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Fractal Miniatures

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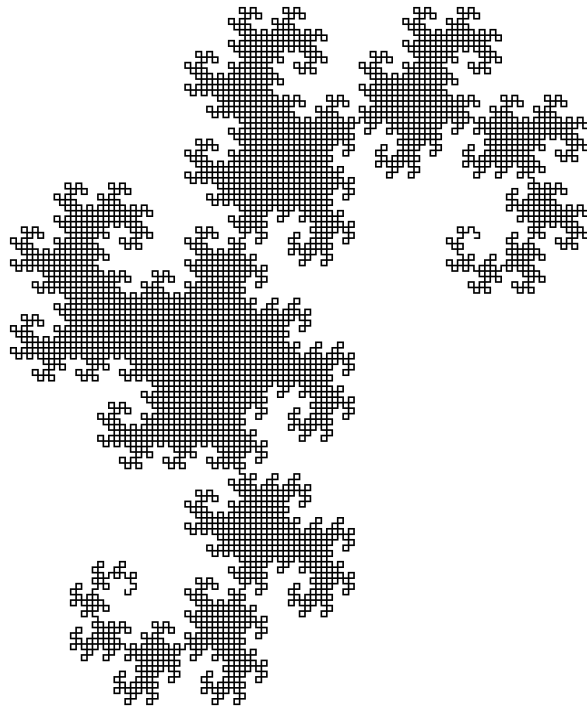
Zare, Roger

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Roger Zare

Fractal Miniatures



Instrumentation

Flute (doubles piccolo)

Clarinet in B \flat (doubles bass clarinet in B \flat)

Trumpet in C

2 Violins

Viola

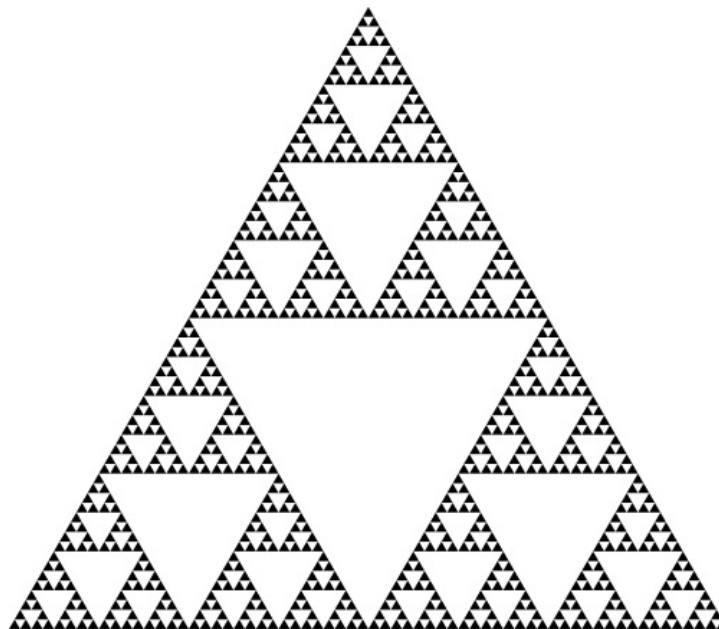
Cello

Piano

Percussion: One player

Marimba, Suspended Cymbal, Snare Drum, Kick Bass

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The beauty and order of fractals never ceases to amaze me, from the simplicity of the Sierpinski Triangle to the incredible complexity within the Mandelbrot set. I am mesmerized by videos that zoom ad infinitum into one of these fractals, revealing the same shapes over and over, gradually transformed by subtle and complex processes. In *Fractal Miniatures*, I have strung eight short movements together that each reflect my impressions of various fractals, taking them as pieces of art. Elements of fractal geometry, including symmetry and their additive nature, are used to construct the music.

The eight movements are arranged in a somewhat symmetrical layout, with the fifth movement as the focal point. The outer movements, named after the famous Sierpinski Triangle, are rhythmic and unyielding, pounding away at incessant rhythms through massive swells and dips. The second movement, *flowsnake*, is a spoonerism of *snowflake*, and is a simple space-filling fractal. This movement concentrates on sinewy flowing lines that spiral around one another. The third and seventh movements both open the same way, with the cello and percussion fading in ethereally into a pointillistic texture. The third movement, *Newton Fractal* continues this idea in a somewhat fitful manner, with various instruments taking turns with interjections. The seventh, *Nova Fractal*, is more linear, featuring a muted trumpet solo over an amorphous soup of string trills.

The fourth and sixth movements are named after the Dragon Curve, another space-filling curve. These two movements are abrupt and explosive, with sharp attacks and caustic gestures. They are also almost-exact mirror images of each other. The central movement of the set is named for arguably the most easily-recognized fractal, the Mandelbrot Set. Scored without percussion, the musical shape of this movement mimics the characteristic bulbous shape of the fractal. An underlying ostinato in 7/8 sets the stage for soaring lines and expansive harmonies.

