

NIME 2014 (New Interfaces for Musical Expression)
Interactive Music Notation & Representation
Goldsmiths, University of London.

John Cage *Solo for Sliding Trombone*, a Computer Assisted Performance approach

Benny Sluchin, Mikhail Malt

June 30th, 2014



CONCERT FOR PIANO AND ORCHESTRA
(1957–58) DE JOHN CAGE

Sluchin, Malt - London, June 30th, 2014

- *Concert for Piano and Orchestra* (1957-58)
 - Decisive stage.
 - For the first time, the control over all the aspects of the music is given to the interpreter.
 - Each performance could thus be different from another, and
 - The duration may vary each time.

“Score” Organization

1. *Piano* :

— pages 1–63

2. *Instruments* :

- *Violin 1* : pages 1–16
- *Violin 2* : pages 17–32
- *Violin 3* : pages 33–48
- *Viola 1* : pages 49–64
- *Viola 2* : pages 65–80
- *Trumpet in B flat* : pages 81–92
- *Celle* : 93–108
- *Tuba in F and B flat* : pages 109–120
- *Clarinet in B flat* : pages 121–132
- *Flute, Piccolo, Alto flute* : pages 133–144
- *Bassoon, Saxophone* : pages 145–156
- *Double Bass* : pages 157–162
- *Sliding Trombone* : pages 173–184

3. *Conductor*

Concert for Piano and Orchestra

John Cage
(1957–58)

This score does not exist

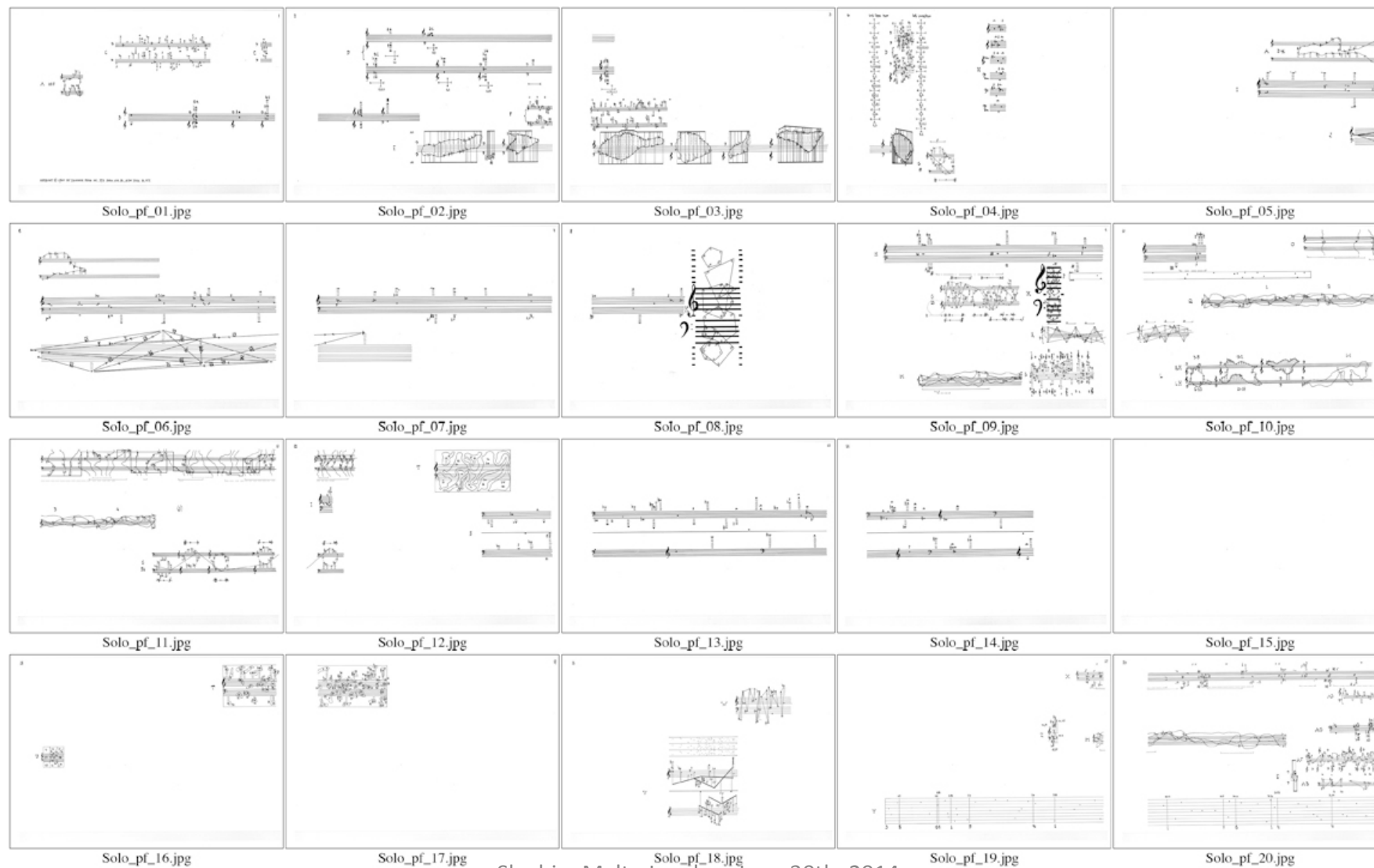
Flute (Piccolo, Alto flute)	perform from pages 133–144, according to the particular instructions
Clarinet in Bb	perform from pages 121–132, according to the particular instructions
Bassoon (Baryton Saxophone)	perform from pages 145–156, according to the particular instructions
Trompette in Bb	perform from pages 81–92, according to the particular instructions
Sliding Trombone	perform from pages 173–184, according to the particular instructions
Tuba (in F and Bb)	perform from pages 109–120, according to the particular instructions
Piano	perform from pages 1–63 of the piano score, according to the particular instructions
Violin 1	perform pages 1–16, according to the particular instructions
Violin 2	perform pages 17–32, according to the particular instructions
Violin 3	perform pages 33–48, according to the particular instructions
Viola 1	perform pages 49–64, according to the particular instructions
Viola 2	perform pages 65–80, according to the particular instructions
Cello	perform pages 93–108, according to the particular instructions
Bass	perform pages 157–172, according to the particular instructions

