

In search of Cohen's Kappa

k=P0-Pc/1-Pc

10/22/10

2:14 PM

12'59"

Michèl Koenders

A composition for the Electra Ensemble, Piano and Computer (DSP)

$$\kappa = \frac{p_0 - p_c}{1 - p_c}$$

Voice: mezzo-soprano.

Violin: using acoustic violin.

Recorder: using Paetzold and tenor recorder.

Percussion: Marimba, Glockenspiel, Handheld Crotales, Snaredrum, (glass)chimes (non pentatonic), windgong, 3 templeblocks, Guiro and 3 Cymbals.

Piano: (Also) Playing inside the piano (written in register notation), using wirebrushes.

In search of Cohen's Kappa

Music & lyrics: Michèl Koenders

Score

A ♩ = 40

6

The score is for a piece in 4/4 time with a tempo of ♩ = 40. It features several instruments and a computer track. The Recorder part is based on a Paetzold piece, marked with dynamics *ppp*, *pp*, *p*, and *mp*. The Percussion part includes Cymbal bowing (H, M, L), L.V., and Glass Chimes (p, f). The Piano part is mostly silent, with a *p* dynamic at the end. The Computer track has three marked events: 'Crosssynthesis all instruments with percussion' at 0:00, 'Cross-synthesis Chimes- recorder' at 0:30, and 'Start building chord' at the end. The score is divided into measures by vertical lines, with a box containing the number '6' above the fifth measure.

11

16

The musical score consists of the following parts and instruments:

- Vox:** Two vocal staves, both of which are currently silent.
- Rec.:** Recorder part in bass clef, featuring a melodic line with dynamics *mp*, *mf*, *p*, *mp*, and *mf*. It includes trills and triplet markings.
- vio.:** Violin part in treble clef, featuring a melodic line with dynamics *mp* and *mf*. It includes trills and triplet markings.
- vox.:** A second vocal staff, currently silent.
- Perc.:** Percussion part featuring a rhythmic pattern of eighth notes with a dynamic of *mf*.
- Pno.:** Piano part in grand staff (treble and bass clefs), featuring a complex accompaniment with dynamics *mp* and *mf*. It includes trills and triplet markings.
- Vox.:** A third vocal staff, currently silent.
- Comp.:** Computer-generated accompaniment, currently silent.

1:00

1:30

♩ = 60

21

mp

Kap - pa is Pi ze - ro mi nus Pi c Di - vi - ded - by -

mf

mf *mp* *mp*

(Glockenspiel)

H
M
L

⊙ (Cymbals)

mf

mf

p

2:00

stop chord

spectral smearing

Voice CRS with instr.

2:26

Cross-synthesis Chimes- recorder

Voice CRS with instr.

♩ = 40

Vox (top staff): *p* one mi - nus Pi C. **Whispering:** 'That's what we are looking for.'

Rec. (second staff): *mp* **Humming:** 'That's what we are looking for.'

Vox (third staff): *p* **Humming:** 'That's what we are looking for.'

vio. (fourth staff): *mf* **marcato** *p*

perc. (fifth staff): **(Temple Blocks)** *mp* *p* **Whispering:** 'That's what we are looking for.'

Pno. (sixth staff): *p*

Vox (seventh staff): *p* **Whispering:** 'That's what we are looking for.'

Comp. (eighth staff): *p*

31

2:48

B ♩ = 80

41

The musical score is arranged in a standard orchestral layout. At the top, the vocal line (Vox) is shown in a treble clef, followed by a bass clef line (Rec.). Below these are two more vocal staves (Vox) and a percussion staff (Perc.). The violin part (vio.) is in a treble clef, starting with a *marcato* marking and a dynamic of *f*. The piano part (Pno.) consists of two staves, with dynamics ranging from *f* to *ff* and *p* to *mf*. A 15-measure repeat sign (*15^{ma}*) is placed over the piano part. The bottom vocal staff (Vox) includes lyrics: "Lea", "Lea", "8^{vb} p", and "ff Lea". The bottom-most staff (Comp.) has a box containing "3:18" and another box containing "3:33".

3:18

3:33

mf 46

Vox: Co - hens Ka - Pa is a sta - tis - ti - cal mea - sure of con - sen - sus

Rec. *f*

Vox

Sul Pont. *mf* *f* *mf* *f* *marcato*

vio.

vox.

Perc. ||| ⊙ *mp* *mf* *f* *pp* *mf* Marimba

Pno. *mf* *ff* *mp*

Vox. *ff* *Reo.* *

Comp.

3:48 51 4:03

56

Vox

for per - - - - - cei - ved ca(t) - ta go - ries. And now we can

Rec.

f *mf*

Vox

vio.

f *mf*

vox.

Perc.

Glockenspiel
f *mf*

Pno.

mf *f* *mp* *loco*

Vox

Comp.

