

Score explanation

Flatland: - 'According to Analogy'

version nov. 2001 rev. 2012

The score is written in C with no transpositions except for the Tenor. (Common transposition of 1 octave).

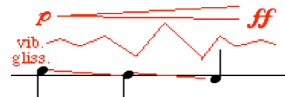
All instruments (including the two voices) are miked and amplified, this is necessary for use in the amplified 3D sound environment. (Ambisonics: Periphonic Sound Cube)

Tenor:



- 1. for A - na - lo

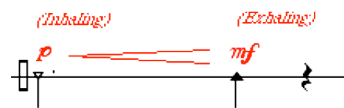
Whisper the text with a little bit of tone.



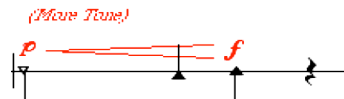
- 2. Mmm - mmm - mmm
indicated line.

Singing Mmmm. With a continues glissando and a extended vibrato; following – by approach - the indicated line.

Voice: Soprano



- 1. Inhaling and Exhaling of the Breath.



- 2. The same technique but now with slightly more Tone.



- 3. Lip popping; accellerating with crescendo (medium pitch).

4. *(Tongue Click)*

(cont.)
 Eh Mmm Uh Ohh Ash

Tong Clicking followed by singing the syllable (medium pitch).

5.

Inhale and then Couch. (no pitch).

6. *tr*

 Trrrrrrr

Make a Trrrrr sound with tremelo (medium pitch).

7. *(Hum)*

 Mmm mmm mmm mmm mmm

Humming; slightly separated. (medium pitch).

8. *(Speech song)*

 Nil, One, Two, Three, Four, Five

Speech Song (sprech stimme) with a little bit of medium pitch.

9. *pp* *ff*

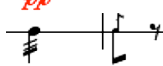
 Sssssssssssshhhhhhhhhhhhhhhhh

Make a Sshh sound. Make use of the lips to change the pitch.

10. *(Laughter)*

(cont.)
 Three !

Laughter with a little bit of pitch.


(Dental Tremelo)
pp


Dental Tremelo (if possible).

Soprano Sax:

Mmmm


Humming (low voice), while playing the notes.

Key slap / Ord. etc.


Alternating between Key slap and normal tone.

flz.


Normal Flutterzunge.

Violin:

overbow.


Overbowing. Also change the pitch by following – by approach - the indicated line.

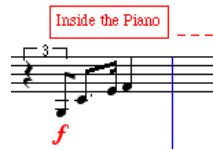
Percussion:

- 3 nice sounding Cymbals - Low, Medium and High.
- Gong – a big one, if possible.
- Marimba - full range.
- Vibraphone
- Low Bassdrum - a big one, if possible.
- Snaredrum – a high pitched real ‘pancake’, if possible.
- Mallots used: Hard, soft and Wirebrushes.

Wind Chimes (metal).
Thunder Sheet (if possible, otherwise use a large TamTam).

Keyboard:

Full range Grand-piano.



Play the indicated pitches inside the keyboard, by pulling the strings by hand.

Technical Specifications:

Microphones:

Voices: Tenor – 1 (wireless microphone).
Soprano – 1 (wireless microphone).
Violin – 1
Saxophones – 2
Piano – 2
Percussion: Cymbals – 2 (use as overhead)
Vibraphone – 2
Marimba – 2
Thunder Sheet + Gong – 1 (place in between)
Wind Chimes – 1
Bass Drum – 1

Total amount: 16

P.A. Systems:

8 speakers placed in a Cube. (Ambisonic; Periphonic)
F.O.H. System. (2 Sub-Woofers, 2 Mid/High Top Speakers).
And 4 additional speakers hanging in the middle of the room.

Flatland - 'Strictly according to Analogy' -

Michèl Koenders 12/12/12 3:30 PM Commissioned by: Fonds voor de Scheppende Toonkunst (2000)

Ref. a = 442 Hz Total duration approx. 15'30

An Algorithmic composition for a small Ensemble, Computers and a 3D sound environment.