Score Made by Benny

Piano Pages

- Structure of the score is different from that of the instrumental parts.
- Elements are not only “punctual”
- There are different forms of composing, each having particular rules for interpretation.

20 first piano pages



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Handwritten musical score for "The Swan" by Camille Saint-Saëns. The score is written on multiple staves, with various musical notations including notes, rests, and dynamic markings. The score is annotated with handwritten lines and numbers, indicating specific measures and musical elements. The annotations include:

- AM**: Located near the top left, with lines connecting to measures 40, 57, 56, 26, 56, 106, 92, 18, 10, 59, and 2.
- AJ**: Located near the top right, with lines connecting to measures 9, 2, 3, 3, 9, 55, and 31.
- AL**: Located in the middle left, with lines connecting to measures 12, 5, 4, and 55.
- W**: Located at the bottom right, with lines connecting to measures 12, 5, 4, and 55.

The score is written in a complex, overlapping manner, with lines connecting various musical staves and measures, suggesting a complex musical structure or a specific analytical approach. The handwritten lines and numbers are in black ink, and the musical notation is in a standard musical script.

Instrument Parts

- Each instrumental part (each Solo) is composed:
 - one page of detailed instructions to performance

SLIDING TROMBONE

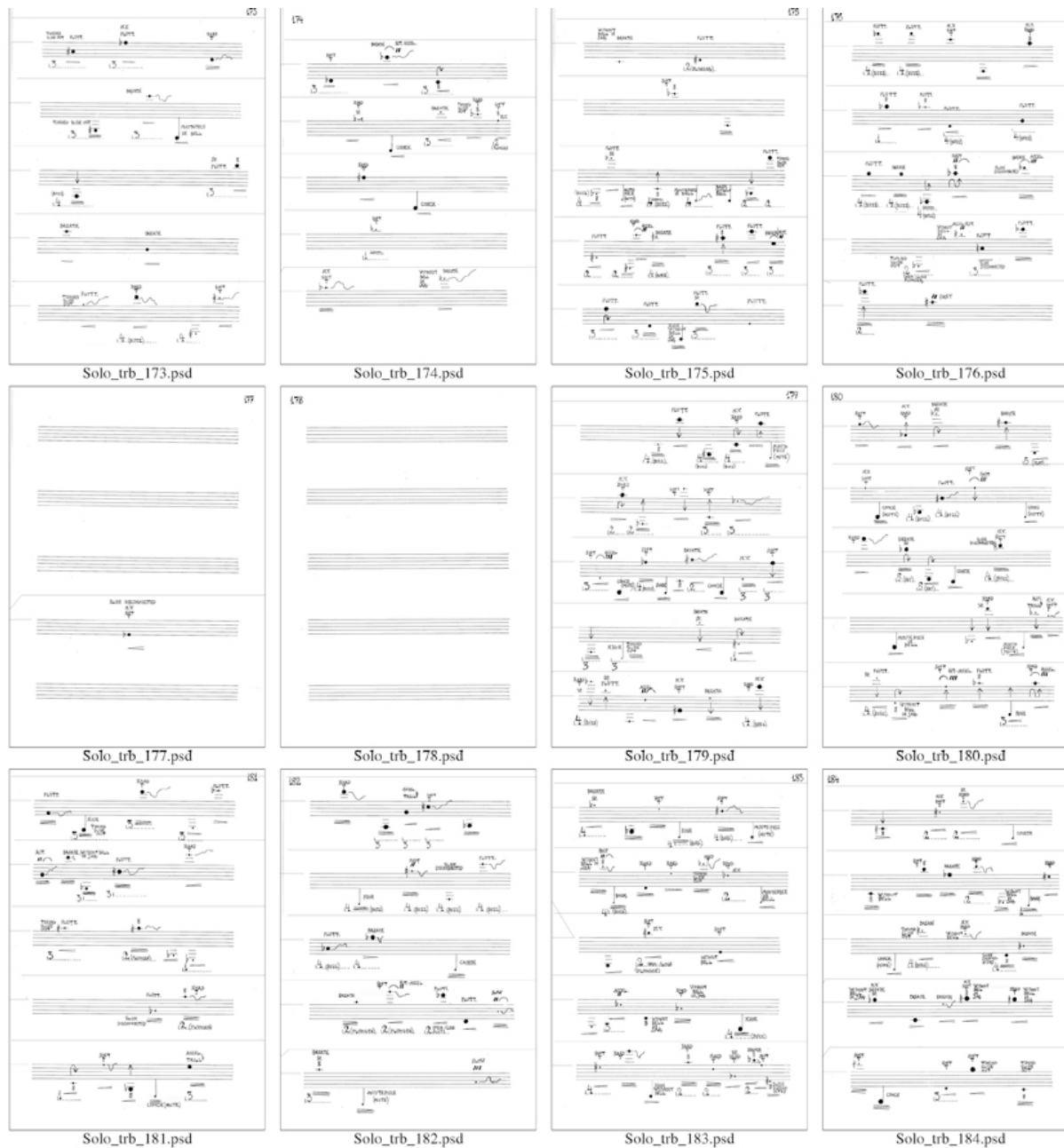
The following 12 pages for a trombone player may be used for other parts for other players. It is therefore a part in an ensemble, symphony, or concerto for piano where there are 12 pages, any amount of them may be played.

Each page has 5 systems. The time-length of each system and a total performance time-length, the player may make additional silences or not) that will fill it. The player (when there is one) will alter the length of minutes in the circumstance of having a conductor, the player is made so that he will be able to play faster or slower than a standard chronometer.

Notes are of three sizes: small, medium, and large. ppp, pp, p in the dynamic range or short in duration. A note is either mp, mf in the dynamic range or medium or both. The possible interpretations are many: it may be long in length but of any amplitude; or it may be short in duration in time. Also, a small note may be short in amplitude, or it may be soft, but of any duration.

All notes are separate from one another in time, by a silence (if only a short one).

Notes below a staff and attached to it by a stem. Sounds (above E flat), overtone rips, or interval rips; the use of the mouthpiece with or without the instrument; barking, speaking or shouting into the instrument verbally indicated but may be exchanged for other sounds by the player.



