‘Understood at Last’?: A Memetic Analysis of Beethoven’s ‘Bloody Fist’

Steven Jan[1]

[1] University of Huddersfield
s.b.jan@hud.ac.uk

Abstract: As a singular moment in the western canon, the opening of the recapitulation in the first movement of Beethoven’s Ninth Symphony has prompted a variety of structural and expressive readings. This paper explores its intertextual connections with Mozart’s *Don Giovanni* from a memetic perspective, outlining certain extra-musical interpretations, including some related to Susan McClary’s controversial reading of the passage, one might infer from the strong musical connections.

Keywords: Beethoven, Ninth Symphony, Mozart, *Don Giovanni*, memetics.

1 Introduction

Of the myriad exemplars of sonata forms in the canon, the opening of the recapitulation in the first movement of Beethoven’s Ninth Symphony is arguably the most audacious. This moment – bb. 301–*c*. 329 – has stimulated comment from a variety of perspectives, from the formal (‘introversive’ semiosis) to the hermeneutic (‘extroversive semiosis’) [1]. Apropos the former, Hopkins asserts that ‘… if the orchestra broke off abruptly on the final semiquaver of b. 300, not one in a thousand musicians would accurately predict the ensuing harmony. It is one of the supreme surprises of the entire repertoire …’ [2]. Leaving aside the not insignificant fact that there are probably considerably fewer than one thousand syntactically legitimate two-chord progressions of which the first element is a $\text{vii}^{\circ 4}_{3}$ (bb. 299–300), the passage is certainly highly arresting, counting as one of the most awe-inspiring moments in Beethoven’s music and indeed the Western musical literature as a whole. Apropos the latter perspective, the passage has motivated readings of potential extra-musical meanings since the early-nineteenth century, ranging from images of war, cosmic conflict and, most recently and controversially, of sexual violence. It is the latter interpretation, proposed and then to some extent tempered by Susan McClary, which is most relevant to my argument here and which will be explored, extended and focused in §3.

I attempt here to sketch a fresh reading of the symphony, albeit one that draws in part from existing accounts; and I invoke the theory of memetics [3], and other approaches, not only to support my interpretations, but also to exemplify the virtues of a memetic approach. Memetics allows the formalization of intertextual relationships between the symphony and a work which I argue is to some extent a source for Beethoven’s passage, namely Mozart’s *Don Giovanni*. This is a work whose iconicity was growing in the first decades of the nineteenth century and one whose prevailing tonic, and a topos of *Sturm und Drang*, is shared with the first movement of Beethoven’s symphony [4]. The hypothesized linkage with *Don Giovanni* leads me to contend (§§2

and 4) that, from an introversive perspective, Beethoven's passage is not as singular and unmotivated as Hopkins argues; and that, from an extroversive perspective, the connection with a work with an explicit text-content allows the formulation of arguably more secure expressive/connotative readings of Beethoven's passage than have hitherto been advanced (§§3 and 5).

Memetics encourages fruitful cross-linkages between theory, analysis, cognitive science and evolutionary theory (not all of which can be explored here). It provides a *comitium*, a meeting place, within which a variety of perspectives on musical material from ostensibly different and seemingly exclusive disciplinary perspectives can be reconciled by an appeal to the question 'what aspects of the lower level perspectives contribute to an understanding of the meta-theoretical Darwinian forces driving pattern recurrence and similarity?'. A concrete illustration of this will be given in due course.

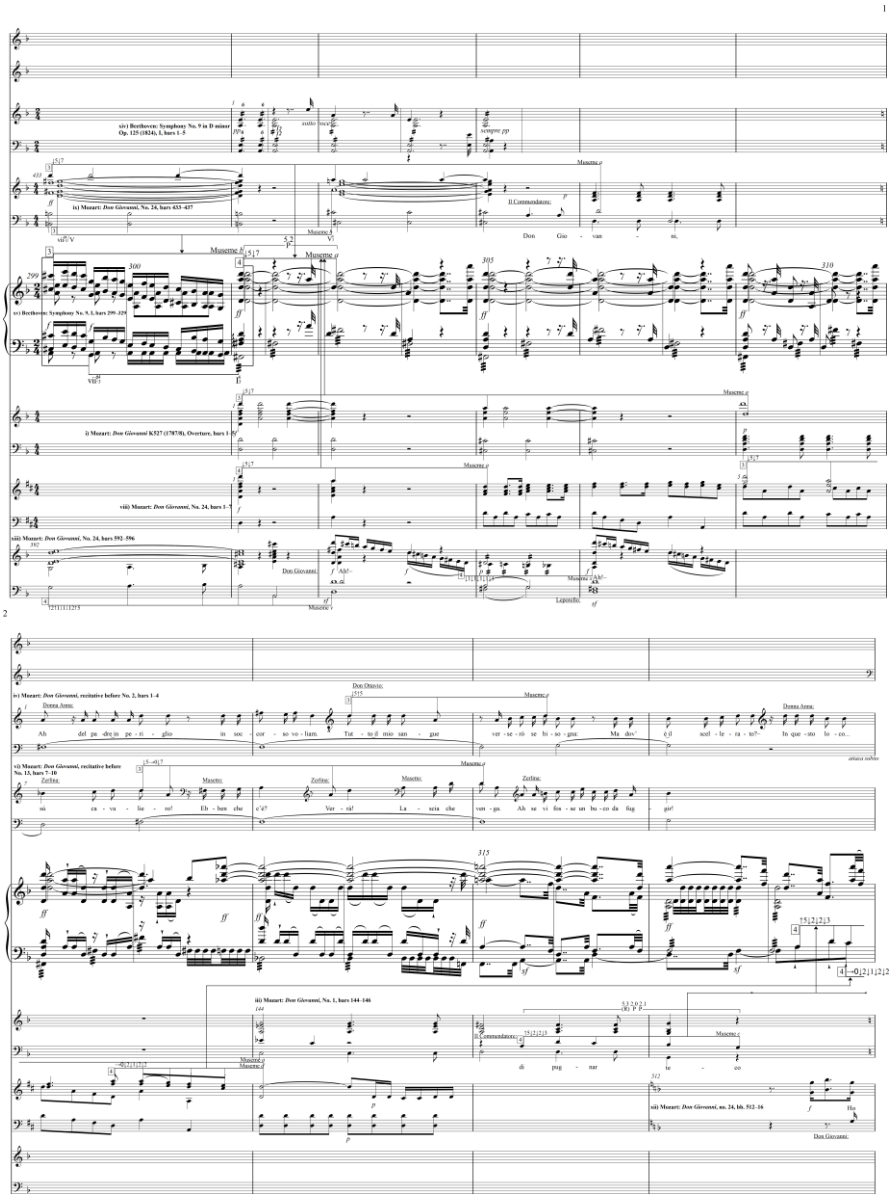
It might be argued that the longer a duplicated passage, the less likely it is to be memetic, as if quotation does not constitute replication. Clearly there is a continuum of meme-length, at the short end of which are passages of low salience but high replicative stability over time, and at the long end of which are passages of high salience and low replicative stability over time [5]. From a Darwinian standpoint – from the 'memes' eye view' [6] – whether the passage replicated is a small and generic fragment or a longer, more recognizable quotation is arguably immaterial. What matters from this perspective is the survival by replication of the meme. Whether this is the result of the unreflective incorporation of a generic figure into a work or of a conscious decision by a composer to incorporate a distinctive antecedent pattern from a work of his/her immediate cultural context, for whatever motive, is strictly irrelevant from the meme's (metaphorically) selfish perspective [3].

