

Deus est machina

for electric bass, two performers, two amplifiers, and live electronics

Stephen F. Lilly

(2008)

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PERSONAE:

PERFORMER #1 – Controls amplifiers and cues MaxMSP.

PERFORMER #2 – Plays the electric bass.

COMPUTER – Runs MaxMSP and has two preferably balanced inputs and one unbalanced, high impedance output (a DI box may be necessary).

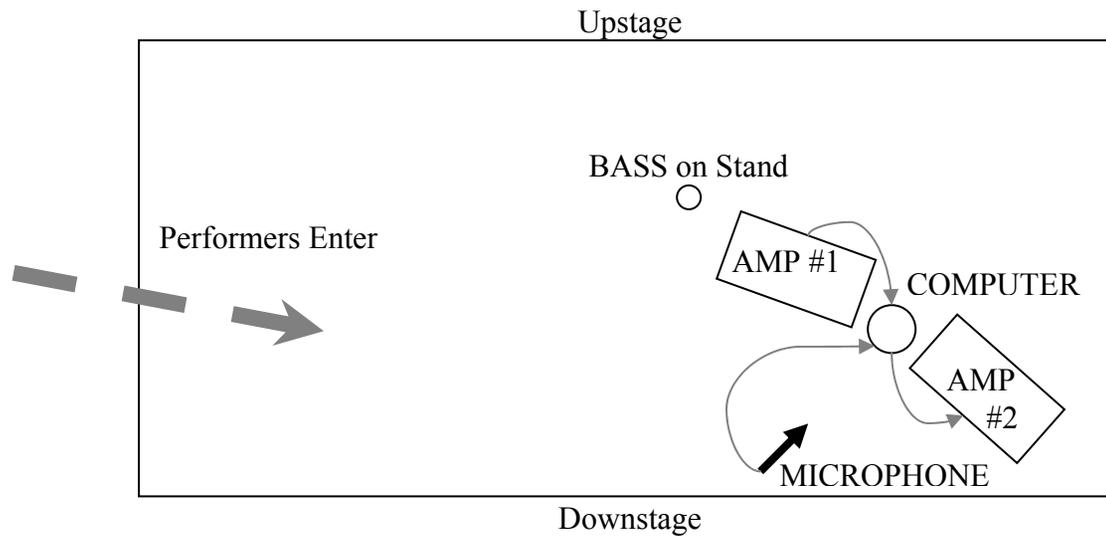
AMP #1 – Should be designed for electric bass. This may be an amplifier/cabinet combination or an all-in-one practice amplifier. The size of the entire unit should be such that PERFORMER #1 may safely rest the BASS on top of it as well as perform on the BASS while it rests on top. The amplifier must have at least a basic 4-band parametric equalizer (the more complicated – boosts, graphic equalizers, etc. – the better). A pedal or rack mountable EQ unit may be added only if the amplifier does not have the basic EQ described above. For the purpose of this piece, all tone controls (equalizers, equalizer on/off, low/high boosts, etc.) will be considered EQ. Any gain modifiers (gain, level, volume, pads, etc.) will be considered gain. Everything else (distortion, compression, reverb, delay, etc.) is considered an effect. However, a gain or EQ control within an effect may be interpreted as either gain/EQ and/or as part of the effect. If the amplifier does not have adequate effects, a pedal or rack mountable unit may be added, but only if it is deemed necessary, and even then, only one unit may be added. Finally, the amplifier must have a line-out, preferably balanced, and it must be set to post-EQ and post-effects. The line-out level should be adjusted before the performance so that all signals sent to MaxMSP are strong but do not clip.

AMP #2 – May be any type of amplifier (e.g. guitar, bass, or keyboard). The EQ and effects requirements are the same as AMP #1.

BASS – May be an electric bass of any type (4-7 strings). There should be a stand for the BASS that will allow the strings and pick-ups to create feedback with AMP #1 when the BASS is in the stand directly facing the loudspeaker(s).

MICROPHONE – May be of any type and have any polar pattern. The microphone should be placed so that it picks up both AMP #1 and AMP #2 as well as the occasional sound made by PERFORMER #1 and PERFORMER #2.

