

Piece for Luca  
for flute octet

Ethan Hayden  
2011

**Instrumentation:**

- Eight C flutes

LUCA stands for "Last Universal Common Ancestor" and refers to the most recent organism from which all living organisms on Earth have descended. The creature, a unicellular micro-organism, is believed to have lived circa 3.6 million years ago, during the Paleoarchean era.

In *Piece for Luca*, the flute ensemble is treated as a single entity, with each player's part consisting of individual harmonics of various overtone clusters. The goal is to present a single sonic form, which gradually changes shape, color and texture throughout the course of the work.

The piece was composed for Barry Crawford and PLOSION Flute Ensemble, to whom it is dedicated with heartfelt gratitude, in the Spring of 2011.

**Performance Notes:**

- Since the chords in the piece are derived from the overtone series, several microtonal accidentals are necessary:
  - ♯ ♭ Quarter-tone accidentals are used for the 11th and 13th harmonics, these pitches should be played with alternate fingerings
  - ♭ ♮ Slightly flattened accidentals are used for the 7th harmonic. These pitches should sound about a sixth-tone flat, which can be approximated simply by a slight change in embouchure.
- Fermati appear in two forms in this piece:
  - ^ Short fermata - ca. 1-2"
  - ~ Long fermata - ca. 3-5"
- The following are other notation symbols used in the piece:
  - ☒ Bisbigliandi, or color trills
  - WT Whistle tones

**Duration ca. 7'**

"Therefore I should infer from analogy that probably all the organic beings which have ever lived on this earth have descended from some one primordial form, into which life was first breathed."

- Charles Darwin  
*The Origin of Species*



## Piece for Luca

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ca. 54 - 60

Musical score for eight flutes (Flute 1 through Flute 8) in common time. The score consists of two systems of music, each with seven measures. Measure numbers 1 through 7 are indicated below the staff.

**Flute 1:** Dynamics:  $pppp$ ,  $p$ ,  $pp$ ,  $p$ ,  $mp$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

**Flute 2:** Dynamics:  $pppp$ ,  $p$ ,  $mp$ ,  $p$ ,  $mp$ ,  $pp$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

**Flute 3:** Dynamics:  $pppp$ ,  $p$ ,  $pp$ ,  $p$ ,  $mf$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

**Flute 4:** Dynamics:  $pppp$ ,  $p$ ,  $mf$ ,  $p$ ,  $mp$ ,  $mf$ ,  $pp$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

**Flute 5:** Dynamics:  $pppp$ ,  $p$ ,  $pp$ ,  $p$ ,  $mf$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

**Flute 6:** Dynamics:  $pppp$ ,  $p$ ,  $mf$ ,  $p$ ,  $pp$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

**Flute 7:** Dynamics:  $pppp$ ,  $p$ ,  $pp$ ,  $p$ ,  $f$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

**Flute 8:** Dynamics:  $pppp$ ,  $p$ ,  $f$ ,  $p$ ,  $pp$ . Measures 1-2: eighth-note patterns. Measures 3-4: eighth-note patterns. Measures 5-7: eighth-note patterns.

