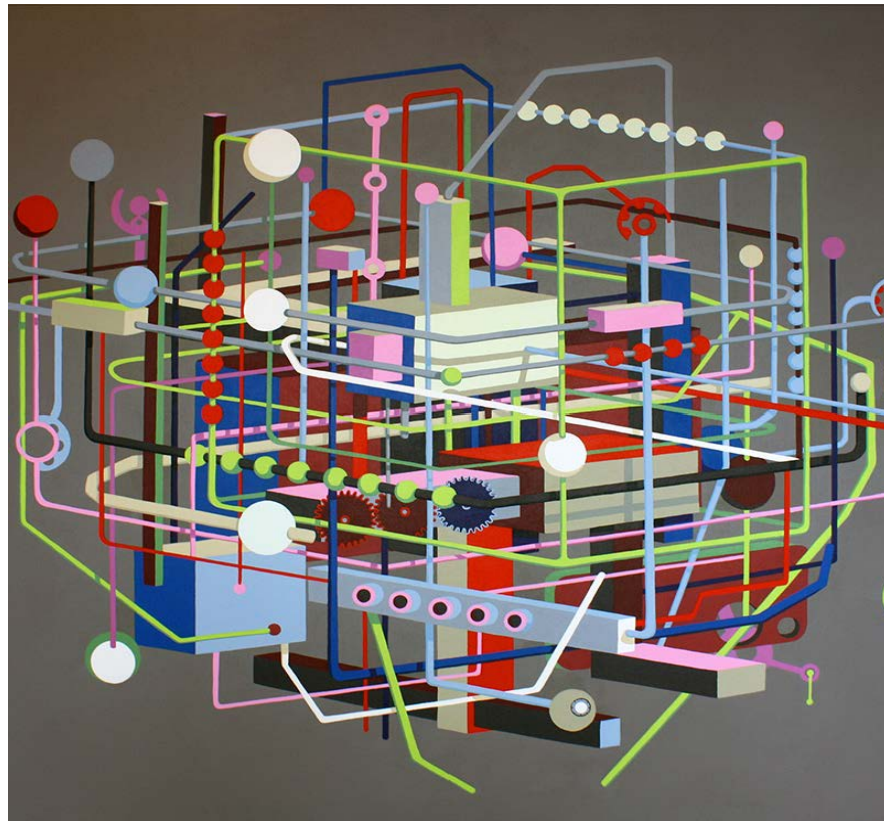


Hybridisasjon

Hybridization



"Utopolis #9", Silje Heggren, 2018, acrylic on canvas

for ensemble, electronics and visuals

Knut Vaage

2019

to
BIT20 Ensemble
30th year anniversary
9th of November 2019

Electronics: Thorolf Thuestad
Transducers: John Hegre
Visuals: Birk Nygaard

Conducted by Trond Madsen

Flute (doubling Bass Flute and Piccolo)
Clarinet in Bb (doubling Bass Clarinet)
Percussion
Harp
Piano
Violin
Cello
Piano Frame
Conductor treat Perc-instruments

Percussion setup:

Tam-tam, Marimba (to low C), 5 Clay Pots, Vibraphone, Crotales (pitches ad lib.)

Extra: 2 bows

Conductor uses transducer microphones on 1 Timp (medium or big), G.C., and Frame Drum and must control cameras from given instruction, and play Bull Roar

Extra player is needed for Piano Frame with bass transducer and normal transducer (must be able to use loop pedal)

ABOUT THE SCORE:

Accidentals apply through the whole bar within the same octave. Trills are chromatic if not marked. Tremoloes are unmeasured if not marked

The score gives the performers freedom to improvise, and adjust the length of each Senza misura bar

The Hybrid between acoustic and electronic sound and the visual part must be taken care of by intense listening and equality between the performers of the instruments, the electronics, and the visual part. The nick names in the electronic part refers to a workshop on relations between ensemble and electronics. For future performances, the sound designer is welcome to make own versions inspired by the short descriptions on each part.

ACKNOWLEDGMENT:

Hybridization is included in our research project at the Grieg Academy; *(un)settling Sites and Styles*. It has been partly developed with John Ehde

(my partner in this project) and sound designer/programmer Thorolf Thuestad. Transducer technology is designed by John Hegre. Special effects are developed and combined in new ways as a part of the research project on workshops during 2018. The pice include quotes from *Svev*, premiered at the Borealis festival in Bergen 2018 by Valen Trio.

Svev took material from *Etudes* made in collaboration between John and me, and from some of my other pieces.