SCENE:



PROLOGUE

AMP #1: Turned off. Set basic EQ flat with no boosts or additional EQs engaged, and set gain to high so that AMP #1 will produce an audible pop when powered on and then boost the amplifier's noise floor to audible levels.

AMP #2: Turned off. Set basic EQ flat with no boosts or additional EQs engaged, and set gain to $-\infty$.

BASS: In standard tuning and set on stand to the side of AMP #1 as shown in the diagram above. The instrument cable should be completely disconnected, neatly coiled, fastened with a Velcro cable tie, and placed on top of AMP #1.

COMPUTER: MaxMSP patch is loaded and running but not yet started.

ACT I: "The Set-Up"

SCENE 1

PERFORMER #1: Enter from stage right and walk slowly and deliberately toward the amplifier/computer set-up, giving nothing more than a casual nod to acknowledge the applause. Pace your walk so that your arrival occurs after the applause has died down. Upon arriving, first turn on AMP #1 and then turn on AMP #2.

Turn on the MaxMSP patch and initiate Preset #1.

Slowly turn up AMP #2 to a moderate volume (AMP #1 should be the focus until ACT II).

SCENE 2

PERFORMER #1: Freely improvise with the EQ on AMP #1.

SCENE 3

PERFORMER #2: Enter from stage right with a guitar strap over your shoulder and walk quickly and confidently toward the BASS. Upon arrival, pick up the BASS and fasten it to the strap. Then, move the stand from its location to the front of AMP #1.

PERFORMER #1: Once PERFORMER #2 begins to move the stand, turn the gain on AMP #1 down so that PERFORMER #2 plugging in the BASS will be audible but not dangerously loud. To avoid colliding with PERFORMER #2, move to AMP #2. Freely improvise with the EQ on AMP #2.

PERFORMER #2: Position the stand so that when the BASS is later placed on the stand, the pickups and strings will be as close as possible to the loudspeaker of AMP #1. Unfasten the instrument cable. First, plug into AMP #1, and then plug in the BASS. Move to the side and slightly behind AMP #1.

ACT II: “The Game”

THE RULES

Both performers should move through their associated flow charts based on the quality of improvisation and interaction. The piece should never become stagnant or uninteresting. If either performer believes a change will improve the quality of improvisation and/or interaction, the performer should act accordingly.

PERFORMER #1: *Navigate the central path on the flowchart using the solid arrows. When following a dotted arrow, return to the previous station. The directions inside each station on the central path control improvisation. In addition to improvising with EQ and/or effects on the indicated amplifier(s), improvise with gain. For example, “AMP #2 – EQ” indicates that one can only improvise with EQ and gain settings on AMP #2. If at any time feedback occurs or an amplifier becomes dangerously loud, move immediately to the necessary station and proceed from there.*

PERFORMER #2: *Navigate the flowchart as indicated by the arrows. Rhythm throughout is improvisatory, but an effort should be made to avoid repetition. Rhythm should be either erratic and unpredictable or constant (e.g. a continuous stream of eighth notes, which may accelerate and retard as desired). The chart is divided into two loops. The directions inside each station control improvisation:*

Open: Only use open strings.

Fretted: Only use fretted notes, and avoid the open string pitch classes. Improvise with buzzing and pitch inflection via finger placement, vibrato, and string bending. While on a station, do not change pitch. It is acceptable to switch strings or sound the same pitch on two different strings. Additionally, when fretting on the lowest and/or highest strings, the left hand may bend the string off the fingerboard. Each time a Fretted station is encountered, select a new pitch.

Pizz.: Articulate using standard electric bass pizzicato.

Slap/Pop: Articulate using the percussive “slap/pop” electric bass technique.

Free Articulation: Articulate using any technique. Technique may vary within a station.

Strike: Tap and/or strike the BASS anywhere but the strings. The strings may be allowed to sympathetically vibrate.

String Off/On: Take one string on or off the BASS. This may only be done when the bass is plugged in.

Tune: Constantly alter the tuning of the open string(s) being articulated.

