

Four Pieces with Cognitive Constraints

II. Repetitiveness

For Two Marimbas

(2021)

Kenrick Ho

Preface:

The set of *Four Pieces with Cognitive Constraints* are inspired by Fred Lerdahl's work in music cognition. All four compositions were generated by a Max patch that was specifically designed to satisfy the 17 constraints from Lerdahl's essay titled *Cognitive Constraints on Compositional Systems*. These constraints provide the basis for constructing a highly organised hierarchical structure for the Max patch to work with. The set of works explore how Lerdahl's idea of a 'musical grammar' can be coded into a music generation program.

Performance Notes:

This piece is structured around two types of phrases: a motif and a transition. The motif is notated as a repeated cell in a box, and the transitions are conventionally notated on the score. The Marimba 2 player will take on the role of a 'leader' who decides on the flow of the piece. Motif phrases should be repeated between 4 to 12 times, and when the leader decides to proceed to the next transition, they will play in unison with marimba 1 as a cue, to signal that it is the last repetition.

It is encouraged that the two marimba players communicate the flow of the piece by listening for the cue, rather than rehearsing and counting for an agreed number of repetitions.

c.a. 5'00"

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Allegro ♩ = c.a. 100

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Repeat boxes for 4-12 times, until the Marimba 2 player proceeds to play the bar after.

Marimba 1

Marimba 2

pp (fade in) *mf* , x4-12

Mar. 1

Mar. 2

Mar. 1

Mar. 2

Mar. 1

Mar. 2

A x4-12

9

Mar. 1

Mar. 2

11

Mar. 1

Mar. 2

13

B

Mar. 1

Mar. 2

x4-12

15

Mar. 1

Mar. 2

17

Mar. 1

Mar. 2

C

19

Mar. 1

Mar. 2

x4-12

21

Mar. 1

Mar. 2

23

Mar. 1

Mar. 2

D

25

Mar. 1

Mar. 2

x4-12

27

Mar. 1

Mar. 2

29

Mar. 1

Mar. 2

31

E

Mar. 1

Mar. 2

x4-12

33

Mar. 1

Mar. 2

35

Mar. 1

Mar. 2

37

F

Mar. 1

Mar. 2

x4-12

39

Mar. 1

Mar. 2

41

Mar. 1

Mar. 2

43

Mar. 1

Mar. 2

G

x4-12

45

Mar. 1

Mar. 2

47

Mar. 1

Mar. 2

8

H

49 *x4-12*

Mar. 1

Mar. 2

51

Mar. 1

Mar. 2

53

Mar. 1

Mar. 2

I

55 *x4-12*

Mar. 1

Mar. 2

57

Mar. 1

Mar. 2

59

Mar. 1

Mar. 2

61

Mar. 1

Mar. 2

J

mf *(fade out)* *pp*

x4-12