Score is in C, and all instruments are notated as sounding

A: Intro.
B: The Abyss of No Dimensions.
C: No words 1 - the little soliloquizing Creature.
D: Alas, for Analogy.
E: No words 2.
F: "Strictly according to Analogy."
G: Equally and infinitesimally.
H: Thinker, Utterer, Hearer, Thought, Word, Audition.

Voices: Mezzo-soprano
Tenor

Instruments: Violin,
Soprano Saxophone in B,
Baritone Saxophone in E,
3 Cymbals (low, mid high),
Snare Drum,
Bass Drum,
Vibraphone,
Bass Marimba,
Gong,
Thunder Sheet,
Wind Chimes

Grand Piano.

Computers: Computer - Soundfiles
Computer - Realtime DSP
Computer - 3 D Surround (Ambisonics-Cube)

Intro - A

♩ = 92 - 96

Speech Song

Tenor

pp *mp* *slowly more pitch* Ord. *f* *p* *f*

Test O - ne Two Three Test One Two Three Can I Start My Lec - ture? So I will turn

Computer: Soundfiles

1 Lights Off

1 SND-1 (Crack Sounds) *p* *f*

Computer: 3D Surround

T.

9 on the com - pu - ter and the Bea - mer? And what a - bout the lights? Where is the re - mote con - trol? Oh its there Dou - ble

gliss. Ord. *ff* *mf* *p < mp* *f* *mp* *f* *mp* *f*

Snd

9 Lights On/Off (flick.) Lights On (Big)

SND-2 (Lights On/Off) *mf*

3D

T.

18 *p* *f* *pp* *mf* *pp* *f* *mf* *gliss.* *ppp*

click to start the pre - sen - ta - tion one two three te - st three two one

gliss.

Snd

18 SND-3 Mouse click Sounds *p* *ff* System starts to work

SND-4 (Audio Crack Sounds) *mf*

3D

Glimpse of Surround (very short)

The Abyss of No Dimensions - B

♩ = 88

Tenor

Soprano Saxophone

Computer DSP

Computer 3D Surround

1

1

Patch 03 (crsyn)

Patch 01 Mono-Inside Cluster On

Ten.

Sop.Sax.

DSP.

3D

9

9

Patch 02 (on/off) Harm

Ten.

Sop.Sax.

DSP.

3D

18

18

Patch 03 (off)

Patch 01 Mono-Inside Cluster Off

No Words 1 - the little soliloquizing Creature - C

v270501

♩ = 60 (= 1 sec.)

Soprano

(Inhaling) *p* (Exhaling) *mf* (More Tone) *p* *f* (Lip Pop) *f* *ppp* *fff* (Tongue Click) *mf* (ord.) Eh Mmm Uh Ohh Aah *pp* (Couch) *trrrrrrrr* (Tongue Click) *ff* (Hum) *ppp* *pp*

Computer: DSP

Computer: 3D Surround

Middle Cluster *ppp* *fff* *pp* Slow movement of the sound on the MC 0:10 0:20 Slow -> turning MC -> Fast Start Movement of sound on dia.line 1 0:30

Sop.

(Speech song) *ff* Nil, One, Two, Three, Four, Five *pp* *ff* Sssssssssshhhhhhhhhhhhhhhhh (Laughter) *p* = *fff* Three ! One ! (Dental Tremelo) *pp* (Whistle) *p* *ff* (Shouting) *f* *pp* Ahh, Uhh, Ohh 3 (poco a poco.) *ffff* *pppp*

DSP

3D

0:30 Start Movement of sound on dia.line 2 0:40 Sparkling to other speakers 0:50 Split voice in surround system Sparkling to other speakers 0:60

Alas, for Analogy - D

♩ = 76-80

1

Tenor

Soprano Saxophone

Violin

Computer-DSP

Computer 3D Surround

In One Di - mension, did not a

ppp f p ff pp ff p f p

patch 04 (crsyn + flik.SndFile)

patch 03 (crsyn)

patch 04 (crsyn + flik.SndFile)

patch 02 (surr Mono Middle Cluster)

Leaking to Surround SP 1 t/m 4

9

Ten.

Sop.Sax

Vio.

DSP.

