

Gilberto Agostinho

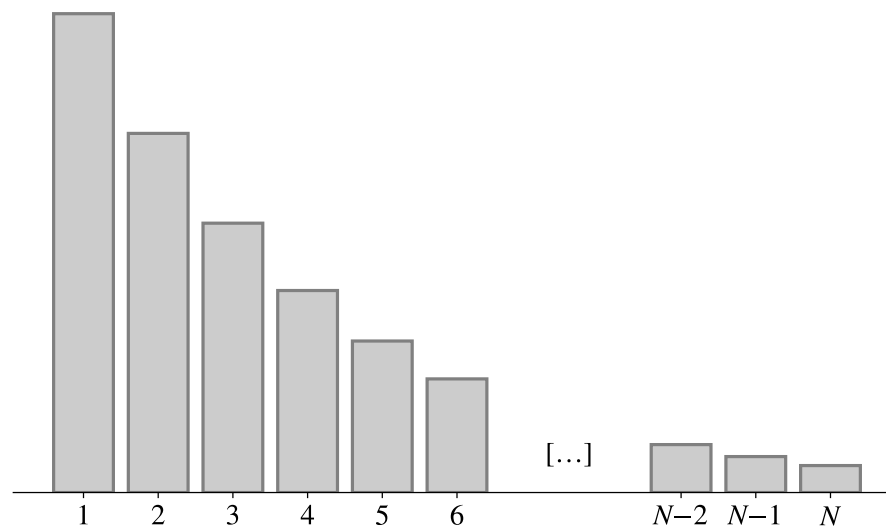
Cartography #9

for clarinet, viola, vibraphone, and piano

2018

Full Score

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



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

Cartography #9, for clarinet, viola, vibraphone, and piano

Mapping and rules

pitches		durations	
set size	$N = 6$	set size	$N = 5$
transformation period	$1 \times \text{bar}$ (pre-loop)	transformation period	$2 \times \text{bars}$ (pre-loop)
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. At every sixth bar (pre-loop), the whole set of six pitches is replaced by a new one in which each new pitch is uniformly randomly selected within the instrumental range and making sure that each pitch class is unique. The process of selecting a new pitch after that will continue to follow $g \bmod 12 = (f \bmod 12) + 1$, and g .	transformation mechanism	$[a, b, c, d, e] \rightarrow [b, c, d, e, f]$, with $f = e - 1$.
initial set	$[C4, C\sharp4, D4, E\flat4, E4, F4]$	initial set	$[10, 9, 8, 7, 6]$
dynamics		looping mechanism	
set size	$N = 5$	window size	$16 \times \text{♪}$ (post-loop)
transformation period	fixed	shift size	semiquaver
set	$[ppp, pp, p, mp, mf]$	mechanism	the algorithm first creates a non-looped version of the music using the maps and transformation mechanisms to select pitches, durations and dynamics as described above. After this music is generated, the next stage is to use a 16 semiquavers-long window which is shifted to the right by a single semiquaver after every cycle. The process ends when the last note of the pre-looped music leaves the looping window.
selection mechanism	the dynamics map is tied to the duration map, so that a same random index is used to select elements from both. For instance, if the duration at the first index has been selected, the dynamic ppp is then also selected.	constraints	
		- number of bars (pre-loop): 12. - range: F3–B$\flat$5.	

General performance notes

- the piano's sustain pedal should be held halfway down throughout the piece. A good reference point for this is when individual note lengths cannot be precisely perceived (that is, the sound is not cut when releasing a key). Some instruments and acoustic spaces might call for slightly different pedalling (at the discretion of the performer).
- the vibraphone's pedal should be held down throughout the piece.
- after the last note of the piece, both the vibraphone and the piano should let the resonance disappear before raising the sustain pedal.
- the vibraphone's motor should remain off throughout the piece.
- medium mallets are recommended for the vibraphone.
- both the clarinet and viola should play without vibrato.
- the clarinettist should add breathing points after longer notes but preferably not at bar lines.
- if necessary, the clarinettist may take up to two bars of rest at any point in the performance (at the discretion of the performer).
- the viola should use a mute throughout this piece.
- the viola player may decide to play any notes in the piece using harmonics, in particular when that helps with larger leaps.