Duration ca. 12'
Score is transposed

Written for Colin Sorgi and the SONAR New Music Ensemble

for more information or performance materials,
please visit www.rogerzare.com

revised 3-1-2013

Fl. *f* *pp* *f* (jet whistle effect)

Cl. *f* *pp* *p*

C Tpt. *f* con sord. straight mute

Mar. *f* *p* *f p* *f p f p*

Perc.

Pno. *f* *p* *f*

Vln. I *f* *p* *f sub.* *fp*

Vln. II *f* *p* *fp* *fp*

Vla. *f* *p* *fp*

Vc. *f* *p* *fp* *fp*

4

5

6

7

Musical score for measures 8-11, featuring Flute (Fl.), Clarinet (Cl.), Trumpet (C Tpt.), Maracas (Mar.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vc.).

Measure 8: Flute (ff), Clarinet (f), Trumpet (f), Maracas (f, pp), Percussion (Ped.), Piano (pp), Violin I (fp), Violin II (f), Viola (f), Cello (f).

Measure 9: Clarinet (f), Maracas (f), Piano (f), Violin I (f), Violin II (f), Viola (f), Cello (f).

Measure 10: Flute (f), Clarinet (f), Trumpet (f), Maracas (f), Percussion (f), Piano (f), Violin I (f), Violin II (f), Viola (f), Cello (f).

Measure 11: Flute (f), Clarinet (f), Trumpet (f), Maracas (f, p), Percussion (f), Piano (f), Violin I (f, mf), Violin II (f), Viola (f, mf), Cello (f, mf).

The score includes dynamic markings (ff, f, fp, pp, mf), articulation (accents), and performance instructions (Ped.). A section marker 'A' is present in measures 8 and 11.

8

9

10

11

Fl. *fp* *f* *p*

Cl. *fp* *p*

C Tpt. *f*

Mar. *f p f p f p f f*

Perc. kick bass *f*

Pno. *8va* *p* *f* *8va*
Red.

Vln. I *f mf f mf f mf*

Vln. II *mf f mf*

Vla. *f mf f mf*

Vc. *f mf ff*

12

13

14

15

Fl. *p* *f sub.* *marc.* **B** *f*

Cl. *p* *f sub.* *marc.* *p*

C Tpt. *p* *f*

Mar. *f* *ff* *p*

Perc. *f* *f*

Pno. *ff*

Vln. I *f* *f* *mf* **B**

Vln. II *f* *f* *mf* *marc.*

Vla. *f* *f* *mf* *marc. 3*

Vc. *mf* *ff* *f* *f* *mf* *marc. 3*

16 17 18 19

Fl. *ff* *p*

Cl. *p*

C Tpt.

Mar. *f* *p*

Perc. *f*

Pno. *f*

Vln. I

Vln. II *f* *mf*

Vla.

Vc. *ff*

20 21 22 23

C

Fl. *ff* *mf* *ff* 3

Cl. *f* *p sub.* *ff* 3 6 3

C Tpt. *ff* 3

Mar. *f* *ff*

Perc. *f*

Pno. *ff* *mf* *ff* *8va* *Red.*

Vln. I *ff* *mf* *ff* C

Vln. II *ff* *mf* *ff* C

Vla. *ff* *mf* *ff* sul C

Vc. *ff* *mf* *ff*

24

25

26

27

Fl. *p* *ff*

Cl. *ff* *p* *ff*

C Tpt. *ff* *p* *ff*

Mar. *f* *ff*

Perc. *ff*

Pno. *f* *ff*

Vln. I *f* *mf*

Vln. II *f* *mf*

Vla. *f* *mf*

Vc. *ff* *f* *mf*

8^{va}

6

3

28 29 30 31

Fl. *marc.* 3 3 3 3 6

Cl. *marc.* 3 3 3 3 6

C Tpt. *marc.* 3 3 3 3 *sfp*

Mar. *ff* *fp*

Perc. *ff*

Pno. *marc.* 3 3 3 3 *Ped.* *Ped.*

Vln. I *marc.* 3 3 *sfp*

Vln. II *marc.* 3 3 *sfp*

Vla. *marc.* 3 3 *sfp*

Vc. *marc.* 3 3 *sfp*

32

33

34

35

D

Fl. *ff*

Cl. *ff*

C Tpt. *ff*

Mar. *ff* *mf* *ff* *mf*

Perc. *p* *ff*

Pno. *ff* *p* *f* *secco*

Vln. I *ff* *f*

Vln. II *ff* *f*

Vla. *ff* *f*

Vc. *ff* *f*

36

37

38

39

Fl. *p* *ff*
 Cl. *p* *ff* *fp* *fp*
 C Tpt. *ff* *f*
 Mar. *ff* *mf* *ff* *mf*
 Perc.
 Pno. *ff* *p* *ff*
 Vln. I *ff* *f*
 Vln. II *ff* *f*
 Vla. *ff* *f*
 Vc. *ff* *f*