Many thanks to BIT20 Ensemble and Trond Madsen for making possible the world premiere at Grieghallen in November 2019.

Thanks to the Borealis Festival for supporting and co-operating for the premier of *Hybrid Spectacle* in March 2020.

PERFORMANCE:

The visuals are projected on a big sized canvas. Laser and 4 micro-camera will be needed.

For the sound part, a full PA with surround is needed. The ensemble should be microphoned by DPA's, but transducer instrument should not be amplified (conductor's perc and piano frame). Please read bottom lines in score to get details about amplification, electronics, transducers and visuals.

DURATION: c. 15 min.

"Hybridisasjon" er tinga som ein smakebit av ei konsertforestilling tinga av BIT20 Ensemble kalla "Hybrid spetakkel" for ensemble med cello-solo, elektronikk og visuell design. I begge verka blir tilhøvet mellom menneske og teknologi belyst. Prosjektet vil gå parallelt med, og vera ein del av PKU-forskningsprosjektet «(Un-) settling Styles and Sites på Griegakademiet, og enda i ei avsluttande multimedial konsertforestilling med premiere på Borealis 2020. Men "Hybridisasjon" vil stå fram som eit eige verk, urframført på BIT20 Ensemble si 30-års jubileumsfeiring 9. november 2019.

Ideen oppsto ut ifrå ein refleksjon over at me i vår tid kan oppleve ein ny slags futurisme gjennom all vår entusiasme for ny teknologi.

Menneska i vår tid kan visa stor entusiasme for teknologiutviklinga, men kan også oppleve ei redsle for å bli overflødiggjort av teknologien.

I "Hybridisasjon" vil me utforska hybridene mellom den akustiske lyden frå ensemblet og elektronikken. Instrumenta sine små, subtile lydar som normalt er lydsvake, vil bli forsterka og kraftig elektronisk bearbeida. Gjennom prosessen blir samanhengene mellom dei ulike verkemidla undersøkt.

Samansmelting av elektronikk, akustisk lyd og visuelle teknikkar, vil resultera i ein kreativ loop - eit hybrid multimedialt landskap.

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Scores available from NB noter, Nasjonalbiblioteket/National Library of Norway

P.Box 2674 Solli, N-0203 OSLO, noter@nb.no

More info: www.knutvaage.com

Score in C
All instruments with mics:
instructions for amplification/effects notated in score.
Adapt dynamics to electronics

Hybridisasjon

Hybridization

Knut Vaage

Introduction
Senza misura ② ③ ④ ⑤ **A**

Bass Flute
soft AMP (blend w. ens.)

Bass Clarinet
n *mf* *pp* (al *n ad lib.*)

Tam-tam
pp l.v.

Marimba
(♩. = c. 108)
adapt to Hp rhythm medium soft mallets *
* Opt; hold 4 mallets; softer for low notes, 2 harder for highest notes

Percussion Conductor

LOWEST C
Harp
strike on lowest strings w. flat hand
pp l.v.
(♩. = c. 108)
pp even 16 notes
mf continue poco ad lib.
melodic, freely (loco)
mfz l.v.

Piano
strike on lowest strings w. flat hand
pp l.v.
R.H. (for each attack, move position on string)
fingertip on string to produce harmonics
loco change position ad lib.
L.H. play on lowest C (key)
play *mf* sounding *pp*

Violin
s.t.
circular movements w. bow from s.t. to s.p. continuously
s.t.
n *mf*

Cello
circular movements w. bow from s.t. to s.p. continuously
n *mf* *p*

Amplification
Amp on Bass Flute (blend w. ens.)

Electronics
Vln/Vlc. Dancing Grasshoppers gradually

Piano frame Transducer
Strike on lowest strings w. flat hand (Send Piano into Piano Frame bass transducer)
Reverberate Piano
Loop Piano
playback loop, send to Pno Frame bass transducer
pp l.v.
softly

Visuals
Quite dark room
Idle screen w painting projection
Camera B on Vlc bow on string
blend painting, slowly gradually off
Camera B: Vlc + Vln (double image of both musicians)

(breathe w. needed) (breathe w. needed)

2 3 4

Bs. Fl.
 Bs. Cl.
 Mrb.
 Hp.
 Pno.
 Vln.
 Vc.
 Amp.
 Electr.
 Trans.
 Vis.

mp
p sempre
mfz
mp sempre
 (loco)
 (harmonics continue ad lib.)
 (8vb)
 (Rev.)
 free intonation (poco gliss.)
p sub.
 free intonation (poco gliss.)
p sub.
 (Amp on Bass Fl.)
 (Rev. on Pno)
 (loop playback)
 (Cam. B: Vlc./Vln. bow)
 Camera C add Hp
 (Cam. D: Pno. string)
 Camera C on Marimba

fp
fp
 freely
 freely
 freely
 freely
 freely

Part 1

Misurata (♩ = c. 63)

5

Bs. Fl. *f* rapidly poss. *mp* solo rep. pattern ad lib.

