Appendix 1: *uku pacha* Mapping process

1) List of fundamentals of instruments, 16 items, in Hz.

2) List of intervalic values (15 items) (1 decimal) & further 16th item.

3) Triplication of last element, re-scaled values, (1 → 186.6) to (1 → 559.8). Ascending order.

4) Original order and concatenation of elements in list.

5) Values < 50 grouped. Duration of sections, in seconds.

6) Division of last section recycling material above.
Appendix 2 Form definition of the piece.

1) The average results of the fundamental analysis performed each one of the recorded futurs are gathered, selecting only those fundamentals of the base sounds (this means that it has not been included the performed 8ves, timbral variations made by mouthpiece inclusion, etc.). Given the case there are several samples of the same specimen (with eventual subtle differences), the fundamental with lower values will be pitered (see numbers file named 'fundamentals').

2) Once this filter is applied, the resultant list is sorted out (lowest to highest in frequencies).

3) Furthermore, an interivalic analysis is performed through the frequency list.

4) Then, a reduction of the data is into integers is performed.

5) The resultant list is re-scaled taking as max-value the total (sum) of the constituent members of the list -> Note: Given that the number acquired was somehow small for the necessity (186), it got multiplied by 3 (558 as the top number of the scale).

6) Given the uneven nature of the resulting data, the very small numbers are grouped in sublists and then reduced (addition of its components) -> See OMLoop. The followed criteria was to select the numbers smaller than 50. The list on the 2nd input of the OMLoop represents those numbers mentioned before.

7) Given the significant extension of the last section (compared with the others), the decision of maintaining this magnitude was kept, but by further appliance of an inner division of the number by using the same formal partition obtained before.

Scheme of the duration of the sections of the piece.
Duration in Minutes and Seconds of the whole work.

Onset of each section (left output in mins and right is seconds).

Definition of the form in section durations:
1) 0:00 - 3:38
2) 3:38 - 4:46
3) 4:46 - 7:47
4) 7:47 - 8:50
5) 8:50 - 9:57
6) 9:57 - 11:54
7) 11:54 - 21:12

Final part of the piece divided in the following way (using the last subdivisions an without being re-grouped):

7.1) 11:54 - 12:40
7.2) 12:40 - 12:47
7.3) 12:47 - 13:02
7.4) 13:02 - 16:03
7.5) 16:03 - 16:04
7.6) 16:04 - 16:29
7.7) 16:29 - 16:55
7.8) 16:55 - 17:06
7.9) 17:06 - 17:22
7.10) 17:22 - 17:55
7.11) 17:55 - 18:13
7.12) 18:13 - 18:51
7.13) 18:51 - 20:10
7.14) 20:10 - 21:12

Decomposition of the last section in fragments using the proportions obtained before.

ProceedsTo
First part, the calling, **Outside, Natural Soundscape.**

Second part, transfiguration, back to "mother sea", **Inside the galleries.**

**Appendix 3: ukhu pacha sketch form.**
Appendix 4
Maloca Symbolic Structure

**Vital Powers**
The powers of the tobacco and the yucca plant as primary food source. They constitute the odd and the multiple.

**Pole/Pillar 1:** dá.
Plant: Tobacco (where the ámbil is dried).
Colour: Black (obscenity and absence of light) -> Tobacco-people=Huitoto.
Represents the "Older Son" -> Meniza Buinaima. Inauguration dance of the Maloca.

**Pole/Pillar 2:** ména.
Plant: Coca -> Transformation of the coca leaf into jibie (in order to chew the coca (mambear)).
Leaf of knowledge: Power of knowledge of the chaman.
Colour: Green.
Represents the middle son -> Zikida Buinaima: Hunting dance.

**Pole/Pillar 3:** daámaní.
Plant: yucca (jaigábi: dense drink derived from the yucca + fruits).
Colour: yellow.
Youngest son, Yuái Buinaima -> Dance of the fruits.

**Pole/Pillar 4:** á:marie.
Place where the light is announced.
unásí: anaconda’s yage.
Colour: red -> power and shamanic strength.
Ancestral being -> Dance of the anaconda.

**Powers of knowledge**
Knowledge powers given by the coca and the action power of the yage-anaconda.
Power of the right side: Even or Pair.

---

Plant: Tobacco (where the ámbil is dried).
Colour: Black (obscenity and absence of light) -> Tobacco-people=Huitoto.
Represents the "Older Son" -> Meniza Buinaima. Inauguration dance of the Maloca.

---

Plant: Coca -> Transformation of the coca leaf into jibie (in order to chew the coca (mambear)).
Leaf of knowledge: Power of knowledge of the chaman.
Colour: Green.
Represents the middle son -> Zikida Buinaima: Hunting dance.

---

Plant: yucca (jaigábi: dense drink derived from the yucca + fruits).
Colour: yellow.
Youngest son, Yuái Buinaima -> Dance of the fruits.

---

Place where the light is announced.
unásí: anaconda’s yage.
Colour: red -> power and shamanic strength.
Ancestral being -> Dance of the anaconda.
Notes to APPENDIX 4:

The centre stands for the sacred, ritual space framed by the square delimited by the four pillars. The paired complementarity opposition principle discussed is marked at the opposite sides of the scheme: The vital powers of primary food (yucca and tobacco), standing for the odd numbers, pillars 1 and 3, are opposed to those related to the knowledge (given by the coca and yagé), symbolizing the even numbers, pillars 2 and 4.

Both entrances are aligned with the course of the sun from East to West; the West entrance marks the location where the preparation of the entheogenic plants take place: The ámbil or tobacco paste, essential for the first dance, prepared on the stove of the left, while that on the right is used for toasting the coca leaf. At the centre, the mambeadero marks ‘the most sacred place of the maloca, locus of coca preparation and consumption during the nightly sessions’. (URBINA, 2010:56). For those few with the special privilege to own a pair of maguarés, a special place within the maloca is dedicated to harbour it.

Sources:

- TAGLIANI (1992)
- TORRES (1998)
- URBINA (2010).
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<tr>
<td>DÁ (1)</td>
<td>MÉNA (2)</td>
<td>DAÁMANI (3)</td>
<td>Á:MARIE (4)</td>
<td>HÚBE ÓNOI (5)</td>
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<tr>
<td>Tape solo section</td>
<td>Presentation of main elements: General presentation of the sound-world of the piece.</td>
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<td>General presentation of the sound-world of the piece.</td>
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<td>The sound of smashing doors symbolising the intrusive, the colonising presence of Western World. Malocas do not have originally doors in the European sense. Acoustic construction of the closed space &amp; community.</td>
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<td></td>
<td>1) Voice (whisper) – Beginning of the ‘bringing of the maguaré’. Voice is whispered since it represents fear and confinement. 2) Maguaré (bass percussion). 3) Rattlers filtered and developed.</td>
<td>1) Sound of shakers processed (water like). 2) Further calling of the Maguaré. 3) (min 9) First testimony - Caucho/massacre (indian) 2. 4) Maguaré dance = ritual indian singing. 5) (min 10:18) Second testamenty. Weeping woman (indian) – about ancestors / massacre 2. 6) (min 11) Third testimony (Indian) – Siringa 2. 7) Cutting down the tree (both, siringa and native population).</td>
<td>1) Further ritual chant (multiple layers in counterpoint). 2) Further development of maguaré playing (stable). 3) Aerophone developed. 4) Siringa re-stated and further developed.</td>
<td>1) Door, announcing last speaker (and section). 2) Last testimony (indian) – We are the descendants of the great massacre of the famous siringa... 2. 3) Further development of voice: 4) Maguaré + ritual chants (developed). 5) Closing door (end).</td>
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<td>Instrument section 1</td>
<td>Instrument section 2</td>
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<td>1) Further contextual soundscape increasing fear and sorrow mood. 2) Words of taita (in huitoto language), speaking about the massacres 2.</td>
<td>1) Door, announcing last speaker (and section). 2) Last testimony (indian) – We are the descendants of the great massacre of the famous siringa... 2. 3) Further development of voice: 4) Maguaré + ritual chants (developed). 5) Closing door (end).</td>
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<td>Rhythmic 4 against 5 cyclic developmental pattern (instrs. 1&amp;3)</td>
<td>Random clusters of rhythmic crickets in counterpoint with instrumental and live electronics parts.</td>
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<td>Harmonization, pitch shifting (low, deep) and spacialization of gesture 1. Further development in low registers. Pitch shift (high) and end of live electronics part (acting as formal concatenation).</td>
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APPENDIX 5
LA HISTORIA DE NOSOTROS, I: MENIZA BUINAIMA, for percussionist, live electronics and fixed audio media (8.0 multichannel system).