Musical score for measures 40, 41, and 42. The score is arranged in a system with eight staves: Flute (Fl.), Clarinet (Cl.), Trumpet (C Tpt.), Maracas (Mar.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The key signature is one flat (B-flat), and the time signature is 3/4. Measure 40 begins with a 3/4 time signature and a key signature of one flat. Measure 41 begins with a 7/8 time signature and a key signature of one flat. Measure 42 begins with a 4/4 time signature and a key signature of one flat. The score includes various dynamics such as *p* (piano), *ff* (fortissimo), *f* (forte), *mf* (mezzo-forte), and *fp* (fortissimo-piano). The Flute and Clarinet parts feature melodic lines with slurs and accents. The Piano part includes a section marked *Red.* (Reduction). The Percussion part is marked with a double bar line and a 3/4 time signature. The Violin and Viola parts feature sustained notes and slurs. The Violoncello part features a melodic line with slurs and accents.

Fl. *fp* *f* *ff* *p* *ff*

Cl. *fp* *f* *ff* *p* *ff*

C Tpt. *f* *ff* *p* *ff*

Mar. *ff* *p* *ff* *p* *ff*

Perc. *f* *ff* *ff*

Pno. *p* *ff* *ff*

Vln. I *ff* *fp* *ff*

Vln. II *ff* *fp* *ff*

Vla. *ff* *fp* *ff*

Vc. *ff* *f* *ff*

Ped.

43

44

45

46

Fl. *fff* *p* *ff*

Cl. *fff* *f* *ff*

C Tpt. *fff* *f* *ff*

Mar. *fff* *f* *ff*

Perc. *fff* *ff*

Pno. *fff* *ff*

Vln. I *fff* *f* *ff* sul G

Vln. II *fff* *f* *ff* sul G

Vla. *fff* *f* *ff* sul G

Vc. *fff* *f* *ff*

47

48

49

50

Fl. *attacca*

Cl. *fff*

C Tpt. *fff*

Mar. *fff*

Perc. *fff*

Pno. *fff*

Vln. I *fff* *attacca*

Vln. II *fff*

Vla. *fff*

Vc. *fff*

51

52

53

54

II. Flowsnake

Wispy and flowing ♩ = 120
(overblow)

The score is divided into two systems. The first system includes Flute (Fl.), Clarinet (Cl.), C Trumpet (C Tpt.), Maracas (Mar.), Percussion (Perc.), and Piano (Pno.). The second system includes Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vc.).

Flute (Fl.): Starts with a trill (tr) and a dynamic of *f*. In the 3/4 measure, it plays a triplet of eighth notes with a dynamic of *p*. In the 4/4 measure, it plays a triplet of eighth notes with a dynamic of *p*.

Clarinet (Cl.): Starts with a dynamic of *p*. In the 3/4 measure, it plays a triplet of eighth notes with a dynamic of *f sub.*. In the 4/4 measure, it plays a triplet of eighth notes with a dynamic of *p*.

Percussion (Perc.): Uses suspended cymbal and wire brushes (*mf*) in the 4/4 measure. In the 3/4 measure, it is marked *l.v.* (left hand). In the 4/4 measure, it uses snare sticks with a dynamic of *f*.

Piano (Pno.): In the 4/4 measure, the right hand plays an octave (*8va*) with a dynamic of *f*, and the left hand plays a single note with a dynamic of *f*.

Violins/Violas/Viola/Cello (Vln. I, Vln. II, Vla., Vc.): All parts are marked *pizz.* (pizzicato). In the 4/4 measure, they all play a single note with a dynamic of *f*.

Musical score for measures 5, 6, and 7. The score includes parts for Flute (Fl.), Clarinet (Cl.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The time signature changes from 3/4 to 4/4 between measures 6 and 7. The Flute part features a melodic line with slurs and accents. The Clarinet part has a similar melodic line. The Percussion part has a triplet of eighth notes in measure 7. The Piano part has a chord in measure 7. The string parts (Vln. I, Vln. II, Vla., Vc.) have a single note in measure 7. The dynamic marking *f* is present in measures 6 and 7.

5 6 7



Musical score for measures 8, 9, and 10. The score includes parts for Flute (Fl.), Clarinet (Cl.), and Percussion (Perc.). The time signature changes from 3/4 to 4/4 between measures 9 and 10. The Flute and Clarinet parts have melodic lines with slurs and accents. The Percussion part has a drum stick pattern in measure 9. The dynamic markings *p* and *f* are present. The Percussion part has a *pp* marking in measure 9 and a *f* marking in measure 10.

