

Music cover sheet: musical links investigation

Submit to: **Examiner**

Arrival date: **30 Apr / 30 Oct**

Session: Nov 2012

School number:

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Subject: Music Level: HL ☒ SL S ☐ SL G ☐ SL C ☐

Candidate name: [REDACTED]

Candidate session number:

0	0	1	2	6	0	0	0	9
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Instructions to candidates

Candidates are reminded that they must submit a paper copy of the mass media script, regardless of the medium chosen. The candidate session number must be on each page. Attach this coversheet to the front of the work.

Outline below the nature of your musical links investigation.

Name of first identifiable and distinct musical culture investigated: <u>EXPERIMENTAL</u> ✓ <u>ROCK</u>	Name of second identifiable and distinct musical culture investigated: <u>FLAMENCO</u> ✓
Title(s) of (one or more) piece(s) investigated from this first musical culture: <u>WEIRD FISHES / ARPEGGI</u> ✓ <u>LIKE SPINNING PLATES (RADICHEAD)</u> ✓	Title(s) of one or more piece(s) investigated from this second musical culture: <u>ROSA MARIA</u> ✓ <u>(CAMAKON); BULLERIA (EL TOROMBO)</u> ✓
First musical link between these pieces: <u>POLYRHYTHM</u> ✓	
Second link between these pieces: <u>HARMONY AND MELODY BASED ON THE PHRYGIAN MODE</u> ✓	
Number of words: <u>1991</u> ✓ (No more than 2000 words)	Type of media script: <u>MAGAZINE</u> ✓ <u>ARTICLE</u> ✓

Candidate declaration: I confirm that this work is my own work and is the final version. I have acknowledged each use of the words or ideas of another person, whether oral, written, aural or visual.

Candidate's signature: [REDACTED] Date: 7/9/12

Teacher declaration: I confirm that, to the best of my knowledge, the material submitted is the authentic work of the candidate.

Teacher's name: Corin Bone Date: 7/9/12

Teacher's signature: [Signature]

For completion by the examiners

	A 0-3	B 0-6	C 0-4	D 0-3	E 0-4	Total 0-20
Examiner:	3	5	4	3	4	19
Moderator:	3	8	4	3	4	22
Senior moderator:						

Examiner code:

03458

Moderator code:

4736

Senior moderator code: _____

IB Music HL

Musical Links Investigation

Candidate no.: 001260-009

Candidate name: 

Session: November 2012

Word count: 1,991

Radiohead and Flamenco

This week we review the amazing newly discovered connections between the experimental rock band Radiohead and traditional Flamenco music!

A new discovery has shown that the British experimental rock band *Radiohead* shares significant musical links with traditional Flamenco music! *Music Insider's* reporter Eva Schulz went to find out more...

Being a huge fan of Radiohead's music, I am always curious to investigate the links that the band has unconsciously formed with other musical cultures. Flamenco and Radiohead, while seeming to be from completely different ends of the musical spectrum, share many musical features, including the use of polyrhythm, chords moving by step, a flat second scale degree and the majorization of the tonic within the Phrygian mode. *OK, let's see*

Link 1: Polyrhythm

Polyrhythm is prominent in many of Radiohead's songs, as well as featuring in many traditional Flamenco *cantes*¹. Polyrhythm is particularly evident in the song *Weird Fishes/Arpeggi*, from the album *In Rainbows*.

The song's primary polyrhythmic feature

Fig. 1

Drum Set

Drum Ostinato - accents placed regularly on every beat

Electric Guitar 1

Guitar Ostinato 1 - accents break arpeggio into groups of 3 quavers

Electric Guitar 2

Guitar Ostinato 2 - accents placed in irregular groupings of 2 and 3 quavers

¹ Lola Fernández, *Flamenco Music Theory: Rhythm, Harmony, Melody, Form* (Madrid: Acordes Concert, 2004), p. 35.

Who are Radiohead?

- A British experimental rock band founded in 1992
- Consists of Thom Yorke, Jonny Greenwood, Colin Greenwood, Phil Selway and Ed O'Brien
- Completely changed their style in 1997 with the release of *OK Computer* – a reaction against their previous rock albums, this contrasting album featured mainly influences from electronic music
- Since then, their music has become increasingly experimental in terms of rhythm, metre and instrumentation

OK, but could you define what 'Experimental Rock' is?

What is Flamenco?

- Developed from a mixture of Byzantine, Arab, Jewish, Gypsy and indigenous cultures in a region of Spain called Andalusia
- *Cante* (singing), *toque* (guitar playing), *baile* (dance) and *palmas* (handclaps) are all integral parts of Flamenco
- Was originally a musical outlet of the poor and oppressed
- Handed down by oral tradition
- Comprises of hundreds of different styles e.g. *bulerias*, *seguiriyas*, *alegrías*

good but too succint.

is the use of a one-bar rhythmic ostinato played on drums, superimposed over several conflicting ostinatos played on electric guitar, as shown in Figure 1. Each ostinato consists of a different number of beats and accents,

creating a multi-layered polyrhythmic effect. The drum ostinato is in 4/4 time, creating the basis for the polyrhythm.