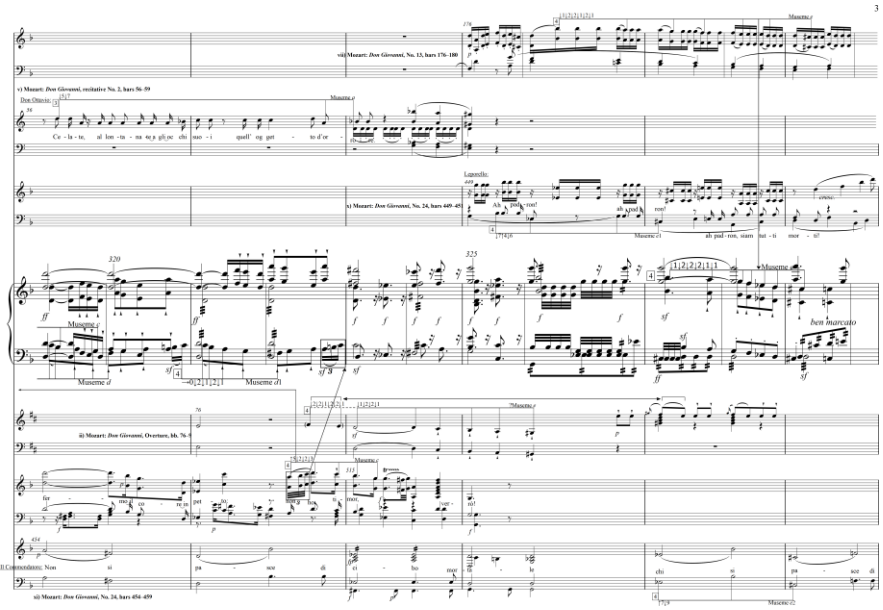
When there is evidence of quotation and/or a specific collection of memes replicated, such that the antecedent work is clearly referenced, then it is normally the case that an imaginative or conceptual (subtextual) transfer between the 'source' and 'destination' work is intended – not necessarily consciously – by the composer. The often unpalatable assertion that free will is dissolved by memetics implies that it is the 'selfplex' of the composer which is creating the selective environment within which this transfer is motivated and mediated, not some unitary Cartesian self, with all the implications of agency and intentionality this carries [7].

2 A Memetic Analysis, Part I

To illustrate the hypothesized introversive correspondences, Example 1 xv shows bb. 299–329 of the first movement of the Ninth Symphony on a 'meme *particella*', passages posited as antecedent coindexes (precursors) to Beethoven's passage being shown on the smaller staves above and below it. The latter are labelled chronologically and according to their sequential order in *Don Giovanni*. These inter-work relationships will be considered in detail (here and in §4), in order to provide a foundation for the more speculative excursions of §§3 and 5.

Example 1. Musemes in Mozart’s *Don Giovanni* K. 527 (1787/8) and Beethoven’s Ninth Symphony, Op. 125 (1824), I





The start of the recapitulation recomposes the exposition's opening dominant-orientated material, Example 1 xiv, giving it a new tonic-major orientation. By the beginning of the recapitulation the range of interpretations of the opening has narrowed considerably: it is retrospectively recoded (certainly by many listeners) as a $V^6{}_3$ with a missing/implicit third and the recapitulation is heard as beginning with D major as either $I^6{}_3$ or as $V^6{}_3$ of iv. Aurally, this D major is redolent of the climax of the Act II finale of *Don Giovanni* in its 'cold pitiless majesty' [8], where, as Giovanni is dragged down to hell, an austere *stile antico* cadence (bb. 592–3) resolves onto a luminous, quasi-baroque *Tierce de Picardie*, Example 1 xiii. This may be heard, as with most tonic-major conclusions of minor movements, as oscillating between functioning as a I and as a V of iv.

Additionally, and for all its epic scale and intensity, the opening of Beethoven's recapitulation draws upon a typical *recitativo secco* harmony and chord-disposition, the third of the D major chord appearing in the bass and the tonic and dominant degrees sounding above. Beethoven's *tutti* orchestration and *ff* dynamic transform one of the oldest sonorities and textures in tonal music, and illustrate how secondary parameters [9] can contribute markedly to the prominence of the figuration in a passage while paradoxically blurring their stylistic origins. The structural locus contributes a further saliency effect, the constituent patterning being greatly intensified by its placement at this most pregnant juncture of the movement.

In co-adaptation with this harmony, the figuration in bb. 301ff. – specifically the falling $\hat{1}$–$\hat{5}$–$\hat{1}$ pattern marked 'Museme (musical meme) *a*' in Example 1 xv – while amorphous in character, draws upon certain allele-classes (sets of functionally/structurally analogous musemes) commonly replicated in recitatives whose constituent musemes incorporate pitches oscillating between $\hat{1}$ and $\hat{5}$ of the prevailing harmony and rhythmic patterns of short/weak-to-long/strong note values (generally reflecting stressed second syllables in Italian). Example 1 iv shows the recitative before No. 2 of *Don Giovanni*, where Donna Anna, having earlier left her father in order to summon assistance, returns with Don Ottavio to the Commendatore's lifeless body. It contains

three motions between a^1 and d^2, two rises (bb. 1 and 3) and a fall (b. 2), and of course it is largely based on a D major $^6_3$ chord. Similarly, bb. 7–10 of the recitative before No. 13 (Example 1 vi), in which Zerlina and Masetto argue before the arrival of Don Giovanni, has the same harmonic underpinning and similar melodic gestures. Obviously one may find countless similar passages in different keys throughout this and other late-eighteenth-century opera; and neither of these two recitatives contains an exact antecedent coindex of Museme *a*. But the posited link with *Don Giovanni* is strengthened when several other connections with the opera are considered. Primary among these is the clear possibility that Museme *a* might derive from the opening bars of the Overture to *Don Giovanni*, Example 1 i, which outlines Museme *a* over a i–V^6_3–i harmonic progression. These bars, as is made explicit when they are reworked at the Commendatore's return in the 'retribution' scene, No. 24.5 (Example 1 ix), adopt a similar *recitativo* (here *accompagnato*) texture. In accordance with the large-scale structural symmetry underpinning the opera [10], No. 24 also begins with this museme (bb. 1–3), foreshadowing the larger contour of the melody sung by Giovanni at 'Già la mensa è preparata' (bb. 5–7, 17–19), Example 1 viii.