4:18

61

The musical score consists of several staves. The top staff is for the vocal line, with lyrics: "sub sti - tut(e) an - swers - - - in our for - mu - la. bra - ket ze - ro dot three se - ven eight". The vocal line is in a key with one sharp (F#) and a 6/4 time signature. The piano accompaniment includes a right-hand part with a melodic line and a left-hand part with a bass line. The piano part features triplets and a dynamic marking of *f*. The percussion part includes a snare drum and a cymbal, with a dynamic marking of *mf*. The string part includes a violin line with a dynamic marking of *f* and a *Sul Pont.* instruction. The score is divided into two systems, with the first system ending at measure 61 and the second system starting at measure 62. The time signature changes from 6/4 to 4/4 at the beginning of the second system.

4:33

p 66 *mf* *f*

Vox. Ka - - - - pa is ze - ro dot two one

Rec. *mf* *p* *mf* *p* *f*
(Humming while blowing) -----

Vox. ×
Kappa - kappa - kappa

vio. *mf* *p* *mf* *p* *f*

vox. ×
Kappa - kappa - kappa

Perc. ii Marimba *mp* *f* *8va* *ord.* Kappa - kappa - kappa

L.V.

Pno. *ff* *ff* *ff* *15^{ma}*

Vox. *ff* *ff* *ff* *ff*

Comp. Marimba spectral smearing 4:54

Detailed description of the musical score: The score is for a piece titled 'In search of Cohen's Kappa'. It features multiple instrumental and vocal parts. The vocal line (Vox.) has lyrics 'Ka - - - - pa is ze - ro dot two one' and 'Kappa - kappa - kappa'. The recorder (Rec.) part includes a section labeled '(Humming while blowing)'. The violin (vio.) part has dynamics ranging from *mf* to *f*. The marimba part includes a section marked *8va* and *ord.*. The piano (Pno.) part features a section marked *ff* and *15^{ma}*. The computer processing (Comp.) part includes a section labeled 'Marimba spectral smearing'. The score is marked with various dynamics (*p*, *mf*, *f*, *mp*, *ff*) and includes a measure number '66' in a box and a time signature '4:54' in a box.

71 *mf*

Vox

one. Ka(p) - pa Ka(p) - pa Ka(p) pa

Rec.

f (Humming while blowing) *f*

Vox

Kappa - kappa - kappa- kappa

vio.

f

vox.

Perc.

3 *ff*

Pno.

(15^{ma}) *f* *ff* *f* *ff* *f* *ff*

Vox.

f 8^{vb} Rec. *f* Rec.

Comp.

76 $\text{♩} = 40$

Vox *mp*
 this - will gi - ve - us the fi - nal ze-ro dot three se-

Rec. *mf*

Vox

vio. *mf* *Sul Pont.* -----

vox.

Perc. *f* *ff* *f* *ff* *f*
 Marimba

Pno. *p* *mf* *ff* *f* *p* *f*
 15^{ma}
 loco
 (8^{vb})
 Vox. *Lea* *Lea* *Lea* *Lea* *Lea*

Comp. 5:40

Vox *sl* **f**
 ven eight. mi-nus ze - ro dot two one — one.

Rec. **f** *mp* **f**

Vox

vio. *marcato* **f** (*Ord. on string*) *Sul Pont.* **mp**

vox.

Perc. **f** **f** **f** **p** (bowing windgong)

Pno. *8va* **ff** **ff** **f** **sfz** **mp** **sfz**

Vox. *Lea Lea*

Comp.

86 C ♩ = 40 *mp*

Vox: Let's see what o - ther - (s)sai - (ai)d a - bout this per - cep - tion of re - al - li ty In a whispering (unvoiced) tone

Rec. (tenor recorder) *pp* *mp*

vio. I II *Sul Tasto* *Sul Pont.* *S.T.* *S.P.* I II *Sul Tasto* *Sul Pont.* *S.T.* *pp* *p* *pp* *p* *pp* *p* *pp*

Per. (b) (bowing windgong) Guiro *f* *p* *f* *f*

Pno. * * *mp* *ff*

Vox. In a whispering (unvoiced) tone

Comp. 6:40 7:10

And I say YES, by systematically collecting data, data, data.

YES, if we're talking about the transcendental world of ideas.

YES, YES, if we deductively reason from axioms.

Crosssynthesis with glass samples -> make one sound

96

ord. **mf**

Vox: And there's no,no, NO! So they all, they all say the sa - a - me they all say the sa - me, they all say the sa - (a)me.

Rec. **ff** (*ord.*) (Humming while playing) **p** **mf** **mp**

Vox: I meant: selective induction.

vio. **ff** **f** **p** **f** *ord.* *S.P.* 3 3

voX.

Perc. **ff** **p** **f** **mp** **f** **p** (bowing windgong) (Handheld) Crotales (Windgong)

In a whispering (unvoiced) tone - - - , In a whispering (unvoiced) tone - - - ,

But NO, if we use our senses for perceiving reality. But I say YES, YES, by stating synthetical statements a priori, but not from das 'ding' an sich.

Inside the piano

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

Vox. **p** **f** **ff**

But NO, there's no role for emperical research.

Comp.

