STEVEN SNOWDEN

GROUND ROUND

FOR TROMBONE AND ELECTRONICS

GROUND ROUND

COMMISSIONED BY
STEVEN PARKER

This piece employs live audio processing techniques via the Max/MSP programming language. The included program files can be executed with Max/MSP Runtime, which can be downloaded for free at http://cycling74.com/downloads/

Required equipment:
1 microphone
1 mic stand
1 computer with Max/MSP Runtime installed
1 digital audio interface with at least 1 mic preamp (either usb or firewire)
1 pair of loudspeakers (powerful enough to compete with the live trombone at high dynamic levels)
Cables and power supplies to connect and run all of the above items
For technical support, feel free to contact me at stevensnowden@gmail.com

Program Notes:

For the past couple of years, I have had a bit of a fascination with the unique sound of cattle auctioneers in the United States. Their chant presents specific rhythms, pitches and cadences that serve to intensify the auction process and encourage rapid bidding. The end result is a uniquely musical and mesmerizing form of communication. After listening to and watching several auctions, I decided that this could be successfully explored by utilizing the unique voice-like characteristics of the trombone in conjunction with live electronics.

After working on this piece for a while, I couldn't help but think of how strange the auction process must be for the cows themselves. Ultimately, this dictated the form of the piece and caused me to produce something more darkly humorous than I had originally intended.

Here's one particular narrative that was running through my mind while composing this piece…

> For as long as you can remember, you've done nothing but chew your cud and moo; sharing your field with dozens of other cows doing exactly the same. Then one fateful morning, you're whisked away to a strange, bustling place where everyone is focused on you for once. Is this your chance to be a star? Should you show them your new tap routine? Was that David Hasselhoff in a cowboy hat over there? Whoa, just play it cool. Ok. Focus. Just do what you do best. Just… Look… Delicious.

Performance Notes:

Interpretation of the first two minutes of this piece is left largely up to the performer. Rhythmic and pitch elements may vary according to the style of the individual, though the time stamps at the beginning of each system should be observed in performance. I have included detailed notation of these first two minutes merely as an example of one possible interpretation.

The duration of all glissandi should occupy the entire rhythmic value of first note to which they are attached.

The chorale section on the last page uses only the audio signal of the live performer for all four contrapuntal voices. The result is a trombone choir comprised of multiple copies of the live performer. Because of this, a great deal of liberty can be taken with tempo, articulation and dynamics and all other voices will do exactly the same.

This piece utilizes a fixed audio track as well as live audio processing. These live processing techniques include:

Reverb – The amount of reverb (wet to dry mix) can be adjusted according to the acoustics of the performance space.

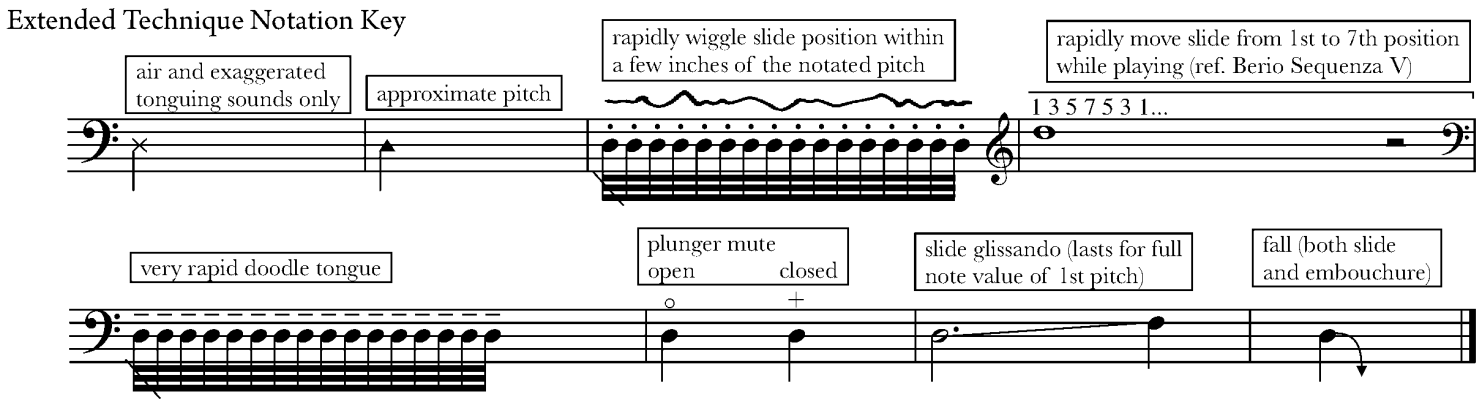
Fixed rate delay – Employed for much of pages 3-5 of the score. The volume of each individual delay line can be adjusted.