Tapping: Articulate using the “two-hand tapping” technique. This should be executed as fast as possible with the pitches chosen at random. The end result should be a barrage of extremely staccato pitches following no perceptible organizational scheme.

Fingernails: Slide the right hand’s and/or left hand’s fingernails along the string(s) to create a grating sound. Each slide can traverse any length of the string (e.g. the entire string or just a small portion).

Rubbing: Rub strings with the left and/or right hand. This may be done along the strings or perpendicular to them.

SCENE 1

PERFORMER #1: Switch MaxMSP to Preset #2.

Improvise within the Primary Loop on the flowchart; do not enter the Cable station.

PERFORMER #2: Improvise in Loop #1 and eventually proceed into Loop #2.

At least one string must be taken off the BASS during this scene.

SCENE 2

PERFORMER #2: Improvise in Loop #2. Returns to Loop #1 should be brief and rare.
Eventually, remove the BASS from the strap and place it on top of AMP #1.

PERFORMER #1: Once the BASS has been placed on top of AMP #1, the Cable station may be entered, but the final station “AMP #1 & 2 – All” should be reserved for Scene 3. In the Cable station, unplug the instrument cable from the BASS and improvise with the tip of the ¼” plug – touch it to various objects (e.g. fingers or one of the BASS’s vibrating strings). Only unplug/plug in the BASS while at the Cable station.

PERFORMER #2: When the BASS is unplugged, move to Loop #2 as soon as possible, and remain in Loop #2 until the BASS is plugged in.