7:40 8:10

f Sprechstimme

106

ord. f

Vox. But, but, I found a so - lu - tion - for, - for this pro-blem So they all, they all say the sa-a - me they all say the sa-me, they all say the sa -

Paetzold

f *mp* *mf*

mf *f* *f* *mp* *p* *mf* *gliss.*

Perc. *f* Cymbals

Pno. *pp* *before bridge* *(Ord. on string)* *mf* *(Ord. on string)* *mp* *before bridge* *ord. before bridge* *lv.* *mf*

Vox. *leg.* *mp* *sfz* *lv.*

Comp.

Detailed description of the musical score: The score is for a piece titled 'In search of Cohen's Kappa'. It features a vocal line (Vox.) with lyrics: 'But, but, I found a so - lu - tion - for, - for this pro-blem So they all, they all say the sa-a - me they all say the sa-me, they all say the sa -'. The vocal line includes a Sprechstimme section marked with 'f' and a later section marked '106' and 'ord. f'. The piano accompaniment (Pno.) includes a 'Paetzold' section. The score is divided into measures by vertical bar lines. Dynamics include *f*, *mf*, *mp*, *p*, *pp*, *sfz*, and *lv.*. Performance instructions include 'ord.', 'Sul Tasto', and 'gliss.'. Percussion includes 'Cymbals' with a dynamic of *f*. The score ends with a time signature of 8:40.

Sprechstimme

III **f**

116

mf

Vox

(a)me. But..but..., they all say dif - er - rent things.

Vision against vision

Rec.

mf

In a whispering (unvoiced) tone -----

Vox

vio.

al tallone

pizz.

ord. arco

Sul Pont.

ord.

Maybe's that's what philosophy is all about.

vox.

Perc.

(Glockenspiel)

(snaredrum)

L.V.

In a whispering (unvoiced) tone -----

Vision against a vision

Pno.

ord. before bridge

(Ord. on string)

f

sfz

lv.

mp

lv.

sfz

lv.

mp

ff

lv.

ff L.V.

ff L.V.

Vox

Comp.

granulair synth. snaredrum

9:10

9:40

In search of Cohen's Kappa

121 ord.

D

♩ = 80

Vox. *mp* > against. an other vision... So this gives us all in - con sis - tent re - sults.

Rec. *mp* *mf* *f*

Vox. *mp* *mf* *f* *ff*

vio. *mp* *mf* *f* *ff*

vo. *mp* *mf* *f* *ff*

Perc. Glockenspiel *mp* *f* L.V.

Pno. *ff* L.V. *mp* *mp* *ff* *f*

Vox. *ff* *

10:10

126

131

The musical score is arranged in a vertical stack of staves. From top to bottom, the staves are labeled: Vox, Rec., Vox, vio., vox., Perc., Pno., Vox, and Comp. The top three staves (Vox, Rec., Vox) are mostly empty, with some notes appearing in the Recorder part starting at measure 126. The Violin part (vio.) has a melodic line with triplets and slurs. The Percussion part (Perc.) includes a Glockenspiel part starting at measure 131, marked with a forte (f) dynamic. The Piano part (Pno.) is split into two staves, with the right hand playing chords and the left hand playing a bass line with triplets. There are also vocal parts (Vox) and a Computed part (Comp.) at the bottom, which are mostly empty.

10:34

10:49

136 *f*

Vox: Let's be con - clu - si - ve: what does this - rea - ly mean?

Rec. *f*

Vox

vio. *pizz.* *arco*
mp *f* *mp*

vox.

Perc. *f* L.V. L.V.

Pno. *ff* *l.v.* *sffz* *mp* *p* *mp* *mf* *l.v.*

Vox. *l.v.* *l.v.*

Comp.

11:04

141

mp

Vox. *Can we e - ver be _____ sure? _____*

Rec.

Vox.

vio. *p*

vox.

Perc. *L.V.*

(marimba) *f*

Pno. *f*

Vox. *1/2 (halve pedal)*

Comp.

156

f

Vox: What does this really mean? ... We can never, ever be sure if what we perceive by our senses.... We can ___ ne - ver ___ be su - re ___ if what ___ we per - cei - ve by ___ see - ing ___

Rec. *p* Speak

Vox: perceiving our senses. perceiving our senses.

vio. *marcato*

vox. *ff*

Perc. *mp* (glockenspiel) Sprechstimme (whispering) *ff*

Pno. *ff* loco

Vox: * Sprechstimme (whispering)

Vox: See - ing - hear - ing - feel - ing - smel - ling - touch - ing.

Comp. Cross synthesis with voice-violin

12:05

161 *mp* Sprechstimme

hear - ing smel-ling and fee-ling is the sa-me in all of us. RE-AL - LI TY. Damm reality

Rec. Tenor recorder

f *f* *mf* *mp*

Vox. ×

perceiving our senses.

vio. *mf*

vox.

Perc. *ff* *f*

Pno. *mp* *sf* *mp*

Vox. *f* *ff*

8va loco

Comp.

12:20

12:35

p

171

Vox

Damm reality

Rec.

p

Vox

vio.

ord.

f

pp

vox.

Perc.

Pno.

Vox.

Comp.

12:50