Museme *a* illustrates the point made in §1 regarding the power of memetics to bring together a range of perspectives under a single Darwinian framework. A three-note museme, it conforms to Narmour's notion of 'Process' (see the brackets on Example 1 xv), whereby the implication of the fourth d^3–a^2 is for further continuation in the same direction via an interval of similar size [11]. This implicative force counteracts the internal segmentational pressure of the rest at b. 2 (Overture) and b. 434 (No. 24) in Mozart's passages and at bb. 301–2 of Beethoven's (the d^3 is sustained, however, in other parts in Beethoven), subordinating it to the segmentational force of the initial and terminal node d^3 and d^2 and thereby binding the elements of the museme together to form a single psychological unit capable of serving as unit of selection. These 'innate' attributes are mediated by enculturated judgements, meaning that the a^2, as a contextually determined $\hat{5}$, will tend to resolve to d^2, as $\hat{1}$, and not, for instance, to $e\flat^2$, the rather less normative $\flat\hat{2}$; and that the d^2 will be perceived as a point of tonal/stylistic closure.

Having identified a unit via the invocation of music-psychological and music-theoretical criteria, those attributes which relate to its salience may be considered. While the quantification of a museme's salience is complex [5], any given museme has an equal, greater or lesser salience than any other, and this fact will, on Darwinian principles, determine the museme's relative predominance in the wider population of musemes. Were one to quantify the salience of every museme in relation to every other, then the index of this salience would be directly proportional to the relative distribution of each museme, all other things being equal. In the case of Museme *a*, for example, and on the basis that (as a Process) i-r*p* = *x*.(*y*-*x*), Jan's metric gives a value of 5.2; whereas for Museme *c*, and on the basis that (as a 'Retrospective Reversal' [11] followed by two Processes (see the brackets on Example 1 iii)) i-r*p* = (*x*.(*y*–*x*)) + (*x*.(*y*-*x*)) + (*x*.(*y*-*x*)), it gives a value of 9.4 [5]. This suggests that, *ceteris paribus*, Museme *c* is *c*1.8 times more salient, and was therefore *c*.1.8 times more predominant in its meme pool, than Museme *a*. Such 'population-memetics' determinations can in principle help finesse traditional musicological discussions of style change in historical contexts by fostering understanding of why certain patterns and processes predominate in certain music-historical periods.

Beethoven's harmonic progression across bb. 300–301 – vii$^{\not 4}_3$–I^6_3, labelled 'Museme *b*' in Example 1 xv – is closely related to the opening of No. 24.5 in *Don Giovanni*, Example 1 ix. The harmonic function and inversion of the diminished seventh of Mozart's 'Commendatore' progression is different to Beethoven's (it is vii$^{\not 6}_5$/V–

$V^6{}_3$ in Mozart as against $vii^{\sharp 4}{}_3$–$I^6{}_3$ in Beethoven), but the two Museme *b* progressions in Example 1 ix and xv may be regarded as the same museme if Beethoven's is heard as resolving onto the dominant of iv – an implication which is followed up explicitly in the subdominant gravitation of his bb. 322–6. As discussed above apropos the climax of No. 24, the same flatwise gravitation is also found in b. 3 of Example 1 iv and b. 10 of Example 1 vi. In the former, as Ottavio takes over, the preceding D major harmony is retrospectively reinterpreted, as is often the case with major $^6{}_3$ chords in recitatives, as a local dominant. His phrase in bb. 56–8 of the following Recitative of No. 2, Example 1 v, indeed moves from dominant-functioning D major harmony to G minor, and might be regarded as another instance of Museme *a*.

As shown in Example 1 xv, the bass figure in Beethoven's bb. 318–22 marks the intersection of two distinct musemes with antecedents in *Don Giovanni*. That marked 'Museme *c*', a figure which outlines the scale degrees $\hat{5}$–$\hat{1}$–$\hat{7}$–$\hat{6}$–$\hat{5}$–$\hat{4}$ in D minor or $\hat{2}$–$\hat{5}$–$\hat{4}$–$\hat{3}$–$\hat{2}$–$\hat{1}$ in G minor, might be traced back to a figure sung by Giovanni in No. 1 at 'di pugnar teco', Example 1 iii, where he attempts to evade a conflict with the Commendatore. In its tonality of G minor, Mozart's passage anticipates Beethoven's swerve to this key in bb. 320–22 on his repetition of Museme *c*. This second occurrence of Museme *c* is marked by infilling of the fourth a–d^1, first with quavers and then, at the start of an abortive third statement (b. 322), with a Mozartean triplet 'roulade' upbeat figure. This is the only such pattern in the whole of Beethoven's first movement; the simple triplet figure,  , by contrast, is common (see b. 19 and the derived bb. 55f.). This roulade connects Beethoven's pattern with a recurrence of the same museme from Giovanni's final encounter with the Commendatore, at his renunciation of the opportunity of repentance at 'Ho fermo il core in petto: non ho timor, verrò!', Example 1 xii (roulade boxed). Both Mozartean instances of Museme *c* are therefore associated with the idea of Giovanni attempting to exert control over the situations in which he finds himself in conflict with the Commendatore, the first concerning his physical safety, the second that of his immortal soul.

Overlapping with Museme *c*, the pattern marked 'Museme *d*' traces a familiar galant-Mozartean arc, found in *Don Giovanni* at bb. 6–7 of No. 24, Example 1 viii, even hinting at the relative major key in Beethoven's passage despite the prevailing tonic-minor context. This pattern, $\hat{5}$–$\hat{5}$–$\hat{4}$–$\hat{3}$–$\hat{2}$–$\hat{1}$, or its lower-third shadow $\hat{3}$–$\hat{3}$–$\hat{2}$–$\hat{1}$–$\hat{7}$–$\hat{1}$ (strictly two musemes, owing to their different intervallic sequence), is arguably emblematic of Giovanni's worldly pomp and arrogance and occurs throughout the opera in passages sung by or about him. A subtype of the 'Cadence Galante' [12], it is one of the Don's distinctive musical fingerprints and it resonates obstinately at the centre of Beethoven's passage, resisting the encompassing tumult.

These two musemes also offer evidence in support of certain neurobiological theories of information encoding. That advanced by William Calvin, the Hexagonal Cloning Theory (HCT), proposes a theory of neuronal 'minicolumns' distributed regularly across the surface of the neocortex and organized into resonating triangular arrays in response to perceptual stimulation or memory recall [13], [14]. These arrays are hypothesized as organized into hexagonal plaques, each encompassing a set of coordinated attributes, such as the individual pitches of a museme [15]. Copying of these hexagons over the surface of cortex occurs according to Darwinian principles, the 'victorious' configuration representing the best fit with incoming perceptual data or the details of a recognized or remembered pattern. Within a given region of neocortex, several potential arrays, and their associated hexagonal overlays, may be supported by embedded 'attractors' in the neuronal connectivity. This would help account for the overlapping encoding of Musemes *c* and *d*, as two notionally discrete musemes which

nevertheless share certain pitches [16]. The HCT will be invoked again in §5, because it can illuminate the mechanism underpinning extroversive mappings between musemes and verbally-tokened concepts.

