APPENDIX 1

Poem *Idílio (Idyll)* by Antero d’ Quental

<table>
<thead>
<tr>
<th>Portuguese</th>
<th>Form</th>
<th>English¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quando nós vamos ambos, de mãos dadas,</td>
<td>A</td>
<td>When we two walk together, hand in hand,</td>
</tr>
<tr>
<td>Colher nos vales lírios e boninas,</td>
<td></td>
<td>And pluck the lilies growing by the mill,</td>
</tr>
<tr>
<td>E galgamos dum fôlego as colinas</td>
<td></td>
<td>And clamber, never stopping, up the hill</td>
</tr>
<tr>
<td>Dos rocios da noite inda orvalhadas:</td>
<td></td>
<td>Where last night's dewdrops, yet untarnished, stand;</td>
</tr>
<tr>
<td>Ou, vendo o mar, das ermas cumeadas,</td>
<td>B</td>
<td>Or, from the treeless summit, view the strand</td>
</tr>
<tr>
<td>Contemplamos as nuvens vespertinas</td>
<td></td>
<td>And watch the evening clouds that slowly fill</td>
</tr>
<tr>
<td>Que parecem fantasáticas ruínas</td>
<td></td>
<td>The far horizon, forming at their will</td>
</tr>
<tr>
<td>Ao longe, no horizonte, amontoadas:</td>
<td></td>
<td>Fantastic ruins of a sunken land:</td>
</tr>
<tr>
<td>Quantas vezes, de súbito, emudeces!</td>
<td>C</td>
<td>How suddenly, at times, you cease to speak,</td>
</tr>
<tr>
<td>Não sei que luz no teu olhar flutua;</td>
<td></td>
<td>Your fingers quiver, colour leaves your cheek.</td>
</tr>
<tr>
<td>Sinto tremer-te a mão, e empalideces...</td>
<td></td>
<td>And in your eyes a fire unwonted darts!</td>
</tr>
<tr>
<td>O vento e o mar murmuram orações,</td>
<td>A'</td>
<td>Ocean and wind together seem to pray;</td>
</tr>
<tr>
<td>E a poesia das cousas se insinua</td>
<td></td>
<td>The poetry of nature makes its way,</td>
</tr>
<tr>
<td>Lenta e amorosa em nossos corações.</td>
<td></td>
<td>Subtle and loving, deep within our hearts.</td>
</tr>
</tbody>
</table>

¹ Translated by Lígia Malheiro.


La Mer Soulevée - section A microform

<table>
<thead>
<tr>
<th>Winds</th>
<th>a</th>
<th>b</th>
<th>a</th>
<th>c</th>
<th>b</th>
<th>b</th>
<th>a</th>
<th>a</th>
<th>b</th>
<th>e</th>
<th>a</th>
<th>a</th>
<th>f</th>
<th>a</th>
<th>b</th>
<th>d</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strings</td>
<td>c</td>
<td>d</td>
<td>a</td>
<td></td>
<td>e</td>
<td>e</td>
<td>f</td>
<td></td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures</td>
<td>1-5</td>
<td>6-7</td>
<td>8-10</td>
<td>11-12</td>
<td>13-14</td>
<td>15-16</td>
<td>17</td>
<td>-</td>
<td>24</td>
<td>25-27</td>
<td>28-30</td>
<td>31</td>
<td>-</td>
<td>33</td>
<td>34</td>
<td>-</td>
<td>40</td>
</tr>
</tbody>
</table>
APPENDIX 3

PWGL patch for the generation of chord sequences in section B.
La Fontaine Rouge – example of the Max/MSP patch for generation of pitch material
APPENDIX 5

Distortion plugin used in the second climax of the piece (7:26) for additional timbre variety.

Process for the bell texture in 7:26. I experimented combining the different pitch parameters and the result was an array of several layers of bells creating a chaotic texture.
**APPENDIX 6**

*Ad eternum* – frequency values extracted from the bell main source, by using AudioSculpt.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2502.532959 Hz</td>
<td>3536.479004 Hz</td>
</tr>
<tr>
<td>2523.200195 Hz</td>
<td>3556.718262 Hz</td>
</tr>
<tr>
<td>2543.659912 Hz</td>
<td>3562.100342 Hz</td>
</tr>
<tr>
<td>2554.759277 Hz</td>
<td>3576.380615 Hz</td>
</tr>
<tr>
<td>2565.485596 Hz</td>
<td>3599.790283 Hz</td>
</tr>
<tr>
<td>2575.097900 Hz</td>
<td>4115.510254 Hz</td>
</tr>
<tr>
<td>2584.512695 Hz</td>
<td>4123.012207 Hz</td>
</tr>
<tr>
<td>2596.135010 Hz</td>
<td>4134.727539 Hz</td>
</tr>
<tr>
<td>2604.855957 Hz</td>
<td>5015.312012 Hz</td>
</tr>
<tr>
<td>2615.341309 Hz</td>
<td>5037.228516 Hz</td>
</tr>
<tr>
<td>2624.325195 Hz</td>
<td>5056.461426 Hz</td>
</tr>
<tr>
<td>2647.829590 Hz</td>
<td>5071.974609 Hz</td>
</tr>
<tr>
<td>2668.796875 Hz</td>
<td>5080.469238 Hz</td>
</tr>
</tbody>
</table>
Frequency data individually inserted in Max/MSP (patch FREQUENCIES)
Technique of additive synthesis to build the bell sound.
Individual frequency amplitude control (patch *AMPLITUDE CONTROL*). The *counter* object is set to mode 2 (up and down movement), which in turn is being controlled by random velocities.
Ad eternum final form
Review of Ad eternum

“On the second night I sat close to the central ‘sweet spot’ of the surround sound system, and it made a huge difference to the convincingness of the effect. The brief, rapid succession of bell chimes with which Ângela Da Ponte opened her performance was extraordinarily effective in creating an acoustic and imaginative illusion of medieval religious architecture; the variety of sounds, both ‘indigenous’ (chants, chimes) and ‘extraneous’ (electronic tones and pulses), with which composer then filled this space all seemed like they belonged there.” by Nathan Thomas on BEAST & SoundKitchen Pantry Sessions concert.