Fl. 1 *gliss.*  
*mp* *mf* *f* *pp*

Fl. 2 *mf* *f* *pp*

Fl. 3 *mp* *pp*

Fl. 4 *gliss.*  
*mf* *mp* *pp*

Fl. 5 *pp* *mf*

Fl. 6 *gliss.*  
*mf*

Fl. 7 *pp* *mf*

Fl. 8 *gliss.*  
*mf*

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

Fl. 8

14      15      16      17      18      19      20

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

Fl. 8

*mp*

*f*

*mf*

*pp*

*f*

*pp*

*f*

*f*

*pp*

*f*

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

Fl. 8

26      27      28      29      30      31

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

Fl. 8

32            33            34            35            36            37

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

Fl. 8

38 39 40 41 42 43 44 45

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

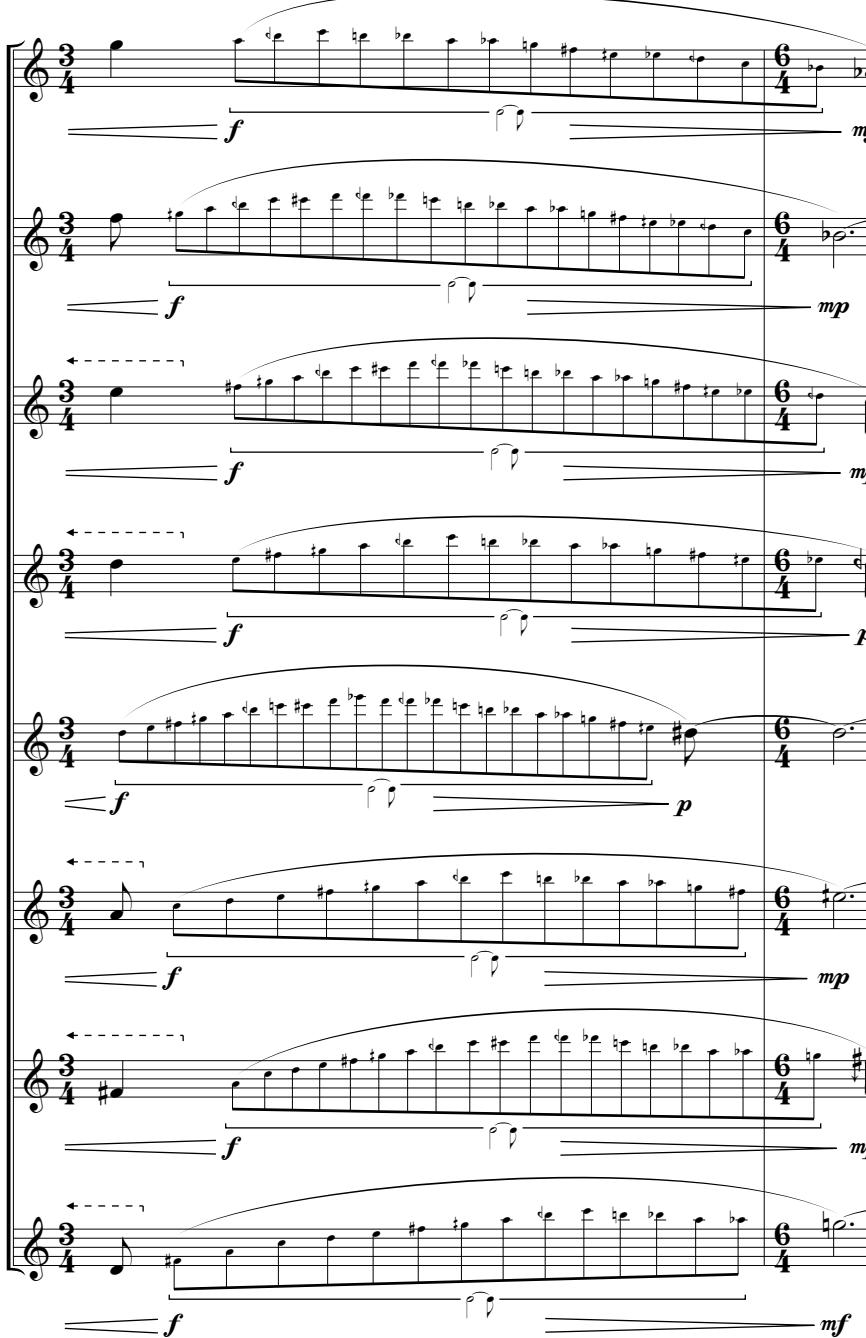
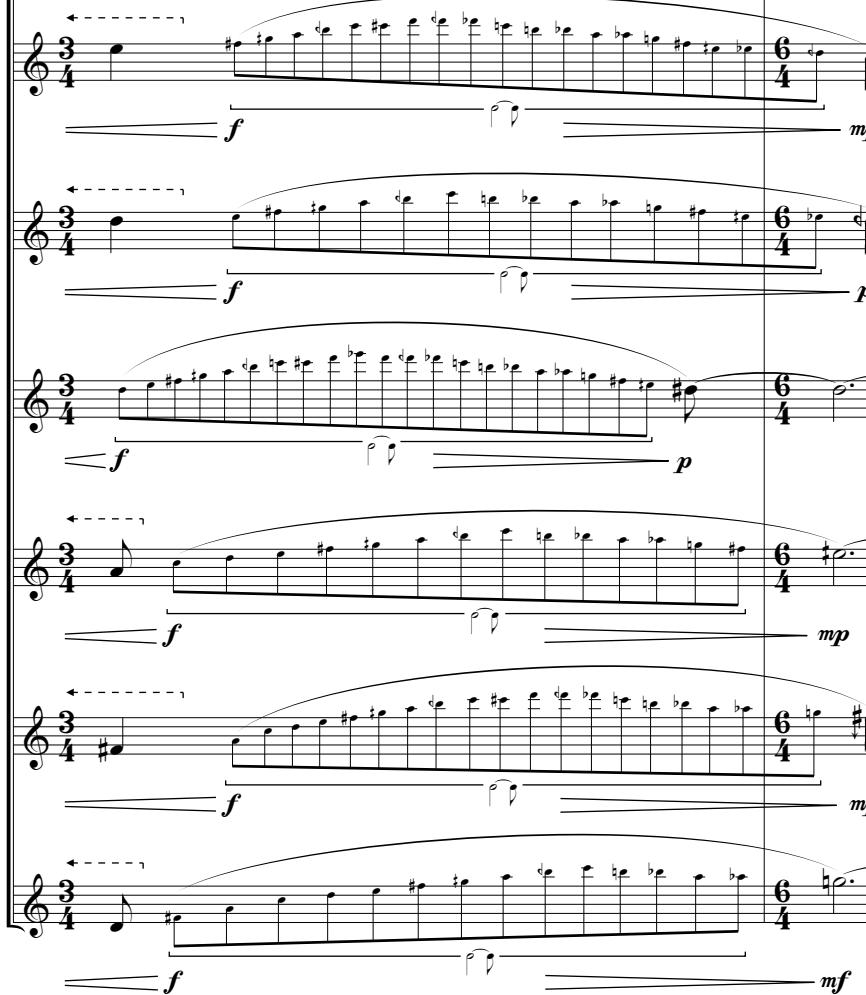
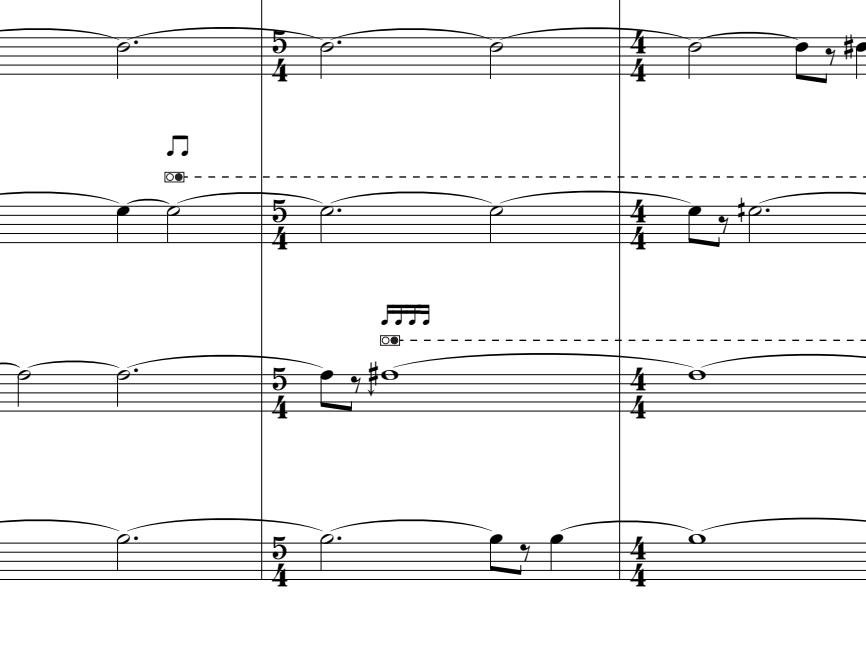
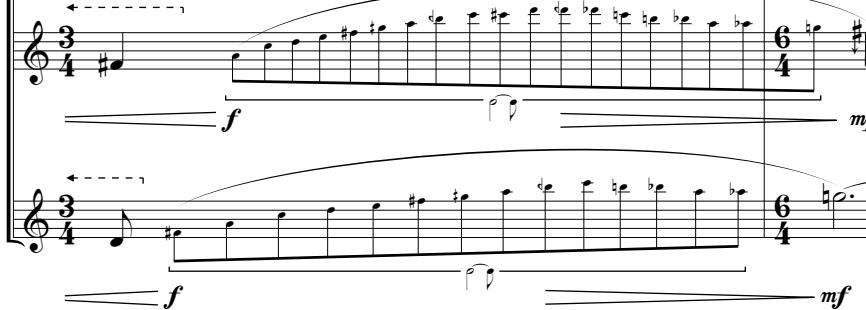
Fl. 8