3D

mo - ving poi - nt pro - du - ce a li - ne with two ter - mi - nal points In two

f mf f pp f pp f ff mf p f

patch 03 (crsyn)

patch 05 (crsyn)

Start Quick movement / Mono Cluster

Slower movement

17

Ten. *(f)* *p* *mf* *p* *pp* *f* *gliss.* *ff* *mf* *(Ord.)*

di - men - si - ons did not a mo - ving li - ne pro - du - ce a squa - re - wi - th - four ter - mi - nal - points

Sop.Sax *mf* *pp* *p* *ppp* *mp* *ff* *tr(x)* *(Ord.)*

Mmmm Key slap / Ord. etc.

Vio. *(Ord.)* *gliss.* *f* *pp* *f* *mf* *f*

DSP. 17 patch 06 (crsyn)

3D

25

Ten. *f* *gliss.* *Whisper* *p* *f* *mf* *(Ord.)* *p*

Als for A - na - lo - gy A - na - lo - gy

Sop.Sax *f* *Ord.* *p* *mf* *f* *mp* *pp* *flz.* *Ord.* *flz.*

Vio. *p* *p* *f* *p* *f* *pp*

DSP. 25 patch 04 (crsyn + flik.SndFile)

3D

No words 2 - E

♩60 (=1 sec)

Soprano

ff *pppp* (Inhaling) *p* (Exhaling) *mf* (Tongue Click) *mf* (ord.) *pp* (Cough) *tr* (ord.) *p* (Laughter) *fff* (ord.) *pp* (Dental Tremelo) *ff* *pppp*

Sssssshhhhhhhhhhh Eh Mmm Uh Ohh Aah Trrrrrr (ord.) Four! Five! Sssssshhhhhhhhhhh

Computer: DSP

Patch 05 Granular Synt

Computer: 3D Surround

0:10 *ff* 0:20 0:30

Slow -> turning MC -> fast

Sop.

(Whisper) *pp* *f* (Laughter) *p* (ord.) *fff* *p* *f* *fff* (Cough) *p* *fff* (Laughter) *p* (ord.) *f* *ppp* *f* *pp*

Dimen - sions Three! One! Mmmm.. Mmm - mmm - mmm Uhh Oohhh Ja - ja - ja - ja - tja - tja

DSP

Patch 02 Harm

3D

Patch 05 Surround triangular Front of House

0:30 0:50 0:60

"Strictly according to Analogy" - F

♩-88

♩-92 - 96

Tenor
In three Di-men-sion-s did not

Soprano Saxophone
flz. Ord. (Ord.)

Percussion
Wind Chimes l.v.

Piano
pp { f { p { f {

Computer: DSP
Patch 03 (crssyn) met sndfile Patch 03 (crssyn) sax-ten

Computer: 3D Surround

ten. *f* a mo - ving square - pro - du - ce *(f)* did not this

Sop. Sax. flz. Ord. *(p) < f p*

Vio.

Perc. Gong *p* l.v.

vib. *mf* *f* *ff* *fff* (l.v.)

B.D. *f* *p*

pia. *sfz* *f* *p* *f* *p* *f* *ff* *f* *ff* *p* *mf* *(f)*

DSP Patch 03 (crssyn) met sparklefile Patch 03 (crssyn) sax-ten

3D

ten. *ff* *f* *mf* *f*
eye of mine be - hold it That bles - sed be - ing a cube with eight ter - mi - nal points And in

Sop. Sax. *p* *f* *p* *f*
flz. Ord.

Vio.

Perc.

vib. *mf* *p* *f* *mf* *mf* *mf*
L.v.

B.D. *ff* *f* *p* *f* *mf* *mf*

pia. *ff* *f* *f* *mf* *ff*

DSP

3D

ten. 22 *ff* *f* *fff* *ff* *f*
 four Di - men sions shall not a moving cube alas, for A - na - lo - gy - for the pro - gress of thruth

Sop. Sax. 22 (Ord.) *p* flz. (*p*)

Vio. 22

Perc. 22

vib. 22 *p* (l.v.) *f* *ff* *p* *f* *ff* l.v.