Probably not an excellent example of polyrhythm but certainly valid.

SE

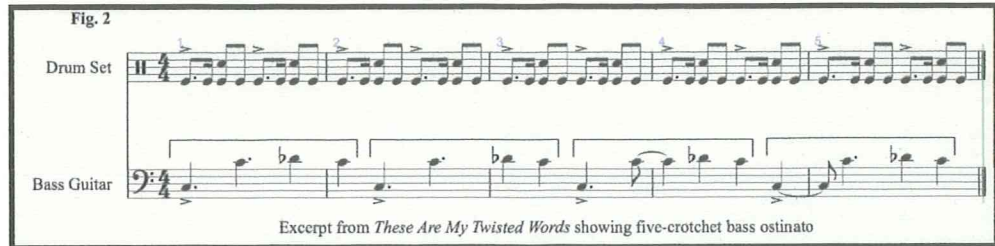
The first guitar ostinato playing a three-quaver crossrhythm is introduced after a five-bar introduction by the drum kit, and conflicting accents between the two

ostinatos create confusion and obscure the beat. The simple ^{OK} ostinato consists of an accented three-quaver descending

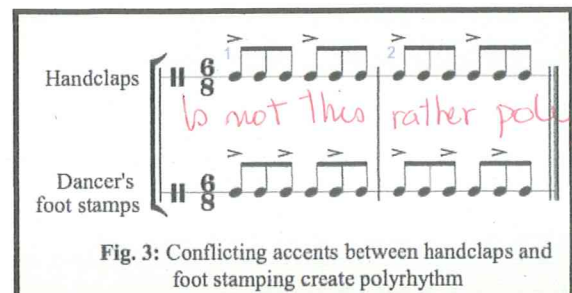
arpeggio. The chord changes approximately every four bars, however it does not fit exactly into a four bar phrase, so the chord changes just before the end of the bar, creating a sense of floating ambiguity that is also expressed in the lyrics, such as "Turn me on to phantom/I follow to the edge", and emphasised at the point in the song where the percussion stops and the guitars are left playing their ambiguous ostinatos on their own.

The second arpeggiated guitar ostinato to be introduced is more irregular. The arpeggio is broken into irregular groups of two and three quavers. This ostinato only uses the notes D, E and G, while the chords of the first ostinato continually change every four bars, creating

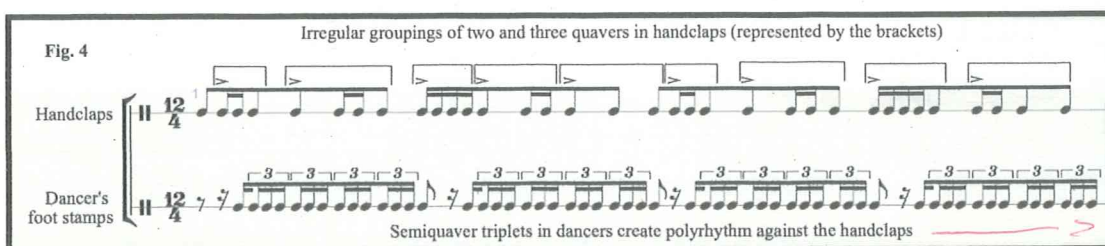
large portion of the song, the accents of both ostinatos will coincide every five bars, briefly creating a moment of respite from the tension. I agree.



Polyrhythm is also used to a great extent in Flamenco music. The non-standard time signatures create much of the rhythmic complexity, and the conflicting accents between the guitar, handclaps and foot stamps of the dancers heighten the momentum. ^{Below this} One of the many forms and genres of Flamenco that prominently features polyrhythm is the *bulería*. It uses a 12-beat rhythmic cycle, with accents



falling on beats 1, 4, 6, 8 and 10, causing it to



dissonances and harmonic conflict.

A similar technique is also used in *These Are My Twisted Words*. Here, a bass ostinato consisting of five crotchet beats is superimposed over a drum ostinato in 4/4 time, thereby creating conflicting accents and tension, as shown in Figure 2. As the bass ostinato stays consistent for a

alternate between 6/8 and 3/4 time². These accents are sometimes shared between instruments, and the superimposition of conflicting accents can create interesting polyrhythms between

² Fernández, *Flamenco Music Theory: Rhythm, Harmony, Melody, Form*, pp. 43-45.

instruments and dancers, such as the three against two rhythm in Figure 3³.