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APPENDIX 11

Diáspera final form

1. Exposition mysterious opening
   0:40
   “Aquela ilha esquecida que eu habitava adormecida”
   fragmented whispers
   “A Ilha desconhecida que pelos caminhos do sonho se mostra a quem a buscar,”
   fragmented whispers
   viola da terra loop

2. Further variation of previous elements
   1:04
   Variation of whispers into granular synth
   “Aquela Ilha encantada, onde a criptomérica aberta espalha em volta o lar,”
   sea sound
   viola da terra chord

3. Unrecognizable whispers, unpredictable percussion
   2:10
   Variation of the word “espalha” into granular word “vou”
   viola da terra loop

4. 3:01
   wind sounds
   “A Ilha não descoberta, onde a criptomória aberta, espalha em volta o lar,”
   viola da terra synthesized

5. 1st climax
   4:25
   Dreamlike section
   re-arrangement of the text in spoken tone
   percussive events
   viola da terra detuned chords
   alternated with its synthesized version
   amalgamation of voices

6. 6:10
   Creation of tension
   7:10
   recapitulation
   “Aquele Ilha distante, não há ninguém que se afaste...”
   “Aquele Ilha esquecida que só tem um habitante...”
   wind sounds
   fragmented whispers

7. 2nd climax
   9:00
   sea sound
   viola da terra synthesized
   water drops
<table>
<thead>
<tr>
<th>First stanza</th>
<th>Selected Consonants</th>
<th>IPA</th>
<th>Sonic qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aquila Ilha esquecida</strong></td>
<td>q</td>
<td>Plosive (velar)</td>
<td>Short; articulated; development of a granular texture</td>
</tr>
<tr>
<td></td>
<td>s/c</td>
<td>Fricative (palate-alveolar/alveolar)</td>
<td>White/ pink noise</td>
</tr>
<tr>
<td><strong>Que eu habito adormecida</strong></td>
<td>t</td>
<td>Plosive (dental)</td>
<td>Short, articulated</td>
</tr>
<tr>
<td><strong>Que à noite eu vou habitar</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third stanza</strong></td>
<td><strong>A ilha não descoberta,</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Onde a criptoméria aberta</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Espalha em volta o luar;</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 13

Loudspeaker Setup
I used the Grhythm library to generate and vary my rhythmic material. Grhythm stands for ‘gestural rhythms’ and was originally developed by Magnus Lindberg during the 1980s where several versions appear inside the Patchwork library. Now it has been adapted to the PWGL environment. The example above shows a correlation of rhythms where I experimented with the Gdiv, Grepeat, Greverse and Ginsert boxes.

Another patch was created to further vary my previous material. I combined variation 2 with variation 3 (in which the latter followed the same procedures as in variation 2) where I was finally satisfied with the result. Then applied it on the clarinet part on the beginning of the piece.
**APPENDIX 15**

*Cinq étapes sur une ligne I – Harmonic elaboration of section B*

A series of chords were generated where no repeated notes were allowed inside the chords. I used the JBS-constraints no-absolute-repetition-rule, that is a library developed by Jacopo Baboni Schilling based on the syntax of constraints made by Mikael Larsson. After being satisfied with the results I applied these chords on the piano part. A new melodic line, based on these chords, was created for the flute part, using the freq-mod object shown below:

Example of result number 5, using the freq-mod object. (measure 71-72, flute part)

Patch-work Freq-mod: simulates the pitches generated by frequency modulation.

JBS-constraints no-absolute-repetition-rule:

It does not allow any repetition in absolute mode inside a solution.

PWGL repeat loop that evaluates 'patch' input 'count' times. It collects the results and returns them as a list. Multi-PMC will look for all possible solutions within the given range.

takes a midi value and returns an approximation to the nearest division of the octave as defined by the user. The number 4 allows an approximation to quartertones.
Poem *Ao Desconcerto do Mundo (On the disharmony of the world)* by Luíz Vaz de Camões

**Portuguese**

Os bons vi sempre passar,
No mundo graves tormentos;
E para mais me espantar,
Os maus vi sempre nadar
Em mar de contentamentos.

Cuidando alcançar assim
O bem tão mal ordenado,
Fui mau, mas fui castigado:
Assim que, só para mim,
anda o mundo concertado.

**English**

I watched the world tasking
Good men with adversity,
And, on my further asking,
Evil I saw basking
In an ocean of prosperity.

When I tried to question
Why goodness was disdained,
I was called bad, and arraigned.
It seems I’m the only one
For whom matters are so ordained.

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Translated by Lígia Malheiro.
APPENDIX 17

Media files performance information

La Mer Soulevée
Orquestra Sinfônica do Porto Casa da Música
Conductor: Takuo Yuasa

La Fontaine Rouge
Percussion: Nuno Simões

(des)Integrasons
EXAUDI
Conductor: Mark Knoop

Cinq étapes sur une ligne I
Hermes Ensemble
Conductor: Koen Kessels

Ao Desconcerto do Mundo
Sond’Ar-te Electric Ensemble
Conductor: Pedro Neves

Fantasia/Percussivo
Viola da terra and electronics: Ângela da Ponte

Sketches
Birmingham Contemporary Music Group
Conductor: Christopher Austin
Viola da terra: Ângela da Ponte