee liuing in **posterity**?

 Be not selfe-wild for thou art much too faire,

 To be deaths conquest and make wormes thine heire,

 8

Mvsick to heare, why hear’st thou musick sadly,

Sweets with sweets warre not, ioy delights in ioy:

Why lou’st thou that which thou receaust not gladly,

Or else receau’st with pleasure thine annoy?

If the true concord of well tuned sounds,

By vnions married to offend thine eare,

They do but sweetly chide thee, who confounds

In singlenesse the parts that thou should’st bear:

Marke how one string sweet husband to an other,

Strikes each in each by mutuall ordering;

Resembling sier, and child, and happy mother,

Who all in one, one pleasing note do sing:

 Whose speechlesse song being many, seeming one,

 Sings this to thee thou single wilt proue none.

**Objection 2:**

*All the formal details, described above, could have arisen by chance alone.*

 *In particular, it is surely a mere coincidence that the sonnet which is most obviously concerned with ‘Mvsick’ has been positioned as sonnet ‘8’ in the sequence. If Shakespeare had really been so very interested in music, why then should there be so few sonnets that are, like sonnet 8, explicitly concerned with music? The only other sonnet that is remotely comparable to sonnet 8, in this respect, is sonnet 128. Clearly there must have been numerous further opportunities for aptly poetic references to music; but evidently virtually none of those further opportunities have been taken.*

 *Hence the alignment of this ‘Mvsick’ sonnet with the completion of a ‘macro-octave’ is much more likely to have been a mere coincidence, or at most an isolated ‘joke’, than to have been a sign of any overarching systematic plan.’*

**Reply:**

Admittedly, the fact that few sonnets explicitly mention music could well be a sign that the author was not thinking about music when he originally wrote each individual sonnet. But that does not prove that he was unconcerned with music when he later compiled them into an extended sequence.

**Objection 3:**

*There are numerous uses of ‘thee’ as an end-rhyme in Shakespeare’s sonnet sequence, and not all of them align with discordant musical intervals.*

 *For instance, the end-rhymes in the closing couplet of sonnet 1 (‘be’ / ‘thee’) match the end-rhymes in the closing couplet of sonnet 3 (‘be’ / ‘thee’). These rhyme-repetitions are very like the ones that happens to align with the dissonant tritone. But the notes corresponding to sonnets 1 and 3 are D and F. And yet − is D discordant with F? Surely not.*

**Reply:**

The note D *did* stand in an ‘imperfect consonance’ with F according to most Renaissance music theories.

 In the Renaissance, the leading theoretical tuning systems were ‘Pythagorean tuning’ and ‘just intonation’. In a nutshell, Pythagorean tuning makes all the octaves and fifths ‘perfect’, and that fixes all the other intervals. Just intonation deviates from Pythagorean tuning by slightly lowering either two or three of the Pythagorean notes, in order to ‘sweeten’ the associated thirds.[[4]](#footnote-4)

 Pythagorean tuning made all the thirds discordant − both by the Pythagoreans’ own lights and by our scientific measures of interference ‘beats’ in the natural harmonics. By contrast, Zarlino’s version of just intonation managed to ‘sweeten’ *six* of the *seven* thirds in the diatonic scale.

 Just intonation deviates from Pythagorean tuning only in the fine-tuning of a handful of notes in the octave. When approached this way, as a deviation from Pythagorean tuning, just intonation *did* *not* *alter* either of the notes D or F; and hence did not remove the acknowledged Pythagorean dissonance in the minor third D-F.

 Thus, under *both* Pythagorean tuning *and* just intonation the third D-F was an imperfect consonance − by the theorists’ own lights − and by a measure of interference ‘beats’ in the natural harmonics − and according to the intuitive judgments of Renaissance ears.

 Thus, tuning the minor third D-F was an especially difficult theoretical and practical problem in Shakespeare’s time. This third is especially important in the Dorian mode, where D is the tonic.

 In the Renaissance, in addition to Pythagorean tuning and just intonation, there was also a family of rival − more ‘practical’ and ‘*a posteriori*’ − approaches to music theory, which deliberately and pragmatically tolerated slight deviations from ‘perfection’. These latter approaches fall under the general label of systems of ‘temperament’.