46

47

48

49

Fl. 1 
  
 Fl. 2 
  
 Fl. 3 
  
 Fl. 4 
  
 Fl. 5 
  
 Fl. 6 
  
 Fl. 7 
  
 Fl. 8 

Measures 50-53 show a complex rhythmic pattern for the flutes. The music begins with a dynamic of *f* for Flutes 1, 2, 3, and 4, transitioning to *mf* for Flutes 5, 6, 7, and 8. The notation includes various slurs, grace notes, and sixteenth-note patterns. Measure 50 features a melodic line for Flutes 1-4 with a dynamic of *f*, followed by a dynamic of *mp* for Flutes 5-8. Measures 51-53 show sustained notes and eighth-note patterns, with dynamics of *p* and *mf*.

Fl. 1  
 Fl. 2  
 Fl. 3  
 Fl. 4  
 Fl. 5  
 Fl. 6  
 Fl. 7  
 Fl. 8

Fl. 1  
 Fl. 2  
 Fl. 3  
 Fl. 4  
 Fl. 5  
 Fl. 6  
 Fl. 7  
 Fl. 8

58      59      60      61

Fl. 1  
 Fl. 2  
 Fl. 3  
 Fl. 4  
 Fl. 5  
 Fl. 6  
 Fl. 7  
 Fl. 8

62      63      64      65

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

Fl. 8

Fl. 1      Fl. 2      Fl. 3      Fl. 4      Fl. 5      Fl. 6      Fl. 7      Fl. 8

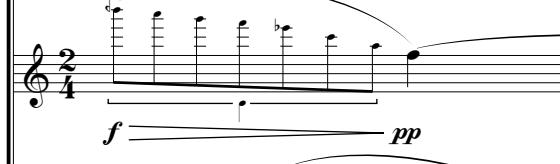
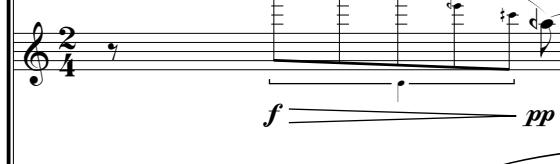
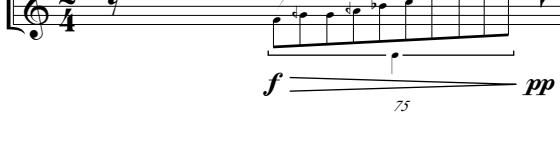
Measure 70: Fl. 1 (pp), Fl. 2 (-), Fl. 3 (pp), Fl. 4 (-), Fl. 5 (pp), Fl. 6 (pp), Fl. 7 (-), Fl. 8 (pp)

Measure 71: Fl. 1 (mp), Fl. 2 (pp), Fl. 3 (pp), Fl. 4 (-), Fl. 5 (pp), Fl. 6 (pp), Fl. 7 (-), Fl. 8 (pp)

Measure 72: Fl. 1 (pp), Fl. 2 (pp), Fl. 3 (pp), Fl. 4 (pp), Fl. 5 (pp), Fl. 6 (pp), Fl. 7 (pp), Fl. 8 (pp)

Measure 73: Fl. 1 (mf), Fl. 2 (-), Fl. 3 (pp), Fl. 4 (-), Fl. 5 (pp), Fl. 6 (pp), Fl. 7 (-), Fl. 8 (pp)

Measure 74: Fl. 1 (pp), Fl. 2 (-), Fl. 3 (pp), Fl. 4 (-), Fl. 5 (pp), Fl. 6 (pp), Fl. 7 (-), Fl. 8 (pp)

