EDUCATIONAL KIT

THE
LAW
OF THE
TONGUE:

Movement IV

(2015-16)

for string quartet

by

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CONTENTS

OVERVIEW

The Law of the Tongue is inspired by the unique history of whaling in the town of Eden on the New South Wales south coast. Around in the 19th and early 20th centuries, this industry was based on the extraordinary collaboration of people and orcas – otherwise known as killer whales – in the hunting of baleen whales.

The particulars of the hunt are in themselves fascinating. The orcas would herd and harass a baleen into the deep waters of Eden's Twofold Bay, blocking its escape. An individual killer then alerted the whalers by beating the water with its tail just outside their homes. Subsequently, orcas and people would join forces, the former continuing their attacks and the latter in row boats going in with harpoon and lance for the kill. The spoils were then divvied up along very specific lines. While the bulk of the carcass went to the whalers, the killers took as their share the much sought-after lips and tongue. This bargain was known by the locals as 'the law of the tongue.'

The wonders of this story, however, go beyond just the hunt and its aftermath. For one, Eden's whaling grew out of a pre-existing relationship between the orcas and the area's indigenous Yuin people. Not only did the Yuin work alongside the settlers in the new industry, their cultural attitudes – such as considering killer whales blood relatives – were adopted as well. And yet, as amazingly rich as it was, this symbiosis was also gory and cruel, as is apparent from eyewitness accounts. The moral quandaries it raises so clearly in today's social context were not lost on those who experienced it firsthand.

The Law of the Tongue explores both the history and practices of Eden's whaling industry and the complex web of emotions they evoke.

MATERIALS

The fourth movement of *The Law of The Tongue* – 'Passing' – is a reflection on the twilight of Eden's whaling industry. On one hand, general nostalgia for a bygone era is expressed; on the other, there is an evocation of specific events thought to have brought about whaling's demise. This kaleidoscope of memories is represented by a variety of musical materials, falling into four broad categories: *A B*, *C*, and *D*.

A.

Appearing throughout much of the movement, *A* is the most commonly used material. It is essentially a melody whose **contour** and structure remains constant, regardless of context. Here is a representation of its first iteration:

Fig. 1
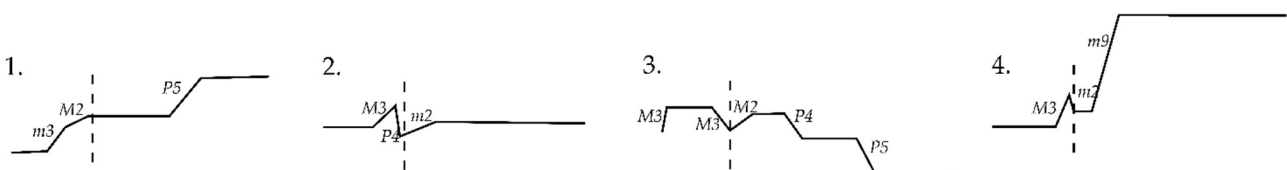
Note there are four **phrases**, numbered 1 to 4. The filled-in lines indicate change in pitch level, with corresponding **intervallic** content shown; vertical dotted lines refer to important metric stresses.

The first phrase is taken from a transcription of orca (killer whale) song employed throughout the work. While the material in question appears more literally in movement two, here it is loosely reworked.

Fig. 2

Mvt II, bb.6-7

Mvt IV, bb.2-3

The other three phrases are elaborations of the first, drawing from it strongly. To begin with, all phrases are of similar length and begin with a substantial **anacrusis**. The contours of phrase 2 and 4 also roughly correspond, while 3 is something of an inversion of 1. Additionally, 4 makes reference to a baleen whale warning call, again found more literally in the second movement.

Fig. 3

Mvt II, bb.10-11

Mvt IV, bb.5-6

The characteristics of this first *A* are not reproduced exactly in subsequent iterations: intervallic alteration is often found leading into the main metric stresses and relative pitch level between phrases varies a lot. What's more, *A* appears in four quite different harmonic/textural contexts through the passage of the movement. Nevertheless, because the number, relative length, contour and intervallic content of its phrases is more or less consistent, this material has a strong recognisability.

The **unifying** qualities of *A* – frequency, internal consistency, maintenance of basic contour and structure regardless of context – play a central role both musically and dramatically in the movement. In fact, *A* could be seen to represent its core purpose: profound, sustained contemplation of Eden's past.

B.

Unlike *A*, *B* is not that important, appearing in only one section of the movement. Its origins mirror *A*'s, however: it is an elaboration of a basic idea taken from whale song, albeit baleen here rather than orca. Once again, this building block appears more literally in movement two, while a loose reworking is used here.

Fig. 4

Mvt II, bb.4-5

Mvt IV, b.14

B reflects the ill intent of an outsider who in cold blood murdered a beached orca, an action which led to mass exodus of indigenous whalers from the town. To evoke this, various musical elements come into play. *B*'s building block is not especially **chromatic**, as is apparent from Fig. 4(b). Nevertheless, it outlines a **tritone**, an interval generally heard as unstable. This is further accentuated by the idea being transposed in many ways and distributed throughout the quartet in a **contrapuntal** manner, forming dissonant, short-lived harmonies. Certainly there is no sense of tonal centre or key with this material.

