

SURVIVAL MACHINE

flute and computer

DAVID MORNEAU

Commissioned by Dr Susan Fisher, this music has been generated entirely from the gene neuroligin 4, Y-linked.

Duration – ca. 10'

Learn more about this music at: http://5of4.com/survival_machine/about.html

Find the composer online at: <http://5of4.com>

About the improvisation:

This passage is a series of notations connected by a thick line. Each notation provides motivic material to the player, who should develop each motive freely.

The player should emphasize the notated pitches, but add others. In the absence of noteheads, only the motivic shape is important. Deviation from the approximate range is up to the player.

Boxed motives do not convey exact metric placement, the others do. Rests should be strictly observed.

The concept for this piece comes from Richard Dawkins' book, *The Selfish Gene*. Dawkins' core idea is that the primary agent of evolutionary development and selection is the gene. Our genes began their existence as simple chemical compounds with the improbable ability to replicate themselves. These replicators gradually became more complex and their chemical resources became scarce, forcing them to compete for their survival. Dawkins argues that the two primary survival mechanisms became the development of protective barriers and the eventual cooperation between replicators, which led to the development of colonies of replicators working together for their survival.

Whatever became of the replicators? Where are they now?

"Now they swarm in huge colonies, safe inside gigantic lumbering robots, sealed off from the outside world, communicating with it by tortuous indirect routes, manipulating it by remote control. They are in you and in me; they created us, body and mind; and their preservation is the ultimate rationale for our existence. They have come a long way, those replicators. Now they go by the name of genes, and we are their survival machines." [Richard Dawkins]

SURVIVAL MACHINE

NLGN-4 Y (I)

David Morneau

Calm, distant ♩=100

Flute

6 flutter

11

13 flutter

18

The musical score consists of five staves of music for Flute. Staff 1 starts with a dynamic of *pp*, followed by *mf*. Staff 2 begins with a dynamic of *p*, followed by *f*, *mp*, *fp*, *mf*, and *p*. Staff 3 features sixteenth-note patterns with dynamics of *f* and *mp*. Staff 4 includes dynamics of *fp*, *ff*, *pp*, and *mp*, with a '3' marking above the first measure. Staff 5 concludes with dynamics of *f*, *ff*, *mp*, and *p*.

sim.

21

ff

p

mf

26

p

p

mf

mp

f

mf

ff

ffff

31

mp

pp

p

f

mp

mp

35

ff

ppp

p

pp

NLGN-4 Y (2-4)

Driven, with a purpose $\text{♩} = 100$

Flute

1

f *mp*

f *mp*

f *mp*

fp *ff*

ff

mf

4

9

p *fp* *f*

8=

11

mp *f* *mp*

14

pp *f* *mp* *f* *mp*

17

f *p* *mf*

21

p *f* *mf*

24

pp

mp

pp (sub)

f

27

mp

f

30

ff

p

mp

mf

32

f

ff

f

34

mf

mp

pp

f

37

Musical score page 37. The top staff shows a single note on the first line. The bottom staff shows eighth-note patterns with grace notes.

40

Musical score page 40. The top staff features sixteenth-note patterns with grace notes, dynamic markings 'mf' and 'f'. The bottom staff shows eighth-note patterns with grace notes.

43

Musical score page 43. The top staff has sixteenth-note patterns with grace notes, dynamic markings 'ff' and 'f'. The bottom staff shows eighth-note patterns with grace notes.

46

Musical score page 46. The top staff has sixteenth-note patterns with grace notes, dynamic markings 'mf', 'mp', 'f', and 'mp'. The bottom staff shows eighth-note patterns with grace notes.

48

pp — *p* — *mp*

50

mf — *mp* — 3 3 — *p*

52

— *pp* — — *ppp* —

Hesitant, detached $\text{♩} = 85$

NLGN-4 Y (5)

Flute

The musical score for Flute consists of five systems of music. System 1 (measures 1-6) starts with a rest followed by a melodic line. Measure 1 has a downward arrow above the staff. Measures 2-6 show changes in time signature (5/4, 2/4, 5/4, 4/4, 4/4), dynamic (p, ff), and articulation (staccato dots). System 2 (measures 7-12) features eighth-note patterns with dynamics (mf, p, mf, mf) and measure numbers (7, 8, 9, 10, 11, 12) above the staff. System 3 (measures 13-18) includes sixteenth-note patterns with dynamics (p, mp, mp) and measure numbers (13, 14, 15, 16, 17, 18) above the staff. System 4 (measures 19-21) shows eighth-note patterns with dynamics (f, mp, p, 5, 5) and measure numbers (19, 20, 21) above the staff.