8 9 10

E
 Fl. *f*
 Cl. *f*
 Perc. *f*
 Pno. *f*
 Vln. I *f* arco
 Vln. II *f*
 Vla. *f*
 Vc. *f*

tr
 scrape cymbal

11

12

13



Fl. *f*
 Cl. *f*
 Vln. I *f*

14

15

F

Fl. *p* *f*

Cl. *f* *f*

C Tpt. senza sord. *f*

Perc. snares off *f* *p* *f*

Pno. *f* *f* secco

Vln. I *p* *f*

Vln. II *f* *f* arco

Vla. *f* *f* arco

Vc. *f* arco

Fl.

Cl.

C Tpt.

Perc.
pp

Pno.

Vln. I

Vln. II

Vla.

Vc.

Detailed description: This page of a musical score contains staves for Flute (Fl.), Clarinet (Cl.), C Trumpet (C Tpt.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The Flute and Clarinet parts feature melodic lines with slurs and various accidentals (sharps, flats, naturals). The Percussion part has a steady eighth-note pattern starting with a piano (*pp*) dynamic. The Piano part is split into two staves, with the right hand playing a melodic line and the left hand playing a bass line. The string parts (Vln. I, Vln. II, Vla., Vc.) are mostly silent, indicated by rests.

Fl. *f*

Cl. *f*

Perc. *f* *p* *f*

Pno. *p* *f* *p*

Vln. I *p* *f* *p*

Vln. II *p* *f* *p*

Vla. *f*

Vc. *f*

8va

tr

3 3

21 22 23

G

Fl. *ff*

Cl. *ff*

C Tpt. *ff*

Perc. *ff* *snare on*

Pno. *ff*

Vln. I *ff*

Vln. II *ff*

Vla. *ff*

Vc. *ff*

Violin I and II parts are marked with *ff* and play continuous eighth-note patterns. The Viola and Violoncello parts also play eighth-note patterns starting in measure 25. The Flute, Clarinet, and Piano parts have melodic lines starting in measure 25. The Percussion part has a snare drum pattern starting in measure 24.

Fl. *ff*

Cl. *ff*

C Tpt. *ff*

Perc. *p* *ff* *f* *pp* *r.s.*

Pno. *ff*

Vln. I *ff*

Vln. II *ff*

Vla. *ff*

Vc. *ff*

The musical score is arranged in a standard orchestral format. The Flute (Fl.) and Clarinet (Cl.) parts feature rapid sixteenth-note passages with dynamic markings of *ff*. The Percussion (Perc.) part includes a variety of rhythmic patterns and dynamic markings: *p*, *ff*, *f*, and *pp*, along with a *r.s.* (ritardando) marking. The Piano (Pno.) part consists of a dense texture of sixteenth notes, with a *ff* dynamic marking. The Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.) parts all play similar sixteenth-note patterns, with *ff* dynamics. The C Trumpet (C Tpt.) part has a short, accented *ff* burst. The score is divided into three measures, with measure numbers 26, 27, and 28 indicated at the bottom.

Fl.

Cl.

C Tpt.

Perc.

Pno.

Vln. I

Vln. II

Vla.

Vc.

ff

8va

Detailed description: This page of a musical score contains eight staves. The Flute (Fl.) and Clarinet (Cl.) parts feature intricate melodic lines with many slurs and ties. The Percussion (Perc.) part has a steady rhythmic pattern. The Piano (Pno.) part includes a complex texture with a treble clef staff and a bass clef staff, featuring a *ff* dynamic marking and an *8va* (octave) marking. The Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.) parts provide harmonic support with various rhythmic patterns and melodic fragments.

Fl.

Cl.

C Tpt.

Perc.

Pno.

Vln. I

Vln. II

Vla.

Vc.

pp

(8)

Detailed description: This page of a musical score contains eight staves. The Flute (Fl.) and Clarinet (Cl.) parts feature melodic lines with slurs and accidentals. The Percussion (Perc.) part has a dynamic marking of *pp* and a fermata. The Piano (Pno.) part includes a circled measure number (8) and a fermata. The Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.) parts all play a rhythmic accompaniment of eighth notes.

H

Fl. *fff*

Cl. *fff*

C Tpt. *ff possible*
 harmon mute, stem in

Perc. *f*

Pno. *fff* secco
 (8)⁻¹
 indeterminate pitches

H

Vln. I *fff*

Vln. II *fff*

Vla. *fff*

Vc. *fff*

(overblow)

Fl. *f* *mp*

Cl. *mf* *mp*

C Tpt. *p*

Perc.

Vln. I *mp* pizz.

Vln. II *mp* pizz.

Vla. *mp* pizz.

Vc. *mp* pizz.