General form outline.
First quintuple group: digits 1 to 5.

2. Excerpts from the documentary entitled Contravía: La Chorrera, el genocidio del oro blanco by the TV series Contravía, Morris Producciones.
APPENDIX 6
LA HISTORIA DE NOSOTROS, II: ZIKIDA BUINAIMA, for fixed audio media (8.0 multichannel).

General form outline
Second quintuple group: digits 6 to 10.

Reciter text 1: J. E. Rivera: Vorágine.
Bongo + Tam-tam derived material.

Metallic sounds: Bowed tam tam.

Wind - Bad omen (Huitoto mythology)
Forest soundscape intermingled with sounds derived from bongos.

APPENDIX 6
LA HISTORIA DE NOSOTROS, II: ZIKIDA BUINAIMA, for fixed audio media (8.0 multichannel).

General form outline
Second quintuple group: digits 6 to 10.

Reciter text 1: J. E. Rivera: Vorágine.
Bongo + Tam-tam derived material.

Metallic sounds: Bowed tam tam.

Sound sources:
1) Bongos.
2) Marimba.
3) Tam-Tam.
4) Voice (reciters).
5) Huitoto Music & Irish Music

Soundworld collapse between Amazons and Ireland.
Irish lament tune.
Return of the opening wind sound and closure of the piece.

Second quintuple group: digits 6 to 10.

4 minutes (240 secs) each section

etc...

4 minutes (240 secs) each section

etc...

x axis (time) = 20 minutes total; 5 equal internal divisions.

Time Axis (minutes)
Appendix 7

Zikida Buinaima, 2nd section (mins 4:00 to 8:00) (7th digit)

- **Rivera, text 1**
  - Solo voice + Choir
  - Tam-tam:metal gliss
  - Wind + bongos (+).
  - Metallic based sounds (-).
  - Textural density (>)
  - Bridging material from 1st to 2nd sections.

- **Rivera, text 2**
  - Solo voice + Choir
  - Tam-tam:metal gliss
  - Wind + bongos (-).
  - Metallic based sounds (+).
  - Textural density (<)

- **Rivera, text 3**
  - Choir
  - Tam-tam:metal gliss
  - Metallic to background.
  - Bridging material from 2nd to 3rd sections.

**TIME Axis (seconds x 10)**

**Y Axis**

- A1
- B1
- A2
- B2
- A3
- B3
- A4

- 4:00
- 4:34
- 5:08
- 5:42
- 6:17
- 6:51
- 7:25
- 8:00
APPENDIX 8

LA HISTORIA DE NOSOTROS, III: YUÁI BUINAIMA, for percussion and fixed audio media (8.0 multichannel system).

General form outline

Percussion set:
1) Marimba
2) 3 temple blocks
3) 2 bongos (small diameter)
4) 2 toms (one of them a floor tom if possible)
5) 1 Bass drum
6) 1 large tam tam

Third quintuple group: digits 11 to 15.

eíbamo dá (11)
eíbamo ména (12)
eíbamo daámani (13)
eíbamo a:marié (14)
húbe eíba (15)

Bongos solo section

WIND

Marimba

MAGUARÉ

Drums

The DANCE

All (but marimba)

Crescendo...

Tam–tam, tpl.b., and Bs. dr.

Tranquillo
Appendix 9

Yuái Buinaima, 1st section (mins 1–4).
Position and duration of events
See OpenMusic/huitoto/YuaiBuinaima, yuai1 for definition of calculations.
Appendix 10

Yuai Buinaima, 2nd section (mins 4:00 to 8:00) (12th digit).

See OpenMusic, huitoto/yuaibuinamia

Time-line of the original corabiki recording with proper divisions and element presentation re-scaled to fit the 4:00 minute duration of section.
Yuái Buinaima, 3rd section (mins 8:00 to 12:00) (8th digit, originally 13th).