Bs. Cl. *f* rapidly poss.

Mrb. *fp* *f* rapid gliss. ad lib. *p*

Hp. *f* l.v.

Pno. pizz. *sfz* *sfz*
 ord. R.H. pizz. w. nail on same string (to make string vibration extreme for camera)
 L.H. attack on key

Reo. (8vb) *mf*

Vln. *ff* crush *p*

Vc. *ff* crush *p*

Amp. (Amp on Bass Fl.) Add volume on Bass Fl. (enlarge for solo)

Electr. fade Loop Vln/Vlc. Nails on blackboard

Trans. (loop playback) fade Rev. ad lib.

Vis. (Cam. B: Vlc./Vln. bow) (Cam. C: Mar.) (Camera D, piano string only) (Cam. D: Pno. string)

string research #2 (key-pizz)

Bs. Fl. *f* *sfz* *p* *f* *p* *f* *sfz* *p*

Bs. Cl. *sfzpp* 5

Mrb. *p*

Perc. Cond.

Hp. *sfz* l.v. *sfz* l.v.

Pno. *sfz* l.v. *sfz* l.v.

(Leo.) *8^{sub}* Leo.

Vln. ord. measured trem. *p*

Vc. ord. measured trem. *p* (III/IV)

Amp. (Amp on Bass Fl.)

Electr.

Trans. (Pno frame) (loop playback)

Vis. (Cam. B: Bs.Fl.) (Cam. C: Mar.) (Cam. D: Pno. string)

D

* allow overblow on sfz

Bs. Fl. *f* *sfz* *

Bs. Cl.

Mrb. *pp*

Hp. *ord.* *p*

Pno. *sfz* l.v.

Vln. ^(8^{vb})
(Leo.)

Vc.

Amp. (Amp on Bass Fl.)

Electr.

Trans. (Pno frame)
(loop playback)

Vis. (Cam. B: Bs.Fl.)
(Cam. C: Mar.)
(Cam. D: Pno. string)

string research #4 (longwise rapid gliss.)

E

Bs. Fl. *sfz* * *sfzp* *f*

Bs. Cl. *sfzpp* 5

Mrb. *fp*

Hp. (-) (7) *p*

Pno. *sfz* l.v. ord. *p* (*p. a p.*)

(*8^{vb}*) (*2^{ed}*)

Vln. * *b.b. 3* ord. grad. to s.p. *sfz* *p*

Vc. * behind bridge * *b.b. 3* ord. grad. to s.p. *sfz* *p*

Amp. (Amp on Bass Fl.)

Electr.

Trans. (Pno frame) (loop playback) (transducer, no cresc.)

Vis. (Cam. B: Bs.Fl.) (Cam. C: Mar.) (Cam. D: Pno. string)

Interlude

Lento rubato (♩ = c. 63)

Bs. Fl. *ff* *p*

Bs. Cl. *ff*

Mrb. *ff* close mic bow (w. D.B. bow) *p* (play louder)

Perc. Cond. Prepare transducer

Hp. rapid gliss. ad lib. *ff* l.v. *p*

Pno. *ff* E-bow on string *pp*

Vln. s.p. *ff* ord. con sord. *pp dolce e legato*

Vc. s.p. *ff* ord. con sord. *pp dolce e legato*

Amp. (Amp on Bass Fl.) Amp Tutti

Electr. (Pno frame) Conductor's perc and Piano Frame: NO AMP (for the whole piece)

Trans. (loop playback) Mar. Dancing Grasshoppers or Ad lib

Vis. (Cam. B: Bs.Fl.) Camera B on Bs.Fl/Vln/Vlc

(Cam. C: Mar.)

(Cam. D: Pno. string) Futuristic painting projection #1

Part 2

Senza misura 10"

lowest pitch ad lib. **Bs. Fl.** *pp* bend ad lib. *p* when repeated, variate bend

Bs. Cl. *pp* when repeated, variate bend

Mrb. *pp* mallets keep chord, or optional change pitches slowly ad lib.