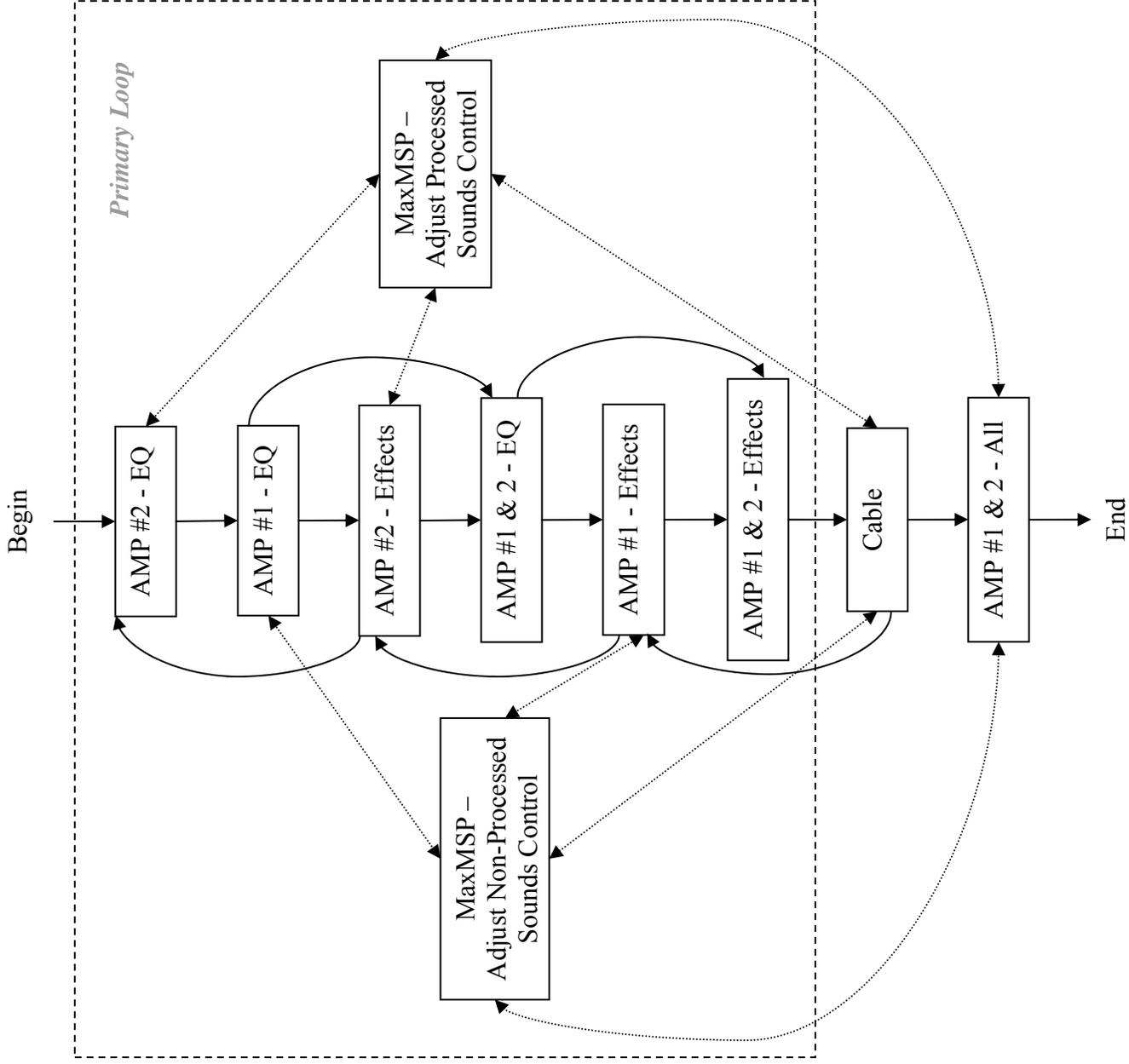
SCENE 3

PERFORMER #1 or PERFORMER #2: Once the BASS has been unplugged at least once, initiate a “silence” by standing upright and staring at the other performer. Once the other performer has noticed he/she should do the same. Only the performer who did not initiate the “silence” may end it by returning to station that he/she was on previously.

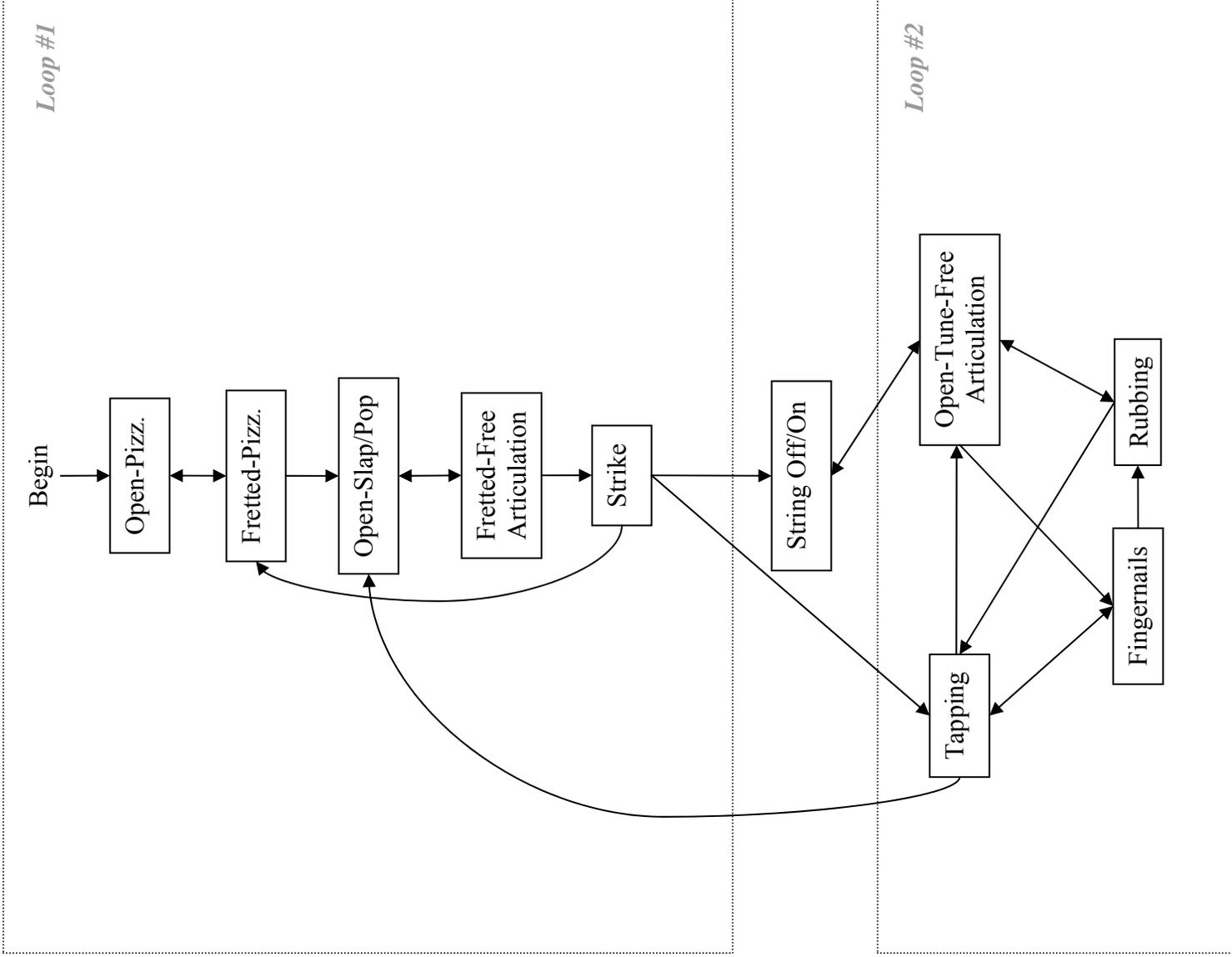
PERFORMER #1: The BASS must be plugged in before the end of the act and should be done before entering the final station. The final station may at any point in Scene 3, but once entered, it cannot be exited until Act 3.