B.D. 22 *ppp* *ff* *ffz* *f* *ff*

pia. 22 *f* *mf* *p* *ffz* *f* *mf*
 Ord. *ffz* *ffz* *8^{va}* *8^{va}* *8^{va}*

DSP 22

3D 22

♩ = 48

♩ = 96

ten. *mf* *f* *mf* *f* *mf*

If it be not so shall not I say the

Sop. Sax. *f* *p* *mf* *mp*

Vio. *ff* *f* (Overbowing) *f* *ppp*

Perc. Wind Chimes *p* *f*

vib. *p* *f* *pp*

B.D. *f* *f* *pp*

pia. *f* *p* *mf*

Ord.

DSP Patch 03 (crssyn) met sparklefile

3D Patch 06 (surround) met doorvoken

♩ = 48

♩ = 96

ten.

36 *f* *mp* *f* *mp* *mf*

mo - tion of a di - vi - ne Cube re - sult in a still more

Sop. Sax.

36 *ppp* *p* *f*

Vio.

36 *mf* Marcato

Perc.

36 *f* *p* *f* *f* Thunder Sheet I.v.

B.D.

36 *f* *p* *f* *p*

pia.

36 *p* *f*

DSP

36

3D

36

43 *mp* *f* *mp* *f* *mf* *ff*

ten. di - vine or - ga - ni - sa - tion wi - th six - t - een points Strict - ly Ac - cor - ding to

Sop. Sax. *pp* *mp* *pp*

Vio. (Overbowing) *f* *p* Ord. *mf* *pp* *f* > Marcato

Perc. 43

vib. *p* *f* *p* *f* *p* *ff* *pp*

B.D. 43

pia. 43 *mp* *f* *p* *f* *p* *f* *p*

DSP 43

3D Bursts *f* Bursts *ff* Bursts *fff*

50 *f* *p* *f* *pp*

ten. A - na - lo - gy. A - na - lo - gy

50 *mf* *f* *p* *ppp*

Sop. Sax.

50 *pppp*

Vio.

50 Thunder Sheet l.v. l.v.

Perc. *f*

50 *p*

vib.

B.D.

50

pia.

50

DSP Patch 05 (vap.)

50

3D slowing down of movement

Equally and infinitesimally - G

♩ - 66 - 69

The score is for a piece titled "Equally and infinitesimally - G". It features a Soprano vocal line with lyrics: "The rea son is ob vi ous Di men sions im plies di rec tion im plies mea sur ment". The music is in common time (C) and includes various dynamics and articulations such as *f*, *mf*, *ff*, *p*, *pp*, *ppp*, *gliss.*, and *tr.*. The instrumental parts include Violin, Cymbal, Marimba, Percussion, and Piano. The Computer DSP and Computer 3D Surround sections are also present, with the latter including a patch box labeled "Patch 06 Surround Sound Static" and the instruction "Every instr. his own position in space."

Sopraan
The rea son is ob vi ous Di men sions im plies di rec tion im plies mea sur ment

Violin
p *f* *(f)* *ppp* (overbowing)

Cymbal
l.v. *f* *mf*

Marimba
ff *p* *ff* *(ff)* *pp* *mf* *pp* *mf* *ff* *f*

Percussion
f *pp* S.D.

Piano
f *ff* *mf*

Computer DSP

Computer 3D Surround
Patch 06 Surround Sound Static
Every instr. his own position in space.

7 *mf* *ff* *f* *p* *gliss.* *accel.* $\text{♩} = 66 - 69$

sop. im plie ies the more e e

Vio. *f* *ff* *p* *f*

Cym. *ff* l.v. *mf* l.v.

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

Perc. *f* B.D. *f*

Pia. *f* *fffz* *ff* *f*

DSP 7

3D *Cross Synthesis* *Patch 07 Surround Sound Static Shift* *Patch 06 Surround Sound Static*

13 *pp* *f* *(f)* *p*

sop. and and the the

Vio. *p* *f*

Cym. 13 l.v. l.v. l.v. Arco *f*

Mar. 13 *p* *ff* *p* *f*

Perc. 13

Pia. 13 *ff* *p* *f* *ffz* *ff* *f*

DSP 13 Cross Synthesis

3D 13 Cross Synthesis Patch 07 Surround Sound Static Shift

19 *f* *mf* *p* *mf* *p* *ppp*

sop. less, the mo ore and the less less less less

Vio. *mf* *f* *ppp*

Cym. *pp* *ff* Ord. Arco *pp* *f* *pppp*

Mar.

