sumtone

:

michael edwards

breathing Charlie

for saxophone and computer

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"and nothing, and nothing. the days of
the bosses, yellow men
with bad breath and big feet, men
who look like frogs, hyenas, men who walk
as if melody had never been invented, men
who think it is intelligent to hire and fire and
profit, men with expensive wives they possess
like 60 acres of ground to be drilled
or shown-off or to be walled away from
the incompetent, men who'd kill you
because they're crazy and justify it because
it's the law, men who stand in front of
windows 30 feet wide and see nothing,
men with luxury yachts who can sail around
the world and yet never get out of their vest
pockets, men like snails, men like eels, men
like slugs, and not as good . . . "

(Charles Bukowski)

From Charles to Charlie (Parker), and working on his assertion that if it's not in you, it won't come out through your horn, this piece is based around the two versions of "Bongo Bop" Parker recorded in October 1947: a four times augmentation of the 9x12 bar blocks, rhythmically and harmonically derived from the source, there is very little of Parker sampled for the piece (most samples are of myself "playing" the alto), but you may hear snatches of a very young Miles Davis and, later in the piece, lots of the short rhythm section fills between solo phrases, complete with wax disc aberrations, clicks, and general lo-fi distortions. Most of all, however, you'll hear breath.*

* N.B. You probably won't notice much correlation between what you see the saxophonist doing and what you hear. In this piece, the saxophone is used more as a "system exciter" than as a normal musical instrument. So for one thing, you probably won't hear any normal notes. Also, due to processes such as live sampling, granulation, and looping, if something audible *is* done live, you may not hear it at the time but rather later, or perhaps not at all.

P.S. At the beginning of the piece I decided to set the scene properly, albeit briefly, for a work of this nature by transporting us out of the (perhaps overly formal?) concert hall into Henry's Jazz Cellar, just off the Lothian Road in Edinburgh. Seemed like a more suitable venue. A little bit more relaxed.

performance requirements

- saxophone: the performer may use any of the saxophones (soprano, alto, tenor etc.) to perform this piece.

- the Max/MSP audio programming environment (version 4.3 and above) running on a suitable Macintosh or PC computer.

- an 8-channel sound card: the computer output is octophonic.

- the Max/MSP performance patches supplied by the publisher on CDROM (email hire@sumtone.com, order online at http://www.sumtone.com/performance-materials.php, or write to the address at the front of this score).

- MIDI faders (8 minimum) plugged into the computer's sound card. These should send volume messages to Max/MSP on separate MIDI channels. If controller numbers must be sent instead of MIDI channels, then the "midi-faders" patcher in Max will have to be suitably reprogrammed.

- two electronic pedals connected to analogue inputs 7 and 8 of the sound card and placed at the feet of the performer to control the live electronics. These are standard synthesiser (sustain) pedals that send small voltage changes upon activation. (The signal thresholds that trigger pedal down may need to be changed in the Max patch to accommodate different pedal models. This can be done simply by changing the argument to the two pedal objects in the "pedals" patcher found in the "subpatches" patcher in the main patch.)

- sound system: eight loudspeakers are preferred. They are to be placed around the audience as follows:

1	2
3	4
5	6
7	8

  Performances with less loudspeakers are possible by combining two or more channels onto one speaker on the mixing desk or in software (the outputs of Max/MSP or the sound card configuration).

- one microphone: this may be dynamic or condenser as required. It should be suitable for very close work as the saxophonist will insert it into the bell often during the piece.

- dynamic range compressor: the saxophone signal coming from the microphone will need to be *highly* compressed before it is sent to the computer input.

- headphones or monitor speakers (optional): in order to hear the mix being sent out of the loudspeakers and thus control the live input, it is desirable to hear a stereo reduction on stage. To avoid feedback problems caused by high microphone gain, it is perhaps best to use headphones for this purpose.

performance directions

structure

breathing Charlie is a piece demanding considerable improvisation from the performer: the material given in this score must be used, varied, extended, developed, and recombined during the whole performance.