Variable rate delay – Employed for much of pages 1-2 of the score. This type of delay produces a less predictable result than the fixed rate delay and will also produce a subtle pitch-shifting effect.

Amplitude Envelope Follower –Tracks the amplitude of the live performer and adjusts the amplitude of a looping auctioneer chant accordingly. The end result can be described as a composite trombone/auctioneer timbre.

Real-Time Pitch Tracker – analyzes and tracks the live performer's pitch during performance.

Real-Time fft Contrapuntal Harmonizer – Receives the incoming data from the *Real-Time Pitch Tracker* and pitch shifts three additional independent contrapuntal voices according to a preprogrammed chorale. This occurs on the last page of the score. Because it is analyzing and resynthesizing the incoming audio signal, the performer can take any desired liberties with tempo, dynamics and rhythm in this section. However, it must receive the notated pitches in order to correctly resynthesize the chorale. The number of each pitch required by the Harmonizer is listed under each note on the last page of the score and the number of the note currently being harmonized is shown on the computer screen. If incoming audio signal from the mic is too low or if the performer's pitch wavers more than a quarter step from what is notated, the Pitch Tracker may not work as intended. However, if this should occur during performance (the harmonizer will only present parallel harmonies based on it's last chord) the player can simply return to the pitch listed on the screen and continue with the chorale from there.



