

Gilberto Agostinho

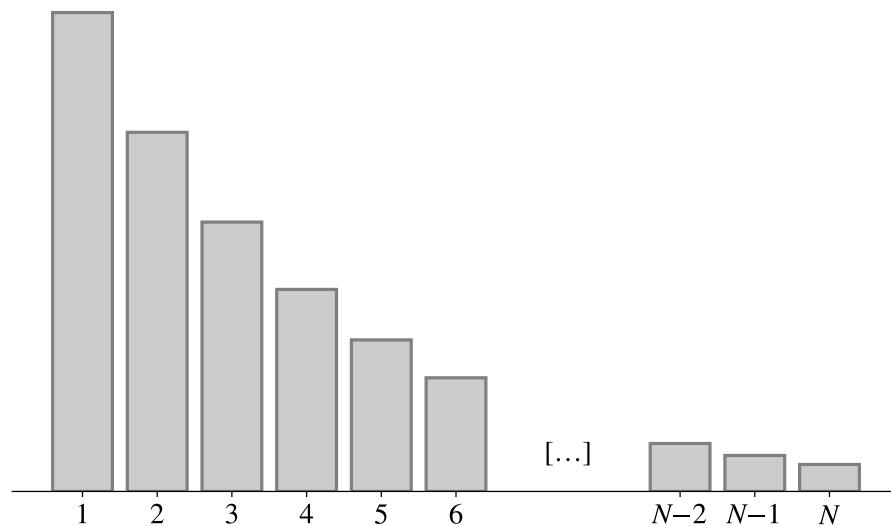
Cartography #8

for flute, soprano sax, violin, violoncello, and accordion

2018

Full Score

All pieces in this series were composed using the following distribution:



$$P(n) = (3/4)^k \times P(n - k)$$

Cartography #8, for flute, soprano sax, violin, violoncello, and accordion

Mapping and rules

pitches		dynamics	
set size	$N = 6$	set size	$N = 2$
transformation period	2 × bars	transformation period	17 × bars
transformation mechanism	$[a, b, c, d, e, f] \rightarrow [b, c, d, e, f, g]$, with $g \bmod 12 = (f \bmod 12) + 1$, and g at a uniformly randomly selected octave transposition.	transformation mechanism	$[a, b] \rightarrow [b, c]$, with $c = b + 1$.
initial set	[A5, B♭5, B5, C6, C♯6, D6]	initial set	[p p, p]
bar lengths		techniques	
set size	$N = 3$	set size	$N = 2$
transformation period	8 × bars	transformation period	fixed
transformation mechanism	$[a, b, c] \rightarrow [b, c, d]$, with $d = c - 1$.	initial set	[option 1, option 2], with the option 1 being ord. for all instruments and 8' + 8' registration for the accordion, and option 2 being flageolet for flute, bisbigliando for saxophone, sul ponticello for violin and violoncello and 8' + 8' + 4' registration for accordion.
initial set	[7, 6, 5]		
number of instruments playing in a given bar			
set size	$N = 6$	constraints	
transformation period	fixed	<ul style="list-style-type: none"> • number of bars (pre-loop): 40. 	
set	[5, 4, 3, 2, 1, 0]	<ul style="list-style-type: none"> • durations: all notes last a whole bar. 	
instrumentation	uniformly randomly selected	<ul style="list-style-type: none"> • range: A♭4–E7. Highest pitches: flute C7, soprano saxophone E♭6, violin E7 (harmonics from E6 and above), violoncello E7 (harmonics from G5 and above) and 	
hairpins			
set size	$N = 3$	<ul style="list-style-type: none"> • at least one pitch in a pitch set should be equal to or below C6. 	
transformation period	fixed	<ul style="list-style-type: none"> • looping mechanism follows three processes to select which of the 40 bars are output. First process outputs $1 \rightarrow 1, 2 \rightarrow 1, 2, 3 \rightarrow \dots \rightarrow 1, 2, 3, \dots, 8, 9, 10$, second process outputs $2, 3, 4, 5, \dots, 9, 10, 11 \rightarrow 3, 4, \dots, 11, 12 \rightarrow \dots \rightarrow 31, 32, \dots, 39, 40$, and the third process outputs $32, 33, 34, \dots, 39, 40 \rightarrow 33, 34, \dots, 39, 40 \rightarrow 34, \dots, 39, 40 \rightarrow \dots \rightarrow 39, 40 \rightarrow 40$. 	
initial set	[none, <i>cresc.</i> , <i>dim.</i>]		
end dynamic	always one level above or below the initial dynamic.		