The piece is divided into nine sections, each of which is one minute and twelve seconds in duration (the first section has a twelve second introduction however). This makes for the following start times:

1 0:12   **2** 1:12   **3** 2:24   **4** 3:36   **5** 4:48   **6** 6:00   **7** 7:12   **8** 8:24   **9** 9:36

For each section, material for improvisation is given in the score. Once a piece of material has been introduced, it may be reused during the rest of the piece (though generally it will suffice to use only the given material for the section). The performer is not limited to the material presented but may introduce related material or

techniques as deemed fitting. Please be careful to avoid using too much material however. Each section should focus on one or two complementary ideas and develop these, rather than constantly introduce more material.

practice cd

In order to help the performer realise this piece an audio cd can be supplied containing:

- a demonstration recording of the piece (with the composer on alto saxophone)
- the same but with the computer parts 14dB lower than the live saxophone so that the latter is more clearly audible
- the computer sound files only.

the computer's role

The computer plays back sound files from beginning to end of the 10:48 duration, performs live processing (granular synthesis and live sample looping) of the incoming saxophone signal, and automatically switches off the main gain control at the end. At the start of each section, various parameters for the processing are automatically triggered and the section number and textual description of the material for that section are shown in the Max interface. The textual description matches that given in the score.

In order for the performer to monitor the section changes, the computer (or at least the monitor, mouse, and keyboard) has to be on stage with the performer. Furthermore, he or she must begin the performance by starting Max/MSP, loading the performance patch, pressing the reset button (top left of the patch), then pressing the space bar when ready to begin the piece.

live processing

Live granular synthesis runs throughout the piece but its level may be controlled independently of the other sound sources (see below). The saxophone signal is constantly fed into a sample buffer for the granulation. This process may be "frozen" (so no more live samples are fed into the buffer, thus creating a form of "sample and hold") by pressing the left pedal, and unfrozen by pressing it again. Whether the buffer is frozen or unfrozen is indicated by a cross (= unfrozen, or lack thereof = frozen) in the "live granulation" square at the top of the Max interface.

The saxophone signal may also be sampled and looped by pressing the right pedal. The length of the loop is pre-programmed in a cycle (ranging from 187.5 to 3375 milliseconds). When the loop is triggered, signal is sampled, the loop is started and faded into the mix over a duration of three seconds. At this point the pedal may be pressed again to start a three second fade out. Whether looping is active and whether it is in the fade-in or fade-out stage is indicated by crosses in the three squares to the right of the "live granulation" square.

MIDI fader level control

It is assumed that, where necessary, the saxophonist will use the MIDI faders to control sound levels during the performance . Only minimal level control is required however once the beginning balance is found. On the other hand, it still may be preferable, where possible, to have a sound engineer control the live/processed/computer-generated sound balance either via the MIDI faders alone or by use of the mixing desk in combination with the MIDI faders.

N.B. In the performance envisaged here and programmed into the Max/MSP patches, there is no direct amplification of the live saxophone (e.g. through a mixing desk), rather, the amplification and spatialisation of the instrument all takes place within Max/MSP: the microphone signal input gain can be increased or decreased by using the slider at the top right of the patch; the left to right placement of the saxophone in the speakers can similarly be made with the "live pan" slider (see below for more details of gain/diffusion control).

The MIDI fader levels can be seen on the main patch (middle left) and the MIDI values translated into amplitude levels can be seen for the first five MIDI channels (= six processes: fader 2 controls granulation processes 1 and 2) at the bottom left, along with an LED representation of the audio signal level created by the respective sound component (saxophone, granulations, loops, sound files).