Fl. 1   
 Fl. 2   
 Fl. 3   
 Fl. 4   
 Fl. 5   
 Fl. 6   
 Fl. 7   
 Fl. 8 

75                    76                    77                    78

Fl. 1

*f*

5 4 4 3 4 4 6 4

Fl. 2

*f*

5 4 4 3 4 4 6 4

Fl. 3

*f*

5 4 4 3 4 4 6 4

Fl. 4

*f*

5 4 4 3 4 4 6 4

Fl. 5

*f*

5 4 4 3 4 4 6 4

Fl. 6

*f*

5 4 4 3 4 4 6 4

Fl. 7

*f*

5 4 4 3 4 4 6 4

Fl. 8

*f*

5 4 4 3 4 4 6 4

79 80 81 82 83 84

Fl. 1     

Fl. 2     

Fl. 3     

Fl. 4     

Fl. 5     

Fl. 6     

Fl. 7     

Fl. 8

Fl. 1

Fl. 2

Fl. 3

Fl. 4

Fl. 5

Fl. 6

Fl. 7

Fl. 8

88 89 90 91 92

Fl. 1   
 Fl. 2   
 Fl. 3   
 Fl. 4   
 Fl. 5   
 Fl. 6   
 Fl. 7   
 Fl. 8

Measure 93:   
 Fl. 1:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 2:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mp)   
 Fl. 3:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mp)   
 Fl. 4:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (pp)   
 Fl. 5:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mp)   
 Fl. 6:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 7:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (pp)   
 Fl. 8:  $\frac{5}{4}$  (crescendo)

Measure 94:   
 Fl. 1:  $\frac{5}{4}$  (mf)   
 Fl. 2:  $\frac{5}{4}$  (pp)   
 Fl. 3:  $\frac{5}{4}$  (p)   
 Fl. 4:  $\frac{5}{4}$  (p)   
 Fl. 5:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mp)   
 Fl. 6:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 7:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 8:  $\frac{5}{4}$  (crescendo)

Measure 95:   
 Fl. 1:  $\frac{5}{4}$  (mf)   
 Fl. 2:  $\frac{5}{4}$  (pp)   
 Fl. 3:  $\frac{5}{4}$  (p)   
 Fl. 4:  $\frac{5}{4}$  (p)   
 Fl. 5:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mp)   
 Fl. 6:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 7:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 8:  $\frac{5}{4}$  (crescendo)

Measure 96:   
 Fl. 1:  $\frac{5}{4}$  (mf)   
 Fl. 2:  $\frac{5}{4}$  (pp)   
 Fl. 3:  $\frac{5}{4}$  (p)   
 Fl. 4:  $\frac{5}{4}$  (p)   
 Fl. 5:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mp)   
 Fl. 6:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 7:  $\frac{5}{4}$  (crescendo),  $\frac{6}{4}$  (mf)   
 Fl. 8:  $\frac{5}{4}$  (crescendo)

Fl. 1 
  
 Fl. 2 
  
 Fl. 3 
  
 Fl. 4 
  
 Fl. 5 
  
 Fl. 6 
  
 Fl. 7 
  
 Fl. 8 

Measures 97-101

Dynamics: *pp*, *ppp*, *p*, *p*, *pp*, *mf*, *p*, *pp*, *p*, *ff*, *p*, *mp*, *p*, *mp*, *p*, *mp*, *ff*, *ff*, *f*, *mf*, *f*, *fff*

Musical score for Flutes 1 through 8, 4/4 time.

Measure 102:

- Fl. 1: Sustained note on G4.
- Fl. 2: Sustained note on A4, dynamic  $>mp$ .
- Fl. 3: Sustained note on G4.
- Fl. 4: Rest.
- Fl. 5: Sustained note on G4.
- Fl. 6: Sustained note on G4, dynamic  $>mf$ .
- Fl. 7: Rest.
- Fl. 8: Rest.

Measure 103:

- Fl. 1: Rest.
- Fl. 2: Sustained note on A4.
- Fl. 3: Sustained note on G4.
- Fl. 4: Rest.
- Fl. 5: Sustained note on G4.
- Fl. 6: Rest.
- Fl. 7: Rest.
- Fl. 8: Rest.

Measure 104:

- Fl. 1: Rest.
- Fl. 2: Sustained note on A4, dynamic  $p$ .
- Fl. 3: Sustained note on G4.
- Fl. 4: Rest.
- Fl. 5: Sustained note on G4.
- Fl. 6: Rest.
- Fl. 7: Rest.
- Fl. 8: Rest.

Measure 105:

- Fl. 1: Rest.
- Fl. 2: Rest.
- Fl. 3: Rest.
- Fl. 4: Rest.
- Fl. 5: Rest.
- Fl. 6: Rest.
- Fl. 7: Rest.
- Fl. 8: Rest.