Perc. Cond. Move camera B to Timp. position *pp* Bs Fl transducer Timp. ped. ad lib. when repeated, variate ped. ad lib.

Hp. *pp* *bisbigliando* Amp only (no treatment) -

Pno. *pp* trem. on strings (sidewise w fingertips) Amp only (no treatment) -

Vln. sord. off *p* (play louder) bow on bridge (whispering sound) (ad lib.) *pp* ord. punta d'arco on lowest string only (noise on highest pitches)

Vc. sord. off *p* (play louder) bow on bridge (whispering sound) (ad lib.) *pp* on lowest string only (noise on highest pitches) ord. punta d'arco

Amp. Amp Bass Flute Amp Tutti Pno/Hp: Amp only (no treatment) -

Electr. (cave reverb ad lib.) effects Mar. Wobbling multi-layers Fl/Cl. Wind landscape Vln/Vlc. Wind landscape Vln/Vlc. Robot glitch - gradually increased effect

Trans. Loop Bass Flute Send Bs. Fl. to Timp. transducer Loop Marimba TACET

Vis. (Cam. C: Mar.) Camera B on Timp. transducer (transducer robot, moves by itself from vibration) Camera C on Marimba Camera D on Piano string - string research #5 (Pno string trem.)

2 10" Mar. fade 3 10" Timp. trans. Bs Fl. 4 20" Timp. ped. solo 5 10" Mar. soft chord **F** 30" Strings on bridge 2 blow air 15" FL/Cl. wind *sfz* 3 5" Strings trem/gliss. 4 30" Wind landscape

Clarinet shi ss sho ssj sho ss sho ssj

5 5" Mar. trans. Pno.Fr. Hp/Pno high trem. 2

15" Hp/Pno gliss. down

3 20" Hp/Pno like Tam-tam 4

5" Perc. Clay Pots

Flute 5 15" Fl./Cl. perc perc.: pizz./lip vacuum

H 30" Hp/Pno Molto lento

2 30" Variation pop on end of mouth piece w. flat hand

pop on instr. w.out mouth piece (change pitch w. keys)

Clay pots solo, rhythms ad lib. play w handles of Rubber mallets Rubber mallets (turned)

Hp. (Amp only) pitches ad lib. high measured trem. across strings (mute ad lib) gradually downwards both hands keep steady effects/rhythm

R.H. medium low trem. on strings L.H: lowest palm cluster (like tam-tam)

rhythm and pitches ad lib. (blend ord. and harmonics ad lib.)

Pno. (Amp only) high measured trem. (bisbigliando) gradually downwards both hands keep steady effects/rhythm

R.H. medium low trem. on strings L.H: lowest palm cluster (like tam-tam)

pizz. rhythm and pitches ad lib.

Vln. Vc.

Amp. (Amp only) Amp Tutti

Electr. (Fl/Cl. Wind landsc.) (Mar. Wobbling multi) (Vln/Vlc. Robot gl.) Hp/Pno. Oposite Perc. Clay landscape (gradually increase the effect) Fl/Cl. Glitch smack Hp/Pno. Sparkling

Trans. playback loop, send to Pno Frame bass transducer

Vis. (Cam. C: Mar.) Camera A on Piano Frame Camera B on Vln./Vlc. Camera C on Harp Camera C on Harp/Perc Camera B on Fl./Cl.

3

4

5

30" Variation
smack: make short kissing sounds on parts of instr.

5" Slow strings

45" G.C. trans. Mar.

Fl.

Bs. Cl.

Perc.

Perc. Cond.

Hp.

Pno.

Vln.

Vc.

Amp.

Electr.

Trans.

Vis.

perc: tongue smack etc.

Marimba

bow (w. D.B. bow)

pp (play louder)

pp dolce

pp dolce

pp

rep. ad lib.

rep. ad lib.

slowly changing chord (keep double stops ad lib.)

slowly changing chord (keep double stops ad lib.)

pp dolce

pp dolce

Amp Tutti

(Fl/Cl. Glitch)

(Hp/Pno. Sparkling)

(Vln/Vlc. Robot gl.)

(loop playback)

(Cam. B: Fl/Cl.)

(Cam. C: Harp/Perc)

(Cam. D: Pno. string)

Clarinet

ord. (blend w. strings)

Mar. transducer G.C.