A few bars after the co-statement of Musemes *c* and *d*, the descending diminished seventh line of Beethoven's bb. 327–9, marked 'Museme *e*' in Example 1 xv, is a replication of the same museme as underpins bb. 177–80 of No. 13's 'Bisogna aver coraggio', the trio of encouragement sung by the masked Anna, Ottavio and Elvira (Example 1 vii), albeit with the mutation of Mozart's antepenultimate ♯$\hat{2}$ to ♭$\hat{2}$ in Beethoven. This chromaticism might appear to be tonal flotsam impelled by the mutational pressure of the preceding wave of subdominant, but it also relates to similar passages from other places in *Don Giovanni*. Such other antecedent coindexes (all diminished-seventh-outlining musemes, with or without ♭$\hat{2}$), some perhaps best regarded as belonging in separate but overlapping allele-classes [16], include Leporello's phrase at 'Ah padron, siam tutti morti!', bb. 449–51 of No. 24, Example 1 x, with its distinctive falling diminished seventh contour and ♭$\hat{2}$; and the Commendatore's following 'Non si pasce di cibo mortale', bb. 454–9, Example 1 xi. The falling diminished-fifth museme at the start of the second group of the Overture, Example 1 ii (expandable to a seventh by the operation suggested on the example), is also similar in contour to Beethoven's line; the diminished-fifth figure might similarly be regarded as an exemplar of a subset class of the diminished-seventh-progression allele-class.

3 Interpretations of Extra-Musical Meanings

It is perfectly possible that the connections discussed in §2 inhere purely in the realm of style and patterning. That is, Beethoven may have simply seen elements of Mozart's opera as offering solutions to the compositional problems which faced him in the first movement of the Ninth Symphony, prompted perhaps by the cueing effect of the shared tonic. But if *Don Giovanni* were indeed one source of Beethoven's passage, then we might wonder whether the shared tonality and musemic replication were motivated by Beethoven's having intended a semiotic or referential connection by means of alignments between verbal-conceptual memes and musemes. To begin to address this, Table 1 summarizes the attributes and locations of Musemes *a–e* in both works, together with their explicit text-associations in *Don Giovanni* (translations are from [17]). Bracketed terms in italics are implicit high-level concepts inferred from the explicit text content of the opera and are discussed further in §5. A 'Museme *f*' is also listed in Table 1, and will be discussed in §4.

Table 1. Musemes *a–f* in Mozart's *Don Giovanni* and Beethoven's Op. 125, I

	Attributes	**Number and Bars in *Don Giovanni***	**Explicit and Implicit Text content in *Don Giovanni***	**Bars in Op. 125, I**
a	$\hat{1}$–$\hat{5}$–$\hat{1}$ recitative figure	Overture: 1–4 No. 24: 433–6	– 'Don Giovanni, a cenar teco'/'Don Giovanni, you invited me to dine with you' (*hedonism*, *retribution*)	301–3, and *passim*
b	vii♯$^{6}_{5}$/V–V$^{6}_{3}$ or vii♯$^{4}_{3}$–I$^{6}_{3}$ harmonic progression	No. 24: 433–6	'Don Giovanni, a cenar teco'	299–301

c	$\hat{5}$–$\hat{1}$–$\hat{7}$–$\hat{6}$–$\hat{5}$–$\hat{4}$ in i or $\hat{2}$–$\hat{5}$–$\hat{4}$–$\hat{3}$–$\hat{2}$–$\hat{1}$ in iv melodic figure	No. 1: 145–6 No. 24: 514–15	'[Va, non mi degno] di pugnar teco'/'[Go, I don't want] to fight with you' (*evasiveness*) '[Ho fermo il cuore in petto:] non ho timor: [verrò!]'/'[My heart is beating steadily] I'm not afraid. [I'll come!]' (*masculine resistance*)	318–20
d	$\hat{5}$–$\hat{5}$–$\hat{4}$–$\hat{3}$–$\hat{2}$–$\hat{1}$ or $\hat{3}$–$\hat{3}$–$\hat{2}$–$\hat{1}$–$\hat{7}$–$\hat{1}$ melodic figure	No. 24: 6–7 No. 24: 18–19	'Già la mensa è preparata'/'The table is already prepared' (*appetite/excess/hedonism*)	318–20
e	sometimes infilled falling $\hat{6}$–(♯$\hat{2}$/♭$\hat{2}$)-♯$\hat{7}$ melodic figures	Overture: 77–8 No. 13: 176–80 No. 24: 449–50 No. 24: 455–9	– 'Bisogna aver coraggio'/'We must be courageous' (*retribution*) 'Ah padron! Siam tutti morti!'/'Oh master! We're all going to die!' (*retribution*) 'Non si pasce di cibo mortale, chi si pasce di cibo celeste'/'No nourishment from mortal food for one who is nourished by celestial food' (*higher purpose*)	327–9
f	V^7/♭II *versus* G^6 harmonic museme	Overture: 27–9 No. 2: 36–42 No. 24: 538–40	– '[Caro padre!] Padre amato! Io manco [, io moro.]'/'[Dear father!] Beloved father … I am fainting. [I am dying.]' (*Anna as victim*) 'Pentiti! – No!'/'Repent! – No!' (*retribution; aggressive resistance*)	312–26

There is no obvious 'episodic' plot arc in Beethoven's passage, in the sense that arranging the associated textual content of Mozart's musemes in the order in which they are replicated by Beethoven does not describe or re-enact a coherent chronological or linear narrative. Rather, the connection appears more 'semantic' [15], in the sense that the primary conceptual topos of *Don Giovanni*, the notion of vengeance or retribution, together with various ancillary ideas, is generically attached to Beethoven's passage by virtue of the strong Museme *a*, *b* and *c* connections. These highlight encounters between the Don and the Commendatore, and thereby articulate the conflict between the desire for liberty and the necessity for order.

If we take Anna's account of her encounter with Giovanni at the start of the *Introduzione* at face value, the hypothesized connections between the symphony and the opera align with McClary's controversial 'rape' metaphor for Beethoven's passage – indeed it recuperates her original reading, despite her strategic retreat from that interpretation. McClary argues that 'the point of recapitulation … unleashes one of the most horrifyingly violent episodes in the history of music' [18], coded as a specifically sexual violence in her initial reading. This was outlined in [19], in which she spoke of 'the throttling, murderous rage of a rapist incapable of attaining release'. In the article's later reprint, in [18] McClary excised this passage and foregrounded violence rather than (failed) rape [20]. Nevertheless, the interpretation of sexual violence is sustained by McClary's re-citation in the reprint of Rich's poem 'The Ninth Symphony of Beethoven Understood at Last as a Sexual Message' (1972), with its arresting imagery of rage and incipient sexual violence; and it is to that first reading, despite its subsequent partial renunciation by McClary, to which I primarily refer here [18, 21]:

A man in terror of impotence
or infertility, not knowing the difference
a man trying to tell something
howling from the climacteric
music of the entirely
isolated soul
yelling at Joy from the tunnel of the ego
music without the ghost
of another person in it, music
trying to tell something the man
does not want out, would keep if he could
gagged and bound and flogged with chords of Joy
where everything is silence and the
beating of a bloody fist upon
a splintered table

To expand upon this network of connections between *Don Giovanni*, Beethoven's movement, and McClary's (first) reading of Beethoven's passage, one might ask whether Beethoven's own personal circumstances in the early 1820s motivated an imaginative transfer of the semantic constellation of the opera to the implicit narrative of the symphony movement, the musical threads tacitly linking *ars* and *vita*. It is not beyond probability that, if the first movement of the Ninth Symphony were indeed associated by Beethoven via the *Don Giovanni* connection with notions of transgression and violent retribution, then the focus of his various tensions was his sister-in-law, Johanna van Beethoven. Long an object of stony disapproval, Beethoven came to regard her as his greatest adversary and, rightly or wrongly, the wellspring of his misery. Even though their legal conflict over the custody of his nephew Karl had been formally resolved in Beethoven's favour in July 1820, Karl continued to see his mother surreptitiously and, in the composer's view, came to be depraved and corrupted by her malign influence [22].