Tension is also created through a reasonably fast tempo, and an unpredictable dynamic level, which, while generally loud, includes sforzando drops (sfp, sfmp, sf f), as well as frequent crescendi and decrescendi. Correspondingly, there are sudden shifts in articulation, from legato to accents and staccato accents. Fluctuations of tone colour through such techniques as **naturale**, **sul ponticello, molto vibrato** and **tremolo** also add to the instability.

C.

Though even less frequent than *D*, *C* is a lot more significant. It consists of a single **tutti** chord repeated multiple times, played as loudly as possible with a **syncopated**, unpredictable rhythm. Note values are either fairly long – albeit accented and coloured with tremolo – or short and well articulated. In terms of pitch, there is a combination of perfect fifths over almost the entire range of the quartet. That range provides an opportunity for maximum resonance: all instruments have **double stops**, the cello and viola are in a rich lower register, the violins make use of high registral clarity, and notes are registrally distributed as close as possible to the **natural harmonic series**.

C occurs twice in very different contexts, so its dramatic character is hard to define. Both times, however, it acts as an open-ended punctuation point, like an **imperfect cadence**, and in turn, an ultimate climax for the given section.

D.

A series of contiguous melodic variations, *D* evokes the arrogant sea captain who broke the long-standing law of the tongue. This music resembles a traditional English jig, a dance form often associated with ships and the sea. It has a fast or extremely fast tempo and clear **compound metre** (mostly 6/8), and uses string techniques with a folksy flavour, such as **spiccato**, **punta d'arco** and **al tallone**. The pitch language is derived from a **fixed-register** mode, conceptually related to certain British folk traditions. The mode, a **hexatonic**, can be understood as the **global pentatonic** plus one chromatic pitch (like the blues scale). Its register is **plagal**; i.e. it extends above *and* below the tonic, covering an octave.

Fig. 5

(tonic)

D's melodic variations stem from manipulation of a five-cell series. All two beats long. cells are otherwise distinct motifs which occur in a specific order. This can be represented simply as a b c d e.

Fig. 6
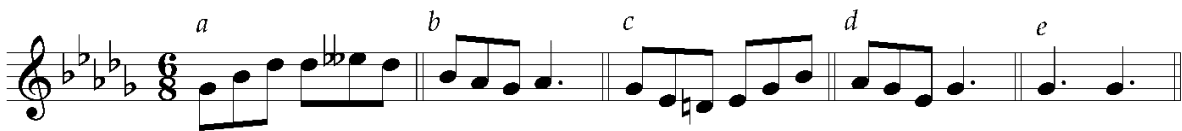
While the basic order a b c d e is always maintained, the series can be altered through omission, replication, reduction and/or expansion of cells. This process is explored in detail under <u>Section by Section</u>.

STRUCTURE

Now that the movement's materials are broadly defined, it is possible to outline how they are arranged through time.

Fig. 7

Section	1: Ritornello 1	2: Episode 1						3: Ritornello 2
Bars	2-13	14-35						36- 42
		14-16	17-18	19-22	23-32	32.5-33	34-35	
Material(s)	A_1	B_1	C_1	B_2	A_2	B_2	A_2	A_1
Interference	→							→

Section	4: Episode 2			5: Ritornello 3	6: Episode 3			7: Coda
Bars	43-131			132-135	136-157			158-171
	43-83	84-123	124-131		136-143	144-154	155-157	
Material(s)	D_1	A_3/D_1	D_2	A_1	D_2	A_4	C_2	A_2
Interference	→	→		→				

Note there are seven sections: three **ritornelli**, three episodes and one coda. In all the ritornelli, there is a thematic consistency based on *A,* labelled here as A_1. The episodes, on the other hand, have considerable variety, drawing as they do from all four material types.

Considering the nature of these sections, the movement is ostensibly in **ritornello form** (hence the labelling of sections 1, 3 and 5). This structure, characteristic of concerti in the late Baroque period, consists of a returning tutti idea (ritornello) alternating with individual episodes typically featuring instrumental soloists. While all ritornelli share common material, they are varied through **fragmentation** – usually only the first and last are in full – and **modulation**. Episodes may develop ideas from the ritornello or other episodes, or be unique.

This movement fulfils most of these criteria: the second and third ritornelli are shortened versions of the first, and the episodes have appropriate variety and even prolonged soloistic passages (see the first violin in bb.25-32 and viola in 43-58). Nevertheless, later ritornelli do not in any sense modulate, making

them closer to the returning idea in **rondo form**. This evokes the common usage of **sonata-rondo form**, a hybrid of return and development, in last movements of Classical string quartets.

