

Peter McKenzie Armstrong

Thin Rake

c/o 'The Game of Life'

for piano 4 hands

2016

Edition Ottaviano Petrucci

NOTES

Net-surfing recently for image output from John Horton Conway's Game of Life, I encountered "Thin Rake", a 832x132-unit pattern created (by designing and specifying the game's initial input) by Dean Hickerson and Paul Callahan. *

The figure struck me immediately as an apt candidate for musical mapping, for several reasons. First, its height (112 units without margins) exceeded not too wildly the range of an Imperial model Bosendorfer. Second, its width (>6 times the height) suggested a sensibly proportional overall duration. Thirdly and mainly, its structure – as though [Intro, A, B, A', Coda] – vividly incarnated a universal musical form.

There soon emerged a fourth reason, though relating mostly to my personal taste. I saw that a 3x3-unit figure (termed "glider" in Game of Life speak) was recurring – not only in inversion or retrogression at 180 degrees, but as well – in rotation at 90 deg! (Compare, e.g., the right-hand figures in bar #38.) I recalled a Darmstadt paper explicating this transform, but had missed or overlooked it in subsequent compositional practice.

Mapping figure details to the chromatic was straightforward with two exceptions. As vertical units exceeded normal piano range by an octave at each end, I had either to elide, or to transpose inward by that octave, the figure's outermost excursions. The latter proved feasible with minimal collision, yielding a range of just(!) 88 keys. Details of pitch spelling required a compromise between clarifying pattern and minimizing near-cluster smudge.

Staff choices for the assignment of material have hinged entirely on considerations of range. Where either pianist's part turns out relatively much overloaded, she/he may invite the other to come to rescue.

The final chord, a "Whack!" I couldn't resist, is not a part of the source material and may in performance be omitted.

– PMA

Duration: ca 100 sec.

* See at <www.radicaleye.com/lifepage/patterns/cat14.html> or at Alan Hensel's <www.ibiblio.org/lifepatterns>.

to J. H. Conway

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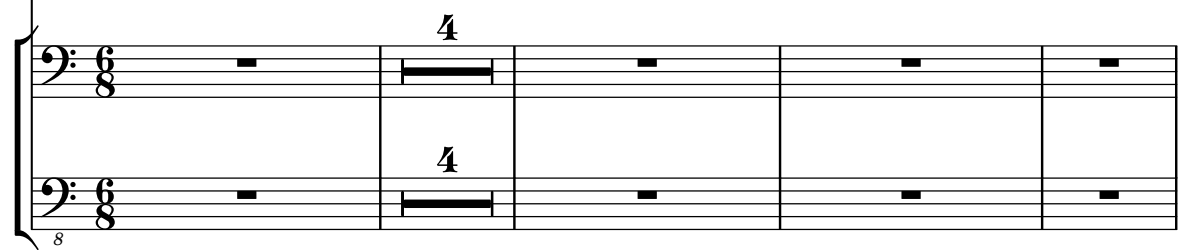
Tempo  = 176

2016

I



II



9



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2

13 ⁸

8

16 ⁸

8

22 ⁸

8

26 ⁸

8

30 ⁸

2

2

2

8

35 ⁸

8

40 ⁸

Measures 40-42 of a musical score. Measure 40 features a treble staff with a sequence of eighth notes (F#4, Gb4, Ab4, Bb4, Cb5, Db5) and a bass staff with a sequence of eighth notes (Eb3, F3, G3, Ab3, Bb3, C4). Measure 41 has a treble staff with a half note (F#4) and a quarter note (G4), and a bass staff with a half note (Eb3) and a quarter note (F3). Measure 42 has a treble staff with a whole rest and a bass staff with a half note (F#3) and a quarter note (G3). A fermata is placed over the bass staff in measure 42.

43 ⁸

Measures 43-45 of a musical score. Measure 43 features a treble staff with a sequence of eighth notes (F#4, Gb4, Ab4, Bb4, Cb5, Db5) and a bass staff with a sequence of eighth notes (Eb3, F3, G3, Ab3, Bb3, C4). Measure 44 has a treble staff with a half note (F#4) and a quarter note (G4), and a bass staff with a half note (Eb3) and a quarter note (F3). Measure 45 has a treble staff with a whole rest and a bass staff with a half note (F#3) and a quarter note (G3). A fermata is placed over the bass staff in measure 45.