Frame Drum on G.C. (containing a handful of small resistors)

send Mar. loop to G.C. transducer

send Mar. loop simultaneously to the Piano Frame and the Frame Drum transducers

showing patterns of jumping resistors inside Frame Drum

Camera C on G.C./Frame drum

Bass Clarinet

continue soft chord changes, if needed

I Part 3
Misurata (♩ = c. 63)

10" Flz/trem. cresc

Fl. *pp* *sfz* *mf* *fp*

Bs. Cl. *pp* *sfz* *f* *fp* *f*

T.T. Tam-tam *sfz* rapid scratch w. triangle beater

Perc. Cond.

Hp. rapid scratch w. plectrum longwise on string *sfz* *sfz*

8^{vb} (play like drums)

Pno. *mf* *loco*

8^{vb} con Ped.

Vln. *pp* *ff* ord.

Vc. *pp* *ff* ord. measured trem. *p*

Amp. NO AMP. (opt. soft amp. tutti)

Electr. effects OFF

Trans. TACET

Loop Piano playback loop, send to Pno Frame bass transducer * in background (C#) Loop

Vis. Camera B on Fl./Cl. Painting projection like in the beginning

Camera C on Harp string research #6 (Harp sfz) * it will not be possible to get the loop/dubbing in sync with the piano, so perform it like a shimmering reverberation

Fl. (w. Bs.Cl.) **J**

Bs. Cl. (w. Fl.)

T.T. **Vibraphone**

Perc. Cond. *mf*

Hp. *sfz* **ord.**

Pno. *(con Ped. sempre)*

Vln. *solo* *f espress.*

Vc. *mf*

Amp.

Electr.

Trans. **Dub** (Pno frame) (loop playback) **Loop** **Dub** (C#,C) (C#,C,H)

Vis. (Painting projection) - - ► (treat and zoom projection ad lib.) (Cam. B: Fl/Cl.) (Cam. C: Harp) ► Camera B/C on Vln./Vlc. + Vibraph.

K Change to Picc.

Fl.

Bs. Cl.

Vib.

Perc. Cond.

Hp.

Pno.

Vln.

Vcl.

Amp.

Electr.

Trans.

Vis.

f *espress.*

f

fp

measured trem.

(gliss. up)

Loop

Dub

(C#,C,H,b^b)

(C#,C,H,b^b,a¹)

(C#,C,H,b^b,a¹,a^{b2})

Camera B on Fl/Cl.

Camera B/C: Vln/Vlc+Vib

Camera B on Vln/Vlc

Camera C on Harp

Part 4
Senza misura

5" Fade Hp/Pno/Strings

2 15" Pno.Frame Solo 3 10" Bow Crot.

4 Piccolo 5" High W.w. whistle tone 5 10" Bow bridge L 40" Pno/Hp Slide gliss.

Picc. pitch ad lib. high pitched soft sound pitch ad lib. change to Bs.Fl.

Bs. Cl. pitch ad lib.

Crt. Crotales bow, pitches ad lib. use 2 bows, impro beauty-landscape

Hp. 8va 8va Slide glass or cup on strings w side (flat) firmly w. L.H. Strokes sfz on strings crosswise same pitches w. R.H. optional: gliss w. triangle beater, one string only (pitches ad lib.) change position ad lib.

Pno. 8va 8va turn camera to gliss. position Slide glass or cup on strings w side (flat) firmly w. L.H. Strokes sfz on strings crosswise same pitches w. R.H. (pitches ad lib.) change position ad lib. (con Ped. sempre)

Vln. bow on right side of bridge (p)

Vc. bow on right side of bridge (p)

Amp. Amp. tutti

Electr. Perc. Unlimited ring mod. Vln/Vlc/Cl. Human.

Trans. Loop Dub rotate and slide transducer ad lib. on medium high strings Fl/Cl. Spring landscape Hp/Pno. Multiple landscapes

Vis. Camera A on Piano Frame Camera B on Fl./Cl. Camera B on Fl./Cl./Vlc. Camera C on Perc. Camera C on Harp Camera D on Piano string

Bass Flute
 Fl./Cl. multitude 25" Hp/Pno muted low strings randomly: sweep into higher pitches (non cresc.) optional change to Flute ad lib. 15" Strings pling plong 15" Perc. beauty-bowing 20" Strings col legno 20" Strings spiccato 30" Electronics solo 20"

Bs. Fl. *pp* impro, murmur on low pitches ad lib. randomly: sweep into higher pitches (non cresc.) optional gradually higher pitches (when changing to Flute, start again with lowest notes, then grad. higher) TACET

Bs. Cl. *pp* impro, murmur on low pitches ad lib. optional gradually higher pitches TACET