To complicate matters, the *A* material on which the ritornelli are based is also prominent in the episodes and coda. A is thus a thread throughout the movement, albeit one that winds its way through many different fabrics. As the distinctions between A_1, A_2, A_3 and A_4 are less developmental and more contextual – as previously mentioned, contour and structure are generally maintained – the *A* material can be understood as an **idée fixe**. This 'fixed idea' concept, first articulated in French Romantic music and literature, manifests here as a recurring theme representing prolonged nostalgia. Its purpose is further reinforced by the complex web of historical allusions which make up the movement's structure.

There is one part of Fig. 7 which has not been addressed: interference. This term refers to a process whereby a section's defining material is increasingly interrupted and undermined (note the blue arrows). To achieve this, more and more foreign elements such as **non-harmonic pitches**, extreme loudness, standard and **slap pizzicato, microtonal tuning** and **glissandi** are introduced into the pervading texture. This notion of musical process is taken from late 20th century modernism and contrasts with the more traditional phrasal structure of the material in question (A_1, D_1). In effect, it is a reminder of the hard realities nostalgia tends to gloss over.

In the context of the whole, the ritornelli as a group also undergo a process. It can be described as **sectional diminution,** where each repeat of the ritornello is shorter than the one before (as is apparent from the bar numbers in Fig. 7). This is meant to outline a gradual move away from nostalgia to a more nuanced understanding of Eden's whaling past. To a large extent, our sense of this sectional collapse is pretty vague, given it occurs over a long period of time. When the time-span is much shorter, however, the impact is much greater. This effect and others will be explored in the next part, Section by Section.

SECTION BY SECTION

Section 1: Ritornello 1

As previously mentioned, the material in Section 1 is based on *A*. Here that melody is contextualised within a relatively slow tempo and **diatonic, added-note chords**. It is articulated in full with all four phrases three times contiguously. In contrast, the supporting harmony has a different cycle, its bassline being a six-note set followed by its **retrograde** in transposition.

Fig. 8
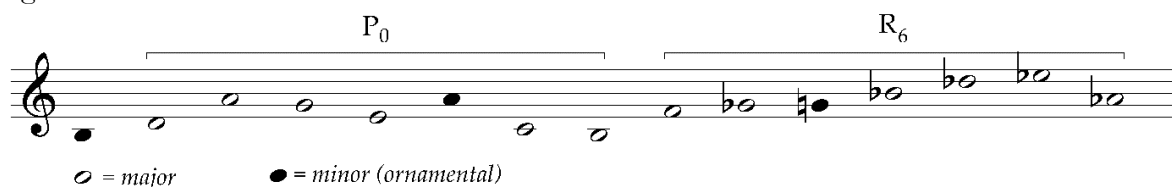
Note together P_0 and R_6 cover all twelve chromatic pitches. This means while each phrase is repeated three times, it is never harmonised in the same way. Which instruments take on which textural role and when is also independent from the phrasal structure. These cycles, which spin simultaneously but not in

sync, evoke both **gamelan** and the ruminating, potentially indefinite nature of nostalgia. All of this is presented visually in Fig. 9 below.

In a similar vein, the length of phrases is not always the same from iteration to iteration. Phrase 4, for example, is four beats long in the first **period**, three beats in the second and two in the third. Overall, there is a sense of **phrasal diminution**; that is, events are generally shorter each time they reoccur. This is a **fractal** reflection of the whole: repetitions both of and within ritornelli are increasingly smaller. Again, the local pattern is laid out in Fig. 9.

Finally, Fig. 9 outlines the process of interference discussed in <u>Structure</u>. While the number does fluctuate, a general increase in foreign elements through time is clearly evident. This reinforces the phrases' collapsing effect, creating further expectation and (hopefully) excitement. Note both the dynamics and nature of these new elements – non-harmonic notes, standard and slap pizzicato, slides (glissandi), jeté, microtonal tuning – are at odds with the prevailing character.

Fig. 9

Period	1				2	
Phrase	1a	2a	3a	4a	1b	2b
Beats	5	5	5	4	5	5
Harmony	$Bm^7/_D$	$D^{-,5,M7}$ $A^{-,5,M7}$	$A/_E$ $G^{3,-,M7}$	$G^{M7}/_D$ $E^{sus2,+4}$	E $Am^7/_C$	$C^{-,5,M7}$ $B^{-,5,M7}$
Melody	Vn.II	Vn.I	Vc.	Vn.I	Va.	Vn.II
Harmonic/Textural Support	Vn.II	Vn.I, Vn.II	Va., Vc.	Vn.II, Va.	Va., Vc.	Vn.II, Va.
Harmonic/Textural Interference	- slides x2 (Vn.II)	- jeté (Vn.I) - microtonal tuning (Vn.I)	- slides x 2 (Vc.)	- jeté (Vn.I) - slide (Vn.I)	- slides x 2 (Va.)	- jeté (Vn.II) - microtonal tuning (Vn.II) - slap pizzicato (Vc.: C2)

