

Un clou, son marteau, et le béton

for piano and electronics

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Un clou, son marteau, et le béton

Programme Note

to Sarah

Telle est la vie des hommes, quelques joies très vite effacées par d'inoubliables chagrins...

Il n'est pas nécessaire de le dire aux enfants...

Marcel Pagnol - Le château de ma mère

Bull fighting disgusted me by principle, until I actually attended to a *corrida* : the smell of sweat, dust and blood, the cheers and the music, moreover the beauty of the ritual touched me deeply. And then, the bull in the arena as an allegory of life: ones enters, is stirred up by the throes of destiny until ones only possible end...

Technical Requirements

- a concert piano with a sustenuto pedal (3rd pedal). Either a midi output from its keyboard (disklavier or equivalent) or a midi-capture device (Moog's Midi bar or equivalent). The midi signal needs to reach the main computer.
- one or more control pedals (or access to the space bar of the computer) to give cues
- a good omnidirectional microphone (i.e. DPA 4006) for the capture to the processing
- an Helpinstill piano pickup (or equivalent)
- six full-range loudspeakers (four behind the piano on an array not much wider than the piano itself, and two under the instrument)
- a fast computer, running Max/MSP 4.6, with a professional low latency soundcard (2 inputs 6 outputs)

Notes on the score

- The cue numbers in dark squares are to be given by the performer (on the pedal or the space bar). The cue numbers in grey circles are automatically given by the computer; when there is a grey dotted line linking a cue to a musical even, it means that this event will trigger the cue.
- Lengths are either exact (bold numbers, thick long line boxes) or indicative (numbers between parenthesis, short thin line boxes).
- Speed marks are precise and to be followed as rigorously as possible.
- The description of electronics is kept simple wording, with the occasional nuance mark to show a rapid gesture in that part which could be used as a reference.
- The following convention is used for alternate techniques notation:
 - a diamond note head between the staves (as in mes. 66) mean a quite casual knock on the wood of the piano.
 - a bold filled square between the staves (as in mes. 77) means to yell as loud as possible a short shout.
 - a crossed note head (as in mes 110) means to play that note pizzicato by plucking the string inside the piano.
 - a triangle note head (as in mes. 117) means a note played on the keyboard but with the strings choked with the palm of the hand.

Notes on the sections

General note: sections sharing the same letter share material, but more importantly they share a rhetoric role in the overall musical discourse and form of the piece. The more this is clear in the performance, the more the piece works as a whole.

section **A**: syncopated, almost chaotic rhythm feel, blunt contrasts (either *p* or *fff*)

section **B**: a quiet rest, where time stalls

section **C**: A slow march that accelerates by plateaux of raising craze. The overall effect is to make a sort of accumulative and slowly mutating canon with the computer. The system works by automatically recording your notes and on the 13th note, plays back what you have played but re-ordered and increased in tempo. At each of your entries, a voice is added. You must repeat as exactly as possible what the computer has played – imitating most especially the isometric rhythm. Your entries should gradually move up the keyboard and will be in the pitch areas marked by the notes in brackets at the beginning of each of your entries. Overall, this section does not get as loud as possible but should feel exciting and slightly crazed by the end; in the final 18 second phrase (a suggested timing) the mutated canonical theme can be repeated in near-cluster density at the top of the keyboard, avoiding the top C until bar 37.

section **B1**: a short quiet stalled moment

Section **D**: a very delicate glitchy section, which should not build up in volume, and barely in density.

Section **E**: very mechanical and detached, almost like a computer sequence. It is a quiet, groovy resolution of the previous section.

Section **A1**: as in **A**

Section **C1**: as in **C**, this section starts slowly and overall grows in craze but without reaching top energy. The texture is one of quiet exploration of the inside lower strings, i.e. string scrapes and vibrations of paper sound good; anticipating in bar 93 the pitches at bar 94 can be done with something like a rubber to get a clearer struck pitch. At bar 94 the tempo is fast but will only be captured once the switch has been hit at bar 97 so the most important thing is to be ready for the repeat after hitting the switch; In bar 98 there is minimal variation; in bar 99 the groove from bar 94 is repeated; in bar 100, the switch pedal becomes a looping pedal. Pressing once starts the overdubbing, pressing again stops it. Note that bars 100 and 101 only last collectively 100 seconds and the most important features are: 1) to gradually play the low D octave to create a full bodied drone for the next section; 2) to use the top C to make the loop shorter and longer.

Section **D1**: as in **D**, this slow section (drone) is not a build up. To make sense of the long duration, listen to the file *pedal.aif* on its own, and check the musical events within the fixed electronics that are at the given timings.

