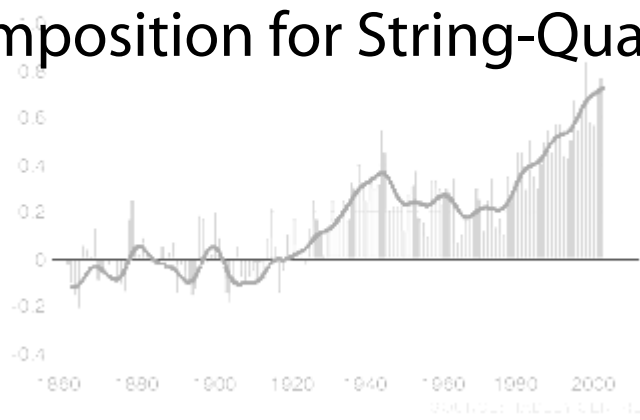
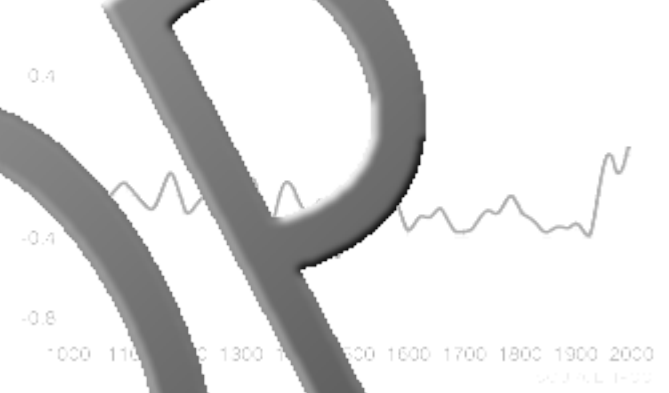


Composition for String-Quartet and Computer

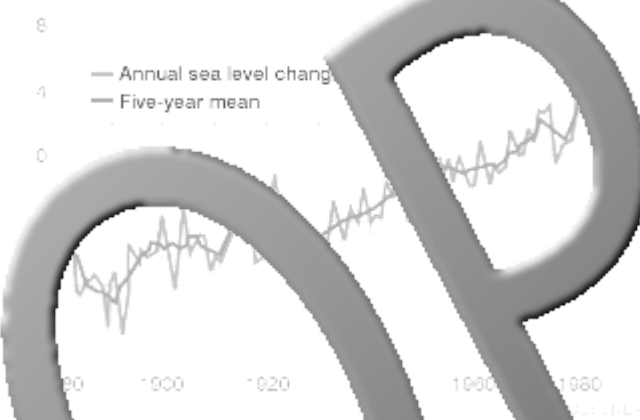
Variations in global near-surface land temperature
Temperature variation in degrees C



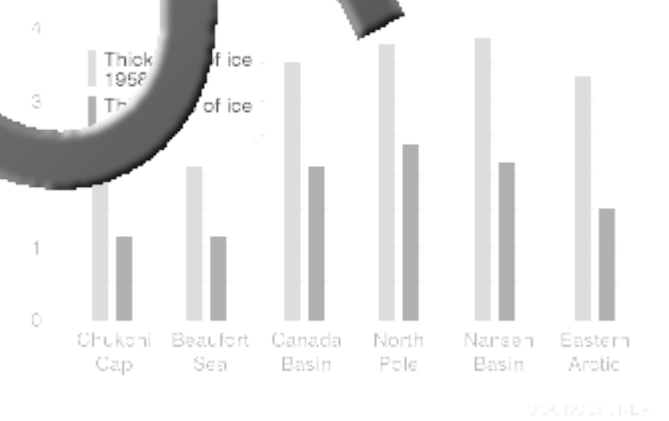
Variations in Earth's surface temperature -
past 1,000 years
Variations in temperature (relative to 1990 average)



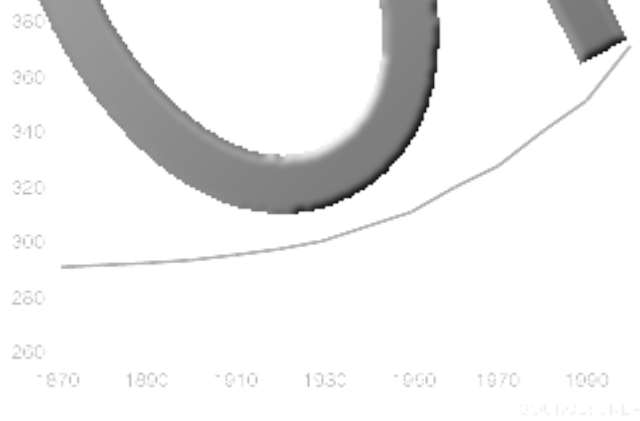
Sea level change over the last century
Centimetres