Period	2 (con)		3			
Phrase	3b	4b	1c	2c	3c	4c
Beats	4	3	5	4	3	2
Harmony	$B^{M7}/_{A\#}$ $F^{3,-,M7}$	$F^{M7}/_C$ $Gb^{sus2,+4}$	Gb $Gm^7/_{Bb}$	$Bb^{-,5,M7}$ $Db^{-,5,M7}$	$Db^{M7}/_{Ab}$ $Eb^{3,-,M7}$	$Eb^{M7}/_{Bb}$ Ab^{sus+4}
Melody	Vn.I	Vn.II	Va.	Vn.I	Vn.II	Va.
Harmonic/Textural Support	Vn.II, Va.	Va., Vc.	Va., Vc.	Vn.I, Vn.II	Vn.II, Va. Vc.	Vc.
Harmonic/Textural Interference	- slides x 2 (Vn.I)	- jeté (Vn.II) - slide (Vn.II) - slap pizzicato (Vn.I: G3)	- slides x2 (Va.) - slap pizzicato (Vn.II: B3) - pizzicato (Vln.I: F#,A5)	- jeté (Vn.I) - microtonal tuning (Vn.I) - slap pizzicato (Vc.: D2) - pizzicato (Vc.: A3,C4; Va.:Ab5)	- slides x2 (Vn.II) - slap pizzicato (Va.: Eb3) - pizzicato (Vln.I: B5,D6)	- jeté (Va.) - slide (Va.)

Section 2: Episode 1

The opening of this section is the single appearance of the *B* material (bb.14-16, 19-22), punctuated by a version of *C* (bb.17-18). To a large extent, *B* and *C* are covered above in <u>Materials,</u> but some local features are worth mentioning here.

B_1 (bb.14-16) is characterised by **dissonant** chords, namely piling of a semitone and major seventh, or semitone and minor seventh.

Fig. 10

These harmonies are produced by a four-part **contrapuntal** texture, formed from two-part **imitation** between cello and viola, displaced from the retrograde of that two-part imitation in the violins. In the former, the imitated idea is a sustained, tremolo note followed by three semiquavers; in the latter, it's the other way around. The former includes the baleen song excerpt discussed in <u>Materials</u> (Fig. 4)

B_2 (bb.19-22, 32.5-33) is also characterised by dissonant chords, but in this case, they are a minor ninth or major seventh. Its textural building block is an anacrusis based on the baleen motif (Fig. 4), leading into a four-part **bell chord.** Here are the skeletons of two such bell chords:

Fig. 11
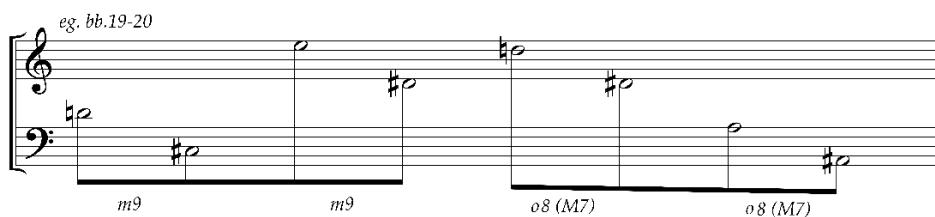
In all, this gesture has seven iterations, albeit with changing instrumentation and register.

The intervening C_1 – the act of murder itself – amplifies the dissonant character. It is inherently unstable, being constructed from two perfect fifths a tritone apart (D#, E#; A, E). To maximise resonance, it has double stops, strategic registral placement, an open fifth D#, A# in the bass with dissonant A and E in a higher register, and an open A string (Vn I: A4).

Fig. 12

$B_1C_1B_2$ is followed by A_2, which despite having the same tempo, is strongly contrasting. Rather than **polyphonic**, the texture is now a melody and accompaniment designed to reflect leisurely rowing on the

bay. This is achieved predominately through **ostinati** in the lower three parts. In the cello, there is a back and forth between two sustained double stops, G,D (tonic) and D#/A (dominant).

Fig. 13

tonic   dominant

Incidentally, this harmonic relationship is a fractal reflection of the whole section, the D#, A conflict of C_1 being a kind of dominant for A_2's stable G tonic. The cello's harmonic rocking is reinforced by baleen-inspired pizzicato quavers in the viola, which lead into each chordal change, and the slightly lopsided **hyper-metre** of 9/8+12/8.

Where the cello and viola are like the action of rowing, the second violin is the water itself. This impression is created through a ***liberamente*** technique as well as the timbral character of **molto sul tasto** and frequent tremolo. The line itself is very loosely based on the orca song (see Fig. 2). As for the actual *A* material, it appears in just one part, Violin I, in contrast to being passing around as in A_1. Its multi-level compound feel, glissandi, open strings and **natural harmonic** create a gentle lilt appropriate for the scene.

Section 3: Ritornello 2

Ritornello 2 is essentially the first two iterations of *A* in Ritornello 1, including their harmonic context. That said, both the phrasal diminution and interference process are altered to fit two thirds the original time-span.