Section **A2**: the swing quite square à la Monk is important, but also the phrasing which is not classical, more onomatopoeic. The first part is quite stop-and-go. The second part is in unison, but the electronic part starts to be drowned by distorted clouds of itself: the piano part should do the same through the clusterisation variations, leading progressively to **A3** which is similar to **A** but shorter.

Section **E1**: like **E**, very mechanical and detached. It is a quiet, groovy resolution of the previous section that should emerge from the completely independent electronics part.

Section **A4**: as in **A3** but even shorter. The held ending is like the end of **A1** and should be a stall.

How to adjust performance variables of the patch

- 1) Start the patch
- 2) Read the presets already saved (press on the 'read' pink meessage, then read the file '-preset_clou.xml')
- 3) Adjust the following parameters (double-click on the box with the movement name, and adjust the box in bright yellow to get the effect indicated below) :

Movement	Parameter Name	Aim
intro+orage_player	volume_intro-2	adjust the volume of the tape part to be within the piano resonance at cue 2
	volume_orage_on-3	adjust the volume of the tape part to be above the piano attacks at cue 3
	volume_orage_off-3	adjust the volume of the tape part to follow the decay of a cluster at cue 3
	volume_intro-58	adjust the volume of the tape part to be just above the piano resonance at cue 58
	volume_orage_fin-59	adjust the volume of the tape part to overwhelm the piano attacks at cue 59
hocket-permut	volume_permut_clean-8	adjust the volume of the piano playback to be at the exact same perceptual level than the acoustic piano at cue 8
	volume_permut_dist_R-14	adjust the volume of the piano playback to be slightly lower than the acoustic piano at cue 14
	volume_permut_dist_L-20	adjust the volume of the piano playback to be slightly lower than the acoustic piano at cue 20
	volume_reverse_init-8	adjust the volume of the reverse tape part so the knock at cue 9 is clearly audible but within the acoustic reality of the piano
	volume_reverse_fin-26	adjust the volume of the reverse tape part so the knock at cue 27 is just above the acoustic reality of the piano
	volume_cloche_init-25	adjust the volume of the bells tape part so it is just audible under the piano shuffle at cue 25
	volume_cloche_cresc-26	adjust the volume of the bells tape part so it is above the piano shuffle at cue 26
	volume_cloche_fin-26	adjust the volume of the distorted bell melody so it is clearly the foreground at cue 26
disto-gated	volume_dist_init-22	adjust the volume of the piano distortion to blend with the acoustic piano at cue 22
	volume_dist_solo-28	adjust the volume of the piano distortion to blend with the acoustic piano decay at cue 28
stutter-transpose	volume_stutter_clean-30	adjust the volume of the piano stutter playback to blend with the acoustic piano at cue 30
	volume_pad_glitch-32	adjust the volume of the pad section to blend with the acoustic piano decay at cue 32
	volume_pad_glitch_bass-33	adjust the volume of the glitchy bass to be slightly above the acoustic piano level at cue 33
beat-glitch	volume_gliss_bass-31	adjust the volume of the sub-bass gliss to be audible at cue 31
	volume_gliss_bass-35	adjust the volume of the sub-bass gliss to be present at cue 35
	volume_boom_bass-35	adjust the volume of the sub-bass explosion to be within the mix at cue 35
	volume_beat-35	adjust the volume of the glitchy piano sample playback to blend with its acoustic counterpart.
	volume_delay-35	adjust the delay on the top piano range to be within the mix yet to pop out spacialy.
talehold-glitch	volume_hold-38	adjust the volume of the held piano notes to blend with its acoustic counterpart at cue 38
	volume_hold-40	adjust the volume of the held piano notes to blend with its acoustic counterpart at cue 40
	volume_cresh_glitch-40	adjust the volume of the glitchy distorted piano crescendo to be very loud after 12 seconds

boucleur-overdub	thresh_pickup_start-42	adjust the threshold at which the acoustic piano will start the playback at cue 42.
	volume_fuzz_loop_clean-43	adjust the volume of the playback to be within the acoustic piano at cue 43
	volume_fuzz_loop_delay-43	adjust the volume of the delayed distorted playback to be just under the acoustic piano, as a biased echo.
	volume_loop-46	adjust the volume of the loop at cue 46, to be exactly identical to its source.
wavebank	volume_pedale-47	adjust the volume of the tape part at cue 47 to be <i>f</i> at its climax 3 minutes in.
	volume_wavebank-48	adjust the volume of the wavebank tone (which note is set by the piano during the section) to blend perfectly with the tape part
monkish	volume_monkish_filter-50	adjust the electronic sentence at cue 50 to be <i>mf</i>
	volume_monkish_wash-52	adjust the electronic sentence at cue 52 to be <i>mp</i> and perceptually far
	volume_monkish_head-54	adjust the electronic sentence at cue 54 to be slightly louder than its piano unison.
	volume_monkish_syncopated-55	adjust the electronic sentence at cue 55 to be at the background of the syncopated piano section (E1)
	volume_arrache-57	adjust the electronic sentence at cue 57 to be <i>mf</i>

4) Save the preset file (press on the 'store' pink message and replace the file)

5) Quit Max/MSP

How to adjust advance technical settings

There are two more settings that can be customised depending of the setup used. One is the latency compensation between the audio recording and the midi input of the same note.