12 pages of
the Trombone
at a glance

Trombone

473

The musical score is written on five staves. The first staff contains the following instructions and notes: 'TUNING SLIDE OUT' with a measure of three, 'FLUTT.' with a note on the second line, a red box containing 'N.Y. FLUTT.' with a note on the second line, and 'HARD T' with a note on the second line. The second staff has 'BREATH' with a wavy line. The third staff has 'TUNING SLIDE OUT' with a measure of three, 'MOUTHPIECE IN BELL' with a note on the second line, and a red box containing 'SP. FLUTT. 8' with a note on the second line. The fourth staff has a downward arrow, '(BUZZ)' with a measure of four, and 'BREATH' with a wavy line. The fifth staff has 'BREATH' with a wavy line. The sixth staff has 'TUNING SLIDE OUT' with a measure of four, 'FLUTT.' with a wavy line, a red box containing 'HARD T' with a note on the second line, and 'SOFT' with a note on the second line. The seventh staff has 'TUNING SLIDE OUT' with a measure of four, '(BUZZ)' with a note on the second line, and a red box containing 'HARD T' with a note on the second line.

TUNING SLIDE OUT FLUTT. N.Y. FLUTT. HARD T

3

BREATH

TUNING SLIDE OUT MOUTHPIECE IN BELL

3

SP. FLUTT. 8

3

(BUZZ)

