

Peter McKenzie Armstrong

Patterns
from the
Game of Life

Part III: Pairs & Singles
for solo piano

Opus 30b

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).

to Faith Elliott

Patterns from the Game of Life

Part III: Pairs & Singles

for piano solo

Peter McKenzie Armstrong

Opus 30b

1

Hori

Pronto (♩ = 112)

mp

2+3+2

3

Vert

Scherzando (♩ = 144)

mf

3

sfz *sfz* *dim.*

2

Hori

Picchiata (♩ = 84)

mf

f

4

mf

Vert

Dolente (♩ = 72)

pp

3

pp

3

Giocosso (♩ = 116)

H=V

p

4

sfz

Detailed description: This block contains the musical score for 'Giocosso' in 6/8 time. The tempo is marked as quarter note = 116. The score is for a single instrument, with the left hand playing a bass line and the right hand playing a treble line. The first system shows the beginning of the piece with a piano (*p*) dynamic. The second system, starting at measure 4, features a fortissimo (*sfz*) dynamic. The key signature has one flat (B-flat major or D minor). The piece concludes with a double bar line.

4

Bambino piccolo (♩ = 88)

Hori

mp

4

sfz

7

Detailed description: This block contains the musical score for 'Bambino piccolo' in 2/4 time. The tempo is marked as quarter note = 88. The score is for a single instrument, with the left hand playing a bass line and the right hand playing a treble line. The first system shows the beginning of the piece with a mezzo-piano (*mp*) dynamic. The second system, starting at measure 4, features a fortissimo (*sfz*) dynamic. The third system, starting at measure 7, returns to a mezzo-piano (*mp*) dynamic. The key signature has one flat (B-flat major or D minor). The piece concludes with a double bar line.

Vert

Chiosso (♩ = 132)

p *f* *p*

3

pp *p* *f* *p*

5

Hori

Perso (♩ = 58)

mp

4

9

Vert

Rudo (♩ = 132)

ff *sfz*

6

H=V

Nonimporta (♩ = 72)

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

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

7

Hori

Agitarsi (♩. = 108)

mf

3

f

5

sfz

7

mf

Vert

Temendo (♩ = 44)

pp

f

molto accel. e cresc.

tempo *pp*

4

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

This musical system covers measures 4 through 7. It is written for piano in a key with three sharps (F#, C#, G#). Measure 4 begins with a treble clef and a bass clef. The tempo and dynamics are marked as 'doppio mosso ff'. In measure 5, the tempo changes to 'molto decel. e dimin.' and the dynamics to 'pp'. The system concludes in measure 7 with a final cadence.

8

Hori

Incerto (♩ = 100)

p

This system is for the 'Hori' part, covering measures 8 and 9. It is written in a 7/8 time signature. The tempo is marked 'Incerto' with a quarter note equal to 100 beats per minute. The dynamics are marked 'p'. The music features a melodic line in the treble clef and rests in the bass clef.

3

cresc.

This system covers measures 10 through 12. It is written for piano in a key with three sharps. Measure 10 starts with a treble clef and a bass clef. The dynamics are marked 'cresc.' (crescendo). The system ends in measure 12 with a final cadence.

6

f *p* riten. tempo *sfz*

This system covers measures 13 through 15. It is written for piano in a key with three sharps. Measure 13 begins with a treble clef and a bass clef. The dynamics are marked 'f', 'p', 'riten.', 'tempo', and 'sfz'. The system concludes in measure 15 with a final cadence.

Decidere (♩ = 150)

Vert

pp

The first system of the musical score is for the piece 'Decidere' with a tempo of quarter note = 150. It is marked 'Vert' and 'pp'. The music is in 7/8 time. The right hand starts with a quarter note followed by a dotted quarter note, then a half note. The left hand has a whole note chord. There are dynamic markings and articulation marks throughout.