- The patch `-latency_test` is meant to help to calculate the setup's latency. Simply record the note and the tick with the same settings than the one running the main patch, open the recorded buffer window and check the time in millisecond between the tick (the midi cued action on track 2) and the recorded piano note (on track 1). You can adjust the delay until they are sync. Input this latency in the main patch of the piece.

- The cue and note inputs can be changed in the main patch, within the subpatch called `'p midi+trigger-in'`. Changing here will change all the patch's cues and note inputs.

Performance (and rehearsal) Routine

1) Start the patch

2) Read the presets already saved (press on the 'read' pink message, then read the file `'-preset_clou.xml'`)

3) enter the next cue to trigger in the pink box (0 to start the piece at the beginning)

4) Play!

5) Quit Max/MSP without saving the changes

Un clou, son marteau, et le béton

A | 6" | ♩=150

Electronics | scratchy rough F | full range synthy tape storm

Piano | 1 | 2 | 3 | *p* | *fff* | 3 | 3

3rd (hold until bar 16) | Ped (hold until bar 12)

(17")

4 (both pedals on)

repeat the two bar sentence until the next cue, varying each time as much as in the last two instances. It should evolve slowly to an altogether different loop

(8") | (18")

suddenly bends the pitch, then narrows around the initial F | stalls on rough F

narrow progressively the ambitus of the chaotic loop, following the tape part in rallentando | re-install the chaotic loop rhythm by wave of two-hand trills on these two notes

8 (both pedals on) *

(11") | 11" | molto rall. | ♩=60

widens then come back to a rough F | stalls on rough F

the right hand sticks to chaotic rhythms on the last two notes | (l.v. in 3rd pedal)

the left hand progressively enters custers in chaotic rhythm, slowly going towards descending lines | (hold with hands)

13 (3rd pedal on)

B

C ♩=45

samples the twelve bass notes

6 7

sparse yet chaotic pizz comping

17

♩=50 ♩=60 ♩=67 ♩=80

repeats a scrambled version of the last twelve notes

samples twelve notes

repeats a scrambled version of the last twelve notes

samples twelve notes

8 9 10 11 12 13

after the knock, repeat the tape reordering in the given register, adding a second voice in homorythmy

after the knock, repeat in the given register, adding a third voice in homorythmy

23

♩=89 ♩=107 ♩=119 ♩=142

repeats a scrambled version of the last twelve notes, as well as a distorted counterpoint

samples twelve notes

clean and distorted scrambled playbacks

samples twelve notes

14 15 16 17 18 19

after the knock, repeat in the given register, adding a fourth voice

after the knock, repeat in the given register, adding a fifth voice

28

♩=158 ♩=190 ♩=211 ♩=253

clean and two distorted scrambled playbacks

distorts the piano

clean and two distorted scrambled playbacks

after the knock, repeat in the given register

20 21 22 23 24 25

after the knock, repeat in the given register, adding a sixth voice

32

B1

(18") distorts the piano, samples and plays back randomly

8" plays a distorted bell phrase and a roll, then a knock

(8") distorts the piano, crumbling to silence

(4.5")

(8") distorts the piano, crumbling to silence

(4.5")

get higher, louder, faster, but do not reach the last fifth of the keyboard

26 *15^{ma}*

27

28

pp

pppp

p release slowly the notes as the distortion crumbles

pp idem

36

(7") D ♩=50

distorts the piano, crumbling to silence

4/4 samples, then glitch itters

samples, then glitch itters

29

30

n < *pp*
(blend in the last electronic crumbling)

random pizz on the same note

random pizz on the same note

idem

42

samples, then glitch itters

sub-bass gliss

sample, then glitch itters

31

15^{ma}

random pizz in counterpoint, on the same note

random pizz on the same note

Ped.

49

samples, then itter

adds a pad

samples, then glitch itters

adds a dirty bass

32

15^{ma}

5

33

random pizz in counterpoint, on the same note

3rd

Ped.