4

BREATH

BREATH

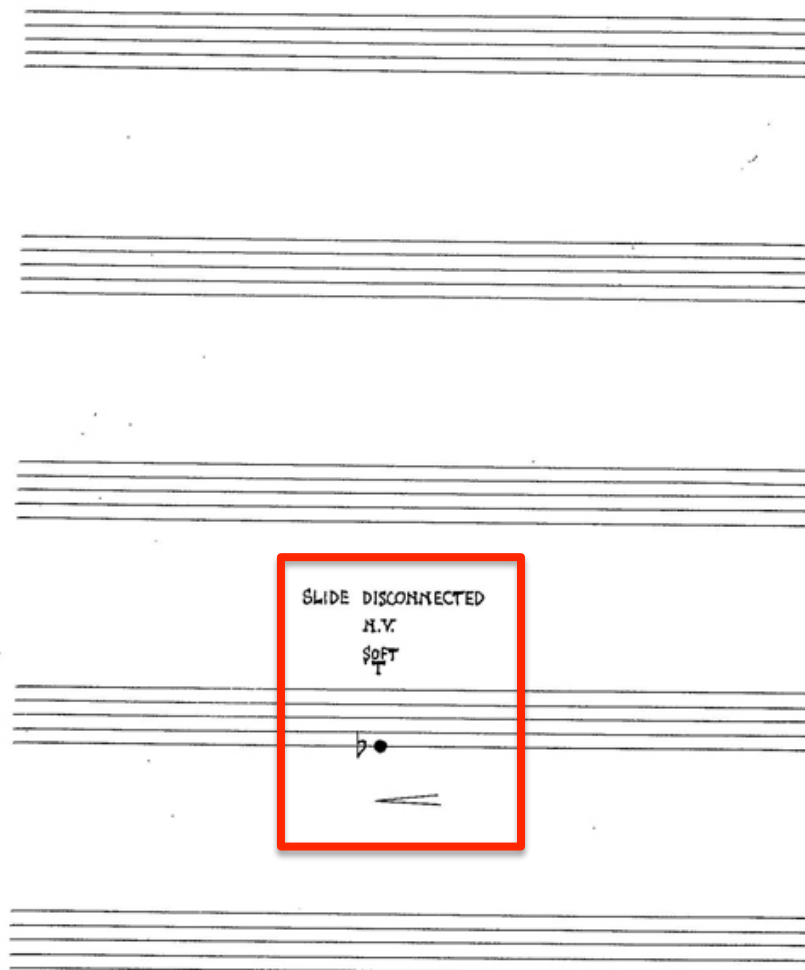
TUNING SLIDE OUT FLUTT. HARD T SOFT

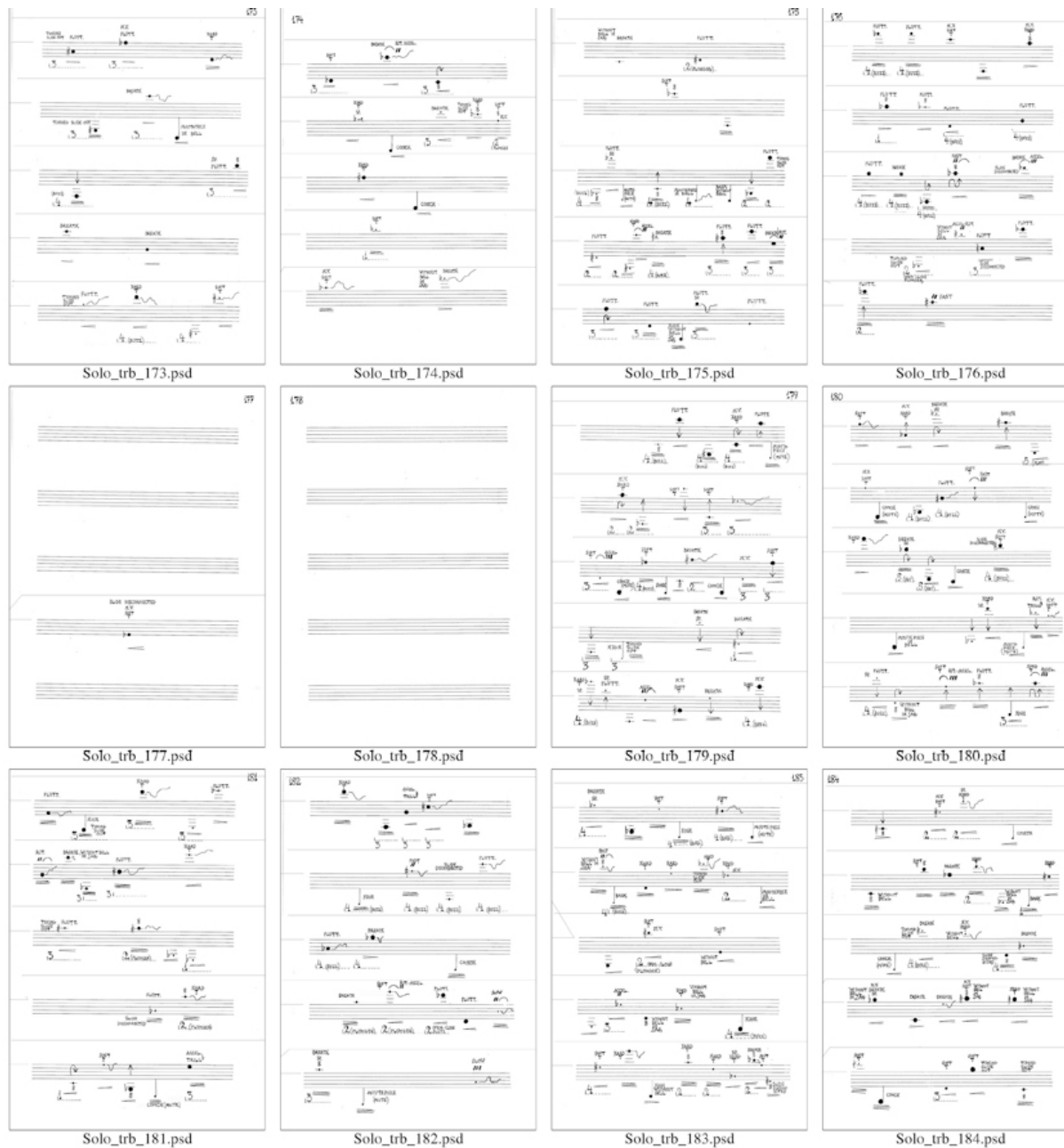
4 (BUZZ)

4

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Trombone

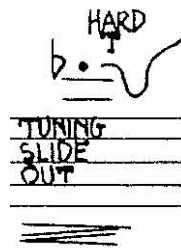
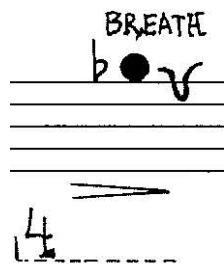




12 pages of
the
Trombone at
a glance



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A new way of
displaying
the music



Concert for Piano and Orchestra (1957–58)

INTERPRETATION CONTEXT (CONCEPTS)

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The four concepts (\pm 1950-60)

- “Silence”
 - ...
- “indeterminacy”
 - “indeterminacy” \neq “chance”
- “chance” (random).
- “unintentional” (non intentional)

The problematic...