Crt. TACET **Vibraphone** bow, pitches ad lib. use 2 bows, impro beauty-landscape con Ped. TACET

Perc. Cond. TACET

Hp. *mf* L.H. mute strings w. palm improvise random notes with low pitches ad lib. repeat pattern ad lib. (notated pitches a guideline only) TACET

Pno. *mf* R.H. mute strings heavily w. palm near pins L.H. on keys improvise random notes with low pitches ad lib. repeat pattern ad lib. *8^{va} senza Ped.* TACET

Vln. TACET *pizz. f* pling plong impro pitches ad lib. col legno spicc. TACET

Vc. TACET *pizz. f* pling plong impro pitches ad lib. col legno spicc. TACET

Amp. (Amp. tutti) Dry effects, samplings etc. impro on samplings and effects

Electr. (Vln/Vlc/Cl. Human) --> (Perc. Ring mod.) --> Vln/Vlc/Cl. Pling plong (dry effect) Perc. Spectrum enhancing delay

Trans. (loop playback) --> Hp/Pno. Impact

Vis. Camera B on Fl./Cl. --> Camera B on Fl./Cl./Vln/Vlc. Camera C on Perc. Futuristic painting #2 Laser show No camera

20

4 10" Fl. *Fl./Cl. flutter*
air flutter

5 15" *Hp/Pno pling plong impro*
optional change to Bs.Fl. ad lib.

N 10" *add Electronic pling plong*

2 7" *Mar. pling plong impro*

3 10" *Strings crush*

4 20" *Strings crush var. 1*

5 10" *Strings crush var. 2*

Fl. *rep. ad lib*
change form, pitch and dynamics

Bs. Cl. *air flutter*
rep. ad lib
change form, pitch and dynamics

optional change to Cl. ad lib.

Marimba *pling plong impro*
pitches ad lib.

Mrb.

Perc. Cond.

Hp. *pling plong impro*
pitches ad lib.

secco sempre
rhythms ad lib.

vary pitches and rhythms, make rests
cresc.

Pno. *pling plong impro*
pitches ad lib.

secco sempre
rhythms ad lib.

vary pitches and rhythms, make rests
cresc.

Vln. *crush*
sul t. -- sul p.

NO SYNC!
impro, use strings I - IV ad lib.

crush, slow bow, over-pressure
(search for 8va bassa)

Vc. *crush*
sul t. -- sul p.

impro, use strings I - IV ad lib.

crush, slow bow, over-pressure
(search for 8va bassa)

Amp. (Amp. tutti)

Electr. (crossfade electr. impr. - Fl./Cl. flz)

(electr. impr.)

Fl/Cl. Flutter landscape

Hp/Pno: sampling etc.)

Hp/Pno. Pling plong

impro on Hp./Pno. samplings

Perc. Pling plong

Vln/Vlc/Cl. Nails on blackboard

(calmer electr.)

(wilder electr.)

Trans. Camera B on Fl./Cl.

(Laser)

Camera C on Harp/Piano

Camera C on Perc.

Camera B on Vln/Vlc

O 20" *Fl./Cl. multiphonics overblow into multiph. ad lib.*

Repeat and transform into different multiph. ad lib.

10" *Tutti cresc. to peak*

3 Coda

30" *Mar. trans. Timp. (+Pno/Pno.Fr)*

4 30" *Trans. Timp./Bull Roar*

5 20" *Bull Roar solo*

Fl. *pp* *f* *cresc.* *ff* TACET

Bs. Cl. *pp* *f* *cresc.* *ff* TACET

Mrb. *cresc.* *ff* TACET

Perc. Cond. *put a handfull of small resistors on Timp.* Bull Roar

Hp. *(cresc. sempre)* *ff* TACET

Pno. *(cresc. sempre)* *ff* TACET * move transducer to position

Vln. *cresc.* *ff* TACET

Vc. *cresc.* *ff* TACET

Amp. (Amp. tutti) AMP off Amp only on Bull Roar

Electr. (Vln/Vlc/Cl. Nails blackb.) TACET
(Perc. Pling plong)
(elctr. impro) send Mar. loop simultaneously to the Piano and the Timp. transducers

Trans. Fl/Cl. Multiphone landscape playback Mar. loop on Pno Frame bass transducer
(Hp/Pno. Pling plong) Loop Marimba

Vis. Camera B on Fl./Cl./Vln./Vlc. playback Mar. loop in background of Timp.
Camera C on Marimba Camera B: showing patterns of jumping resistors on Timp. Front camera on Bull Roar fade cam. B