Is it conceivable that Beethoven regarded himself as in some sense a Don Giovanni figure in relation to his sister-in-law? If so, there are two scenarios through which this transference might have been channelled. Either he saw himself as exacting revenge – in a distortion of the opera's theme of retribution *for* sexual and physical violence – *through* imagined sexual and physical violence on his Joh/Anna. Or, alternatively, he perhaps felt that he himself deserved punishment, imaginatively through musical cross-association, for a similarly imaginary violation of Johanna. For both of these horrible scenarios, we might also ask – despite the consensus that the underlying motivation for rape often stems from a quest for power and control – whether the violence was perhaps motivated by an underlying desire, a sublimated eroticism, on Beethoven's part? Whatever the fine details of Beethoven's psycho(path)logy, the overarching interpretation of the evidence discussed is that while he could never enact physically or sexually his feelings of violence against (or desire for) his sister-in-law, he could certainly play them out imaginatively in music, by means of memetic transference from an antecedent work which develops many of the same themes. In this sense, from Mozart's musemes' eye view, their association with verbal-conceptual memes relevant to Beethoven's biographical circumstances conferred upon them a clear selective advantage.

Fink defends and expands upon McClary's critique, situating it in respect to a dialectic of 'romantic-modern' *versus* 'postmodern' sublimity. The former encompasses situations where 'unpresentable content [is] mediated by the power of formal presentation'; the latter addresses 'the traumatic moment where the unpresentable breaks through into presentation itself', and thereby defies attempts at the 'beautification' of the unpresentable in romantic-modern sublimity through the rationalization afforded by formal analysis. Such rationalization reaches its apotheosis, according to Fink, in Schenker's structuralist monograph on the Ninth of 1912 [20, 23]. Fink argues that the 'unpresentable', the violence of the moment of recapitulation, has been articulated by a variety of metaphors in the critical literature on the symphony since the late 1830s, these coalescing around two predominant (in my terms) verbal-conceptual memeplexes [5]. One articulates Faustian notions of the *Erdgeist* (a fearsome, blazing spectre) and the other concerns ideas of storm, chaos and apocalypse, with both crystallizing in the account given by Marx [20]. Fink maintains that McClary's original 'rape' metaphor aligns broadly with both of these traditions, encompassed by the idea of 'Beethoven Antihero, the Faustian purveyor of sublime eroticized violence', by virtue of McClary's metaphor adopting a female subject-position with respect to the brutality [20].

In a similar (albeit not gendered) vein, Chua discusses Beethoven's passage in the light of Adorno's critique of the 'coldness' of modern society and his reading of the

opening of the recapitulation as representing 'a steely vision engaged in some kind of staring contest with fate' [24]. The formal requirement of the recapitulation represents an authoritarian and repressive force, perhaps none more so than in Op. 125, I; but the violence of repression motivates resistance because '[t]he "shudder" of the recoiling subject in such moments of structural necessity produces a counterforce that stares fate in the face … it shakes the "I" into an awareness of an ethical sublimity within itself that can withstand the limits imposed by an authoritarian world' [24]. The resistance is embodied by an attenuation of the unity of purpose and texture normal at this formal axis and expected on the basis of the 'unison [*sic*] haze' of the opening of the exposition [24]. Specifically, the bass line of bb. 312ff. acts as a 'rogue element', destabilizing the tonality with 'unorthodox' voice leading [24]. It 'refuses to align itself with the forces above it', thereby counteracting the normal hegemony of the principal theme at this point of the form [24]. It is not difficult to equate the rogue element with Don Giovanni/Beethoven who – while convincing himself of his 'ethical sublimity' – rails against (in the first scenario hypothesized above), or subliminally welcomes (in the second), the constraints of society and their immuring of his desire to settle the score, as it were, with Johanna.

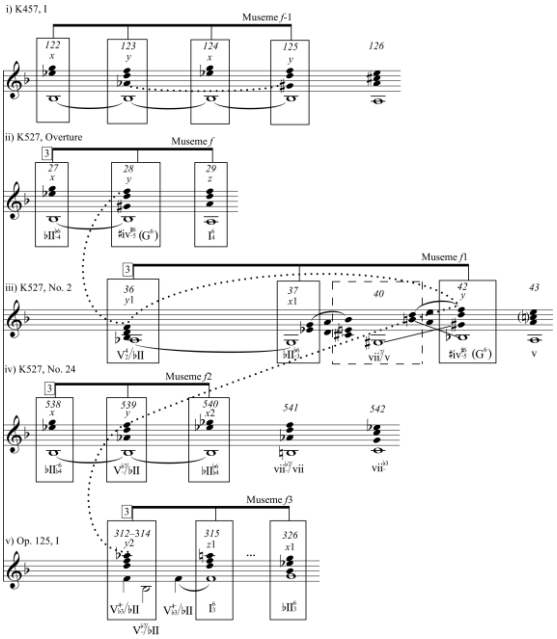
4 A Memetic Analysis, Part II

For Fink, the locus of the 'traumatic moment', the place 'where the unpresentable breaks through into presentation itself', is bb. 312–15 (Example 1 xv), in which a notated dominant seventh in E♭ major is heard to function as a German sixth. Its treatment is irregular, in that, apart from the 'incorrect' notation, it is initially presented in the 'wrong' inversion (♯iv$^{♯4}_{2}$, last quaver beat of b. 312), and then resolved – via Chua's 'unorthodox' voice leading [25] – not to a chord of dominant function (i$^{6}_{4}$ or V) but to a tonally unsatisfying i$^{6}_{3}$ (b. 315) which might tentatively be aligned with Rich's image of the 'terror of impotence'. One might categorize it as an example of harmonic ellipsis, broadly related to certain 'elliptical retransitions' in Haydn. In these, various anticipated harmonies are omitted in order to engender puzzling and witty effects [26].

This progression is similar in technique and effect to that of bb. 34–5 of the first movement, where a i$^{6}_{4}$ resolves to a i$^{5}_{3}$ without an intervening V$^{5}_{3}$. Several other examples of this type of ellipsis may be found in music of the third period, as can converse cases where a V resolves first to a I$^{6}_{4}$ then to a I$^{5}_{3}$ (the latter such as in bb. 2–3 and 26 of the third movement of Op. 125). Moreover, the lead-up to this non-cadence (bb. 31–3) mirrors passages sung by Anna from No. 2 of *Don Giovanni*, 'Ma qual mai s'offre' (bb. 39–40, of which more presently) and from No. 23, 'Crudele! Ah no, mio bene!' (bb. 14–15) in its vii^{7}/iv–vii^{7}/V(–i$^{6}_{4}$).