The first six MIDI faders control the following signal levels:

1. live saxophone amplitude
2. live granular synthesis amplitude (both granulation processes)
3. live sample looping amplitude
4. sound file playback amplitude
5. master amplitude (controls the output of all signal levels)
6. live saxophone placement depth
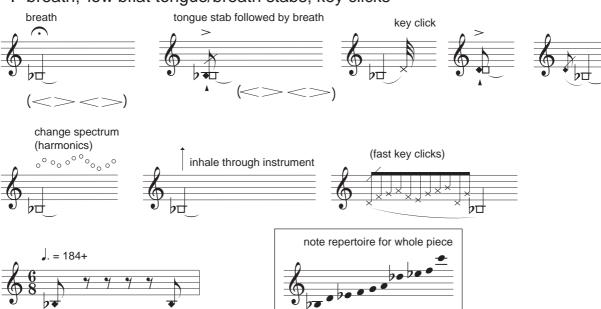
saxophone signal placement depth

The live saxophone placement depth refers to where, from front to back (not left to right), the saxophone signal will be routed to on the loudspeakers : if the fader is fully up, then it will only be on speakers one and two; if fully down, only seven and eight; if in the middle it will be on all eight loudspeakers. As mentioned above, left to right placement is effected by the "live pan" slider on the Max interface.
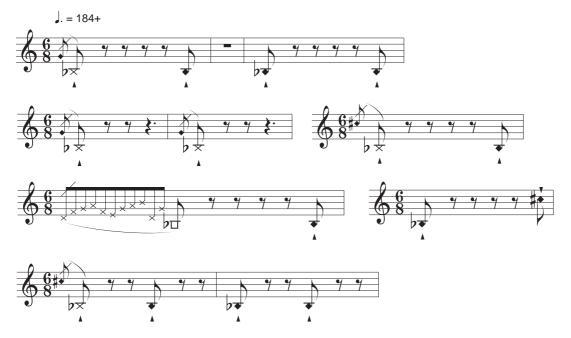
microphone usage

Creative use of the microphone by the performer is encouraged. For most of the performance, the microphone will need to be inserted into, or at least very near to, the bell of the saxophone in order to sufficiently pick up sounds created by the extended (and often relatively quiet) playing techniques. Movement towards or away (in any direction) from the microphone during playing is to be experimented with throughout the piece, as for example is notated in section five.
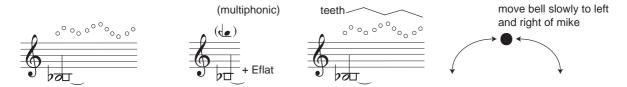
breathing Charlie

1 breath; low bflat tongue/breath stabs; key clicks

2 same as 1 but also:

3 stuttering fast tonguing

4 fluttering

5 breath; low bflat multiphonics; teeth on reed (gliss)

(multiphonic)   teeth

move bell slowly to left
and right of mike

+ Eflat

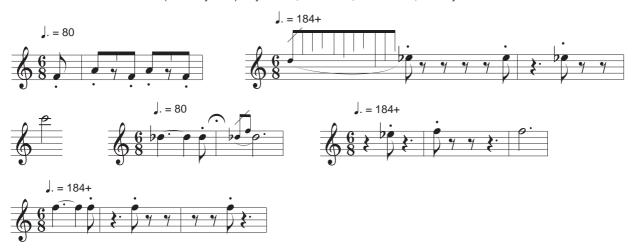**6** remove mouthpiece: same as 1

The following two sections can be performed simply without the mouthpiece but also, and perhaps more effectively, with another very loose fitting mouthpiece (with solid reed substitute) on the bocal. The composer uses the "recorder" mouthpiece of a Yamaha WX5 MIDI Wind Controller. This is like a saxophone mouthpiece but with no place for the reed:it has only a small slit at the top to allow air to pass through and so allows for short sharp blasts of breath to be blown through the saxophone but with lots of air escaping from the sides.

7 same as 6 (no mouthpiece); speak, groan, whistle; also:

speak, groan, whistle

♩. = 160

8 replace mouthpiece; fast breathy solo phrases/pauses

never (or hardly ever) fully voiced, rather soft, unfocussed, breathy

♩. = 184+

♩. = 80

♩. = 80

♩. = 184+

♩. = 184+

9 same as 8 but also work in low bflat/d tongue stabs/notes: