

# Irrational Rhythms

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0: length  $1 + \sqrt{2}$  (long), 1: length 1 (short), 2: length  $\sqrt{2}$  (medium)

- $0 \rightarrow 001, 1 \rightarrow 0$ : 1, 0, 001, 0010010, 00100100010010001, ... (a)
  - $0 \hookrightarrow 21$ : 1, 21, 21211, 212112121121, 2121121211212112121121211, ... (b)  
No rule
  - $0 \rightarrow 12$ : 1, 12, 12121, 121211212112, 1212112121121211212112121, ... (c)  
 $1 \rightarrow 12, 2 \rightarrow 121$
- $0 \rightarrow 010, 1 \rightarrow 0$ : 1, 0, 010, 0100010, 01000100100100010, ... (d)
  - $0 \hookrightarrow 21$ : 1, 21, 21121, 211212121121, 211212121121211212112121121, ... (e)  
 $1 \rightarrow 21, 2 \rightarrow 211$
  - $0 \hookrightarrow 12$ : 1, 12, 12112, 121121212112, 121121212112121121211212112, ... (f)  
 $1 \rightarrow 12, 2 \rightarrow 112$
- $0 \rightarrow 100, 1 \rightarrow 0$ : 1, 0, 100, 0100100, 10001001000100100, ... (g)
  - $0 \hookrightarrow 21$ : 1, 21, 12121, 211212112121, 121212112121121211212112121, ... (h)  
 $1 \rightarrow 21, 2 \rightarrow 121$
  - $0 \hookrightarrow 12$ : 1, 12, 11212, 121121211212, 112121211212112121121211212, ... (i)  
No rule
- $1 \rightarrow 12, 2 \rightarrow 211$ : 1, 12, 12211, 122112111212, 12211211121221112121221112211, ... (j)
- $1 \rightarrow 21, 2 \rightarrow 112$ : 1, 21, 11221, 212111211221, 11221112212121112212111211221, ... (k)

Reverses: (a)-(g), (b)-(i), (c)-(h), (d)-(d), (e)-(f), (j)-(k)

(g) and (k) oscillate between 2 limit words, all others converge

(j) and (k) do not have maximally even spacing (MOS-like), all others do

Personal favorite: (e) - derived from palindromic (d), long beat first (swing)