2

The second system of the musical score starts with a measure number '2'. It continues the melodic and harmonic development from the first system. The right hand has a series of eighth and quarter notes. The left hand has a whole note chord. There is a dynamic marking 'p'.

4

moltoritenuto **f** **sfz**

The third system of the musical score starts with a measure number '4'. It features a 'moltoritenuto' section with a dynamic marking 'f'. The right hand has a series of eighth and quarter notes. The left hand has a whole note chord. There is a dynamic marking 'sfz'.

6

pp **tempo** **mf**

The fourth system of the musical score starts with a measure number '6'. It features a 'tempo' section with a dynamic marking 'mf'. The right hand has a series of eighth and quarter notes. The left hand has a whole note chord. There is a dynamic marking 'pp'.

9

Passeggiando (♩ = 88)

H=V

mf

Detailed description: This system contains the first two measures of the piece. The music is in 3/4 time with a key signature of two flats (B-flat and E-flat). The tempo is marked as quarter note = 88. The dynamic is mezzo-forte (mf). The right hand plays a series of chords and moving lines, while the left hand provides a harmonic accompaniment with chords and single notes.

mp *mf* poco string. e cresc.

Detailed description: This system contains measures 3 and 4. Measure 3 starts with a mezzo-piano (mp) dynamic. Measure 4 begins with a mezzo-forte (mf) dynamic and includes the instruction 'poco string. e cresc.' (slightly stringier and crescendo). The music features complex chordal textures and melodic lines in both hands.

f *sfz*

Detailed description: This system contains measures 5 and 6. Measure 5 features a forte (f) dynamic. Measure 6 features a sforzando (sfz) dynamic. The music is characterized by dense, expressive chordal passages and melodic fragments.

mf *mp*

Detailed description: This system contains measures 7 and 8. Measure 7 is marked mezzo-forte (mf) and measure 8 is marked mezzo-piano (mp). The music continues with intricate chordal work and melodic lines.

mf

Detailed description: This system contains the final two measures, 9 and 10. Measure 9 is marked mezzo-forte (mf). The piece concludes with sustained chords and melodic lines in both hands.

10

Hori

Frenetico (♩ = 120)

p sempre staccato

Musical notation for measures 1 and 2. The piece is in 2/4 time with a tempo of 120 quarter notes per minute. The key signature has one sharp (F#). The music is marked 'p sempre staccato'. Measure 1 has a whole rest in the treble and a series of eighth notes in the bass. Measure 2 continues with eighth notes in the bass and a melodic line in the treble.

3

f molto ritenuto

p tempo

Musical notation for measures 3 and 4. Measure 3 is marked 'f molto ritenuto' and features a series of chords in the treble and bass. Measure 4 is marked 'p tempo' and continues with chords and a melodic line in the treble.

4

f molto ritenuto

tempo *p*

Musical notation for measures 5 and 6. Measure 5 is marked 'f molto ritenuto' and contains chords. Measure 6 is marked 'tempo p' and features a melodic line in the treble and chords in the bass.

5

più veloce

Musical notation for measures 7 and 8. The tempo is marked 'più veloce'. Measure 7 has a melodic line in the treble and chords in the bass. Measure 8 continues with a melodic line in the treble and chords in the bass.

7

ff tempo

Musical notation for measures 9 through 12. The music is marked 'ff tempo'. The key signature changes to two flats (Bb, Eb). The music consists of chords in both hands, with some melodic fragments in the treble.

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

5

Switch bass part

8

12

Indagatore (♩ = 76)

H=V

mp mf

3

riten. f tempo mf

f mf

8

mp

13

Cavallina (♩. = 100)

Hori

mf *ff* *f*

5

sfz *sfz*

8

ff *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

p

2

mf *mp*

8va

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

9

Ripensandoci (♩. = 76)

Vert

p

poco riten.

4

tempo

molto riten. e cresc.

LH
f

mp tempo

7

p

17

Spiccato frustrato (♩ = 176)

Hori*

6

13

* 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