54

rall.

samples, then glitch itters transposes the glitch

59

E Mechanical $\text{♩} = 60$

samples, then glitch itters 34 sample the middle chords, then glitch grooves in semi-quavers

35 *mp* *8va* on the repetition, ad lib the melody on the extremes with demi-semi-quavers syncopations

62 *Ped.* *3rd*

65 *3rd* *8va* *knock on wood* *3rd*

67 *3rd* *8va* *3rd*

1. 2. **molto rall.**

15/16 11/16 5/4 slows the glitch semi-quaver pulse

8^{va} 36 37

70 3rd

(24") A1 ♩=150 (8.5")

fades out the pulse infinite hold holds and fades in glitches

38 39 40

random pizz and perc (sticks and balls) on the same notes, very sparse

fff yell.

waves of roll on the strings, not louder than the electronics

pppp pp

Red.

74

♩=150 (9.5") (10.5")

holds and fades in glitches holds and fades in glitches holds and fades in glitches

3 3

waves of roll on the strings, not louder than the electronics

PPP

random pizz and perc (sticks and balls) on the same notes, very sparse

Red.

79

♩=150 (10.5")

holds holds and fades in glitches

3 3

waves of roll on the high strings

fff

Red.

84

♩=150

(17.5")

holds and fades in glitches

41

cresh of roll on the strings, as loud as the electronics

wait for at least 10 seconds

89

C1

(35")

(25")

42

43

plays a gated grit loop

explore friction on the low bass strings with paper preparation, and how it triggers the gritty tape loop

ppp

progressively incorporatate low notes to lock with the gritty tape loop

7/8

7/8

7/8

92

♩=145

45 2nd time (after 44)

44 give the cue the 1st time round onlu

samples on the second time round

echo the rough contour of the melody by scraping the strings in the low register

pp

3

8vb

94

(30")

(7")

(60")

(40")

46

plays in loop

overdub looper

X the cue pedal starts and stop the recording

overdub the groove with itself

stack and play with different textures on the strings in question and answer

whilst continuing to record occasionally, accelerate progressively the loop by playing the highest C (twice sets the new loop lenght) Start to sample held low Ds so the loop is more and more a glitchy D drone

p

98

D1

♩=145

17"

77"

48"

plays the very short loop

drastic rall in crescendo

G drone with articulation and resonating filtering

a distorted gesture triggers guitar-ish trills within the G

102

61" 53" 9" (7")

A2 Swing à la Monk ♩=220

the same distorted gesture triggers resonating bells

a buzzy sound triggers new emerging notes

all notes suddenly converge to E flat

glitch on a wide E flat

50 very small sound on the left speaker

explore other techniques in the resonator, following the new notes emerging from the tape.

105

111

117

123

129

foreground melody on the left speaker, getting more and more confused in the mass of itself after the repetition

134

second time round, play even less notes from the melody, and replace with more clusters in homorhythm (follow the medodic contour though)

139

145

149

152

154

Musical score for measures 157-160. The system is in 3/4 time. Measure 157 starts with a treble clef and a key signature of one flat. The melody in the treble clef features eighth and sixteenth notes, with a circled '8' above the first measure. The bass clef accompaniment consists of eighth notes. A dashed line labeled '8va' spans measures 158 and 159. Measure 160 ends with a repeat sign. A bracket labeled '3rd' is positioned below the bass line.

Musical score for measures 161-165. The system is in 3/4 time. Measure 161 starts with a treble clef and a key signature of one flat. The melody in the treble clef features eighth and sixteenth notes. The bass clef accompaniment consists of eighth notes. A dashed line labeled '8va' spans measures 162 and 163. Measure 165 ends with a repeat sign. A bracket labeled '3rd' is positioned below the bass line.

Musical score for measures 166-170. The system is in 5/4 time. Measure 166 starts with a treble clef and a key signature of one flat. The melody in the treble clef features eighth and sixteenth notes. The bass clef accompaniment consists of eighth notes. A dashed line labeled '8va' spans measures 167 and 168. Measure 170 ends with a repeat sign. A bracket labeled '3rd' is positioned below the bass line.

Musical score for measures 171-175. The system is in 5/4 time. Measure 171 starts with a treble clef and a key signature of one flat. The melody in the treble clef features eighth and sixteenth notes. The bass clef accompaniment consists of eighth notes. A dashed line labeled '8va' spans measures 172 and 173. Measure 175 ends with a repeat sign. A bracket labeled '3rd' is positioned below the bass line. The text 'Ped.' is written at the bottom right of the system.

166

56

8va

168

8va

3rd

171

(8)

plays a bassy gesture

blend with the tape on the top B and B flat

make waves of volume and density with trill of these notes

(57)

174

(9")

A4

7.5"

15ma

scratchy rough F

full range synthy tape storm

150

(4")

58

59

60

fff

3

Red. (hold with hands)