- How to navigate rapidly between two events, that are displayed on different places, on disjoint pages ?
- How can one makes an “non-intentional choice” ?
- How could one better integrate these concepts by an interface, or notation within a computer sphere?

COMPUTER INTERFACES

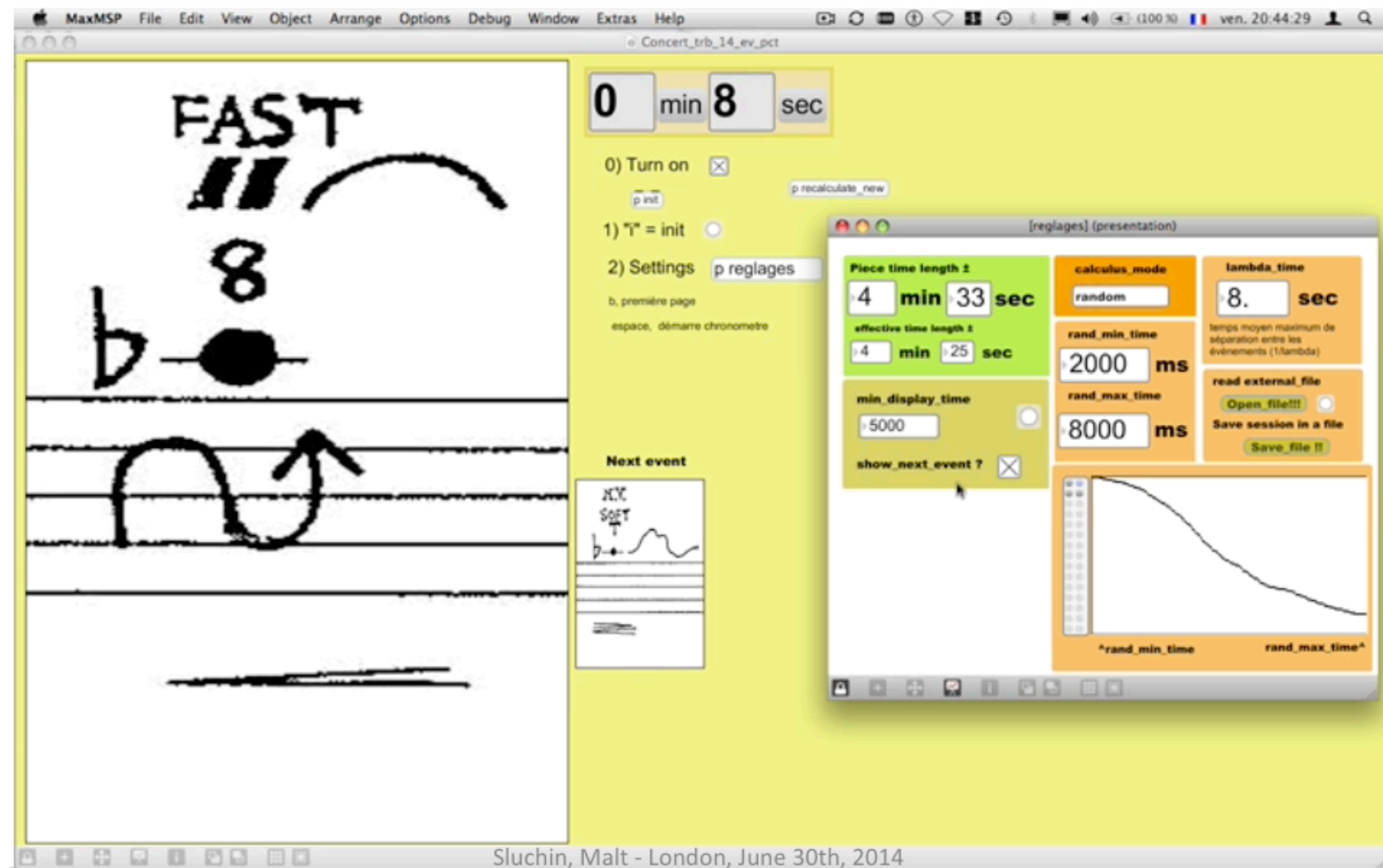
Sluchin, Malt - London, June 30th, 2014

Instrumental interface 1

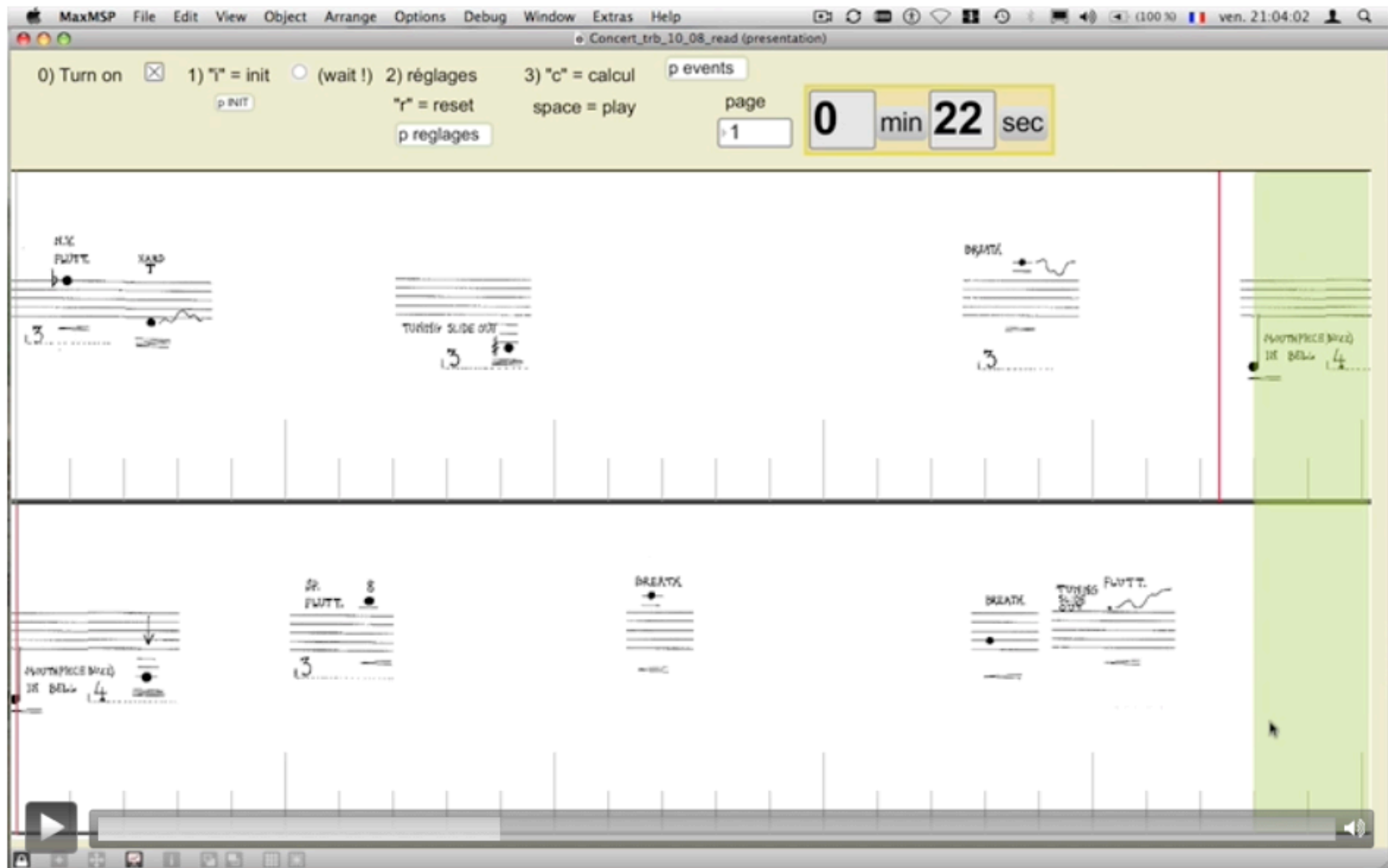
The screenshot displays a Max/MSP patch window titled "Concert_trb_11_pages_pct (presentation)". The interface is divided into two main sections:

- Left Section (Musical Score):** A large area containing a musical score with multiple staves. The score includes various musical notations, including notes, rests, and dynamic markings. The page number "184" is visible in the top left corner of the score area.
- Right Section (Control Interface):** A yellow panel containing a digital clock showing "0 min 14 sec", a "page" input field set to "0", and several control buttons and labels:
 - "0) Turn on" with a checkbox and "p init" label.
 - "1) 'I' = init" with a radio button.
 - "b, première page" label.
 - "c, saute au hasard sans répéter" label.
 - "c, saute au hasard pouvant répéter" label.
 - "espace, démarre chronomètre" label.
 - "<< et >> recule ou avance en séquence" label.
 - A large dark button labeled "<c>, jump anywhere".

