

Peter McKenzie Armstrong

Patterns
from the
Game of Life

Part III: Pairs & Singles
for solo piano

2019

Edition Ottaviano Petrucci

NOTES

COMPOSITION

This is the last of three volumes of music evolved from *Game of Life* starting-graph configurations. For solo piano (full-ranged, not the "toy" of Vol. I), it builds on patterns with vertical dimension 26 to 83 units, translating to keyboard ranges of roughly 2 to 7 octaves.

Where a source image's height and width differ, it is set musically twice: first as initially specified ("Hori"-zontally), then in its 90 degree rotation ("Vert"-ically) – i.e., musically speaking, with Pitch and Time swapped. Where height and width are the same, with the corresponding image virtually identical upon rotation, it is presented once ("H=V").

Regarding clusters: As the default chord content is often unmanageable for both scoring and performance, I have trimmed accordingly, imposing two notational constraints: any chord has just one stem; its intervals are spelled diatonically where possible (so with accidental types inevitably mixed). Linearly, spelling attempts to honor "voice leading" where the latter is audibly suggested.

The *Game of Life* "starting patterns" inspiring these pieces are listed by name, discoverer and date at score's end. For full information on any, access site ConwayLife.com/wiki/Category:Patterns and search on its name. For comment on their musical treatment, see my NOTES in two earlier works, *Thin Rake* and *No!*, at imslp.org/wiki/Category:Armstrong,_Peter_McKenzie.

Audio files at IMSLP accompanying this score, initially secondary output from the LilyPond processing, have been independently rewritten by the composer in Rosegarden and realized via PianoTeq's "D4 Vintage Bosendorfer" instrument. Performance durations range non-sequentially from 9" to 36", totalling [9:36].

PERFORMANCE

PROGRAMMING

I imagine this work being performed, not in its entirety, but in variously selected handfuls of from three to perhaps seven items at most – with one constraint, that any two-sectioned movement be performed in its full contiguous pair.

CLUSTERS

Where these near-cluster chords prove unmanageable still, the player is invited to hollow them out somewhat – discretely – to avoid undue rolling. Care should be taken, however, to preserve their dissonance as far as possible.

ACCIDENTALS

With the exception of natural-signs (all cautionary), accidentals throughout apply each exactly once. LilyPond terms this style "Forget".

ARTICULATION

Notes within a slur are to be connected. Notes outside one either before or after are to be audibly detached from it and from each other. Where, as often occurs, a slur contains immediate note-repetition, *legato* connection must be effected via the damper pedal (without "smooth-over" between slurs). There are no ties.

PEDAL

Where pedal engagement immediately follows pedal release, these events must be sufficiently separated to allow articulative silence (as between slurs).

– PMA

to Faith Elliott

Patterns from the Game of Life

Part III: Pairs & Singles

for piano solo

Peter McKenzie Armstrong

2019

1

Hori

Pronto (♩ = 112)

mp

3

Vert

Scherzando (♩ = 144)

mf

3

sfz *sfz* *dim.*

2

Hori

Picchiata (♩ = 84)

mf

f

mf

Vert

Dolente (♩ = 72)

pp

3

Giocosso (♩. = 116)

H=V

p

4

4

Bambino piccolo (♩ = 88)

Hori

mp

4

7

Chiassoso (♩ = 132)

Vert

3

5

Perso (♩ = 58)

Hori

4

9

Vert

Rudo (♩ = 132)

ff *sfz*

5

6

H=V

Nonimporta (♩ = 72)

mp molto ... rallentando ... e ... crescendo

poco stringendo ... e ... diminuendo ... al fine

2

4

7

Hori

Agitarsi (♩. = 108)

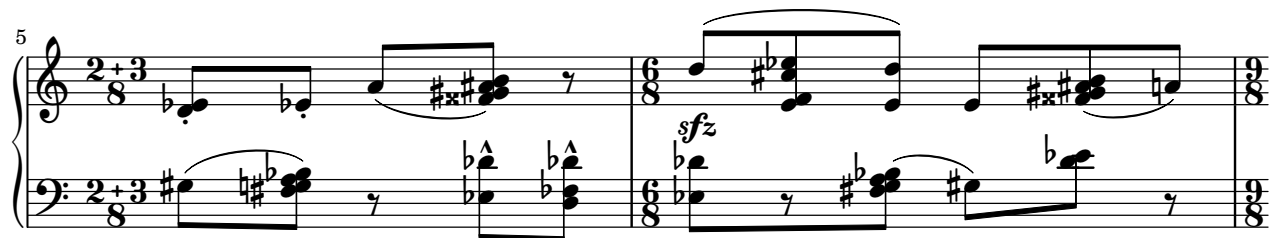
mf



f



sfz



mf



Vert

Temendo (♩. = 44)

pp *f* *molto accel. e cresc.* *tempo pp*



4

doppio mosso *ff* molto decel. e dimin. tempo *pp*

8

Hori

Incerto (♩ = 100)

p

3

cresc.