While not observed by Fink, the treatment of the augmented sixth chord is a manifestation of yet another memetic connection with *Don Giovanni*, because a distinctive harmonic fingerprint of the opera is its play with the notation and resolution of the pitch collection B♭–D–F–G♯/A♭, its spelling as a German sixth leading to i$^{6}_{4}$ in D minor, and as a dominant seventh of the Neapolitan leading to ♭II$^{6}_{♭4}$. Rushton's analysis of three passages involving this progression is paraphrased in Example 2 [10]. This abstracts material from the Overture (ii), the accompanied recitative of No. 2 (iii) and No. 24 (iv) of *Don Giovanni*; together with the start of the recapitulation of Beethoven's symphony movement (v). It also shows material from Mozart's Sonata in C minor K. 457 (1785), I (i), transposed for ease of comparison, which prefigures Mozart's treatment of this harmony in *Don Giovanni* [27].

Example 2. V^7/♭II versus G^6 harmonic museme in *Don Giovanni* and Op. 125, I



Specifically, the ‘fingerprint’ involves the three harmonies marked *x* (♭II^6♭4), *y* (♯iv♯^{6}5/G^6) and *z* (i^{6}4), which are presented in the Andante of the Overture in their ‘canonical’ *x*–*y*–*z* form (the Sonata movement presents *x*–*y*–*x*–*y*); mutated to y^1–x^1–*y* in the recitative of No. 2, where Anna sings of her love for her father before fainting (with a pre-figuration of the ‘Crudele!’ vii^7/iv–vii^7/V progression in bb. 39–40, shown in the dotted box in Example 2 iii); further mutated to *x*–*y*–x^2 in No. 24, where Giovanni refuses for the last time to repent before the statue of the Commendatore withdraws, leaving Giovanni to his fate; and then, in Beethoven, mutated yet again to y^2–z^1–x^1.

The three chords constitute a distributed harmonic museme, labelled ‘Museme *f*’ in Example 2, one relatively impervious to the sequential permutation and mutation of its component elements. One might more correctly describe it as a discontiguous harmonic museme held together by a ‘musico-operational/procedural’ museme – a set of operations, possibly articulable verbally-conceptually, which affect musemes in specific ways and which make a distinction between a generic procedure and a specific material substrate – the latter regulating the G♯/A♭ enharmonic ‘trick’. In Beethoven, the museme is able to retain its identity and connection with its antecedents, despite undergoing radical mutation and temporal extension. The posited Museme *f* connection with *Don Giovanni*, particularly when considered in the light of the links engendered by Musemes *a*–*e*, appears a more convincing reading of Beethoven’s passage than Fink’s comparison of it with the undoubtedly similar bb. 174–200 of the Gloria of the *Missa Solemnis* (which may of course also have been influenced by aspects of *Don Giovanni*) [20].

5. Towards a Musico-Conceptual Synthesis

The foregoing sections have presented evidence of connections between Mozart's *Don Giovanni* and the first movement of Beethoven's Ninth Symphony, and have attempted to use them as evidence in support of a memetic view of musical structure and of a particular reading of the opening of Beethoven's recapitulation which aligns it with the notions of vengeance and retribution through sexual violence. But it might be argued that the mediation between the purely musical (the introversive) and the semantic (the extroversive) here is largely informal. One way of formalizing the linkage would be to invoke the notion of the 'conceptual integration network' (CIN) [28].

This proposes that even notionally 'absolute' music can be treated as an instance of multimedia, in that it integrates a number of spaces: a 'music space' (encompassing a 'selection of attributes from the musical trace'); a 'text space' (encompassing either the explicit text of a vocal work, or an implicit/inferred verbal-conceptual abstract or image in the case of an instrumental composition; the latter constitutes 'a discovery within the music of these qualities, in the sense that the interpretation builds upon the music's semantic potential'); a 'generic space' (characterized by an 'enabling similarity', meaning 'there must be common attributes presented by the various media in question … in the absence of which there would be no perceptual interaction between them'); and a 'blended space' ('in which the attributes unique to each medium are combined, resulting in the emergence of new meaning') [25, 28].

In the case of memetic relationships between two works, it is logical to extend Cook's model to represent connections, and therefore semantic transference, between two CINs. Figure 1 (after [25]) shows such a composite CIN, formed of networks for *Don Giovanni* and the first movement of the Ninth Symphony, and a 'meta-blended space' arising from their interaction. The CIN for *Don Giovanni* identifies the text space concepts of aggressive and hedonistic masculinity, Anna as the object of desire and violence, and punishment for the transgression of societal and class norms (these concepts being derived from the italicized terms in Table 1); the music space elements of Musemes *a–f* and the bold D major/minor sonorities; the generic space concepts of resoluteness, fearless audacity, and terror; and the blended space concepts of vengeance and retribution, and fratricide. The CIN for Op. 125, I is adapted from that abstracted by Cook from McClary's (revised) reading [25]. It identifies the music space elements of Musemes *a–f* and the bold D major/minor sonorities; the text space concepts (from McClary) of 'violence, mindlessness, the maintenance of identity, and desire'; the generic space concepts of forcefulness, power, and violence; and the blended space concepts of pent-up aggression, Johanna as the object of desire, violence and retribution, and fratricide.

A composite CIN allows mappings between two works related to each other in one or more of their spaces to be further connected by means of extrapolated connections between other, corresponding spaces. The music spaces of both CINs are closely connected, given their hypothesized memetic relationships and their more general textural and tonal alignments (represented by the arrow connecting the two CINs). Given this, we can hypothesize correspondences between the two works' generic spaces and their blended spaces, such that a 'meta-blended space' might be extrapolated (dotted arrows). This identifies the concepts of misogynistic violence, retribution, and fratricide as arguably common to the two works and draws on a 'biographical space' as supporting evidence for the linkage. The memetics of this linkage, and a possible neurobiological mechanism, are considered below.