35 36 37

Fl. *pp* *p*

Cl. *pp*

Perc. wire brushes (scrape) *pp* *p*

Vln. I *p*

Vln. II *p*

Vla. *p*

Vc. *p*

38 39 40

Fl.
Cl.
Perc.

41 42



Fl.
Cl.

43 44 45



Fl.
Cl.
Perc. (wire brushes)
Vln. I (pizz.)
Vln. II (pizz.)

p
p
pp
pp

46 47



Fl.
Cl.

To Picc.
To Bass Cl.

pp

48 49 50

III. Newton Fractal

Ethereal ♩ = 60 I

Fl.

B. Cl. Bass Clarinet in B \flat

C Tpt.

Mar. soft mallets

Pno.

Vln. I

Vln. II

Vla. arco con sord. 0

Vc. arco

mf

p

p

mf

f

mf

mf

p

mp

mf

p

mf

p

mf

f

Red.

arco molto sul pont.

arco molto sul pont.

senza vibrato

2 3 4 5 6

Fl.

B. Cl.

C Tpt.

Mar.

Pno.

Vln. I

Vln. II

Vla.

Vc.

mf *pp* *f*

mp

repeat pitches rapidly in any order

pp

f *mp* *f* *f* *mp* *f* *f*

p

sul pont.

f *mf*

7 8 9 10

8^{va}

ped.

Fl.

B. Cl. *p*

C Tpt.

Mar. *pp* *mf* *pp*

Pno. *f* *p* *f* *ppp*

Ped.

Vln. I

Vln. II *molto sul pont.* *mf*

Vla. *senza sord.*

Vc. *pizz.* *f*

Measures 11, 12, 13, 14, 15, 16

11

12

13

14

15

16

IV. Dragon Curve, Iteration 1

Charged ♩ = 144

Piccolo

J

Picc.

B. Cl.

C Tpt.

Perc.

Pno.

Charged ♩ = 144

scratch tone ord.

J

Vln. I

Vln. II

Vla.

Vc.

The musical score is arranged in a system with multiple staves. The top section includes Piccolo, B. Cl., C Tpt., Perc., and Pno. The bottom section includes Vln. I, Vln. II, Vla., and Vc. The score is in 2/4 time and features various dynamics such as *mf*, *ff*, *p*, *sfz*, *f*, *p*, *sfz*, *ff*, *p < ff*, *sfpp*, and *ff*. It includes performance instructions like 'Charged ♩ = 144', 'scratch tone ord.', and 'Ped.'. There are also numerical markings '3' and '6' above notes, and '8va' and '8vb' below notes. A 'J' marking is present in the top right and middle right of the score.

2

3

4

5

6

7

8

Picc. *p* *6* *6* *ff*

B. Cl. *pesante* *f* *3* *3* *ff*

C Tpt. *senza sord.* *f* *3* *ff*

Perc. *p* *ff*

Pno. *f* *pesante* *3* *3* *5* *ff*
8va *Ped.*

Vln. I *ff*

Vln. II *ff*

Vla. *ff*

Vc. *pesante* *f* *ff*

K staccatissimo

Picc. *p*

B. Cl. *pp* ————— *p* < *sffz*

C Tpt. *ff*

Perc. *ff*

Pno. staccatissimo ^{8va} *p*

K pizz. *p*

Vln. I

Vln. II

Vla.

Vc.

15

16

17

18

19

20

21

22

23

Picc. *pp*

B. Cl. *p* < *fffz*

C Tpt. con sord. straight mute *p* < *fffz*

Perc. rim shot, explosive *fff*

Pno. *pp*

Vln. I arco senza vibrato *pp* *p* < *fffz* scratch

Vln. II senza vibrato *p* < *fffz* scratch

Vla. senza vibrato *p* < *fffz* scratch

Vc. senza vibrato *p* < *fffz* scratch

24

25

26

27

28

29

30

31

32

33

V. Mandelbrot Set

Sublime ♩ = 72
molto legato

Pno. *p*

3+2+3

very wet and blurry, with much pedal

Vln. I *p*

molto legato (ord)

3+2+3

Vln. II *p*

molto legato (ord)

Vla. *p*

molto legato (ord)

Vc. *p*

molto legato (ord)

2 3 4 5

Pno. *mf*

3+2+3

f

Vln. I *mf*

3+2+3

f

Vln. II *mf*

mf

f

Vla. *mf*

mf

f

Vc. *mf*

mf

f

6 7 8 9 10

Musical score for measures 11-15. The score includes parts for Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). A dynamic marking of *p* (piano) is present in measures 12, 13, and 15. A section marker 'L' is placed above the first staff in measures 12 and 13. Measure numbers 11, 12, 13, 14, and 15 are indicated in boxes below the staves.



Musical score for measures 16-19. The score includes parts for Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). Dynamic markings include *p* (piano) and *mf* (mezzo-forte). Performance instructions such as *sul pont.* (sul ponticello) and *ord.* (ordine) are present. A section marker 'L' is present in measure 16. Measure numbers 16, 17, 18, and 19 are indicated in boxes below the staves.