6

f *p* riten. tempo *sfz*

Decidere (♩ = 150)

Vert

pp

2

p

4

molto ritenuto f sfz

6

pp tempo mf

9

Passeggiando (♩ = 88)

H=V

The musical score is written for piano (H=V) and strings. It consists of five systems of music, each with a piano part on the left and a string part on the right. The tempo is marked as 88 beats per minute (♩ = 88). The key signature has one flat (B-flat). The score includes various dynamics such as *mf* (mezzo-forte), *mp* (mezzo-piano), *f* (forte), and *sfz* (sforzando). There are also articulations like accents (^) and slurs. The string part includes a section marked "poco string. e cresc." (poco stringente e crescendo). The piano part features complex chordal textures and melodic lines, while the string part provides harmonic support and rhythmic patterns.

3

mp *mf* poco string. e cresc.

5

f *sfz*

6

mf *mp*

8

mf

10

Hori

Frenetico (♩. = 120)

p sempre staccato

f molto ritenuto

p tempo

f molto ritenuto

tempo *p*

più veloce

ff tempo

Play either entire staff alone.

Tartarugamente (♩ = 92)

Vert

mp

(skip)

5

poco cresc. e ritard.

sfz tempo *mp*

9

(skip)

11

Hori

Andando dritto (♩ = 76)

mp mf

5

mp

10

mf mp

14

mf mp

Play two parts, one from each staff.

Rauco (♩ = 132)

Vert

ff

Switch treble part

Switch bass part

12

H=V

Indagatore (♩ = 76)

The musical score is written for piano (H=V) and consists of three systems. The first system is in 2+2+3 time, marked *mp* and *mf*. The second system is in 4/8 time, marked *riten.*, *f*, *tempo*, and *mf*. The third system is in 3+2+2 time, marked *f* and *mf*. The score includes various musical notations such as notes, rests, and dynamic markings.

8

mp

13

Cavallina (♩. = 100)

Hori

mf

ff

f

sfz

sfz

sfz

ff

mf

mf

mf

Play either staff alone, switching between phrases *ad lib.*

Vert

Esausto (♩ = 50)

pp sempre

3

sfz

6

14

Hori

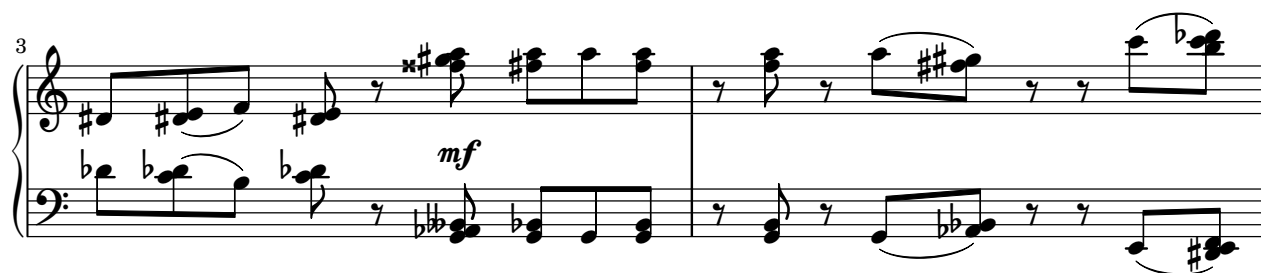
Disperato (♩. = 112)