A similar type of polyrhythm occurs in the piece *Bulería* by El Torombo in Figure 4. The conflicting accents of the handclaps and the footstamping create an exciting polyrhythmic effect, as groups of two and three quavers conflict.

Link 2: Chords Moving by Step

Both Radiohead and Flamenco music make use of chord progressions with roots that move by step. In Radiohead's *Pyramid Song*, from the album *Amnesiac*, the chord progression begins on F# major, ascending a semitone to Gmajor7 and then to A major6, before descending back down by step to F# major.

A similar progression features in the flamenco song *Rosa María*, sung by Camarón. The chords frequently move by tones, such as in the repeating progression Dm→C→Bb. In the refrain of the song, the chords also move by semitone between Bb major and A major. The stepwise movement is another strong link that Flamenco shares with Radiohead!

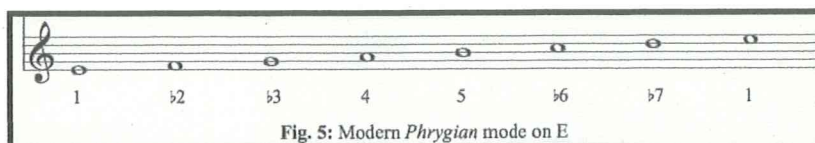
Link 3: Use of a Flat Second Scale Degree and Major Tonic Chord Within the Phrygian Mode

This amazing link between Radiohead and Flamenco is related to the modes that each musical culture uses. Both Radiohead and Flamenco make use of the Phrygian mode (Figure 5).

The defining interval of this mode is the $\flat 2^4$, which is used in Radiohead's *Like*

Spinning Plates and *Pyramid Song*, both from the album *Amnesiac*, as well as in *Weird Fishes/Arpeggi* and *These Are My Twisted Words*.

Like Spinning Plates is in G# Phrygian mode. Interestingly, the song's first arpeggiated chord, played on piano, is the triad built up from $\flat 11$. The chordal arpeggios then move to chord iv before moving to chord I in only the fifth bar. This chord progression is shown in Figure 6.



The $\flat 11$ is also often used to precede a descending movement to the tonic, ending a phrase or chord progression in a cadential way⁵. Incidentally, Renaissance pieces in the Phrygian mode use the flat

Fig. 6

Chord $\flat 11$ - A major

Chord iv - C# minor

Piano

Chord I - G# major

Pno.

Chord progression as used in *Like Spinning Plates* OK!

second to tonic movement as a type of plagal cadence.

⁴ Peter Van Der Merwe, *Roots of the Classical: The Popular Origins of Western Music* (Oxford: Oxford UP, 2004), p. 190.

⁵ Kris Shaffer, 'A Delicate Balance': *Music Theory, New Musicology, and the Analysis of Sound in Radiohead's 'Like Spinning Plates'* [on-line], available from <http://tieba.baidu.com/f?kz=518408119>; Internet; accessed on 21st June 2012.

³ Fernández, *Flamenco Music Theory: Rhythm, Harmony, Melody, Form*, p. 45.

The $\flat II$ is also used in the piano accompaniment of *Pyramid Song*. The song's tonality is ambiguous, sometimes

Fig. 7

Unexpected move from tonic to $\flat II$ triad with added 7th

$\flat II$ suspension is used to restart the chord progression

Piano

Pno.

Chord progression as used in *Pyramid Song*

seeming to be tonal and at other times clearly using the Phrygian mode. The piano accompaniment unexpectedly moves from I to $\flat II$ with an added major seventh in the beginning of the song, which acts as a pedal note. This $\flat II$ is also used as a $\flat 9-8$ suspension that leads from the end of one chord progression to the beginning of another, before resolving to I.

However, *Pyramid Song*'s melody does not use the $\flat II$; rather, the second scale degree remains major and uses the G#, as we would expect. When the G# in the melody and the G \natural in the accompaniment coincide, this creates a false relation and increases the tension further.

The use of the $\flat II$ in both *Like Spinning Plates* and in *Pyramid Song* increases the tension and complexity of Radiohead's music exponentially. It also shows how their music is part of the culture of experimental rock music, as its purpose is to disorientate the listener in an innovative way.⁶

⁶ N.B. Although Phrygian mode is used in several of Radiohead's songs, the flattened second scale degree is mainly a product of Radiohead's prominent use of descending semitones in melodies. Many of their songs include a $\flat \hat{6}-\hat{5}$, a \flat

The use of the $\flat II$ is also demonstrated in *Rosa María*, which uses the Phrygian mode beginning on A, and the flat second is often used as the climax of phrases, such as in the phrase below. The melody moves in ascending steps to the upper tonic and to the $\flat II$, acting as an upper auxiliary note to the tonic. In this way, the $\flat II$ becomes the highest note and the climax of the phrase.

Is this really Phrygian? Could this be D minor?