Instrumental interface 2



Instrumental interface 3



Identity	number of the system followed by the order of the event on that line (i.e. 4 2: second event in the fourth system)	
placement	distance from the beginning of system in millimeters (0 à 168 mm.)	
genre	normal (0) ou autre (1 à 9) played normally (0), tuning slide out (1), mouthpiece in bell (2), spit valve open SP (3), without bell (4), without bell in jar (5), with slide disconnected (6), conch (7), mouthpiece (mute) (8), conch (mute) (9), other (10)	
classement	pitch in MIDI (23 to 75), or its nature when unpitched (0), bark (1), high (2)	
size	small (1), medium (2) or large (3) small=piano or short or both, medium=medium in dynamics, in duration or both, large=forte or long or both	
profil dynamique	nothing (0), cresc (1), diminuendo (2), both (3)	
articulation	nothing (0), breath (1), soft T. (2), hard T. (3)	
vibrato	avec (0) ou sans (1) all notes are played with vibrato (slide, or lip or slide and lip) unless accompanied by the indication N.V.	
formant	coloration of the sound when sustained nothing (0), flutt (1), double tongue // (2), preceeds by sustained note (3), flowed by sustained note (4) triple tongue /// (5), preceeds by sustained note (6), followed by sustained note (7), trill (8)	
formant speed	nothing (0), rit (1), accel. (2), rit. accel. (3), accel. rit. (4), fast (5), slow (6)	
mute	without or with one from five indicated. #1 and #3 are freely chosen open (0), straight (1), plunger (2), cup (3), buzz (4), hat (5), plunger open close (6)	
arrows, curves	smaller microtonal slides no arrow (0), curve down (1), curve up (2), arrow down (3), arrow up (4) arrow up and down (5) arrow down and up (6), arrow up down and up (7)	

“Descriptors vectors”

<Name> p0 p1 p2 p3 p4 p5 p6 p7 p8 p9 p10

Identity	placement	genre	classement	size	profil dynamique	articulation	vibrato	formant	formant speed	mute	arrows, curves
1_1	42	1	49	3	1	0	0	1	0	3	0
1_2	70	0	56	3	1	0	1	1	0	3	0
1_3	142	0	41	3	3	3	0	0	0	0	1
2_1	46	1	32	3	3	0	0	0	0	3	0
2_2	91	0	64	2	2	1	0	0	0	3	0
2_3	114	2	0	3	1	0	0	0	0	0	0
3_1	30	0	33	3	2	0	0	0	0	4	3
3_2	168	3	74	3	1	0	0	0	0	3	0
4_1	23	0	64	2	1	1	0	0	0	0	0
4_2	90	0	47	2	1	1	0	0	0	0	0
5_1	37	1	59	1	1	0	0	1	0	0	0
5_2	110	0	65	3	1	3	0	0	0	4	2
5_3	146	0	32	1	0	0	0	0	0	4	0
5_4	151	0	66	1	1	2	0	0	0	0	1

Performances

- Triton (Les Lilas, France), 27/05/2009
 - Fabian Fiorini (piano), Guillaume Orti (sax), Benny Sluchin (trombone), Eric-Maria Couturier (violoncello), Mikhail Malt (computer).
- Hateiva (Jaffa, Israël), 29/10/2009
 - Amit Dolberg (piano), Yonatan Hadas (clarinet), Benny Sluchin (trombone), Eric-Maria Couturier (violoncello)
- CD recording (Paris, France), 28/08/2012
 - Sylvain Rappaport (piano), Benny Sluchin (trombone)
- Médiathèque Musicale (Paris, France), 27/09/2012
 - Nicolas Crosse (Double bass), Benny Sluchin (trombone)
- CD recording (Paris, France), 28/05/2013
 - Sylvain Rappaport (piano), Nicolas Crosse (Double bass), Benny Sluchin (trombone), Jean Max Dusser (clarinet)