mp



3

mf



5

f

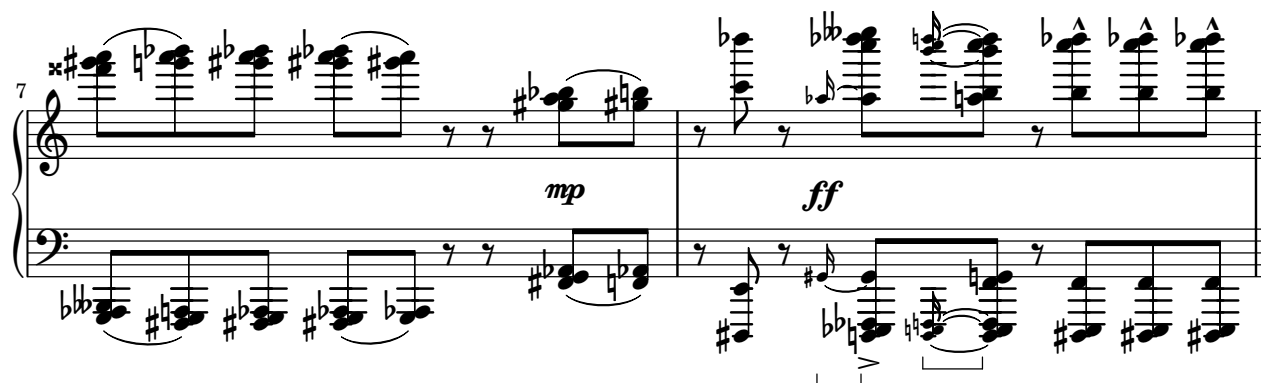
mf



7

mp

ff



Tempesta cerebrale (♩ = 120)

Vert

8va

p

2

8va

mf

mp

8vb

4

f

sfz

sfz

mp

8vb

7

mf

8va

9

p

8va

15

Memoria nebulosa (♩ = 112)

H=V

pp

4

6

rallent. ... al ...

7

subito oltre tempo

tempo

9

11

16

Carica (♩ = 152)

Hori

5

... molto

ff

p

f

9

p

Vert

Ripensandoci (♩. = 76)

p

poco riten.

tempo

molto riten. e cresc.

LH

f

***mp* tempo**

7

p

17

Spiccato frustrato (♩ = 176)

Hori*

ff

This musical system for Hori* consists of three staves. The top staff is in treble clef with a key signature of one sharp (F#) and a 6/8 time signature. It begins with a forte (*ff*) dynamic and features a series of eighth-note chords and single notes, some with accents. The middle staff is a grand staff (treble and bass clefs) and is mostly empty, with a few notes in the bass clef. The bottom staff is in bass clef and contains a complex sequence of eighth-note chords and single notes, some with accents and slurs.

6

pp

sfz

This musical system, labeled with a measure number of 6, consists of three staves. The top staff is in treble clef with a key signature of one sharp (F#) and a 6/8 time signature. It begins with a pianissimo (*pp*) dynamic and features a series of eighth-note chords and single notes, some with accents. The middle staff is a grand staff (treble and bass clefs) and is mostly empty, with a few notes in the bass clef. The bottom staff is in bass clef and contains a complex sequence of eighth-note chords and single notes, some with accents and slurs.

13

ff

This musical system, labeled with a measure number of 13, consists of three staves. The top staff is in treble clef with a key signature of one sharp (F#) and a 6/8 time signature. It begins with a forte (*ff*) dynamic and features a series of eighth-note chords and single notes, some with accents. The middle staff is a grand staff (treble and bass clefs) and is mostly empty, with a few notes in the bass clef. The bottom staff is in bass clef and contains a complex sequence of eighth-note chords and single notes, some with accents and slurs.

* First published separately as **No!** for pianist Rebecca Raffaelli

Violento (♩ = 108)

Vert

ff

8va

8vb

8

molto riten.

sfz

13

tempo

ff

8va

8vb

ConwayLife.com Source Graphs

(listed by movement number)

PATTERN NAME	DISCOVERER	YEAR
1: Pre-pulsar Shuttle 47	David Buckingham	1982
2: Jason's P33 (92P33.1)	Jason Summers	2000
3: 77P6H1V1	Josh Ball	2011
4: 117P18	David Buckingham	1991
5: Pre-pulsar Hassler 55	David Buckingham	1986
6: Wing (spaceship) Extended	Hartmut Holzwart	1993
7: 186P24	Bill Gosper	1994
8: Total Aperiodic	Bill Gosper	1997
9: P18 Glider Shuttle	Dean Hickerson	1992
10: Dragon Tagalongs	Paul Tooke	2000
11: Beluchenko's P37 (124P37.B)	Nicolay Beluchenko	2009
12: Pi Orbital	Noam Elkies	1995
13: P58 Toadsucker	Bill Gosper	1994
14: Slow Puffer 1	David Bell	(unk.)
15: P49 Glider Shuttle	Noam Elkies	1999
16: Sawtooth 201	Adam P. Goucher	2015
17: 5-5-5-5-5-5-5	Robert T. Wainwright	1970s