 Systems of temperament gave up any hope of ever making all seven of the thirds *and* all seven of the fifths *perfectly* harmonious. That is, these tuning systems deliberately tolerated noticeable interference ‘beats’ in at least some of the thirds and fifths. But they nevertheless sought ways of reducing these ‘beats’ to a level at which, though still just noticeable, they would be so quiet that they would provoke minimal offence on all but the most sensitive of Renaissance ears.

 Nevertheless, even under systems of temperament, the third D-F was still something of a problem. Even if you ensure only *approximate* harmonies in the series of thirds F-A-C-E-Go-Bo-Do, nevertheless, unless you are very careful, this is very likely to leave a seriously dissonant interval *either* in the final third at the very end of the chain (Do-Foo), *or else* between the end-points, F-Foo. Tuning by this ‘cycle of thirds’ was explicitly described in 1511 in a manual on organ-tuning, where the inescapable problem of chasing a ‘wolf’ discord was clearly identified.[[5]](#footnote-5)

 More than a century after Shakespeare, the problem of ‘sweetening the thirds’ had not yet been resolved to everyone’s satisfaction. Thus, for instance, Bach’s 1722 work, *The Well-Tempered Clavier*, has a subtitle that runs: ‘Preludes, and Fugues through all the tones and semitones, including those with a major third or Ut Re Mi as well as those with a minor third or Re Mi Fa. …’; see Bach (1722/1983). That is, in the subtitle of this work Bach singles out the problematic minor third ‘Re Mi Fa’ − and the interval D-F is one of these minor thirds ‘Re Mi Fa’.

 The widespread acknowledgement, in both the Renaissance and the Enlightenment, of a recalcitrant ‘imperfect consonance’ in the interval D-F takes much of the wind out of the sails of Objection 1.

**Objection 4:**

*‘There is a ‘thee’-anomaly in the closing couplet of sonnet 4 that is similar to the ‘thee’-anomalies in sonnets 1, 3 and 6.*

 *But why should sonnets 1 and 4, too, be marked by linked ‘thee’-anomalies? Sonnets 1 and 4 correspond to notes D and G, which are separated by the musical interval of a fourth. And in the Dorian mode D is the tonic. And yet, surely D is not dissonant with G. Surely fourths should be counted as harmonious intervals.*

 *Hence it appears that there is one very salient ‘thee’-anomaly that is not aligned with a corresponding musical discord. The hypothesized alignment of poetic anomalies with musical discords therefore breaks down on wider inspection.’*

**Reply:**

No, in the Renaissance fourths *were* (at least sometimes) regarded as ‘imperfect consonances’. Thomas Morley, for instance, explicitly says so in several places in his influential book on *A Plaine and Easie Introdvction to Practicall Mvsicke*.

 Morley was extremely influential in Shakespeare’s England. Morley was one of the two official censors who tightly controlled the publication and importation of music manuscripts. He wrote music of Shakespeare’s plays. And he and Shakespeare lived for years in the same parish in London − so if they went to Church on a Sunday (as was expected of every good citizen), then they would almost certainly have met there.

 Morley acknowledged that some theorists, did not agree with him, and that they did include the ‘diatesseron’ (that is, fourths) among ‘the harmonical proportions and the consonants which arise of them’. Nevertheless, he protested: ‘But why they should make Diatessaron a consonant, seeing mightily offendeth the ear, I see no reason, except they would make that geometrical rule of parallel lines true in consonants of music’; see Morley (1597/1973, p. 205). What Morley is attributing to his opponents is the following fallacious argument: ‘*If P is parallel to Q and R, then Q and R must be parallel to each other. Likewise if* a *note C is harmonious with the two notes a fifth and an octave above it, G and Co, then those notes G and Co (a fourth) must also be harmonious with each other.*’ Morley protests that this *a priori* reasoning is blatantly over-ruled by the evidence of the senses. It would not be far-fetched to imagine that Shakespeare might have held an opinion concerning fourths similar to Morley’s.

 Looking at the matter from a slightly different angle, in the Dorian mode (with tonic D), the fourth D-G falls slightly short of the fifth D-A. Hence, just as the *seventh* can be heard as ‘straining for a resolution’ in the octave, so too can the fourth be heard as ‘straining for a resolution’ in the fifth. This sense of ‘straining for resolution’ is part of what was understood as an ‘imperfect consonance’.