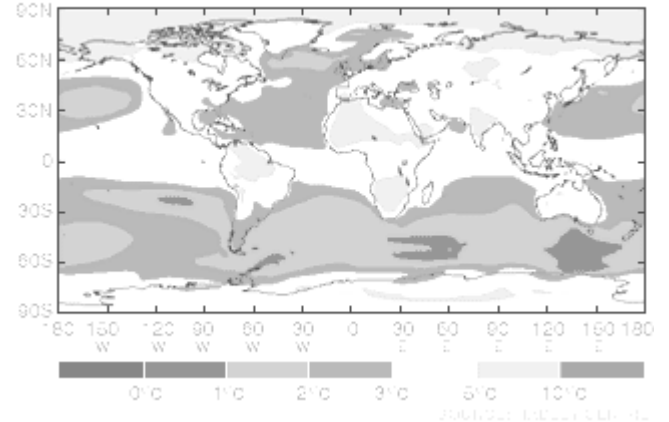
Thinning of Arctic sea ice
Metres



Global concentration of CO2 in atmosphere
Parts per million (ppm)



Predicted change in average surface air temperature
Period: 1960-1990 to 2070-2100



april 2006

Michèl Koenders

OP=OP

a composition for String Quartet and Computer.

Composer: Michèl Koenders

Performance time: aprox. 14'30

Current Date: 01-06-2010

File Date & Time: 13-09-2009 15:35

Toelichting

OP=OP, Part I

Michèle Koenders

♩ = 54

Violin I: *pp* → *p* → *pp* → *p*. *S.T.* → *S.P.*. *Sul Tasto* → *Sul Pont.*. *ord.* → *S.P.* → *S.T.* → *S.P.* (brush). *pp*. *ord.* → *S.P.* → *S.T.* → *S.P.* (brush). *pp*.

Violin II: *pp* → *p* → *pp* → *p*. *S.T.* → *S.P.*. *Sul Tasto* → *Sul Pont.*. *ord.* → *S.P.* → *S.T.* (brush) → *S.P.*. *pp*. *ord.* → *S.P.* → *S.T.* (brush) → *S.P.*. *pp*.

Viola: *mp* → *mp* → *mf* → *mf*. *spiccato* → *ord.* → *spicc.* → *S.P.* → *S.T. (brush)* → *S.P.* → *ord. spiccato* → *S.P.* → *S.T.* → *S.P.*. *mp*. *ord.* → *S.P.* → *S.T.* → *S.P.*. *mf*. *ord. spiccato* → *S.P.* → *S.T.* → *S.P.*. *mf*.

Cello: *mp* → *p* → *mp* → *p*. *spiccato* → *S.P. (brush)* → *S.T.* → *ord. spiccato* → *S.P.* → *S.T.* → *S.P.*. *mp*. *ord.* → *S.P.* → *S.T.* → *S.P.*. *p*. *ord.* → *S.P.* → *S.T.* → *S.P.*. *pp (poss.)*. *ord.* → *S.P.* → *S.T.* → *S.P.*. *p*.

Max/MSP: Harmonizing. *5* *10*

Vln. I: *mf* → *mf* → *p*. *accel.* *subito part II*

Vln. II: *mp* → *mf* → *mp* → *p*. *gliss.* *subito part II*

Vla.: *mp* → *mp*. *subito part II*

Vc.: *mf* → *f* → *mf* → *p*. *(dur.)* *(dur.)* *subito part II*

M/M: *15* *subito part II*

OP=OP, Part II

Michèle Koenders

♩ = 54

20 *pizz.* *arco* *arco* 25 *poco a poco less defined pitch* *accel.* *ord.*

Violin I *fff* *f* *mf* *p* *mp* *p* *f*

Violin II *fff* *mf* *p* *mp* *p* *f* *mf*

Viola *pp* *f* *ff* *pp* *p* *mp* *ord.*

Cello *f* *pp* *p* *mp* *mf* *f* *mf*

Max/MSP 20 *Var. Delaylines* 25

♩ = 84

30 *poco a poco less defined pitch* *accel.* *arco* 35 *two Knitting Needles in one hand.* *Spic.*

Vln. I *f* *pp* *p* *p* *f* *ff* *p*

Vln. II *mf* *poco a poco more defined pitch* *ff* *pp* *p* *f* *ff* *p*

Vla. *no pitch specified* *ord.* *arco* *mp* *ff* *fff* *two Knitting Needles in one hand.* *Spic.* *mp*

Vc. *f* *fff* *pp* *f* *fff* *two Knitting Needles in one hand.* *Spic.* *mp* *p*

M/M 30 35

OP=OP, Part II

♩ = 60 (1 bar = 5 secs)

Musical score for measures 40-45, featuring Vln. I, Vln. II, Vla., Vc., and M/M. The score includes dynamic markings (f, p, mp, mf, ff), performance instructions (start stopwatch, ord. arco), and density markings (light density, medium density). A box labeled '40' is at the start and '45' is at the end of the first system. The time signature is 5/4.

Musical score for measures 50-55, featuring Vln. I, Vln. II, Vla., Vc., and M/M. The score includes dynamic markings (f, ff, mf, p, pp), performance instructions (Sul Pont., ord., Sul Tasto, slightly detuning (+/- 1/4 tone), gliss.), and density markings (medium density). A box labeled '50' is at the start and '55' is at the end of the second system. The time signature is 6/4.