Cartography #9

Score in C

$\text{♩} = ca. 80$

Gilberto Agostinho

Clarinet in Bb

Viola

Vibraphone

Piano

con sord.

motor off

$\frac{1}{2}$ $\text{Rd.} \rightarrow$

$\text{Rd.} \rightarrow$

p *mf* *pp* *p* *mf* *pp* *p* *mf* *pp* *p* *mf* *pp* *p* *mf* *pp*

mp *p* *pp* *mp* *p* *pp* *mp* *p* *pp* *mp* *p* *pp* *mp* *p* *pp*

ppp *pp* *ppp* *pp* *ppp* *pp* *ppp* *pp* *ppp* *pp* *ppp* *pp* *ppp* *pp* *ppp*

p *mp* *ppp* *p* *mp* *ppp* *p* *mp* *ppp* *p* *mp* *ppp* *p* *mp* *ppp*

Cl.

Vla.

Vib.

Pno.

11

Cl. *mf pp*

Vla. *pp p*

Vib. *pp ppp*

Pno. *mp ppp mf mp ppp mf mp ppp mf mp ppp mf*

16

Cl. *mf pp*

Vla. *pp p*

Vib. *ppp pp*

Pno. *ppp mf ppp mf ppp mf ppp mf ppp*

21

Cl. *pp* *mf* *pp* *mf* *pp* *mf* *pp* *mf*

Vla. *p* *pp* *p* *pp* *p* *pp* *p* *pp* *p*

Vib. *ppp* *pp* *ppp* *pp* *ppp* *pp* *mf* *ppp* *pp* *mf* *ppp* *pp* *mf*

Pno. *mf* *ppp* *mf* *ppp* *mf* *ppp* *mf* *ppp* *mf* *ppp* *mf* *ppp*

27

Cl. *pp* *mf* *pp* *mf* *p* *pp* *mf* *p* *pp* *mf* *p* *pp* *mf* *p*

Vla. *pp* *p* *pp* *p* *pp* *p* *pp* *p* *pp* *p* *pp* *p*

Vib. *ppp* *pp* *mf* *ppp* *pp* *mf* *ppp* *pp* *mf* *pp* *mf* *pp* *mf*

Pno. *mf* *ppp* *mf* *ppp* *mf* *ppp* *mf* *ppp* *mf* *ppp* *mf* *ppp*

32

Cl.

pp mf p mf p mf p mf

Vla.

pp p pp p mf pp p mf pp p mf pp p mf

Vib.

pp mf pp mf pp mf pp mf pp mf pp

Pno.

p

37

Cl.

mf p mf p mf p mf ppp mf p mf ppp

Vla.

pp p mf mp pp p mf mp pp p mf mp pp p mf mp

Vib.

mf pp mf pp mf pp mf pp mf pp

Pno.

ppp p ppp p ppp p ppp p

42

Cl.

Vla.

Vib.

Pno.

Measure 42: Cl. (*mf*, *p*, *mf*, *ppp*), Vla. (*p*, *mf*, *mp*), Vib. (*mf*, *pp*, *p*), Pno. (*ppp*, *p*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 43: Cl. (*p*, *mf*, *ppp*), Vla. (*p*, *mf*, *mp*), Vib. (*mf*, *pp*, *p*), Pno. (*ppp*, *p*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 44: Cl. (*p*, *mf*, *ppp*), Vla. (*p*, *mf*, *mp*), Vib. (*mf*, *pp*, *p*), Pno. (*ppp*, *p*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 45: Cl. (*p*, *mf*, *ppp*), Vla. (*p*, *mf*, *mp*), Vib. (*mf*, *pp*, *p*), Pno. (*ppp*, *p*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 46: Cl. (*p*, *mf*, *ppp*), Vla. (*p*, *mf*, *mp*), Vib. (*mf*, *pp*, *p*), Pno. (*ppp*, *p*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

47

Cl.

Vla.

Vib.

Pno.

Measure 47: Cl. (*p*, *mf*, *ppp*), Vla. (*mf*, *mp*, *p*), Vib. (*mf*, *pp*, *p*), Pno. (*ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 48: Cl. (*p*, *mf*, *ppp*), Vla. (*mf*, *mp*, *p*), Vib. (*mf*, *pp*, *p*), Pno. (*ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 49: Cl. (*p*, *mf*, *ppp*), Vla. (*mf*, *mp*, *p*), Vib. (*pp*, *p*, *pp*), Pno. (*ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 50: Cl. (*mf*, *ppp*, *p*), Vla. (*mf*, *mp*, *p*), Vib. (*pp*, *p*, *pp*), Pno. (*ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

Measure 51: Cl. (*mf*, *ppp*, *p*), Vla. (*mf*, *mp*, *p*), Vib. (*pp*, *p*, *pp*), Pno. (*ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*, *ppp*, *p*, *mf*).