Section 4: Episode 2

This section begins with *D*, which, as described in <u>Materials</u>, is a series of contiguous melodic variations, based on five cells in the order a b c d e (see Fig. 6). Here is a representation:

Fig. 14

Iteration	1	2	3	4
Bars	43-8	49-55	56-61	62-64
Cell pattern	a b b b c d	a b b c d d e	a b c d d e	a(1) b c(1) e(3)
Melody	Va.	Vn.II (Va.)	Vn.I (Vn.II)	Vn.II (Vn.I)
Inteference	d: Vc.	e: Va., Vc.	d e: Va., Vc.	e: Va., Vc.

Iteration	5	6	7	8
Bars	65-68	69-71	71.33-74	75-83
Cell pattern	a(1) b(1) d e$_2$(4)	a(1) b c(1) e$_2$(1)	a(1) b(1) d d e$_1$	a b b c d d(1) a a a(1) a(1) a(1)
Melody	Vn.I	Vn.II (Vn.I)	Vn.I	Vn.I
Inteference	e: Va., Vc.	e: Va., Vc.	e: tutti	chromaticism, final a(1): tutti

As 'Cell pattern' outlines, a b c d e is varied in several ways. There is immediate repetition of a cell (iteration 1-3, 7-8), omission of a cell or cells (1, 4-7), fragmentation or extension of the two-beat standard (4-8; new beat number in brackets) and extension of the pattern (8). All this variation keeps the ongoing repetitions of the melody interesting.

The table also details interference during each iteration. Typically, this is a semiquaver figure based on the baleen song (see Fig. 4), played as loudly as possible at the end of the last cell of each series. The cadential disruption in the final iteration is further reinforced by chromatic notes throughout. Once again, these elements reflect a dark sentiment – in this case, willingness to break the law of the tongue – seeping into the otherwise buoyant character.

D_1 gives away to yet another version of A, which here represents the head orca fighting for the spoils of the hunt. The melody is articulated as a bell chord using double stops in both violins, getting higher and higher in register as the struggle becomes more intense. Some of the interference from A_1 - glissandi, jeté, microtonal tuning – appears here too. In contrast, the accompaniment in the viola and cello is a *liberamente* texture made up of rapid string crossing and timbral shifts between sul ponticello, sul tasto and naturale. The overall harmonic effect is one of **polymodality**: the cello has a Gb^{sus2}, while the upper parts are drawn from D **acoustic mode**.

Fig. 15

D acoustic mode

a)

b)

Gb^{sus2} *D acoustic*
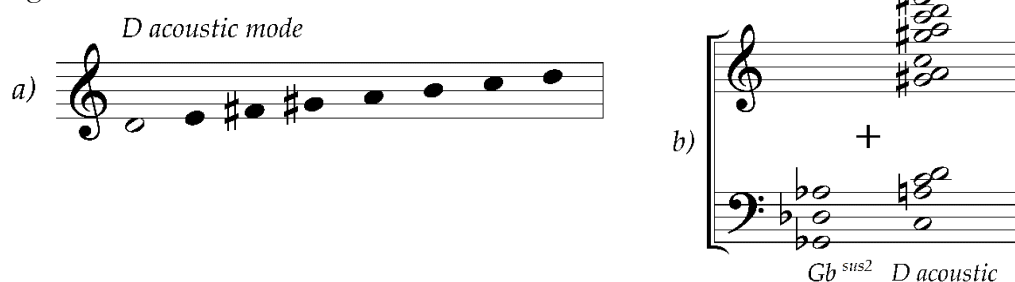
Of course, every fight needs at least one other protagonist. The bolshie sea captain is represented throughout A_3 by intercuts of D_1 material, specifically e cells, followed by b or a b from iteration 8, all with corresponding semiquaver interference.

The section ends with the captain's triumph and a new form of D (D_2). In keeping with the victory, the mode of D_1 has been transposed up a semitone, the tempo sped up as fast as possible and the texture made into a grand unison. This brief passage can be represented as intro a b c d a b e, and ends with tutti semiquaver interference.

Section 5: Ritornello 3

Ritornello 3 is essentially the first iteration of A in Ritornello 1, including its harmonic context. That said, both the phrasal diminution and interference process are altered to fit one third the original time-span. Additionally, some of the cadential disruption at the end of Section 4 makes its way into the first bar.

Section 6: Episode 3

Section 6 opens with a new version of the captain's triumph from the end of Section 4. While it has a similar structure to the original, the end is now repetitions of the second half of cell a. This gesture and indeed the passage as a whole act as a springboard into the heart of the section.

What follows is the most emphatic version of *A* yet. While the three melodic cycles of Ritornello 1 have been restored, its soft dynamics and long lines are replaced with punchy statements, and **role exchange** is now more striking, if more regular, thanks to shorter phrases and a faster tempo. Similarly, the original harmonic fluctuations give way to the consistency of **parallel modality**. A new six-note set and its retrograde in transposition (b) act as both bassline and a series of tonics for a hexatonic with chromatic inflection, based on the **Lydian church mode** (a).

Fig. 16

Most significantly, the process of phrasal diminution is clearly audible for the first time, and there is a general absence of interference. All this, along with loud dynamics, copious swells, wide-ranging glissandi and rampant rapid string crossing, creates a feeling of mounting joy. Here finally is an unconditional celebration of Eden's past.