Perc.

Pia. Inside the Piano touch string node *ff* *p* *f* *f* l.v.

DSP CSynth 2 CSynth 3 CSynth 4 CSynth 5

3D

Thinker, Utterer, Hearer, Thought, Word, Audition - H

♩ = 82 - 86

♩ = 44 - 48

The musical score is arranged in a standard orchestral layout. The top staves are for Tenor and Bariton Saxophone, both in whole notes. The Violin part features dynamic markings of *mf*, *ppp*, *pp*, *f*, *p*, *f*, and *p*. The Cymbals part includes *p*, *ff*, *p*, *pp*, *f*, and *mf*. The Vibraphone part has *p*, *mf*, *f*, *ff*, *mp*, *f*, *ff*, and *ff*. The Piano part includes *mp*, *p*, *mf*, *f*, and *ff*. The Computer-DSP part contains the text "Patch 03 Csyn" and "tussen Vib en pia". The Computer-3D-Surround part contains the text "Patch 02 Surround". The score includes various musical notations such as triplets, first endings (l.v.), and dynamic hairpins.

♩ = 82 - 86

♩ = 44 - 48

Ten. *mf* *gliss.* *f* *p* *f* *mf*
 It fills all Space con - ti -

Bar. Sax. *Sul Pont.* *pp* *mf*

vio. *Sul Pont.* *pp* *mf* *p* *f* *pppp*

Cym. *p* *mp*

Vib. *ff* *p* *f* *mf*

Sn. *p*

B.D.

Pia. *mf* *f* *ff* *ffz* *f*

dsp. *Patch 02 Harn*

3D *Patch 03 Surround*

♩ 82 - 86

Ten. *p* *mf* *f* *ff* *mf* *ff*
nued the - e so - li - lo - qui - zing Crea - ture and what it

Bar. Sax. *mf* *f* *pp* *f* *p*

vio. *p* *f* *ppp* *f* *pppp* Ord.

Cym. *ff* *p* *f* *mp* *ff* *f* *ff* *p* *f*

Vib. *f* *ff* *f* *ff* *f* *p* *f*

Sn. B.D.

Pia. *mf* *sfz* *ff* *p* *f*

dsp. *ff* burst

3D

Detailed description: This page of a musical score covers measures 82 to 86. The vocal line (Tenor) has lyrics: "nued the - e so - li - lo - qui - zing Crea - ture and what it". Dynamics range from piano (p) to fortissimo (ff). The Baritone Saxophone part features a melodic line with dynamics from mezzo-forte (mf) to piano (p). The Violin part includes a section marked "Ord." with dynamics from piano (p) to pianissimo (pppp). The Cymbal part is marked "arco" and "ff", with dynamics changing to piano (p) and mezzo-piano (mp). The Vibraphone part has a rhythmic pattern with dynamics from forte (f) to fortissimo (ff). The Piano part has a complex accompaniment with dynamics from mezzo-forte (mf) to fortissimo (ff). The Drum set (Sn.) and Bass Drum (B.D.) parts are mostly silent. The DSP (Digital Signal Processing) part has a "burst" effect. The 3D part is also mostly silent.

26 *f* *ff* *f* *mf* *mp* *p* *f* *ff* gliss. \rceil \rceil \rceil

Ten. fills It is. What It It Thinks that _____

Bar. Sax. *pp* *mf* *p* *pp*

vio. overbowl. *f* \rceil *p*

Cym. *f* *ff* *p*

Vib. *mf* *pp* *ff* *f* *ff* *p* *mf* *f*

Sn. *mf* *pp* *f*

B.D. *mf* *pp* *f*

Pia. *ff* *f* *f* *p* *mp* *f*

dsp. *ff* *f* *f* *p* *mp* *f*

3D Patch 03 Csyn granulation of sound

34 *p* *f* *mf* *p* *f*

Ten. it ut - ters and what it ut - ters

34 *p* *f*

Bar. Sax.