PERFORMER #2: The BASS must have at least half of its strings and at least two strings should be taut enough to resonate before proceeding to the final act.

ACT II: "The Game" – PERFORMER #1



ACT II: ‘The Game’ – PERFORMER #2



ACT III: “The Exit”

This act may only be started if the BASS is plugged in and has at least half of its strings.

SCENE 1

PERFORMER #2: Place the BASS in the stand in front of AMP #1. Exit stage right.

PERFORMER #1: As PERFORMER #2 places the BASS in the stand, switch MaxMSP to Preset #3, and turn the gain on AMP #2 to a loud volume, and turn off all effects on AMP #2.
Move to AMP #1.

SCENE 2

PERFORMER #1: Manipulate the gain and EQ on AMP #1 to bring about feedback.
Improvise with the feedback using the gain, effects, and EQ of AMP #1. Eventually, turn off the effects of AMP #1.
Once the feedback becomes somewhat stable, stand, pause, and then exit stage right, unplugging the instrument cable from the input of AMP #1 along the way.

SCENE 3

*MaxMSP and AMP #2 continue for one or two more outbursts.
After which, PERFORMER #1 and PERFORMER #2 take the stage for bows.
Finally, the COMPUTER is turned off.*

A NOTE ON MAX/MSP PROCESSING

Throughout the performance, Max/MSP records brief excerpts, via the MICROPHONE and the line-out of AMP #1, into a series of buffers. These buffers are used as sources for two types of sound played back through AMP #2:

NON-PROCESSED SOUNDS: *The buffers are played back at various speeds, either forward or backward. These sounds are heard during the first two acts. In ACT II, PERFORMER #1 has control over what playback speeds are allowed, the duration of each sound event, the probability that the buffers will sit idle (i.e. the buffers are updated less often and contain the same excerpts for a longer period of time. This also increases the chances for repetition), and the probability that silence will be inserted into the recordings.*

PROCESSED SOUNDS: *The sounds in the buffers are subjected to up to three different algorithms: one that eliminates sinusoidal elements, one that uses a fast Fourier transform to scramble the spectrum of the recorded sounds, and one that multiplies the recorded sounds by a delayed version of themselves. These processes are heard in the final two acts. In ACT II, PERFORMER #1 has three controls: the probability that the recorded sound will be subjected to the sinusoidal elimination algorithm, the probability that the recorded sound will be subjected to the self multiplication algorithm, and the overall density of the processed sounds.*