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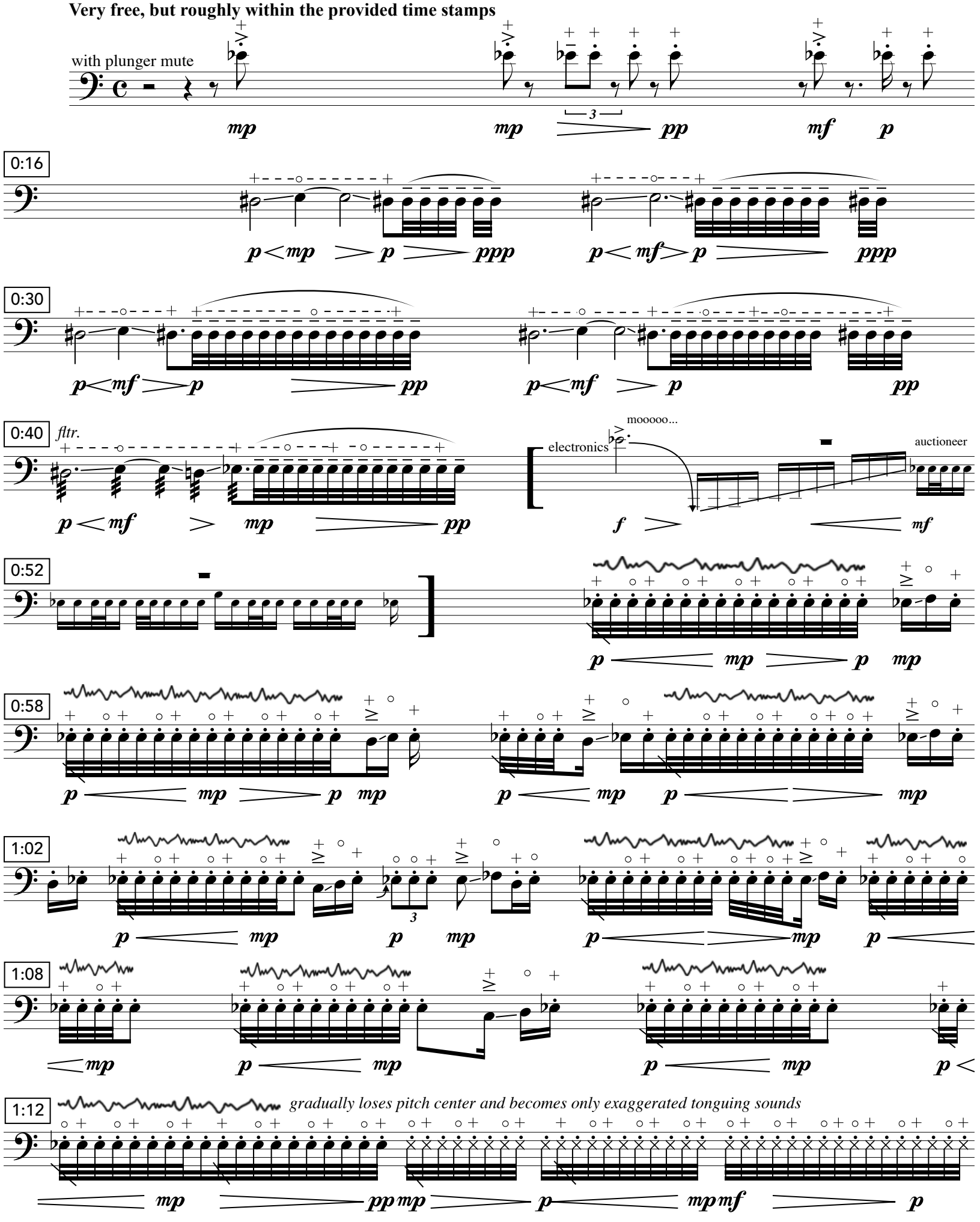
for Trombone and Electronics

Steven Snowden

Very free, but roughly within the provided time stamps



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1:16

pp mp p mp pp < p pp p mp p

1:20

mf p mf mp pp mp

1:28

p mp p mp

1:32

mp mf pp mf p

1:36

mp p mf p mp f p f p f p mf

1:42

f p mp ff mp f p mf p

55 ♩ = 120
Metronome
Starts Here

1:46

ff p mp f mp p

1:50

set down plunger mute

mf mp ppp

59

♩ = 120

Gavel

strictly in tempo

p < mp

pp f

mf pp < mf f mf pp

63

f pp f pp < f mp < mp <

65

f p < mf < f p < f mf < f mf < f

Elec.

68

mp f ff p f

< f

granulated textrure
sweeping upward

71

pp

Elec.

74

ppp mf f

ff ff

Elec.

80

mf ff f mf

Elec.

84

mp mf f p mf mf p f

Elec.

89

p mf sf

Elec.

93

p mp mf mp p

Elec.

96

gritty pulse

mp mf pp ff pp

Elec.

98

ff mp f mp

Elec.

100

mf mf f p p

Elec.

105

f mp sf

Elec.

109

p

Elec.

112

1 3 5 7 5 3 1 3 5 7 5 ...

ff mf fff p

auctioneer chorale ♩= 120

ff multi auctioneer chants repitched to chorale

Elec.

117

fft harmonizer begins tracking pitch

1 2 3 4 5 6 7 8 9 10 11

p *mp* *p*

Chorale shifts from repitched auctioneer samples to the real-time fft harmonizer

Elec.

123

Tempo Rubato

12 13 14 15 16 17 18 19 20 21 22 23 24

mp *mf* *mp*

Elec.

132

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42

mf *mp* *pp*

Elec.

140

43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58

mp *mf* *p*

Elec.

148

59 60 61 62 63 64 65 66 67 68 69 70 71 72

mp *mf* *mp*

Elec.

156