Pno. *mf* *poco rit.* **M** **Molto sostenuto** ♩=66 *ff* *Red.*

Vln. I *mf* *poco rit.* **M** **Molto sostenuto** ♩=66 *ff*

Vln. II *mf* *poco rit.* **M** **Molto sostenuto** ♩=66 *ff*

Vla. *mf* *poco rit.* **M** **Molto sostenuto** ♩=66 *ff* 3 3 3 3 3 3 3 3

Vc. *f* *ord.* *ff*

20 21 22

Pno.

Vln. I

Vln. II

Vla. 3 3 3 3 3 3 3 3

Vc. 3 3 3 3 3 3 3 3

23 24

Musical score for measures 25 and 26. The score includes parts for Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The piano part features a complex rhythmic pattern in the right hand and sustained chords in the left hand. The strings play a rhythmic accompaniment with triplets and sixteenth notes.

25

26



Musical score for measures 27, 28, and 29. The score includes parts for Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The piano part continues with complex rhythmic patterns. The strings play a rhythmic accompaniment with triplets and sixteenth notes.

27

28

29

Pno.

Vln. I

Vln. II

Vla.

Vc.

30 31 32

Pno.

Vln. I

Vln. II

Vla.

Vc.

33 34 35 36

Pno.

Vln. I

Vln. II

Vla.

Vc.

p

pp

pp

pp

pp

37 38 39 40



Pno.

Vln. I

Vln. II

Vla.

Vc.

pp

n

morendo

attacca

attacca

41 42 43 44 45

VI. Dragon Curve, Iteration 2 0

Charged ♩ = 144

Picc. *f* *ppp*

B. Cl. *sff* > *p*

C Tpt. con sord. straight mute *sff* > *p* senza sord. *p* < *ff*

Perc. explosive r.s. *ff* *p* < *ff*

Pno. *f* *ppp*

Charged ♩ = 144

Vln. I scratch ord. *sff* > *p* pizz. *f* *ppp* arco *p* < *ff*

Vln. II scratch ord. *sff* > *p* *p* < *ff*

Vla. scratch ord. *sff* > *p* *p* < *ff*

Vc. scratch ord. *sff* > *p* *p* < *ff*

Musical score for measures 12-19. The score includes parts for Piccolo (Picc.), B. Clarinet (B. Cl.), C. Trumpet (C Tpt.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.).

Measures 12-17: Piccolo and B. Clarinet parts are mostly rests. C. Trumpet plays a rhythmic pattern of eighth notes. Percussion plays a rhythmic pattern of eighth notes. Piano plays a rhythmic pattern of eighth notes. Violin I, Violin II, Viola, and Violoncello play a rhythmic pattern of eighth notes.

Measure 18: Piccolo and B. Clarinet play a sixteenth-note scale. C. Trumpet plays a sixteenth-note scale. Percussion plays a sixteenth-note scale. Piano plays a sixteenth-note scale. Violin I, Violin II, Viola, and Violoncello play a sixteenth-note scale.

Measure 19: Piccolo and B. Clarinet play a sixteenth-note scale. C. Trumpet plays a sixteenth-note scale. Percussion plays a sixteenth-note scale. Piano plays a sixteenth-note scale. Violin I, Violin II, Viola, and Violoncello play a sixteenth-note scale.

Dynamic markings: *ff* (fortissimo), *p* (piano), *ff* (fortissimo), *ff* (fortissimo), *ff* (fortissimo), *ff* (fortissimo), *ff* (fortissimo).

Performance markings: *6* (sixteenth notes), *6* (sixteenth notes), *3* (triplets), *l.v.* (lento vivace), *8^{va}* (octave), *5* (fifteenth notes), *Red.* (ritardando).

P

Picc. 

B. Cl. 

C Tpt. 

Perc. 

Pno. 

Vln. I 

Vln. II 

Vla. 

Vc. 

20 21 22 23 24 25 26

Picc. *ff* *p* 6 3

B. Cl.

C Tpt.

Perc. *f*

Pno. *ff* *p* *ff* *Red.*

Vln. I *sffz* *ff* *ff* *ff* scratch tone

Vln. II *sffz* *ff* *ff* *ff* scratch tone

Vla. *sffz* *ff* *ff* *ff* scratch tone

Vc. *sffz* *ff* *ff* *ff* scratch tone

27

28

29

30

31

32

VII. Nova Fractal

Ethereal ♩ = 60

Picc.

B. Cl.

C Tpt.

Mar.

Pno.

Vln. I

Vln. II

Vla.