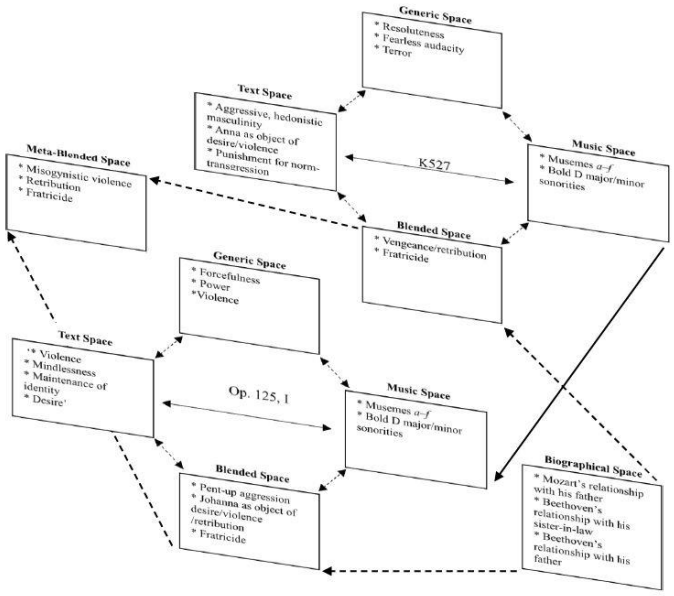


Figure 1. Composite CIN for *Don Giovanni* and Beethoven's Ninth Symphony, I

Fratricide, an issue not considered in §3, is a further element which aligns *Don Giovanni* with Op. 125, I. Giovanni kills the father figure of the Commendatore as an unintended consequence of his (attempted) rape of Anna – a reading which would of course imply a quasi-incestuous relationship between Giovanni and Anna. Drawing upon Freudian psychology, Keller implicates Haydn as a father figure to Mozart, citing the latter's allegedly mocking uses of F minor – a key of similar emotional significance for Haydn as G minor was for Mozart and C minor for Beethoven – in Barbarina's 'L'ho perduta', No. 24 of *Le nozze di Figaro* (1786) and Alfonso's 'Vorrei dir', No. 5 of *Così fan tutte* (1790), both overblown displays of trivial or mock emotion [29]. Keller contends that 'the ionisation of F minor was a subtle means whereby Mozart's unconscious allowed itself to discharge its ambivalence [to Haydn], which would have been absolutely intolerable on the conscious level' [30]. Keller might presumably argue that the death of the Commendatore, in a passage in F minor, is to be understood in this context. But it is not inconceivable that Leopold Mozart was the intended 'victim'. This is certainly not a new reading – the film version (1984) of Peter Schaffer's play *Amadeus* (1979) makes it melodramatically explicit – yet it is perhaps supported by Mozart's apparent ambivalence towards his father.

At the risk of ascribing another cruel and unedifying motive to Beethoven, it might be argued that he too is committing a form of fratricide by these connections because he entertained a Freudian 'family romance' which attempted to airbrush his real father – the undistinguished, alcoholic and violent Bonn court tenor Johann van Beethoven – from history and, bizarrely and improbably, replace him by a noble parent. For years, Beethoven did nothing to correct numerous rumours that he was the illegitimate son of either King Frederick II (1712–86) or King Friedrich Wilhelm II (1744–97) of Prussia. It is perhaps not unconnected that the dedicatee of the Ninth Symphony was Friedrich Wilhelm II's son, Friedrich Wilhelm III (1770–1840), on the warped logic of the family romance, Beethoven's own half-brother [31].

The inter-dimensional connections represented by the double-headed arrows in Figure 1 align with Saussure's definition of the sign. He argued that '[t]he linguistic sign unites … a concept and a sound image' [32]. These may be formulated memetically as 'memotypes' (brain-located, Calvinian-wired forms of the meme) associating in musico-conceptual memeplexes and giving rise to certain 'phemotypic' (extrasomatic, physical) products [5]. Such associations, although 'stable' [32], are not historically immutable, and so can be seen as the vehicle for the evolution of meanings and socio-cultural immanence in an evolutionary cultural semiotics. Figure 2 (after [33]) generalizes situations in which a museme *m* is associated (both privately, as in the Mozart-Beethoven connection here, and publically) with an extra-musical concept represented by its sound-image, the word, or 'lexeme', *l*, forming a complex, *m*-*l*.

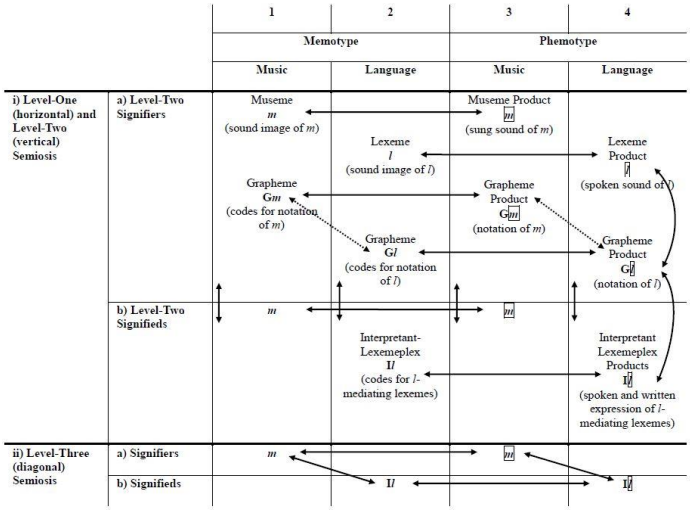


Figure 2: The Memetic-Semiotic Nexus of an *m*-*l* Music-Language M(us)emeplex

In Figure 2 i a, columns 1 and 3, and at the lowest level of referring ('level-one semiosis'), $\boxed{\boldsymbol{m}}$ – the physical sonority through which ***m***, via the intercession of voices or musical instruments, impinges upon us most directly – is represented, in a 'horizontal' memetic-semiotic relationship, as the phemotypic (coded-for) meme-product of the memotypic (coding-for) ***m***. Thus, $\boxed{\boldsymbol{m}}$ acts as a (somewhat abstract) signifier for ***m***. ***m***↔$\boxed{\boldsymbol{m}}$ is often associated with a 'grapheme' **G*****m***↔**G**$\boxed{\boldsymbol{m}}$, which partly governs the arguably superficial matter of notating ***m*** and which, while not essential for its existence, is nevertheless (in the case of literate cultures) often significant for its transmission. The same principle is true, of course, in the case of lexemes. By analogy with ***m***↔$\boxed{\boldsymbol{m}}$, columns 2 and 4 of Figure 2 i a illustrate analogous relationships for the lexeme ***l***, which codes for the spoken expression $\boxed{\boldsymbol{l}}$. Paralleling **G*****m***↔**G**$\boxed{\boldsymbol{m}}$, **G*****l*** is a grapheme coding for the written expression **G**$\boxed{\boldsymbol{l}}$. As with the music related memes, the phemotypic forms $\boxed{\boldsymbol{l}}$ and **G**$\boxed{\boldsymbol{l}}$ act as signifiers (again somewhat abstractly) for the associated memotypic signified forms ***l*** and **G*****l*** respectively. Note that a lexeme not only articulates an extra-musical concept, but also the natural-language name of an *m* (such as 'falling Î–5̂–Î line' (Museme *a*) or 'vii$^{\sharp 4}{}_3$–I$^6{}_3$ progression' (Museme *b*).