25

mf ————— *f*

31

p ————— ————— *p* ————— —————

33

p ————— *mf* ————— *f* ————— *mp* —————

37

p ————— *mp* ————— ————— *mf* —————

NLGN-4 Y (6)

In a groove $\text{♩} = 100$

Flute

Musical score for Flute, measures 1-3. The score consists of three staves. The top staff is treble clef, 4/4 time, with a dynamic of *mp*. The middle staff is bass clef, 4/4 time. The bottom staff is treble clef, 4/4 time. Measures 1-2 show eighth-note patterns with various accidentals (sharps, flats, naturals). Measure 3 continues the pattern with a dynamic of *mp*.



4

Musical score for Flute, measure 4. The score consists of three staves. The top staff is treble clef, 4/4 time, with a dynamic of *mp*. The middle staff is bass clef, 4/4 time. The bottom staff is treble clef, 4/4 time. The measure shows eighth-note patterns with accidentals.



7

Musical score for Flute, measure 7. The score consists of three staves. The top staff is treble clef, 4/4 time, with dynamics *f*, *ff*, and *mp*. The middle staff is bass clef, 4/4 time. The bottom staff is treble clef, 4/4 time. The measure shows eighth-note patterns with accidentals. A note in the top staff has a bracket with the instruction "[turn page quickly]".

10

mf

≡

13

f

16

mf

ff



18

mp

mp



20

ff

22

mf

fp — *ff*

≡

25

mp

≡

28

f

ad lib sim

31

Musical score for page 15, measures 31-33. The score consists of three staves. The top staff uses a treble clef, the middle staff a bass clef, and the bottom staff an alto clef. Measure 31 starts with a rest followed by a sixteenth-note pattern. Measure 32 begins with a sixteenth-note pattern. Measure 33 continues with sixteenth-note patterns.



34

Musical score for page 15, measures 34-36. The score consists of three staves. The top staff uses a treble clef, the middle staff a bass clef, and the bottom staff an alto clef. Measure 34 starts with a sixteenth-note pattern. Measures 35 and 36 continue with sixteenth-note patterns.



36

Musical score for page 15, measures 36-38. The score consists of three staves. The top staff uses a treble clef, the middle staff a bass clef, and the bottom staff an alto clef. Measure 36 starts with a sixteenth-note pattern. Measures 37 and 38 continue with sixteenth-note patterns.

38

Musical score page 38. The top staff shows a treble clef, a key signature of one flat, and a measure starting with a sixteenth note followed by a whole rest. The bottom staff shows a bass clef and a key signature of one sharp.

Musical score page 38 continues with two staves of music. The top staff shows a treble clef, a key signature of one sharp, and a measure starting with a sixteenth note followed by a whole rest. The bottom staff shows a bass clef and a key signature of one sharp.

41

Musical score page 41. The top staff shows a treble clef and a key signature of three sharps. The bottom staff shows a bass clef and a key signature of one sharp.

Musical score page 41 continues with two staves of music. The top staff shows a treble clef and a key signature of three sharps. The bottom staff shows a bass clef and a key signature of one sharp.

44

Musical score page 44. The top staff shows a treble clef and a key signature of one flat. The bottom staff shows a bass clef and a key signature of one sharp.

Musical score page 44 continues with two staves of music. The top staff shows a treble clef and a key signature of one flat. The bottom staff shows a bass clef and a key signature of one sharp.

47

49

51 as written

53

Musical score page 53. The score consists of two staves. The top staff is treble clef and the bottom staff is bass clef. The key signature changes from one sharp to two sharps. The time signature is 4/4. The music features eighth-note patterns and rests.



55

Musical score page 55. The score consists of three staves. The top staff is treble clef, the middle staff is bass clef, and the bottom staff is double bass clef. The key signature is 4/4. The dynamic is *f*. The music features sixteenth-note patterns and rests.



58

Musical score page 58. The score consists of three staves. The top staff is treble clef, the middle staff is bass clef, and the bottom staff is double bass clef. The dynamic *fp* leads to *f*, then *mp* leads to *f*. The music features sixteenth-note patterns and rests.

60

mp ————— *f*

mp ————— *f*

≡

62

ff

f

mf

≡

64

mp

————— *f*

————— *p*

[turn page quickly]

66

p **f** **mp**

70

=**p**

72

mp **f** **p**

75

ff

76

78

ff *mf* *ff* *f*

81

p *ff* *pp* *f*

83

mf *ff* *ff* *ff*
f *ffff*

85

ppp — p — = pp — = mf — ff mf

ff

91

ff

ff

93

ff

ff