General performance notes

- s.p. stands for sul ponticello.
- flute harmonics should preferably be fingered two octaves below (i.e. third overtone) whenever possible.
- saxophone bisbigliando is notated with the written instruction *bisbi.* followed by a wavy line. Bisbigliando should be performed at medium to fast speed.
- all performers should play without vibrato.

This score was automatically generated by a computer program.

to Ensemble Terrible
Cartography #8

Score in C

$\text{♩} = \text{ca. } 88$

Gilberto Agostinho

Flute

Soprano Sax

Violin

Cello

Accordion

Fl.

Sax

Vln.

Vcl.

Acc.

5 7 3 8 5 3 7 3 8 3 5

Fl. - pp — p pp > ppp pp — ppp pp < p pp — ppp
 bisbi. ~~~~~

Sax b2 — e. - - b2 — e. #2. - b2 — e. #2. -

Vln. - pp - b2 — e. p s.p. pp — p ord. s.p. pp — p
 - s.p. - pp — p ord. pp — p s.p. - pp — p ord.

Vcl. - - p pp - b2. - - b2. -

Acc. b2 — e. - - b2 — e. #2. - b2 — e. #2. -

pp > ppp pp — p p — pp p > pp pp — ppp pp < p pp — ppp
 pp — p pp — p

3 7 3 5 7 3 5 3 7 3

Fl. pp < p pp — ppp
 bisbi. ~~~~~

Sax b2. b2 — e. - - b2 — e. #2. - b2 — e. #2. -

Vln. p s.p. pp — p ord. s.p. pp — p - pp — p s.p.
 - ord. b2. - - b2. -

Vcl. p < mp pp - pp — p s.p. pp — p ord. s.p. ord.
 - pp — p b2. - - b2. -

Acc. - - - b2 — e. - - - -

pp — ppp pp — p pp — mp pp — p pp — p pp — ppp
 pp — p pp — p

Musical score for Flute, Saxophone, Violin, Cello, and Accordion. The score consists of ten staves, each with a different dynamic marking (e.g., *p*, *pp*, *mp*, *ppp*) and performance instructions (e.g., *ord.*, *s.p.*, *bisbi.*). The measures are grouped by measure numbers (1-10) and time signatures (5/8, 3/4, 8/8, 7/8, 3/4, 8/8, 3/4, 7/8, 3/4, 8/8, 3/4). The instrumentation includes Flute, Saxophone, Violin, Cello, and Accordion.

Fl.

Sax

Vln.

Vcl.

Acc.

67

$\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ $\frac{3}{4}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{2}{4}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{3}{4}$ $\frac{7}{8}$

pp > ppp *pp < p* *pp > ppp*
bisbi.~~~~~

p > pp

p bisbi.~~~~~

pp < p *pp < p* *pp < p*
s.p. ord.

pp < p *pp < p* *pp < p*
s.p. ord.

pp < p *pp < p* *pp < p*
s.p. ord.

Fl.

Sax

Vln.

Vcl.

Acc.

79

$\frac{3}{4}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{2}{4}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ $\frac{3}{4}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{2}{4}$

p > pp

p bisbi.~~~~~

pp < p *pp < p* *pp > pp* *p > pp*
s.p. ord.

pp < p *pp < p* *p > pp* *p > pp*
s.p. ord.

pp < p *pp < p* *p > pp* *p > pp*
s.p. ord.

Musical score for Flute, Saxophone, Violin, Cello, and Accordion. The score consists of ten staves, each with a different dynamic marking (e.g., p , pp , mp , ppp) and performance instructions (e.g., *bisbi.*, *s.p.*, *ord.*). The time signature changes frequently between measures, including $\frac{5}{8}$, $\frac{3}{4}$, $\frac{8}{4}$, $\frac{2}{4}$, and $\frac{5}{8}$. Measure numbers 104-114 are indicated at the top left.