The above features build excitement towards the arguable climax of the movement, C_2. While C_1 accentuates the dissonance of perfect 5ths a tritone apart, C_2 transforms it into something affirming. This is achieved by adding additional pitches from Eb Lydian and arranging the subsequent set in piled perfect fifths, with maximum resonance in mind.

Fig. 17
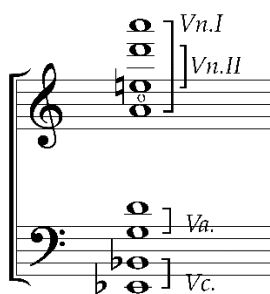
## Section 7: Coda

The movement ends in stark contrast to C_2, with an even more contemplative version of A_2 (see Section 2: Episode 1). Here the ostinati in the lower three parts are maintained, but rather than regularly oscillate, some events in the viola and cello undergo **phrasal augmentation**. This means while the viola's gestures

are rhythmically consistent, there is generally more and more time between them. Similarly, the cello's double stops are sustained increasingly longer. The harmony has also been altered: the G, D perfect fifth is now D, A, decreasing the difference between tonic and dominant, which reduces tension. What's more, this means the movement concludes in D, the 'key' at the beginning of each ritornello and the closest thing to a global tonic.

Fig. 18

tonic   dominant
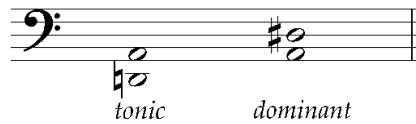
The most compelling change, however, is with the *A* material itself. The original melody is fragmented: only the last phrase (4) is used, and iterations have either four or five beats between them. What's more, the anacrusis is dropped from the final two instances.

Eventually all that is left are the sustained cello dominant and the noodlings of the second violin's *liberamente*, which themselves then fade into nothingness. It is as if an era and even memories of that era just drifted away…

ACTIVITIES

MUSICOLOGY

The Law of the Tongue draws heavily from the Western art music tradition.

1. Historical Form
    a) Using online resources, research the characteristics of the following musical forms, alluded to in the last movement of *The Law of the Tongue:*
        i) ritornello form   ii) rondo form iii) sonata form iv) sonata-rondo form
    b) Choose one form you researched in a). Using available resources – including the website imslp.org – find a score of one work which uses that form. Consider in your search:
        i) the period(s) in which your selection was popular;
            eg. Baroque, Classical, Romantic
        ii) the genre(s) in which it was used;
            eg. concerto grosso, piano sonata, string quartet, symphony
        iii) the movement(s) in which it was employed
    c) Mark up the score in keeping with the selected form, focusing on the different kinds of thematic materials. The labels in Fig. 7 (p.5) may be useful for that.
    d) (extension) The music you chose almost definitely uses historical common practice (the major/minor key system). Identify the main keys of your selection. Do they correspond with the different thematic materials? How do they relate to each other, if at all?

2. Church Modes
    a) Using online resources, research the church modes. Answer the following questions
        i) How many are there? What are they called?
        ii) How are they technically different to the major and natural minor scales, if at all?
        iii) What were their historical origins? Why are they called 'church' modes?
        iv) In which periods of Western music history were they actively used?
        v) Which are found in the last movement of *The Law of the Tongue*?
    b) Using online resources, identify one work – other than *The Law of the Tongue* – which uses any church mode outside the major/minor system. Your choice may be from any period, style or genre.
    c) Find a score and/or recording of the work identified in b). Identify analytically and/or aurally the mode(s) in question.

The Law of the Tongue is also strongly influenced by trends in art music from the last sixty years.

3. Contemporary Ideas
    a) Using online resources, research one or all of the followings:
        i) controlled aleatoricism ii) microtonality iii) hyper-metre iv) spectralism
    b) Where and how are these ideas used in the last movement of *The Law of the Tongue*?
    b) Try using one or more of these in your own compositions.

COMPOSITION & PERFORMANCE

1. Mode in Melody
   a) Compose a short two-bar melody in 4/4 at a moderate tempo, using Gb, Ab, Bb, Db and Eb, with Gb as the tonic. Perform it on your instrument.
   b) Now recompose your melody from a), adding an extra pitch, D natural (see Fig. 5, p.4). Play this new version on your instrument.
   c) How does the addition of a chromatic note in b) alter the character of your melody? Discuss both the musical and psychological changes with your class.

2. Structure in Melody
   a) Compose a set of four variations based on the melody in Fig. 6 (p.5). Keep the basic cell order, a b c d e, but alter it through omission, replication, reduction and/or expansion of cells. Make sure the variations are all different and don't include the original melody; you may use different tempi. When completed, perform the set on your instrument.
   b) Now write out one of your variations, transcribing each cell on a different piece of paper. Swap your set of 'cell cards' with another student.
   c) Try putting the cell cards you received in an order which makes musical sense. Perform the result.
   d) Repeat c) many times. How many convincing melodies can you make from the cards??