See OpenMusic, huitoto/zikidabuinaima3

Bongos, tom-toms and bass dr.

Generation of steady pulse.

\[ \frac{q}{q} = 54 \]

Division of section into 8 equidistant parts (30 secs each).

Taking the current tempo (54) as a reference, there is 9 beats every 10 secs (meaning 3x9= 27 each 30 secs).

Each division represents the construction of an arithmetic series taking as step from one element to the other the resulting division.

Example: \( \frac{8}{6} = 1.3 \). An arithmetic series from 0 to 26 (27 total) is constructed with steps of 1.3 between its components. This yields the first result:

\[ 0.0 \ 1.3 \ 2.7 \ 4.0 \ 5.3 \ 6.7 \ 8.0 \ 9.3 \ 10.7 \ 12.0 \ 13.3 \ 14.7 \ 16.0 \ 17.3 \ 18.7 \ 20.0 \ 21.3 \ 22.7 \ 24.0 \ 25.3 \]

The re-interpretation of this data works as follows: Integer number means beat number, decimal means emphasis on a specific subdivision (on the specified beat). Therefore, \( x.y \) means that on the \( x \) beat, everything has to be polarised towards the \( y \) subdivision. Likewise, the number specifies the type of subdivision to use:

- Beat divided in 3 (triplets): \( 0 - 0.33 - 0.66 \)
- Beat divided in 4 (16th notes): \( 0.025 \ 0.25 \ 0.75 \)

0.1 was codified as an appoggiatura over the second 16th note of the beat; likewise, 0.9 was codified but emphasising the on-beat of the next beat through an appoggiatura.

Homorhythmic accelerando to interiorise new tempo.

\[ \frac{q}{q} = 60 \]

Development of material
Appendix 12

27 is the number of pulses found (from tape) in each 30 secs. (Here is 26 since it starts on 0 and not in 1)

---

Adjusted approximation in order to leave only one decimal per number.

---

First sequence (8/6)

Second sequence (8/7)

Third sequence (8/9)

Fourth sequence (8/10)
Appendix 13

Yuái Buinaima, 4th section (mins 12–16).
Instrumental form definition – Position and duration of events.

See OpenMusic/huitoto/YuaiBuinaima, yuai3 for definition of calculations.
Appendix 14

B1 Original, no repetitions.

(8000 5000 9000 6000 3000 7000 11000)

<-- Stretching factor, in this case 5 seconds.

No quantized

Quantization process, avoiding irregular groups of 5, 6 and 7 in order to avoid unnecessary notation complexity in the result.

<-- direct output, no quantization.
<-- list of durations to quantify.
Appendix 15

Yuái Buinaima, 5th section (mins 16–20).
Position and duration of events.
See OpenMusic/Huitoto/YuaiBuinaima, yanga for definition of calculations.
APPENDIX 16
LA HISTORIA DE NOSOTROS, IV: NÓINO BUINAIMA, for fixed audio media (8.0 multichannel system).

General form outline.
Fourth quintuple group: digits 16 to 20.

1 enépene eíbamo dá (16)
2 enépene eíbamo ména (17)
3 enépene eíbamo daámani (18)
4 enépene eíbamo á:marie (19)
5 nagíni eíba (20)

First part of text:
El padre sentado en el silencio
maduraba silencios

Second part of text:
Aún no se inventaba el trueno
ni el muntúntu del viento entre las hojas,
ni el grito de las águilas,

Third part of text:
Con quién puede hablar el dios?
Entonces vio su sombra,
estaba allí, sentada

Fourth part of text
Se inventó la palabra y el eco respondió
(exclamó el Padre).

Fifth part of text
Fué así como los hombres nos formamos.
Por esto nos sentamos frente al padre
y cuando en el ritual la voz eleva
repetimos sus útimas palabras

La Maloca and the Rite.
Maguaré + yadico.
Children → Alarum
Community gathered
The listening of the stories

Wind and tree leaf + whisper
Rain

Wind and tree leaf + whisper
The chants
Firisai

PALABRA - UAÍ - ECO
Maguaré + yadico.
Children

Children → Alarum
Maguaré + yadico.