34 Ord. *f* > *p* *mf* > *pp* *p* > *ppp* *f* Ord. (*p*)

34 *mf* *f* l.v.

Cym.

34 *mf* *f* l.v.

Vib.

34 *ff* > *p*

Sn.

B.D.

34 *mp* *f* *p*

Pia.

34 *p*

dsp.

34

3D

43 *ppp f*

Ten. that it hears; and It it - self is Thin - ker, Ut - ter - er.

43 *mf* *f*

Bar. Sax. *p f* slap

43° *ppp* *p* *pppp* *mf* *pp* *f* *p* *pp* *mp* *Sul Pont.*

43 *mp* *mf* *f*

43 *mf* *f* *ff* *f* *Ord.* *l.v.*

43 *mf* *f* *ff* *f*

43 *mf* *f* *ff* *f*

43

43

3D

52 *mf* *< ff*

Ten. Hea - rer, Thought, Word.Au - di - tion;

Bar. Sax. 52 Ord. *pp* *mf* *p* *ppp* *mp* *pp* *f*

vio. 52 overbow. *p* *mf* *pp* *mf* *pp*

Cym. 52 *mf* *p* *mf* l.v. 3 l.v.

Vib. 52 *mf* l.v. l.v.

Sn. B.D. *mf*

Pia. 52 *mf* *p* *mf* 3 3

dsp. 52 granulation of sound

3D 52

61

Ten. *f* *mf* *mp* *f* *mf* *ff* *mf*
 it is the One, and yet the All in All. Ah the

Bar. Sax. *pp* *mf* *p* *f* *p* *f* *pp*

vio. *p* *mf* *ppp*

Cym. *p* *mf*

Vib. *sfz* *f* *mf* *f*

Sn. *mf*

B.D.

Pia. *sfz* *f* *pp* *f* *Ord.*

Inside the Piano

dsp. *sfz*

3D *sfz*

61 + Harm burst

70 *f ff mf*
 Ten. *f mf f pp mf* *ff* *f*
 _ hap - pi - ness ah. the ha - pi - ness of Be - ing. Aa Ah

70 *p* *f* *ppp*
 Bar. Sax.

70 *f* *p* *f* *p* *mf* *fff* *p*
 vio.

70 *f* *p* *pp*
 Cym. *l.v.* *l.v.*

70 *sfz* *mf* *ff*
 Vib.

70 *sfz* *mf* *ff*
 Sn.
 B.D.

70 *sfz* *mf* *ff*
 Pia. *3* *3* *3* *3*

70 *burst* *granulation of sound* *burst*
 dsp. *sfz* Patch 04 Surround

3D

79

Ten. *ff* the hap pi ness ah.

Bar. Sax.

79

vio. *f* *>mp* *f* *>* *f* *p* *f* *pp* *mf* *f*

79 *mf* l.v.

Cym.

79 *f* *fff* *f*

Vib.

Sn.

B.D.

79 *f* *fff* *mf*

Pia.

79

dsp.

79

3D

poco à poco rit. -----

Musical score for Tenor, Bar. Sax., vio., Cym., Vib., Sn., B.D., Pia., dsp., and 3D. The score includes lyrics: "the hap - pi - ness of". Dynamics include *p*, *f*, *mp*, *pp*, and *mf*. Performance markings include *poco à poco rit.*, *3*, and *31*. The score is arranged in a vertical stack with Tenor at the top and 3D at the bottom.

♩ 64

Ten. ⁹⁷ *mf* *pp* *rit.* *pp*
of Be ing.

Bar. Sax. ⁹⁷

vio. ⁹⁷ *mp* *pp* *p* *ppp*

Cym. ⁹⁷ l.v.

Vib. ⁹⁷ l.v.

Sn. ⁹⁷ l.v.

B.D. ⁹⁷ l.v.

Pia. ⁹⁷ l.v.

dsp. ⁹⁷

3D ⁹⁷

Utrecht, Karlsruhe 04 nov 2001