Vc.

con sord.
straight mute

p espress.

soft mallets

pp

pp

Ethereal ♩ = 60

con sord.
tr

pp

con sord.
(trem.)
p<>

con sord. 0

pp

p<>

p<>

con sord.

pp

pp

2

3

4

5

Q

Picc. *f* *pp*

B. Cl. *mf*

C Tpt. *mf* 6

Mar. *p*
arco: bow back and forth continuously, ad lib.

Perc.

Pno. *f*

Vln. I (trem.) *p* *mf* *mf*

Vln. II *p* *mf*

Vla. (trem.) *p* *mf* *mp*

Vc. *p* *pp* 3 *molto* 3 *f*

6

7

8

Picc. *mf* *p* *mp*³

B. Cl. *p* *mf*

C Tpt. *mf* *p* *mp*³

Perc. *mf*

Pno. *f* *8^{va}*

Vln. I *mp*<> *p*<>

Vln. II *mp*<> *p*<>

Vla. *p*<> *p*<>

Vc. *mp*<> *p*<>

9 10 11

Picc. *p* *mf*

B. Cl. *p* *mf*

C Tpt. *mf*

Perc.

Pno.

Vln. I *p* *tr*

Vln. II *tr*

Vla. *tr*

Vc. *tr*

12 13

Picc.

B. Cl.

C Tpt.

Perc.

Pno.

Vln. I

Vln. II

Vla.

Vc.

mp *mf* *p* *f sub.*

p *mp*

p

mf *p* *f*

p

p

17

18

19

Picc. **attacca**

B. Cl.

C Tpt. *3* *p* *f*

Perc.

Pno.

Vln. I **pp** **attacca**

Vln. II **pp**

Vla. **pp**

Vc. **pp**

Fl. S
 Cl.
 C Tpt. senza sord.
 Mar.
 Perc.
 Pno.
 Vln. I S
 Vln. II
 Vla.
 Vc.

f
f
f
molto f
p cresc.
f
8va
8va
fp cresc.
Red.
f
f
f
f

5

6

7

8

Fl. *ff* *f* jet whistle effect

Cl. *ff* *p*

C Tpt. *ff* *mf*

Mar. *ff* *f p* *f p*

Perc.

Pno. *ff* *f* *p*

Vln. I *ff* *fp*

Vln. II *ff* *fp*

Vla. *ff* *fp*

Vc. *ff* *fp* *mf*

9

10

11

12

Musical score for measures 13-16, featuring Flute (Fl.), Clarinet (Cl.), Trumpet (C Tpt.), Maracas (Mar.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vc.). The score is in 3/4 time and includes dynamic markings such as *p*, *mf*, *ff*, *f*, and *fp*.

The score is divided into four measures, numbered 13, 14, 15, and 16 at the bottom. The dynamics for each instrument across the measures are as follows:

Instrument	Measure 13	Measure 14	Measure 15	Measure 16
Fl.	<i>p</i>	<i>mf</i>	<i>mf</i>	<i>ff</i>
Cl.		<i>mf</i>		<i>ff</i>
C Tpt.		<i>fp</i>		<i>ff</i>
Mar.	<i>f</i> <i>p</i>	<i>f</i> <i>mf</i>	<i>f</i> <i>mf</i>	<i>ff</i>
Perc.				<i>ff</i>
Pno.			<i>p</i>	<i>ff</i>
Vln. I		<i>mf</i>		<i>ff</i>
Vln. II	<i>mf</i>			<i>ff</i>
Vla.		<i>mf</i>		<i>ff</i>
Vc.				<i>ff</i>

This musical score page contains measures 17 through 20 for an orchestra and piano. The instruments are arranged vertically from top to bottom: Flute (Fl.), Clarinet (Cl.), C Trumpet (C Tpt.), Maracas (Mar.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.).

The score is written in 3/4 time, which changes to 4/4 time at the beginning of measure 18. The key signature is one flat (B-flat major or D minor). The music features a variety of dynamics, including *f* (forte) and *p* (piano), and includes articulation marks such as accents and breath marks. Triplet markings are present in several parts, notably in the Flute, Clarinet, C Trumpet, Maracas, Percussion, Piano, Violin I, Violin II, Viola, and Violoncello.

Measure 17 shows the initial 3/4 time signature. Measure 18 begins with a 4/4 time signature and includes a *Red.* (ritardando) marking. Measure 19 continues in 4/4 time. Measure 20 concludes the section in 4/4 time.

17

18

19

20

T

The musical score is arranged in a system with eight staves. The top staff is for Flute (Fl.), followed by Clarinet (Cl.), Trumpet (C Tpt.), Maracas (Mar.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vc.). The score is divided into five measures, numbered 21 to 25 at the bottom. Measure 21 is in 2/4 time, and measures 22-25 are in 4/4 time. Dynamics include *ff*, *p*, *sfz*, *mf*, and *f*. A 'T' in a box is placed above the first measure of each staff. The piano part includes a 'Ped.' marking under the first measure.