52

Cl. *mf ppp* *p* *mf ppp* *p* *mf ppp* *ppp* *p* *ppp* *p* *pp*

Vla. *mf mp* *p* *mp* *p* *mp* *p* *mp* *p* *mp* *ppp*

Vib. *p* *pp* *p* *pp* *p* *pp* *p* *pp* *p* *pp*

Pno. *p* *mf* *pp* *p* *mf* *pp* *p* *mf* *pp* *p* *mf* *pp* *ppp*

57

Cl. *ppp* *p* *pp* *ppp* *p* *pp* *ppp* *p* *pp* *ppp* *p* *pp* *ppp* *p* *pp*

Vla. *mp* *p* *mp* *ppp* *mp* *p* *mp* *ppp* *p* *mp* *ppp* *p* *mp* *ppp* *p* *mp* *ppp*

Vib. *p* *pp* *mf* *p* *pp* *mf* *p* *pp* *mf* *p* *pp* *mf* *p* *pp* *mf* *p*

Pno. *p* *mf* *pp* *ppp* *mf* *pp* *ppp* *mf* *pp* *ppp* *mf* *pp* *ppp* *mf* *pp* *ppp* *mf* *pp* *ppp*

63

Cl.

Vla.

Vib.

Pno.

69

Cl.

Vla.

Vib.

Pno.

74

Cl. *pp ppp p*

Vla. *ppp p mf*

Vib. *mf p mp ppp*

Pno. *ppp p ppp*

Measure 74: Cl. (*pp ppp p*), Vla. (*ppp p mf*), Vib. (*mf p mp ppp*), Pno. (*ppp p ppp*).
 Measure 75: Cl. (*pp ppp p*), Vla. (*ppp p mf*), Vib. (*mf p mp ppp*), Pno. (*ppp p ppp*).
 Measure 76: Cl. (*pp ppp p*), Vla. (*ppp p mf*), Vib. (*p mp ppp*), Pno. (*ppp p ppp*).
 Measure 77: Cl. (*pp ppp p ppp*), Vla. (*ppp p mf*), Vib. (*p mp ppp*), Pno. (*ppp p ppp*).
 Measure 78: Cl. (*p ppp*), Vla. (*ppp p mf ppp*), Vib. (*p mp ppp*), Pno. (*ppp p ppp*).

79

Cl. *p ppp*

Vla. *p mf pp*

Vib. *p mp pp*

Pno. *p ppp*

Measure 79: Cl. (*p ppp*), Vla. (*p mf pp*), Vib. (*p mp pp*), Pno. (*p ppp*).
 Measure 80: Cl. (*p ppp*), Vla. (*p mf pp*), Vib. (*p mp pp*), Pno. (*p ppp*).
 Measure 81: Cl. (*p ppp*), Vla. (*p mf pp*), Vib. (*p mp pp*), Pno. (*p ppp*).
 Measure 82: Cl. (*p ppp*), Vla. (*p mf pp*), Vib. (*mp pp*), Pno. (*p ppp*).
 Measure 83: Cl. (*p ppp*), Vla. (*p mf pp*), Vib. (*mp pp*), Pno. (*p ppp*).

84

Cl.

Vla.

Vib.

Pno.

Dynamic markings: *p*, *ppp*, *pp*, *mf*, *mp*.

89

Cl.

Vla.

Vib.

Pno.

Dynamic markings: *p*, *ppp*, *pp*, *mf*, *mp*.

94

Cl.

Vla.

Vib.

Pno.

ppp pp mp ppp pp mp ppp pp mp ppp pp mp ppp pp mp

ppp pp ppp pp ppp pp ppp pp ppp pp pp

pp ppp p pp pp ppp p pp ppp p pp ppp p

ppp p pp ppp p pp ppp p pp ppp p ppp

99

Cl.

Vla.

Vib.

Pno.

ppp pp mp ppp pp mp ppp pp mp ppp pp mp ppp pp mp

pp ppp pp p ppp pp p ppp pp p ppp pp p ppp

pp ppp p pp pp ppp p pp ppp p pp ppp p

p pp ppp p pp ppp p p pp ppp p pp ppp

104

Cl.

Vla.

Vib.

Pno.