 Furthermore, when constructing chords on a lute or a guitar, the backbone method was (and still is) to stack two thirds to make a fifth. In the resulting triads (like the minor triad D-F-A, for instance) fourths fall in the cracks, as it were. That is another available reason why fourths could reasonably have been regarded as ‘imperfect consonances’.

 On top of all these considerations that help to explain Morley’s negative perception of fourths, this perception of fourths as imperfect consonances also aligns neatly with the evident Renaissance priority of minimizing what we now know to be the observable interference ‘beats’ arising within the natural harmonics of any two notes that are sounding together. In the fourth D-G, the *second* harmonic of D is Ao. This A lands *right beside* the *first* harmonic of G, which is Go. Hence there will be serious ‘beats’ in the immediate harmonics of D and G, if they are sounded simultaneously. It is not absurd to suppose that someone like Morley or Shakespeare might have *heard* these ‘beats’ in the immediate harmonics arising from the musical interval of a fourth.

 All these various considerations cumulatively take the wind out of the sails of Objection 2.

***The rest of the sonnet sequence*:**

Here is an Initial Table that closely aligns formal poetic patterns in the sonnets with salient discords in corresponding musical scales.

**FIGURE 2: *AN INITIAL TABLE***

***Dorian mode***

**D** E F G  A B C Do ♪ ♪ ♪ ♪  ♪ ♪

1 2 3 4  5 6 7 8 9 10 11 12 13 14

***Hypo-Dorian mode***

 A B C **D**  E F G Ao ♪ ♪ ♪ ♪  ♪ ♪

 15 16 17 18  19 20 21 22  23 24 25 26 27 28

***Phrygian mode***

**E** F G A  B C D Eo ♪ ♪ ♪ ♪ ♪ ♪

29 30 31 32  33 34 35 36 37 38 39 40 41 42

***Hypo-Phrygian mode***

 B C D **E**  F G A B   ♪ ♪ ♪ ♪  ♪ ♪

 43 44 45 46  47 48 49 50  51 52 53 54 55 56

***Lydian mode***

**F**  G A B  C D E Fo ♪ ♪ ♪ ♪  ♪ ♪

57 58 59 60 61 62 63 64 65 66 67 68 69 70

***Hypo-Lydian mode***

 C D E **F**   G A B Co  ♪ ♪ ♪ ♪  ♪ ♪

 71 72 73 74  75 76 77 78  79 80 81 82 83 84

***Mixolydian mode***

**G** A B C  D E F Go ♪ ♪ ♪ ♪  ♪ ♪

85 86 87 88  89 90 91 92  93 94 95 96 97 98

***Hypo-Mixolydian mode***

 D E F **G**   A B C Do  ♪ ♪ ♪ ♪  ♪ ♪

 99 100 101 102  103 104 105 106  107 108 109 110  111 112

***Aeolian mode***

**A** B C D  E F G Ao♪ ♪ ♪ ♪  ♪ ♪

113 114 115 116  117 118 119 120  121 122 123 124 125 126

***Hypo-Aeolian mode***

 E F G **A**  B C D Eo  ♪ ♪ ♪ ♪  ♪ ♪

 127 128 129 130 131 132 133 134  135 136 137 138  139 140

***Locrian mode***

**B C D E F**  G A Bo ♪ ♪ ♪ ♪  ♪ ♪

**141 142 143 144 145** 146 147 148 149 150 151 152  153 154

***Notation*:**

Some notes are left ‘anonymous’, and simply marked ‘♪’, because it is prudent to leave the ‘downward scales’ initially undecided − because the evidence for the downward scales is less obvious than for the upward scales, and so there is not space to deal with them here. **Bold underlining** marks the one place (and the only place) where the *fifth* note above the tonic is a *dissonant augmented fourth* above the tonic.

 The downward scales comprise a ‘sestet’, to follow the upwards ‘octave’. This pattern mirrors the formal pattern within each individual sonnet, of an octave (two quatrains) followed by a sestet (a quatrain and a couplet).

 Evidence is needed to support this truncation of the downward scales, as sestets. The first item of supporting evidence concerns sonnet 145 and the tritone.