3. Idée fixe.
   a) Study the *A* material (pp.2-3) and its various contexts (*A₁, A₂, A₃, A₄*) in the last movement of *The Law of the Tongue.*
   b) Design a new and different context for *A*. Consider mode/scale, harmony, register, tempo, metre, rhythmic profile, texture, tone colour, performance media, dynamics and expressive techniques.
   d) Write out this new version of A either on paper or using computer software. Perform it with your class, if possible.

4. Polymodality
   a) Consider the C major scale. Work out all the <u>major</u> triads which do not fit this scale, either in part or in full.
   b) Using a keyboard instrument and/or a group of student instrumentalists, perform each triad from a) in turn. Now repeat them, but with a C major triad playing at the same time in a lower register. How do each of these combinations sound? Discuss the effect of each with your class, referring to the polymodality in *The Law of the Tongue* (p.10), if necessary.
   c) Choose your favourite combination, eg. C, E, G; E, G#, B. Compose a four-bar melody in any metre at a moderate tempo in the key where the non-C triad is tonic. Perform your melody while a C major triad is sustained in a lower register, either by yourself, your teacher or other students.

5. Pitch Permutation
   a) Consider the pitch series (P_0) and a retrograded transposition (R_6) in Fig. 16(b) (p.11).
   b) Work out the retrograde (R_0), inversion (I_0) and retrograde inversion (RI_0) of P_0.
   c) Work out the primary (P_6), inversion (I_6) and retrograde inversion (RI_6) of R_6.

APPENDIX 1

<u>Glossary</u>

added-note chord	chord based on piled thirds, extending beyond basic triad
acoustic mode	major mode characterised by high 4th & low 7th scale degrees, drawn from lower end of natural harmonic series
al tallone	string technique; play with heel/frog of bow
anacrusis	oka. pick-up; opening note or notes of a phrase occurring before main metric emphasis
bell chord	broken chord where all pitches are sustained
cadence	adj. cadential; musical gesture emphatically concluding a phrase; common practice types include perfect ($V^{(7)}$-I) and imperfect (I/ii/IV/vi-V)
chromaticism	term for a) pitches alien to a key/scale/mode and/or b) abundance of semitone movement in a musical context
church modes	series of seven-note pitch collections/hierarchies, first formalised in the Renaissance & later simplified in the late 19th century
common practice	term for musical practice used widely in Western Europe c.1670-1900
compound metre	metre/time signature with beat easily divisible by three
contour	conception/representation of pitch level change over time
counterpoint	adj. contrapuntal; another term for polyphony; often associated with Western music of the 16th & 18th centuries
diatonicism	term for a) pitches belonging to a key/scale/mode and/or b) lack of semitone movement in a musical context
dominant	term used here to denote second most important pitch/harmony of any key/mode
double stop	string technique; play two notes on adjacent strings simultaneously
dissonance	collection of pitches generally considered frictional, tense, unresolved
fixed register	chord or scale with notes fixed to specific pitch level; no octave equivalence
fractal	term describing a structure occurring at different scales simultaneously
fragmentation	breaking apart of a musical idea for piece(s) to be used elsewhere
gamelan	traditional orchestral music of Java & Bali, based on cyclical structures
glissando	slide between two notes, including every intervening pitch
global pentatonic	scale with five pitch classes & specific intervallic content (M2, M2, m3, M2); part of many musical cultures

hexatonic	any scale with six pitch classes
hyper-metre	lengthy metric pattern, made up of consistent series of shorter metres
idée fixe	recurring theme which remains recognisable regardless of context, representing extramusical idea
imitation	gesture in one part is repeated shortly after in other parts
interval	adj. intervallic; standardised distance between notes in Western music, made up of quality & number, eg. major second (M2)
inversion	developmental technique where contour of a series of notes is turned upside down
liberamente	literally 'freely'; in this context, descriptor for texture formed by individual performers realising given material at their own tempo within indicated time span
Lydian mode	major mode characterised by high 4th & 7th scale degrees
major	descriptor used here to describe any harmony based on a major triad
microtonality	20th/21st century approach to pitch focused on intervals smaller than semitone
minor	descriptor used here to describe any harmony based on a minor triad
modulation	process in common practice of moving from one key to another; established with prolonged time in new key & cadence
molto sul tasto	string technique; play way down fingerboard, evoking vintage radio
molto vibrato	minute changes in pitch rapidly but explicitly, creating pulsating effect
natural harmonic	string technique; lightly touch open string at certain point to produce a specific higher pitch with airy quality
natural harmonic series	collection of pitches derived from natural resonance
naturale	string technique; play with bow at normal position
non-harmonic pitch	pitch which does not belong to chord in question
ostinato	repeated pattern, where both pitch and rhythm are replicated
parallel modality	series of harmonic spaces stemming from bassline, each note of which acts as a tonic for a common mode (albeit in transposition); bassline may or may not be diatonic in itself
period	group of conceptually connected phrases
phrasal diminution	developmental technique where a phrase is diminished when repeated; typically part of an extended process of diminution