128

Fl. *p* bisbi.~~~~~

Sax *pp* < *p* *pp* < *p* *pp* > *pp* *p* < *mp* *pp* > *ppp* *p* > *pp* *p* bisbi.~~~~~

Vln. - *pp*

Vcl. - *pp* < *p* *pp* > *ppp* *p* > *pp* *p* > *pp*

Acc. 8. *pp* < *p* 8. *ppp* *p* > *pp* 8. *ppp* *p* > *pp*

141

Fl. $\frac{3}{4}$ $\frac{5}{8}$ $\frac{2}{4}$

Sax $\frac{5}{8}$ $\frac{3}{4}$

Vln. $\frac{5}{8}$ $\frac{3}{4}$

Vcl. $\frac{5}{8}$ $\frac{3}{4}$

Acc. $\frac{5}{8}$ $\frac{3}{4}$

154

Fl. $\frac{3}{4}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{5}{8}$ $\frac{2}{4}$

Sax $\frac{3}{4}$ $\frac{5}{8}$

Vln. $\frac{3}{4}$

Vcl. $\frac{3}{4}$

Acc. $\frac{3}{4}$

167

Fl. $p \geq pp$
 Sax $p \leq mp$ s.p.
 Vln. p s.p.
 Vcl. $pp \geq ppp$
 Acc. p

8 3 5 2 8 3 5 3 8 5 2

Fl. $p \geq pp$
 Sax $pp \geq ppp$ ord.
 Vln. pp ord.
 Vcl. $p \geq pp$
 Acc. p

$p \geq mp$ bisbi.~~~~~
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$

$mp < mf$
 $mp < mf$
 $mp < mf$
 $mp < mf$
 $mp < mf$

p bisbi.~~~~~
 p
 p
 p
 p

$p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$

$p \geq mp$ s.p.
 $pp \geq ppp$ ord.
 pp s.p.
 $pp \geq ppp$
 $p \geq pp$

p ord.
 p
 p
 p
 p

p s.p.
 $pp \geq ppp$
 pp
 $pp \geq ppp$
 $p \geq pp$

p ord.
 p
 p
 p
 p

p $\geq pp$
 p $\geq pp$
 p $\geq pp$
 p $\geq pp$
 p $\geq pp$

180

Fl. $p \geq pp$ bisbi.~~~~~
 Sax $mp < mf$ bisbi.~~~~~
 Vln. $p \geq mp$
 Vcl. $p \geq pp$ s.p.
 Acc. p

3 2 3 4 5 2 3

Fl. $mp < mf$
 Sax $mp < mf$
 Vln. p
 Vcl. $p \geq mp$
 Acc. p

$mp < mf$
 $mp < mf$
 $p \geq mp$
 $p \geq pp$
 $p \geq pp$

pp bisbi.~~~~~
 p
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$

$pp \geq ppp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$

$p \geq pp$
 $mp < mf$ bisbi.~~~~~
 $mp < mf$
 $mp < mf$
 $mp < mf$

$p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$

$p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$
 $p \geq pp$

193

2 4 5 2 4 3 8 2 4 1

Fl. *mp < mf*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *p < mp*
Acc. *ord.*

Fl. *pp > ppp*
Sax *pp*
Vln. *p < mp*
Vcl. *p > pp*
Acc. *s.p.*

Fl. *pp > ppp*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *p > pp*
Acc. *mp*

Fl. *mp < mf*
Sax *bisbi.~~~~~*
Vln. *p*
Vcl. *mp*
Acc. *mp*

Fl. *mp < mf*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *p < mp*
Acc. *mp < mf*

206

2 4 3 4 1 2 4

Fl. *pp > ppp*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *ord.*
Acc. *8-1*

Fl. *p > pp*
Sax *mp < mf*
Vln. *mp < mf*
Vcl. *s.p.*
Acc. *#p*

Fl. *mp < mf*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *p < mp*
Acc. *#p*

Fl. *mp < mf*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *p < mp*
Acc. *p*

Fl. *mp > p*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *p < mp*
Acc. *p*