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

pp p ppp pp p ppp pp p p ppp pp p ppp

ppp p pp ppp p pp ppp p pp ppp p pp ppp

p pp ppp p pp ppp pp ppp ppp pp ppp pp ppp

109

Cl.

Vla.

Vib.

Pno.

mp ppp p mp ppp p mp ppp p mp ppp p mp ppp p mp ppp

pp p ppp pp p ppp pp p p ppp pp p ppp

p pp ppp p pp ppp p pp ppp p pp ppp p pp ppp

pp ppp pp ppp pp ppp pp ppp p pp ppp p pp ppp

114

Cl. *p ppp*

Vla. *p ppp* *ppp* *p ppp* *p ppp* *mf ppp* *mf*

Vib. *p pp* *ppp* *p pp* *ppp* *p pp* *ppp* *pp* *ppp* *pp*

Pno. *ppp* *p ppp* *p ppp* *p ppp* *p ppp* *p ppp* *p ppp* *p ppp*

119

Cl. *p ppp*

Vla. *ppp* *mf ppp* *mf ppp* *mf ppp* *mf ppp* *mf ppp*

Vib. *ppp* *pp* *ppp* *pp* *ppp* *pp* *ppp* *pp*

Pno. *p ppp* *p ppp* *p ppp* *p ppp* *p ppp* *p ppp*

124

Cl. *p ppp* *p ppp*

Vla. *mf ppp* *mf ppp* *mp ppp* *mf ppp* *mp ppp* *mf ppp* *mp p*

Vib. *ppp* *pp* *ppp* *pp* *ppp* *pp* *ppp* *pp*

Pno. *p ppp* *p ppp* *p ppp* *p ppp* *p ppp* *p ppp* *mf*

129

Cl. *ppp* *mf ppp* *mp p* *ppp* *mf ppp* *mp p* *ppp* *mf ppp*

Vla. *ppp* *mf ppp* *mp p* *ppp* *mf ppp* *mp p* *ppp* *mf ppp*

Vib. *ppp* *pp* *ppp* *pp* *mf* *pp* *mf*

Pno. *p ppp* *mf* *p ppp* *mf ppp* *mf ppp* *mf ppp* *mf ppp*

133

Cl.

Vla.

Vib.

Pno.

ppp mp p mf ppp mp ppp mp p mf mp ppp mp p mf mp ppp mp p mf ppp

mf ppp mf ppp mf ppp mf ppp

mf ppp mf ppp mf ppp

137

Cl.

Vla.

Vib.

Pno.

ppp pp ppp pp ppp pp ppp pp

ppp mp p mf mp ppp mp p mf mp ppp mp p mf mp ppp

pp mf ppp pp mf ppp pp mf ppp mp mf ppp mp

ppp mf ppp p ppp mf ppp p ppp mf ppp p ppp mf ppp p ppp

141

Cl.

Vla.

Vib.

Pno.

ppp pp p ppp pp p ppp pp p ppp pp p ppp pp p

mp p mf mp ppp mp p mf mp ppp p mf mp ppp p mf mp ppp

pp mf ppp mp pp mf ppp mp p pp mf ppp mp p pp mf ppp mp p

ppp mf ppp p pp ppp mf ppp p pp mf ppp p pp mf ppp p pp

145

Cl.

Vla.

Vib.

Pno.

ppp pp p ppp pp p ppp pp p ppp pp p ppp pp p

p mf mp ppp p mf mp ppp mf mp ppp mf mp ppp

pp mf ppp mp p mf ppp mp p mf ppp mp p pp mf ppp mp p

ppp p pp mf ppp p pp ppp p pp mf pp p pp p pp mf pp

[illegible][illegible]

157

Cl.

Vla.

Vib.

Pno.

p ppp mp p ppp p ppp mp p ppp p ppp

ppp p ppp p ppp p ppp p ppp

p mp ppp p mp ppp p mp ppp p mp ppp

pp mf pp ppp mp pp mf pp ppp mp ppp pp mf pp mf pp

161

Cl.

Vla.

Vib.

Pno.

mp p ppp mp ppp mp ppp mp ppp

p ppp p ppp p ppp p ppp

mp ppp mp ppp pp ppp pp ppp

mf pp ppp mp ppp pp ppp mp ppp pp ppp mp ppp

165

Cl.

Vla.

Vib.

Pno.

165

166

167

168

169

170

Cl.

Vla.

Vib.

Pno.

170

171

172

173

174