***Sonnet 145***

Sonnet 145 the only one in the sequence that is not in iambic pentameter. It is in iambic tetrameter. It is striking that there is *only one* augmented *fourth* above the tonic in the scales on the Initial Table; and that this discord is aligned with the *only* sonnet in iambic *tetrameter*.

 Sonnet 145 is also ‘dissonant’ – both dissonant with its context, and internally dissonant in many other ways as well. Commentators have chosen words like ‘disproportion so grotesque’, ‘unidiomatic’, ‘preposterous’, ‘bizarre’, ‘cacophony, not euphony’ and ‘deliberately awkward’.[[6]](#footnote-6)

 Sonnet 145 is set in the midst of a sequence comprising 28 sonnets, numbered 127 to 154, which focus on a so-called ‘Dark Lady’, who is introduced as ‘my Mistersse’ (sonnet 127). By contrast with all the other ‘Dark Lady’ sonnets, the suggestion has been made that sonnet 145 might originally have been written for Ann Hathaway before her marriage to Shakespeare − long before the poetic persona of the ‘Dark Lady’ had entered his literary life.[[7]](#footnote-7) This speculation has been acknowledged as very persuasive by many commentators.[[8]](#footnote-8)

 One leading commentator says of this, ‘the slightest of the sonnets’: ‘Many commentators have hoped that it is not by Shakespeare (see *Variorum*, 372-73). One cannot be certain that the sonnet is Shakespeare’s, but ... .’[[9]](#footnote-9) Another commentator uses words like ‘anomaly’, ‘an embarrassment to critics and editors’, ‘trifle’, ‘inferiority’ and says that “its sudden ‘intrusion’ between 144 and 146 (both weighty and ‘serious’ sonnets) is difficult to explain or justify”. And he added that:

whoever was responsible for its present position must have known the Sonnets intimately and chose the place where 145’s light and conventional amatory use of the theme of damnation and salvation might seem to set up superficial, if misleading, resonances with the same theme, treated with strong emotional engagement, in 144 and 146 (145 echoes three key words in 144 – ‘fiend’, ‘heaven’, ‘hell’).[[10]](#footnote-10)

In other words, Shakespeare definitely did deliberately place this sonnet immediately after sonnet 144. When looking for poetic echoes of something that is now called ‘the devil’s interval’, it is striking to find that both sonnet 144 and sonnet 145 contain the three critical words: ‘fiend’, ‘heaven’, and ‘hell’.

 Against this background it is not drawing a long bow to suggest that this particular sonnet might have been deliberately selected for the position that is numbered 145 in the sequence precisely *because* it is ‘discordant’ with the sonnets around it.

***Conclusion***

The observations that have been accumulated above cumulatively reinforce the conclusion that the correspondences between Renaissance musical scales and Shakespeare’s *Sonnets* is worthy of further study.

 This boosts the urgency of the follow-up questions: *Why* would Shakespeare have engaged in a poetic project of this kind; and do correspondences with musical scales resonate with the poetry in these sonnets, or merely distract us from everything in them that really matters? But those are questions for another time and place.

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1. These words are from *A Louers Complaint*, line 209. [↑](#footnote-ref-1)
2. My tally is guided by Spiller (1992, pp. 158-9). [↑](#footnote-ref-2)
3. Paterson (2010, p. 146). [↑](#footnote-ref-3)
4. Kepler (1619/1973) slightly lowers just the two notes E and B. By contrast, Descartes (1618/1961) − like Zarlino (1571/1966) and Ptolemy (*ca* 150/2000) before him – lowers the three notes A, E and B. Kepler disagreed with Ptolemy not only on astronomy, but also on music theory. [↑](#footnote-ref-4)
5. Schlick (1511/1980). [↑](#footnote-ref-5)
6. Vendler (1997, pp. 608-9). [↑](#footnote-ref-6)
7. Gurr (1971); and see disparaging comments on sonnet 145 by Booth, Vendler, Blakemore Evans and others. [↑](#footnote-ref-7)
8. For instance, Duncan-Jones (2010). [↑](#footnote-ref-8)
9. Booth (1977, p. 500); Booth’s reference to *Variorum* is to Rollins (1944). [↑](#footnote-ref-9)
10. Blakemore Evans (2006, pp. 247-8). [↑](#footnote-ref-10)