Fl. *p > pp*
Sax *mp < mf*
Vln. *p < mp*
Vcl. *ord.*
Acc. *8-1*

Fl. *mp < mf*
Sax *bisbi.~~~~~*
Vln. *p < mp*
Vcl. *s.p.*
Acc. *#p*

Fl. *p > pp*
Sax *mp < mf*
Vln. *p < mp*
Vcl. *p > pp*
Acc. *8-1*

219

Fl. $mp < mf$ $mp < mf$ *bisbi.~~~~~* $mp > p$ $mp < mf$ $mp < mf$ *bisbi.~~~~~* $mp < mf$ $mp < mf$ *bisbi.~~~~~*

Sax $p < mp$ $p > pp$ $p < mp$ $p > pp$ $p < mp$ $p > pp$ $p > pp$ $p < mp$

Vln. $p < mp$ $p > pp$ $p > pp$ $p > pp$ $p > pp$ $p > pp$

Vcl. mp $p > pp$ $p > pp$ mp mp mp

Acc. $p > pp$ $mp < mf$ mp mp $8\cdot 1$ $p > pp$ $p > pp$

232

Fl. $mp > p$ *bisbi.~~~~~* $mp < mf$ $mp < mf$ $mp < mf$ *bisbi.~~~~~* $mp > p$ *bisbi.~~~~~* *bisbi.~~~~~*

Sax mp $p < mp$ $p > pp$ $p > pp$ $p < mp$ $p < mp$ $p > pp$ $p < mp$

Vln. $p > pp$ $p > pp$ $p > pp$ $p < mp$ $p > pp$

Vcl. $p > pp$ $p < mp$ $p > pp$ mp $p > pp$ $p > pp$ $p < mp$

Acc. $mp < mf$ mp p $p > pp$ $8\cdot 1$ $mp < mf$ mp p

245

Fl. — *mp < mf* *mp < mf* — *mp > p* — *bisbi.~~~~~* *p < mp* *p < mp*

Sax *p* — *p < mp* — *mp* *p < mp* — *mp* *p* *mp* *p < mp*

Vln. *mp* — *p < mp* — *p > pp* — *mp* — *p < mp*

Vcl. — — — — — — — — —

Acc. *p* — — — *p* — *p* — —

258

Fl. — — *mp > p* — *bisbi.~~~~~* *p < mp* *p < mp* — *bisbi.~~~~~* *mp > p*

Sax — *mp* — — *mp* *p* *mp* — *mp* — *p < mp*

Vln. *p < mp* — *p > pp* — *mp* — *p* — *p < mp* *p > pp*

Vcl. — — — — — — — — —

Acc. — — — — *p* — *p < mp* — —

271

Fl. - - - - - - - - - - - -

Sax *bisbi.* ~~~~~ *p* < *mp* *p* < *mp* *p* < *mp* - *mp* > *p* - *bisbi.* ~~~~~ *p* < *mp* *p* < *mp*

Vln. *mp* *p* *mp* *p* - *mp* *p* < *mp* *mp* *p* *mp* *p*

Vcl. *p* < *mp* *#s* *p* < *mp* *#s* *p* *mp* < *mf* - *p* > *pp* s.p. *p* > *pp* *p* < *mp* *#s* *p* < *mp* *#s* *p*

Acc. *p* - - - - - - - - - -

284

Fl. *p* < *mp* - *mp* > *p* - - - - - - - -

Sax - *bisbi.* ~~~~~ *p* < *mp* - *bisbi.* ~~~~~ *p* < *mp* *p* < *mp* *p* < *mp* - *bisbi.* ~~~~~ *p* > *p*

Vln. - *p* < *mp* s.p. *p* < *mp* - *mp* *p* *p* < *mp* *p* < *mp* - *p* > *pp*

Vcl. ord. *mp* < *mf* *#s* *p* - *p* > *pp* - *p* < *mp* *#s* *p* *mp* < *mp* *#s* *p* - *p* > *pp*

Acc. - - - - - - - - - - -

297

Fl. - - *p < mp* *p < mp* *p < mp* *bisbi.~~~~~* *mp > p* - *bisbi.~~~~~* *p < mp*