Represented in Figure 2 i b, columns 1 and 3, and at an intermediate level of referring ('level-two semiosis'), **G*****m*** also exists, now as a *signifier*, in 'vertical' semiotic co-adaptation with ***m***, even though it is essentially independent of it (their relationship is

'arbitrary' [32]). ***m*** is similarly associated, as signified, with the corresponding phemotypic signifier meme, **G*m***. Analogously, ***l*** and **G*l*** function as signifiers of the signified language 'interpretant-lexemeplex' **I*l***. By this is meant the wider network of cognate lexemes which provide the context for ***l*** and which anchor it in a broader web of signification [32]. The components of **I*l*** ultimately devolve to the 'back-end' mental representations and images for which ***l*** (and **I*l***) are the 'front end'. In this sense, **I*l*** is the essence of the 'conscious propositional thought' tokened by ***l*** [34]. As with the ***m***-related memes, ***l*** and **G*l*** function as signifiers of the signified **I*l***.

Symbolized in Figure 2 ii, and at the highest level of referring ('level-three semiosis'), the 'diagonal' association between ***m*↔*m***, as signifier, and **I*l*↔I*l***, as signified, forms a ***m-l*** m(us)emeplex, one either confined to a particular individual or shared more widely (topically) within a cultural community. In such associations, the presence of the musical element triggers/cues the verbal in consciousness (or vice versa).

The various spaces in the composite CIN and their equivalents in the form of the various cells in Figure 2 are connected by double-headed arrows, which represent the associations or linkages between phenomena in different dimensions and substrates by which understanding and meaning emerges. While the representation of patterns and their linkages on a two dimensional page is useful to foster clarity of exposition, it also appears that this mirrors real structural specialization, localization and interconnection in the brain. The HCT offers a mechanism for the such linkages because beyond the localized connections which account for the regional cloning of hexagons, Calvin hypothesizes the existence of '*faux*-fax links', longer-range connections which associate hexagons in one area of cortex, such as those encoding musemes in the auditory cortex, with those in other areas, such as those encoding images in the visual cortex and those encoding associative, verbal and conceptual thought in the pre-frontal cortex [13].

6. Conclusion

These are very complex issues, and this paper cannot claim to have offered more than a limited overview of how linkage between sensory/musical and conceptual thought is implemented. In particular, there is still a considerable gap in our knowledge of how low-level neurobiological functions relate to their high-level psychological correlates. But it has at least suggested that accounts of musical structure and meaning can be developed from a memetic foundation, which is itself supported by established neurobiological and psychological principles; and that this foundation can support fresh insights into particular musical works.

References

1. Agawu, V.K.: Playing with Signs: A Semiotic Interpretation of Classic Music. Princeton University Press, Princeton, NJ (1991).
2. Hopkins, A.: The Nine Symphonies of Beethoven. Heinemann, London (1981).
3. Dawkins, R.: The Selfish Gene. Oxford University Press, Oxford (1989).
4. Rosen, C.: The Classical Style: Haydn, Mozart, Beethoven. Faber, London (1997).
5. Jan, S.B.: The Memetics of Music: A Neo-Darwinian View of Musical Structure and Culture. Ashgate, Aldershot (2007).
6. Blackmore, S.J.: The Memes' Eye View. In: Aunger, R. (ed.) Darwinizing Culture: The Status of Memetics as a Science. pp. 25–42. Oxford University Press, Oxford (2000).

7. Blackmore, S.J.: The Meme Machine. Oxford University Press, Oxford (1999).
8. Abert, H.: Mozart's Don Giovanni. Ernst Eulenburg, London (1976).
9. Meyer, L.B.: Style and Music: Theory, History, and Ideology. University of Chicago Press, Chicago (1996).
10. Rushton, J.G.: W.A. Mozart Don Giovanni. Cambridge University Press, Cambridge (1981).
11. Narmour, E.: The Analysis and Cognition of Basic Melodic Structures: The Implication-Realization Model. University of Chicago Press, Chicago (1990).
12. Gjerdingen, R.O.: Music in the Galant Style. Oxford University Press, New York (2007).
13. Calvin, W.H.: The Cerebral Code: Thinking a Thought in the Mosaics of the Mind. MIT Press, Cambridge, MA (1996).
14. Killian, N.J., Jutras, M.J., Buffalo, E.A.: A Map of Visual Space in the Primate Entorhinal Cortex. Nature. 491, 761–764 (2012).
15. Jan, S.B.: Music, Memory, and Memes in the Light of Calvinian Neuroscience. Music Theory Online. 17/2, 3–50 (2011).
16. Jan, S.B.: A Memetic Analysis of a Phrase by Beethoven: Calvinian Perspectives on Similarity and Lexicon-Abstraction. Psychol. Music. forthcoming.
17. Fisher, B.D.: Wolfgang Amadeus Mozart Don Giovanni. Opera Journeys, Coral Gables, FL (2002).
18. McClary, S.: Feminine Endings: Music, Gender, and Sexuality. University of Minnesota Press, Minneapolis and London (2002).
19. McClary, S.: Getting Down Off the Beanstalk: The Presence of a Woman's Voice in Janika Vandervelde's Genesis II. Minnesota Compos. Forum Newsl. (1987).
20. Fink, R.W.: Beethoven Antihero: Sex, Violence, and the Aesthetics of Failure, or Listening to the Ninth Symphony as Postmodern Sublime. In: Dell'Antonio, A. (ed.) Beyond Structural Listening? Postmodern Modes of Hearing. pp. 109–153. University of California Press, Berkeley, CA (2004).
21. Rich, A.: Poems: Selected and New, 1950–1974. Norton, New York (1975).
22. Kinderman, W.: Beethoven. Oxford University Press, Oxford (1995).
23. Schenker, H.: Beethoven's Ninth Symphony: A Portrayal of its Musical Content, with Running Commentary on Performance and Literature as well. Yale University Press, New Haven, CT and London (1992).
24. Chua, D.K.L.: Beethoven's Other Humanism. J. Am. Musicol. Soc. 62, 571–645 (2009).
25. Cook, N.: Theorizing Musical Meaning. Music Theory Spectr. 23, 170–195 (2001).
26. Spitzer, M.: The Retransition as Sign: Listener-Orientated Approaches to Tonal Closure in Haydn's Sonata-Form Movements. J. R. Music. Assoc. 121, 11–45 (1996).
27. Jan, S.B.: Replication, Parataxis, and Evolution: Meme Journeys through the First Movement of a Mozart Sonata. In: Miranda, E.R. (ed.) A-Life for Music: Music and Computer Models of Living Systems. pp. 217–260. A-R Editions, Middleton, WI (2011).
28. Cook, N.: Analysing Musical Multimedia. Clarendon, Oxford (1998).
29. Steptoe, A.: The Mozart-Da Ponte Operas: The Cultural and Musical Background to Le nozze di Figaro, Don Giovanni, and Così fan tutte. Clarendon, Oxford (1988).
30. Keller, H.: Key Characteristics. Tempo. 40, 5–10 and 13–16 (1956).
31. Solomon, M.: Beethoven. Schirmer, New York (1998).
32. Nattiez, J.-J.: Music and Discourse: Toward a Semiology of Music. Princeton University Press, Princeton, NJ (1990).
33. Jan, S.B.: From Holism to Compositionality: Memes and the Evolution of Segmentation, Syntax and Signification in Music and Language. Lang. Cogn. forthcoming.
34. Carruthers, P.: The Cognitive Functions of Language. Behav. Brain Sci. 25, 657–726 (2002).