OP = OP, Part III

Michèle Koenders

Violin I $\bullet = 94$ *Play with a slightly neurotic approach*
arco. f $\square 60$ *rit.* mf *subito* f $\square 65$ $\bullet = 54$ *ord.*

Violin II mf mp f *subito* f *ord.*

Viola mp mf *subito* mf *ord.*

Cello mf mf *subito* mf *ord.*

Max/MSP $\square 60$ *ord.* Granular Synthesis $\square 65$ ON OFF

Vln. I $\bullet = 84$ *rit.* pp $< ff$ *subito* p $\square 70$ $\bullet = 54$ *arco.* p f mf $\square 75$

Vln. II $(arco.)$ $< ff$ *subito* p $p < mf$ f

Vla. *Marcato Hasty!* f ff *subito* p p f *arco.* p f

Cel. *Marcato Hasty!* f ff *subito* p p f *arco.* p f

M/M $\square 70$ Granular Synthesis $\square 75$ ON

Musical score for measures 80-85, featuring Violin I, Violin II, Viola, Cello, and M/M. The score includes dynamic markings such as *mp*, *p*, *f*, *ff*, *mf*, and *f*. Performance instructions include *Marcato*, *ord.*, *rit.*, and *play slightly hasty*. Measure numbers 80, 84, and 85 are indicated. The M/M part is marked OFF from measure 80 to 84 and ON from measure 85.

Musical score for measures 86-90, featuring Violin I, Violin II, Viola, Cello, and M/M. The score includes performance instructions such as *accel.* and *Granular Synthesis*. Measure numbers 90 and 95 are indicated. The M/M part is marked OFF from measure 90 to 95.

OP = OP, Part IV

Michèle Koenders

Violin I *mp* *pp* *p* *mf*

Violin II *mp* *pp* *f* *p* *mp* *f* *p*

Viola *p* *ord.* *p* *f* *mp* *f* *p*

Cello *p* *f* *p* *mp* *mf* *p* *mf*

Max/MSP *Harmonizing* 95 100

Sul Tasto *ord.* *Sul Tasto* *ord.* *Sul Tasto* *ord.* *Sul Pont.*

Vln. I 105 *Sul Pont.* *Sul Tasto* *ord.* *mp* *f* *mf* *f* *ff* *subito* *f*

Vln. II *ord.* *f* *p* *mp* *p* *f* *mf* *f* *ff* *subito* *f*

Vla. *mp* *mp* *f* *ord.* *f* *mf* *f* *ff* *subito* *f*

Vc. *ord.* *Sul Pont.* *ord.* *mp* *f* *mf* *f* *ff* *ord.* *ord.* *ord.* *subito* *f*

M/M 105 110 *Start soundfile* *mf*

Sul Pont. *Sul Tasto* *ord.* *ord.* *ord.* *Sul Pont.* *ord.* *ord.* *ord.* *ord.* *ord.*

OP = OP, Part IV

115 gliss. al taltone ord. 120

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

Vln. II *mf* *mp* *mf* *ff* *f* *ff* *f* *p*

Vla. *mf* *f* *ff* *f* *ff* *f* *p*

Vc. *f* *mf* *f* *f* *f* *f* *p*

M/M 115 120 Start Soundfile OFF

f

Play with a cynical approach (bitter sweet)

OP=OP, Part V

Michèle Koenders

♩ = 84

125 *Sul Tasto* 130

Violin 1 *pp* *p* *p*

Violin 2 *pp* *Sul Tasto*

Viola *ord.* *f*

Cello *Sul Tasto* *ord.* *f*

MAX/MSP *Ambisonic movement in space* 125 130

135 *Sul Pont.* 140 *ord.* 145

Vln. 1 *mf* *p* *mf*

Vln. 2 *Sul Pont.* *mf* *ord.* *mf*

Vla. *Sul Pont.* *ord.* *mf*

Vlc. *Marcato poco Pont.* *f* *ord.* *mf*

M&M 135 140 145

Musical score for measures 145-155. The score is for five parts: Vln. 1, Vln. 2, Vla., Vcl., and M&M. The key signature is one sharp (F#) and the time signature is 4/4. Measure numbers 150 and 155 are boxed. Dynamics include *p*, *mp*, *mf*, *f*, and *pppp*. Performance instructions include *Sul Tasto*, *Marcato*, and *f*. Trills and triplets are indicated with '3' and a trill symbol.

Musical score for measures 160-165. The score is for five parts: Vln. 1, Vln. 2, Vla., Vcl., and M&M. The key signature is one sharp (F#) and the time signature is 4/4. Measure numbers 160 and 165 are boxed. Dynamics include *f*, *mf*, and *pppp*. Performance instructions include *Sul Pont.* and *Sul Tasto*. Trills and triplets are indicated with '3' and a trill symbol.

FIN
Utrecht, 24-04-2006