phrasal augmentation	developmental technique where a phrase is augmented when repeated; typically part of an extended process of augmentation
phrase	short musical idea which nevertheless makes sense on its own
pitch class	set of pitches with the same letter name & accidental, eg. C#1, C#2…
pizzicato	string technique; pluck string with finger
polymodality	two or more simultaneous pitch regions delineated by register, each of which has different pitch content & implied hierarchies
polyphony	two or more independent parts sounding at same time
punta d'arco	string technique; play with point of bow
retrograde	developmental technique where a set of notes is sounded in reverse
ritornello	returning idea in ritornello form
ritornello form	structure with a returning idea which is altered & contrasting episodes, characteristic of late Baroque period
role exchange	two parts swap textural functions, eg. melody, accompaniment
rondo form	structure with a returning idea which is unaltered & contrasting episodes, characteristic of Classical period
sectional diminution	developmental technique where a section is diminished when repeated; typically part of an extended process of diminution
slap pizzicato	string technique - pull string back, then let it slap against fingerboard
sonata-rondo form	structure exhibiting features of both sonata & rondo; development begins with explicit return of exposition's first subject
spiccato	string technique - bow is allowed to bounce lightly
sul ponticello	oka. sul pont., s.p.; string technique - play with bow close to the bridge
sul tasto	oka. s.t.; string technique - play with bow over fingerboard
syncopation	emphasis of weak beat or weak part of beat
thematic material	central musical idea, usually developed after being introduced
tonic	term used here to denote home/central pitch/harmony of any key/mode
tremolo	string technique; either rapid repetition of static pitch(es) or rapid oscillation between two non-adjacent pitches
tritone	interval of augmented 4th or diminished 5th, made up of three tones
unity	notion of repetition and/or consistency within musical entity

APPENDIX 2

Biography

Nicholas Vines (b.1976, Sydney) is an Australian composer particularly active at home and in the US. Described as "exquisite" (Gramophone), "riveting" (The New York Times), "arresting" (The Boston Globe), "compellingly original" (Boston Phoenix), "full, extravagant and wild" (Sydney Morning Herald), and "edgy, bright and entertaining as hell" (NewMusicBox), his music has been performed in Australia, North America, the UK, Europe, China and Japan. Interpreters of his work range from high school students to specialist new music ensembles. He has been commissioned by organisations around the world, including Callithumpian Consort, Guerilla Opera, counter)induction, ChamberMade Opera, the Sydney Philharmonia Choirs, the Sydney Symphony Orchestra, Acacia Quartet, Abbotsleigh School, Ensemble Apex, the Australia Council, Duo Young Music, mmm…, Faber Music and the Tait Memorial Trust.

Vines's compositions have received prizes from the US, UK and Poland, as well as Australian honours such as APRA AMCOS Art Music Awards. In 2010, he was a Fellow in Composition at the Tanglewood Music Center. His compositions are published by Faber Music, Wirripang and the Australian Music Centre; the AMC has also selected his works as official submissions to the ISCM World Music Days. Since 2007, he has run the New Works Program for New England Conservatory's Summer Institute for Contemporary Performance Practice. A festival of Australian music centred on his work for chorus and orchestra, *An Essayist's Prayer*, was held at Abbotsleigh School in October 2017.

In July 2018, Navona Records released Hipster Zombies from Mars, a compilation of Vines's piano music performed by Ryan MacEvoy McCullough. Reception of this album has been strong: BBC Music Magazine thought the concept "wacky, but well-delivered", while Ihr Opernratgeber found it "a rewarding sonic experience, inspiring for the reviewer." Since going live, it has been streamed a respectable 20 000 times on Spotify. He also has two other albums with Navona, Loose, Wet, Perforated and Torrid Nature Scenes, hailed respectively as "dazzling" (Gramophone) and "damn good" (Limelight Magazine).

At the University of Sydney, Vines studied with the likes of Peter Sculthorpe, receiving a BMus, MMus and the university medal. He completed the AM/PhD programme in composition at Harvard University in 2007, having been awarded the Sir Robert Gordon Menzies Scholarship, as well as various Harvard fellowships. While there, he worked with such compositional luminaries as Julian Anderson, Lee Hyla, Judith Weir, Sir Harrison Birtwistle, Brian Ferneyhough and Helmut Lachenmann. More recently, he completed a Graduate Diploma in Education at the University of New England.

Formerly a lecturer in music at Harvard University and the Massachusetts Institute of Technology, Vines also worked at Wellesley College, the University of Sydney and the Australian International Conservatorium. He is currently Senior Master of Academic Extension (Music) at Sydney Grammar School and a composition tutor at the University of New South Wales. In recent years, he has been actively involved in mentorship of young composers through the Artology Fanfare Project (2014-19) – which won the 2016 APRA AMCOS Art Music Award for Excellence in Music Education – and the 2017 & 2015 Limelight Australian Music Seminars.

Vines participates in operas, choirs and choral productions as a tenor, bass-baritone and countertenor, and in orchestras as a French hornist. Currently, he is working on a recording project with Australian pianist Clemens Leske and a major work for sinfonietta for Boston-based Callithumpian Consort.