Sax *mp* *p* *mp* *p* *p < mp* *s.p.* *mp < mf* *mp* *p* *ord.* *p* *mp*

Vln. - - *mp* *< mf* *p* *ord.* *p* *mf* - *mp* *< mf*

Vcl. *p < mp* *#p < mp* *#p < mp* *#p < mp* *#p < mf* *#p* - *p < mp* *#p < mp* *#p < mp*

Acc. - *p* - - - *p* - - *p* - *p*

310

Fl. *p < mp* *p < mp* *bisbi.~~~~~* - *mp > p* *mf* *bisbi.~~~~~* *p < mp* *p < mp* *p < mp* *bisbi.~~~~~*

Sax *p* - *p < mp* *s.p.* - *mp < mf* - *mp* *p* *ord.* *p* *p < mp*

Vln. *p* - - *mf* - - *mp* *< mf* *p* - *ord.* *p*

Vcl. *p* *ord.* *p* *s.p.* - - *p < mp* *#p < mp* *#p < mp* *#p < mf* *#p*

Acc. - - - - - *p* - - - - *p*

323.

Fl. *mp > p* *mf*

Sax *mp < mf*

Vln. *mf*

Vcl. —

Acc. *mp*

Fl. *bisbi.~~~~~*

Sax *p*
ord.

Vln. *mp*

Vcl. *p*

Acc. *p*

Fl. *p < mp*

Sax *p*

Vln. *mf*

Vcl. *p*

Acc. *p*

Fl. *p < mp*

Sax *p*
s.p.

Vln. *mf*

Vcl. —

Acc. *p*

Fl. *bisbi.~~~~~*

Sax *p < mp*

Vln. *mf*

Vcl. —

Acc. *p*

Fl. *mp > p*

Sax *mf*

Vln. *mf*

Vcl. —

Acc. *mf*

Fl. *bisbi.~~~~~*

336

Fl. *p < mp* *p < mp* *p < mp* *bisbi.~~~~~*
           ~~~~~~      *bisbi.~~~~~*

Sax      *mp*      *p*      *ord.*  
           *s.p.*      *#*

Vln.      *mf*      *p*      *ord.*  
           *s.p.*

Vcl.      *p < mp*      *# p*      *mp < mf*      *# p*  
           *ord.*      *s.p.*

Acc.      -      -      -      *p*

349

Fl.      *mp > p*      *mf*

Sax      *mp < mf*

Vln.      *mf*

Vcl.

Acc.

*mp*      *mf*      *mp < mf*      *mp < mf*      *p*

*mp > p*      *mf*

362

Fl.      *mp*      *bisbi.~~~~~*

Sax      *mp < mf*      *mp*      *mf < f*      *p < mp*

Vln.      *mp*

Vcl.      *ord.*      *p s.p.*

Acc.

*mf*      *mp < mf*      *mp < mf*      *p*

*mp > p*      *mf*

*mp*      *bisbi.~~~~~*

*mp < mf*      *mp*      *mf < f*      *mf*

375

Fl. *mf*

Sax *mp* *bisbi.~~~~~*

Vln. *mp* *mf*

Vcl. *mf*

Acc. *mf*

Musical score for Flute (Fl.), Saxophone (Sax), Violin (Vln.), Cello (Vcl.), and Accordion (Acc.). The score consists of two systems of four measures each. Measure 1 starts with Flute in 18/8 time, followed by a measure in 4/4. Measure 2 starts with Flute in 3/8 time, followed by a measure in 18/8 time, then 4/4, and finally 18/8 time again. The instruments play eighth-note patterns with dynamic markings like *mp*, *bisbi.*, and *~~~~~*. Measures 3-4 continue this pattern. Measure 5 begins with Flute in 18/8 time, followed by a measure in 4/4. Measure 6 starts with Flute in 3/8 time, followed by a measure in 18/8 time, then 4/4, and finally 18/8 time again. The instruments play eighth-note patterns with dynamic markings like *mp*, *bisbi.*, and *~~~~~*. Measures 7-8 continue this pattern. Measure 9 begins with Flute in 18/8 time, followed by a measure in 4/4. Measure 10 starts with Flute in 3/8 time, followed by a measure in 18/8 time, then 4/4, and finally 18/8 time again. The instruments play eighth-note patterns with dynamic markings like *mp*, *bisbi.*, and *~~~~~*.