Fig. 8

Flattened second is used as the climax of the phrase

Voice

a - sí ten-go com-pa - ra - o

Excerpt from *Rosa María*

The $\flat II$ resolving to the tonic is also often used to end a phrase. In this example of *Rosa María*, the melody descends from the third down to the lower tonic, essentially using the $\flat II$ as a passing note to the tonic, as we can see in Figure 9.

Fig. 9

The flat second descending to the tonic is used to end the phrase

Voice

sie-ras qué fe-liz se-rí - a

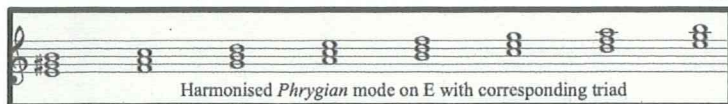
Excerpt from *Rosa María*

Another fascinating aspect of the use of Phrygian mode in Flamenco and Radiohead is: why is the tonic triad majorized in both cultures? This occurs

$\hat{2}-\hat{1}$ or a $\hat{4}$ -maj. $\hat{3}$ motion, and this is not always a result of the use of a particular mode.

Flamenco music, just like Radiohead, does not use the Phrygian mode exclusively, as there are so many different styles and genres of Flamenco. However, Phrygian mode is said to be the most widely used mode throughout all genres of Flamenco. Fernández, *Flamenco Music Theory: Rhythm, Harmony, Melody, Form*, p. 61.

even though the third scale degree is not sharpened when the triad begins on the third scale degree⁷, shown by the harmonisation of the Phrygian mode below.



Radiohead's *Like Spinning Plates* exhibits this feature beautifully. The song is in G# Phrygian mode, with the third of the tonic triad of G# being sharpened making the chord G# major instead of the expected minor, as shown in Figure 11.

Fig. 11

Piano

A C#m

Chord I - G# major, in which the third of the chord is sharpened to B# instead of the expected B

4

Pno.

Chord progression as used in *Like Spinning Plates* (Live Version)

Which makes it seem like C#m, as in the key signature

This also occurs in Camarón's *Rosa María*, which uses the A Phrygian mode. The third of the tonic chord of A is sharpened, making chord I major instead of minor, which would be expected in terms of the scale. However, in chord III, the C is not sharpened to become C#, but rather remains as the minor $\hat{3}$.

This aspect of Flamenco music is very interesting, as it is characteristic for the melody to sharpen the $\hat{3}$ to create the *Flamenco mode*. The $\hat{3}$ of the mode is sharpened in ascending phrases and flattened in descending phrases, regardless of whether the accompaniment does this or not.

⁷ Fernández, *Flamenco Music Theory: Rhythm, Harmony, Melody, Form*, p. 77.

The Question Remains: Why?

In Radiohead's music, polyrhythm and conflicting accents are used in order to obscure the beat and create a simultaneously hypnotic and tense mood, as well as supporting the ambiguity that is reflected in their lyrics, such as "I get eaten by the worms/And weird fishes", an obscure line that is central to the song *Weird Fishes/Arpeggi*. The use of the $b\hat{2}$ creates an ambiguity of tonality and replaces predictable harmonic movements, resulting in musical innovation that, while not being unheard of, places Radiohead in the culture of

experimental rock music, as their openness to eclectic influences leads them to discover new tricks. Since 1997's *OK Computer*, they have combined rock, jazz, dance, classical, electronic, avant-garde and Krautrock influences to create their own style – Yorke told *Rolling Stone* recently that

they "find it difficult to think of the path we've chosen as 'rock music'".

Flamenco, however, being a folk music culture, uses elements like polyrhythm and Phrygian mode as a traditional convention. These elements are not as innovative to Flamenco musicians as they often seem to be to Western ears; they are simply a way of expressing the passion and emotion that Flamenco music is so renowned for. The elements are fundamentally engrained in the Flamenco tradition and are passed down through the generations. Flamenco music exists in order to be performed, whereas Radiohead's music is created to be listened to, meaning that the innate purpose of the two cultures is inherently different, which is, of course, reflected in the music itself.

Is this necessary?

Speculation

OK

✓

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Discography

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Sheet Music

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<<http://www.musicnotes.com/sheetmusic/mtdFPE.asp?ppn=MN0074747>>.

All other examples transcribed by Yasmin Stelling.

See back

This is a well organized investigation .
the student tackles the points one
by one providing examples and
explanations (analysis). The cultures
and musical examples are valid .
The arguments are convincing .
The student ~~ex~~ uses and acknowledges
sources . Bibliography is valid .

Probably the area of the investigation
that is missing is more contextual
information about the cultures —
although I find this out via the examples
that are compared. Uncertainty remains
regarding the harmonic analysis — it seems
as if there is ambiguity between modes or
harmonic minor tonality .