Fl. *ff* *p*

Cl. *ff* *p*

C Tpt. *ff* *sfz* *mf*

Mar. *ff* *fp*

Perc. *ff*

Pno. *ff* *f*

Vln. I *ff* *sfz*

Vln. II *ff* *sfz*

Vla. *ff* *sfz*

Vc. *ff* *sfz*

21 22 23 24 25

Fl. *ff* *marc.* *ff*

Cl. *ff* *marc.* *ff*

C Tpt. *ff* *marc.* *ff*

Mar. *ff* *mf < f*

Perc. *mf < f*

Pno. *ff* *Red.*

Vln. I *ff* *marc.* *ff*

Vln. II *ff* *marc.* *ff*

Vla. *ff* *marc. 3* *ff*

Vc. *ff* *marc. 3* *ff*

26

27

28

29

Fl.

Cl.

C Tpt.

Mar.

Perc.

Pno.

Vln. I

Vln. II

Vla.

Vc.

30

31

32

marc.

marc.

marc.

mf

marc.

marc.

marc.

marc.

U

Fl. *ff* *p sub.*

Cl. *ff* *p sub.*

C Tpt. *ff* *p sub.*

Perc. *f* *p sub.* *mf*

Pno. *p sub.*

2^{da} 2^{do}

Detailed description: This block contains the musical staves for Flute (Fl.), Clarinet (Cl.), Trumpet (C Tpt.), Percussion (Perc.), and Piano (Pno.). The Flute, Clarinet, and Trumpet parts begin with a fortissimo (*ff*) dynamic and transition to piano (*p*) with a *sub.* (sustained) marking. The Percussion part starts with a forte (*f*) dynamic and transitions to mezzo-forte (*mf*). The Piano part features complex chordal textures and is marked *p sub.* throughout. The score is divided into measures 33, 34, 35, and 36, with time signatures changing from 4/4 to 2/4 and then to 5/4.

U

Vln. I *ff* *p sub.*

Vln. II *ff* *p sub.*

Vla. *ff* *p sub.*

Vc. *ff* *p sub.*

Detailed description: This block contains the musical staves for Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). All string parts begin with a fortissimo (*ff*) dynamic and transition to piano (*p*) with a *sub.* (sustained) marking. The Violin I and II parts play sustained chords, while the Viola and Violoncello parts play moving lines. The score is divided into measures 33, 34, 35, and 36, with time signatures changing from 4/4 to 2/4 and then to 5/4.

33

34

35

36

Musical score for measures 37-40, featuring Flute (Fl.), Clarinet (Cl.), Trumpet (C Tpt.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vc.).

The score is in 4/4 time, with a key signature of one sharp (F#). It features a complex rhythmic structure with frequent changes in meter (4/4, 2/4, 3/4) and dynamics.

Measures 37-38: The woodwinds (Fl., Cl., C Tpt.) play a melodic line with accents and slurs, marked *ff*. The Percussion part features a complex rhythmic pattern with accents, marked *ff sub.* and *f*. The Piano part provides a harmonic accompaniment with chords and arpeggios, marked *ff*. The strings (Vln. I, Vln. II, Vla., Vc.) play a rhythmic accompaniment with chords and arpeggios, marked *ff*.

Measures 39-40: The woodwinds play a melodic line with accents and slurs, marked *ff*. The Percussion part features a complex rhythmic pattern with accents, marked *mf* and *f*. The Piano part provides a harmonic accompaniment with chords and arpeggios, marked *ff*. The strings play a rhythmic accompaniment with chords and arpeggios, marked *ff*.

The score includes various musical markings such as *ff* (fortissimo), *f* (forte), *mf* (mezzo-forte), *sub.* (subito), *marc.* (marcato), and *3* (triplets).

Fl.
Cl.
C Tpt.
Perc.
Pno.
Vln. I
Vln. II
Vla.
Vc.

fff
fff
fff
fff
fff
fff
fff
fff
fff

(white key gliss.)

41 42 43

Detailed description: This is a page of a musical score for a symphony orchestra, page 65. The score is arranged in a standard orchestral layout with eight staves. From top to bottom, the staves are for Flute (Fl.), Clarinet (Cl.), Trumpet in C (C Tpt.), Percussion (Perc.), Piano (Pno.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vc.). The music is written in a key with one sharp (F#) and a common time signature. The Flute, Clarinet, and Trumpet parts feature melodic lines with slurs and accents. The Percussion part has a rhythmic pattern with accents. The Piano part has a complex texture with many chords and a glissando in the right hand. The Violin I and II parts play a rhythmic accompaniment of chords. The Viola and Cello parts play a similar rhythmic accompaniment. The dynamic marking *fff* (fortissimo) is present at the end of each staff. The page is numbered 41, 42, and 43 at the bottom.