46 ⁸

Measures 46-48 of a musical score. Measure 46 features a treble staff with a sequence of eighth notes (F#4, Gb4, Ab4, Bb4, Cb5, Db5) and a bass staff with a sequence of eighth notes (Eb3, F3, G3, Ab3, Bb3, C4). Measure 47 has a treble staff with a half note (F#4) and a quarter note (G4), and a bass staff with a half note (Eb3) and a quarter note (F3). Measure 48 has a treble staff with a whole rest and a bass staff with a half note (F#3) and a quarter note (G3). A fermata is placed over the bass staff in measure 48.

49 ⁸

8

52 ⁸

8

56 ⁸

8

62 ⁸

Measures 62-64 of a musical score. Measure 62: Treble clef has a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 63: Treble clef has a half note G2, a half note F#2, a half note E2, and a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 64: Treble clef has a half note G2, a half note F#2, a half note E2, and a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest.

65 ⁸

Measures 65-68 of a musical score. Measure 65: Treble clef has a half note G2, a half note F#2, a half note E2, and a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 66: Treble clef has a half note G2, a half note F#2, a half note E2, and a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 67: Treble clef has a half note G2, a half note F#2, a half note E2, and a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 68: Treble clef has a half note G2, a half note F#2, a half note E2, and a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest.

69 ⁸

Measures 69-72 of a musical score. Measure 69: Treble clef has a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 70: Treble clef has a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 71: Treble clef has a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest. Measure 72: Treble clef has a whole rest; Bass clef has a half note G2, a half note F#2, and a whole rest.

74 ⁸

Musical score for measures 74-77. The system consists of three staves: two treble staves and one bass staff. Measure 74 has a whole rest in the top treble staff and a half note G4 with a flat in the middle treble staff. Measure 75 has a whole rest in the top treble staff and a half note G4 with a flat in the middle treble staff. Measure 76 has a half note G4 with a flat in the top treble staff and a half note G4 with a flat in the middle treble staff. Measure 77 has a half note G4 with a flat in the top treble staff and a half note G4 with a flat in the middle treble staff. The bass staff has a whole rest in measure 74, a half note G2 with a flat in measure 75, and a half note G2 with a flat in measure 76. Measure 77 has a whole rest in the bass staff.

78 ⁸

Musical score for measures 78-80. The system consists of three staves: two treble staves and one bass staff. Measure 78 has a whole rest in the top treble staff and a half note G4 with a flat in the middle treble staff. Measure 79 has a half note G4 with a flat in the top treble staff and a half note G4 with a flat in the middle treble staff. Measure 80 has a half note G4 with a flat in the top treble staff and a half note G4 with a flat in the middle treble staff. The bass staff has a whole rest in measure 78, a half note G2 with a flat in measure 79, and a half note G2 with a flat in measure 80.

81 ⁸

Musical score for measures 81-83. The system consists of three staves: two treble staves and one bass staff. Measure 81 has a whole rest in the top treble staff and a half note G4 with a flat in the middle treble staff. Measure 82 has a half note G4 with a flat in the top treble staff and a half note G4 with a flat in the middle treble staff. Measure 83 has a half note G4 with a flat in the top treble staff and a half note G4 with a flat in the middle treble staff. The bass staff has a whole rest in measure 81, a half note G2 with a flat in measure 82, and a half note G2 with a flat in measure 83.

87 8

2

2

2

2

8

92

8

8

97 ⁸

8

101 ⁸

2

2

2

8

106 ⁸

8

111 ⁸

Measures 111-113 of a musical score. Measure 111 features a treble staff with a sequence of chords and a bass staff with a single note. Measure 112 continues the treble staff's sequence and adds a bass staff line. Measure 113 shows a treble staff with a final chord and a bass staff with a whole note.

114 ⁸

Measures 114-115 of a musical score. Measure 114 contains complex chordal textures in both treble and bass staves. Measure 115 shows a continuation of these textures with some melodic movement in the bass staff.

116 ⁸

Measures 116-118 of a musical score. Measure 116 features a treble staff with a sequence of chords and a bass staff with a single note. Measure 117 continues the treble staff's sequence and adds a bass staff line. Measure 118 shows a treble staff with a final chord and a bass staff with a whole note.

119 ⁸

122 ⁸

126 ⁸

130 ⁸

12
130 8

8

134 8

8