

## Allocation Dynamics for four instruments or voices & computer animation

### *instrumentation*

Instrumentation is to comprise four sustaining instruments or voices with some comfortable overlap of pitch range. The ensemble should be chosen to give a well-balanced dynamic and a range of timbres capable of homogenous fusion at times. Instruments with less sustain may be used, but ways should be found of re-articulating as sensitively and softly as possible.

### *role of the animation*

The computer is used to generate animated graphics 'live' in the performance. The sounds of the instruments themselves directly shape the animation. The players watch this animation as they play, and use it as a kind of 'score'; so there is a feedback loop, where the sound of the instrument makes shapes move on-screen, and the movement of those shapes influences the way the performer plays.

Each player has their own graphic 'figure', fed from the sound of their instrument, that they should attempt to watch throughout the performance (this will be difficult, since sometimes figures become obscured by others). A figure comprises a looping shape made up from spheres (at some points becoming squares) that constantly move in relation to the *timbre* of the sound played. 'Purer' timbres lead in general to more regular circular or spiralling forms, whilst richer timbres will lead to richer or more chaotic forms. Also, some pitches will tend to produce very stable, circular-type forms whilst others tend towards more chaotic forms.

### *technical framework*

Allocation Dynamics uses a MaxMSP patch with the GEM library for animation. This runs on a Mac laptop (G4 powerbook 1.67GHz model is recommended minimum specification). The instruments are miked and mic signals sent via a multi-channel audio interface (e.g. MOTU 828) to the patch. The animation is projected onto a screen behind the performers. The players must be able to see the screen (an additional monitor may be needed). The instruments may be amplified if necessary but there is no audio output from the computer in this piece. A MIDI fader box is used to control the patch, operated by another performer (or the composer). This performer and computer may be situated on stage with the other players but this is not necessary. The length of vga cable from computer to projector and projector noise may need consideration.

## *score*

Find a single pitch that can be played comfortably and softly by all four players at the same octave transposition. This is the starting pitch and once decided remains the same for this ensemble each time they play the piece.

- 1) One player enters imperceptibly playing the starting pitch. Others should join, also imperceptibly. The pitch should remain very soft for some time.
- 2) The animation begins at the same time. Gradually moving circular, spiralling shapes will appear on screen, in brown, green, pink and blue. Each player controls one coloured 'figure' by the timbre of their playing, and all players should generally aim to 'stabilise' their figure to as smooth a circular, spiralling shape as possible. Often this will be very difficult or impossible, depending on the timbre and pitch played; sometimes players will not be able to see their figure since it will be obscured by those of other players. One should aim towards this stability, however.
- 3) Somebody plays a new note at an interval of a perfect fifth above or below the starting pitch, sustaining all the time.
- 4) Others join the new pitch to reinforce it, whilst others remain on the original pitch.
- 5) Once you occupy a pitch, do not leave it: i.e. do not alternate between the two notes of the perfect fifth interval.
- 6) At some point, somebody plays a new note at an interval of a perfect fifth above or below either of the notes now sounding, and this process repeats from step 3.
- 7) Continue. The tiny variations in tone and timbre, and tiny accidental noises, should come into focus. The process should not be hurried.
- 8) As the piece progresses, players may notice their animated figure become more prominent on screen relative to those of the other players. If this is so, that player may wish to treat this as a kind of 'solo', though such solos should operate generally within the confines of the restrictions outlined above.

*August 2005*