

In League with Octatonic Gentlemen

How Peter Graham's extraordinary Euphonium Concerto achieves unity with its octatonic framework.

By Matthew Nunes

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Since its premiere in 2008, Peter Graham's euphonium concerto *In League with Extraordinary Gentlemen*¹ has steadily infiltrated the repertoire. With a 2008 recording by Steven Mead with pianist Tomoko Sawano (*Audacious* - BOCC110) and a 2010 recording featuring David Thornton and the Black Dyke Mills Band conducted by Nicholas J. Childs (*The Peter Graham Collection* - SPS250) the work has never failed to be available for those ready to take it on. In 2018 the final two movements were required for the Semi-Final round of the Artist Euphonium Competition at the Leonard Falcone International Euphonium and Tuba Festival.



Peter Graham

Graham's concerto is here to stay – but what logic lies behind the surface of its many notes?

In League with Extraordinary Gentlemen is held together by two strong forces. The first is its inspirations in the characters of H.G. Wells' *The Time Traveller*, Sir Arthur Conan Doyle's *Sherlock Holmes*, and Jules Verne's *Phileas Fogg* whose adventures influence each movement. A full discussion of these gentlemen and their adventures is not the focus, but salient points will be addressed as needed. The second is the Octatonic scale - a scale constructed by alternating whole steps and half steps - and how key areas, motifs, and the entire work rely on pitches and intervals. In fact, as few as three transpositions form the blueprint for the whole concerto.

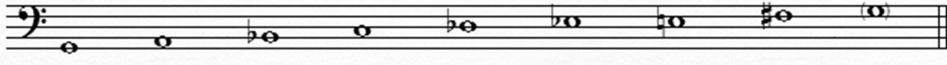
¹ This analysis was written referencing the euphonium and piano score published by Gramercy Music (Copyright 2008). All musical examples are in bass clef as concert pitch is used throughout.

One can view Graham's piece as a mosaic. One is able to see every fragment individually as well as the material of which it is made. On close inspection one notices the far apart shards are made of similar materials even if they happen to be different colors. This zoomed-in focus is a foreground analysis and space does not allow for an all-encompassing discussion. If one takes a few steps back, they can see a broader picture - the blend of colors and the relationships of many segments towards the whole image. While this middle ground level of synthesis allows one to cross-examine large chunks (formal structures, relationships of keys, etc.) it still leaves too many relationships for a focused analysis. One needs to step back even further than may be practical for an art gallery and examine how the mosaic fits into the room in which it is displayed. Here one may notice that even its borders are mosaic in nature and that the room itself relates back to the smallest shards. It is on this extreme level of background interpretation that this analysis focuses - with attention to the small details as required. This analysis is not ignoring those many vital fragments but using their information to inform our larger understanding. With teamwork and luck one may even notice that the room, the building, and maybe even the city relate back to that miniscule shard but this is a synthesis of information decades away.

The Octatonic Framework

It is not often that performers are faced with a work as motivically tight as this, and less often that a non-standard scale could be found to hold all of it together. Rarer still is the fact that minimal transpositions of that scale secure the many key areas, motifs, and pitch/interval relationships. The scale holding Graham's concerto together is the 02 Octatonic scale starting on concert G. The pitches of this scale are generated by alternating whole steps and half steps. The 02 Octatonic begins with a whole step while an 01 would begin with the half-step. In this case our 02 octatonic on G is:

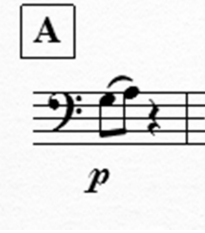
G – A – B-flat – C – D-flat – E-flat – E – F-sharp – (G)

Euphonium 


Ex. 1: G 02 Octatonic Scale

This scale is never used in its entirety but determines the entirety of the work. Two motifs secure the 02 version over the 01 and these are the G to A in m. 4 (piano) (which is repeated in the euphonium at m. 18 (rehearsal A)) as well as the rising tetrachord (collection of four notes) of the euphonium in m. 27:

Ex. 2:

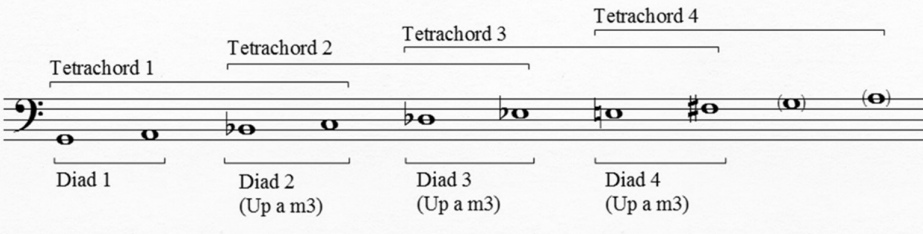


Euphonium – m. 18
Major second – G to A



Euphonium – m. 27
Rising tetrachord

This rising tetrachord's intervallic relationship can be found throughout the octatonic scale. With our scale the segments G – A – B-flat – C, B-flat – C – D-flat – E-flat, and D-flat – E-flat – E – F-sharp all conform to its pattern. Even the relationship of a minor third between these segments is crucial to the piece's unity. Furthering this understanding it is evident that Graham constructed the octatonic by using major-second diads a minor third apart:

Euphonium 

Ex. 3: G 02 Octatonic Scale – Tetrachords and Diads

Graham toys with the rising major second found early in the work - and that announces the euphonium entrance at m. 18 - to unify the three movements. In **I. The Time Traveller**

Graham utilizes the G 02 octatonic but raises it a whole step (major second) to A in the development and recapitulation before bringing it back down to G to end the movement. Graham only descends a major second to F briefly in the exposition's closing theme. In **II. The Final Problem** Graham descends a whole step (the inverse of raising a major second) to an F 02 octatonic for the entire movement. The reason for this may perhaps be to mimic the fall of Sherlock Holmes down the Reichenbach Falls. In **III. The Great Race** Graham relies on the A transposition of the scale. The only exceptions are the return of the Second Theme from the first movement, which is in F (and is derived from the rising tetrachord), and the finale which is brought back down to G, similar to how a traditional concerto scheme may return to the opening key.

A helpful visualization of the above is:

I. The Time Traveller

G (mm. 1–141) - (Exposition)

F (mm. 142–158) – (Closing Theme)

A (mm. 159–282) - (Development, Second Theme in Recap, First half of First Theme)

G (mm. 283–332) - (Second half of First Theme in Recap, Cadenza, Coda)

II. The Final Problem

F (All) - (Because of Sherlock's fall and an inversion of the opening rising major second)

III. The Great Race

A (mm. 1–36) – (A and B Sections)

F (mm. 37–64) - (Time Traveller Second theme)

A' (mm. 65–102) - (A and B Sections, repeated)

G (mm. 103–127) - (Cadenza, Coda)

as well as the spelling out of all versions of the 02 octatonic scale:

A – B – C – D – E-flat – F – G-flat – A-flat – (A)

G – A – B-flat – C – D-flat – E-flat – E – F-sharp – (G)

F – G – A-flat – B-flat – C-flat – D-flat – D – E – (F)

A 02

G 02

F 02

Ex. 4: 02 Octatonic Scales

Notice how by utilizing two iterations simultaneously Graham's pitch collection increases from eight tones to all twelve.

Now, from beginning to end, let us explore how Graham utilizes this octatonic framework through key areas, motifs, and pitch/intervals.

I. The Time Traveller

Inspired by H.G. Well's *The Time Machine* (1895), the first movement of Graham's concerto is a sonata that brings back the second theme before the first in the recapitulation, as mentioned in the Composer's Note (found one page before the piano score). The first theme extends from mm. 27–76 while the second theme extends from mm. 88–141. Both feature their own development areas that rely on repetition and transposition. The closing theme of the

exposition is from mm. 142–158 and one should note Graham used this same material as the closing to the first Theme.

All of the exposition, save for the closing theme of mm. 142–158, is based in our G 02 octatonic. Note how the first theme's key areas of G (m. 18 and m. 67), and E (m. 43 and m. 57) are a minor third apart and are included in our scale as are the starting tones of the many rising tetrachords (A, C-sharp, and C). If one looks at mm. 50–59 one can see the many ways Graham uses the major second:

Ex 5: mm. 50–59. Multiple uses of the major second: a. Rising Tetrachord; b. E to F-sharp harmony; b. (2) harmony down a major second; c. F-sharp, G-sharp, and F-sharp; c. (2) Inversion of c. (C, B, C).

The harmonies in the piano oscillate between E and F-sharp while the top notes in the euphonium part outline a rise from F-sharp to G-sharp and back down to F-sharp. In m. 59 Graham inverts the latter so it moves down from C to B and back up to C. The seemingly random key areas of the second theme are also rooted in the scale: E, G, G-flat, and A. If one reorganizes these pitches as E, F-sharp (G-flat), G, and A it creates the rising tetrachord of the first theme. Or, one could consider the second theme to start in E, raise a minor third to G, and

then repeat itself a major second higher. The development of the second theme (mm. 118–141) presents the accompaniment in a tense E-flat moving to relax in E seven measures later. The first ten measures of this development are repeated a perfect fourth higher and settles in A. The closing theme from mm. 142–158 features the first shift from the G octatonic down to F but these measures are the only ones it is used in. Here Graham moves down a major second from F to E-flat to prepare the development which is rooted in D.

The shift to the A octatonic contains the development (mm. 159–232) as well as the return of the second theme (mm. 233–262). However, Graham begins the development on the scale's fourth degree, D. This is maintained until rehearsal J at m. 204. Here the music begins a struggle between E-flat and E, reminiscent of m. 118 (rehearsal G), and similarly relaxing in the latter. Again, Graham repeats and transposes an entire chunk by moving these fourteen bars at rehearsal J up a minor third. Here the struggle is between G-flat and G, but the relaxation here is short-lived as the euphonium rushes up to a high B-flat at m.233 (rehearsal L) ending the development and signaling Graham's "time-shifting" twist with the second theme first in the recapitulation. While the development may be done the A octatonic is not. Note the key areas of the second theme (mm. 233–262): E-flat, G-flat, F, and A-flat. Reorganizing these pitches as before to E-flat, F, G-flat, and A-flat one will notice Graham's recapitulated second theme is a half-step lower. The Lento from mm. 264-274 is the transition back into the first theme but not yet the G octatonic as evident in Graham's raising the bass a fourth from E to A, contrasting with the similar section at m. 43 (rehearsal B).

Finally, at m. 283 (rehearsal O), Graham descends back down to the G octatonic. The material of mm. 283–302 is exactly the same as it was from mm. 57–76. The cadenza at m. 309 is prepared by the refusal of the accompaniment to shift down from E-flat to D-flat as it did before. It is only when the euphonium hits the high D-flat that the music is allowed to continue. The movement draws to a close dying away in activity in a reversal of the opening. It is up a minor third from the opening and the euphonium's final tones of B-flat and C in m. 330 can be linked to the opening tones G and A to create G, A, B-flat, C. These four notes are the first theme, the logic to the keys of the Second Theme, and the basis of the octatonic scales unifying the entire piece.

II. The Final Problem

In a desperate attempt to save his beloved city of London from a web of crime Sherlock Holmes combats Professor Moriarty but plunges to his death at the Reichenbach Falls. It is the sacrifice of a friend and the Fall's echoing nature that informs the logic behind Graham's second movement. A line from Sir Arthur Conan Doyle's 1893 adventure sets up the noted acoustic and electronic effects. Dr. Watson reveals after shouting for his friend the "only answer was my own voice reverberating in a rolling echo from the cliffs around me."

Graham similarly falls a step down to the F octatonic for the entire movement. The movement opens with pedaled A-flats against A-natural triads falling to A-flat triads. After repetitions of this gesture Graham shifts to D major triads over A-flat at m. 13. These chords are also following the descending gesture but towards the D-flat at m. 18 (rehearsal D). Graham prepares this by outlining an octatonic fragment through the E and E-flat fermatas of the cadenza:

The image shows a musical score for the second movement, "II - THE FINAL PROBLEM". The tempo is marked "Adagio" with a quarter note equal to 76 (♩ = 76). The score is in 3/4 time and begins at measure 14. A rehearsal mark "A" is placed above measure 14, with the instruction "senza misura" (without measure). The music features a descending melodic line with several fermatas. A red box highlights the first fermata on an E note. Another red box highlights the third fermata on an E-flat note. The score includes dynamic markings such as *mf*, *mp*, and *p*. There are two instances of "Digital delay" indicated by arrows and the text "c. 6'".

Ex 6: mm. 1–17. E (first fermata) to E-flat (third fermata) to D-flat key area

The exploitation of both descending tonal sequences and acoustic reverberations drive mm. 18–49 as it does in the section's return from mm. 82–107. The seemingly odd introductions of G-flat, E, and C-sharp from mm. 56–81 are explained away by their inclusion in the F octatonic. The only true question left is the coda from mm. 108–117 where D triads float over pedaled D-flats. These hint at the A octatonic which will drive the third movement and add uncertainty of whether this is the last of our friend Holmes.

III. The Great Race

With one of the most exciting movements in the euphonium repertoire the Jules Verne-inspired movement has Phileas Fogg and company racing around the world and against the clock. It displays Graham in his finest economy and transparency in the work.

Based in the A 02 octatonic the jolts of the accompaniment are created by stacking perfect fourths. The euphonium's opening chromatic figure grows by a major second before exploiting the semitone diads from mm. 4 - 6 that are actually alternations of half and whole steps and are thus again the octatonic scale:

The image shows a musical score for Euphonium (Euph.) and Piano (Pno.) for measures 4 through 6. The Euphonium part is in the bass clef, and the Piano part is in the grand staff (treble and bass clefs). The Euphonium part begins with a chromatic figure. Two intervals are highlighted with red boxes and labeled 'a.' and 'b.'. Interval 'a.' is a minor second, and interval 'b.' is a major second. The Piano part features stacked perfect fourths. Dynamics include *mp* and *cresc.* markings.

Ex 7: mm. 4–6. a). Minor second b). Major Second

The A section of the movement begins at m. 9 (rehearsal A) and extends to m. 24. It contains four segments of four measures and each iteration is a minor third above the former. The pitch areas are F, A-flat, B, and D, a fully diminished seventh chord. One should note that the euphonium's many notes never stray from the octatonic whole or half-steps and the only few tones not included in the A octatonic are to be found in the chromatic transition measures immediately preceding the minor third rises.

The B section from mm. 25–36 again hinges repetition and transpositions of the minor third. The only exception is the fall of a semi-tone to G-flat over C in m. 33 and even this is repeated a minor third lower. M. 34 and its repeat feature the rising fourth tetrachord from the first movement stretched over all four beats:

Ex 8: m. 34 proliferation of rising tetrachord

That small connection to the first movement opens the door for a unification of Graham’s genius and Verne’s story. By bringing back the second theme from **I. The Time Traveller** Graham hints at Phileas Fogg’s own time travels as he crossed the International Date Line and arrives back in London, unknowingly, a day early. The Time Traveller theme is the C section of the movement and is from mm. 37 to 64. It is set in the F 02 octatonic and features harmonic shifts a major second apart with its repeat a minor third higher.

As soon as this theme ends the movement snaps back to the A 02 octatonic at m. 65 (rehearsal E) where the music builds back to the A section, now with a bass hemiola. The pitch centers remain F, A-flat, B, and D despite the bass movement. The music stays similar to its earlier iteration except for the euphonium part where octave-jumping glissandi show off the soloist’s flexibility. Instead of falling a minor third into the Time Traveller’s Theme at m. 103 Graham now raises a semitone to four measures of B-flat based frenzy. In actuality it is not a rise, it is a fall back to the G octatonic collection.

The cadenza features many B-flats, incredibly high singing notes, and pedal notes that help the soloist rest before the final charge. I view the cadenza as Phileas Fogg and company destitute that they have not successfully completed the Reform Club’s wager. The singing tones could be seen as Fogg’s loyal assistant Passepartout’s realizations that they have arrived a day ahead and everything from m. 117 (rehearsal I) onward as the final scramble to arrive in time.

However one is to interpret this unique cadenza, one should be aware the highest tones B-flat and C set up the final two high notes D-flat and E-flat. In combination these four notes create, again, the rising tetrachord of the first movement.

The finale, having been prepared by the many B-flats, is in E-flat though still of the G 02 octatonic. It is exciting and features the euphonium in its powerful high register but the optional minor-third rising pattern (against the “clock chimes” Graham mentions in the composer’s notes²) is a true feat for a soloist. The D-flat of m. 123 is raised to the final E-flat in m. 125 and triumphantly connects the opening and closing gestures of the piece. The secrets to the concerto were only to be revealed after combining the G and A at the opening of the work, the B-flat and C at the first movement’s end, and this D-flat and E-flat at the end of this third movement. From there convincing evidence for E and F-sharp usage was necessary and the G 02 octatonic framework became clearer after trial and error.

Conclusion

This analysis has explored how Graham’s concerto utilizes the smallest fragments to unify a sprawling work. The G 02 octatonic is but one interpretation where the evidence continually suggests its importance. Whatever the answers may be to its construction there is a wealth of material to discuss and the author challenges the reader to lend their talents to its understanding. Peter Graham’s *In League with Extraordinary Gentlemen* is here to stay and it is our responsibility to ensure our students, and their students, keep this piece in the repertoire and understand the craft, care, and ingenuity beyond the surface.

The author would like to thank the following friends and colleagues for their time and feedback through early versions of this analysis: Michael Conway, Jacob Dawson, Emily Judd, Alyssa Kimpel, Erik Lundquist, Christopher Marshall, and James McLeod.

² I disagree with Graham’s program notes here. Phileas Fogg wagers he can return to the Reform Club in eighty days, no later than 8:45 P.M. The noted measures feature only six “clock chimes” while the 7/8 bars of the B sections occur exactly eight times (equaling eight hours). This may be stretching for connections on my part, but I feel Graham is more meticulous with his material.