Constructive Feedback

for 3-5 performers with electroacoustics

Stephen F. Lilly

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Performers should be distributed symmetrically around the audience. Each performer should have a laptop running Max (with MASTER_PATCH.maxpat loaded), an interface, a speaker facing toward the audience (either a studio monitor or an instrument amplifier, e.g. guitar amp set to clean without effects), and a microphone (any operational type with cardioid pickup pattern, e.g. Shure SM58 or KSM32).

Each performer's setup should be unique with regard to speaker-preamp-microphone combination (e.g. if two performers use the same microphone type and preamp/interface, then their speakers should be different).

Throughout the piece, each performer improvises with feedback created between their microphone and speaker according to the structural arc described on the next page. The variables open to improvisation are the given processing parameters (inside MASTER_PATCH), the input volume for each processor (inside MASTER_PATCH), the input/output volume of the preamp or speaker, and/or the microphone placement (i.e. the distance from speaker or the angle/direction of microphone).

MASTER_PATCH contains four different processors (each occupying one of the four corners of the graphic display when MASTER_PATCH is loaded) that filter, pitch-shift, frustrate and elongate the onset and sustain of feedback. Each performer may use only one processor at a time, but the processor can be changed at any time (unless otherwise forbidden by the structural arc). However, the processor should not be changed as often as the processing parameters, volumes, and microphone placement. Throughout, care should be taken that the overall level never reaches dangerous levels (both with regard to human hearing and audio equipment). The Max patch is designed to control feedback, but unhealthy peaks are still possible.

Structural Arc

(start times for each section are approximate and should not be precisely coordinated)

0:00 – Opening Solo

- *Performers:* One
- *Max Processor:* Controlled Feedback with larger FFT sizes
- *Description:* A single event, soft, constant, pitched or semi-pitched

1:00 – Group Improvisation I

- *Performers:* All
- *Max Processor:* All
- *Description:* Multiple events, quick-paced, contrasting, wide dynamic range

2:45 – Solo II

- *Performers:* One (different from performer in Opening Solo)
- *Max Processor:* Contrasting processor (i.e. not Controlled Feedback)
- *Description:* Single or multiple events, more dynamic than opening.

3:15 – Group Improvisation II

- *Performers:* All
- *Max Processor:* All
- *Description:* More active, quicker pace, generally louder

4:00 – Duet I

- *Performers:* Two (at least one performer who was not featured in solos)
- *Processor:* Spectrally Filtered Feedback with larger FFT sizes and lower Scaling Factors
- *Description:* A dialog, less active than previous section

4:30 – Swells

- *Performers:* All
- *Processor:* All
- *Description:* Still in dialog, each performer, using any processor, makes the feedback swell to a peak and immediately mutes it. Greater use of silence.

5:15 – Duet II

- *Performers:* Two (at least one performer who was not featured in Duet I)
- *Processor:* Two (any processor but limited to one per performer)
- *Description:* Single events with more dynamics than opening, but overall volume is soft, dying away

6:45 – End