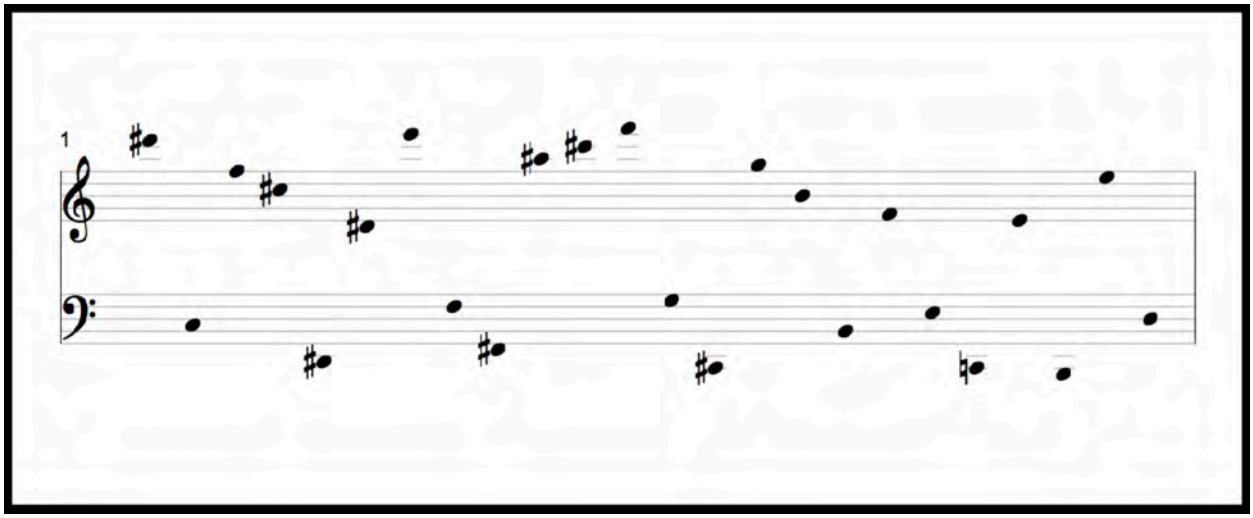
Nicolas Collins
***Roomtone Variations* (2013)**
Guide to performance
May 2019

In ***Roomtone Variations*** the resonant frequencies of a room are mapped, in real time, through controlled acoustic feedback, and projected as staff notation. The strongest, most resonant pitches appear first, at the left, the weakest at the far right. Once the staves are filled the musicians improvise variations on the notes as they are highlighted, gradually stepping through this site-specific "architectural tone row".

How the *Roomtone* works
The piece always begins with a 60-90 second acoustic analysis of the space, using quiet feedback between a microphone and speaker. The resonant frequencies are displayed on a double staff, at concert pitch, filling in 24 notes from the left end (strongest resonance) to the right (weakest).

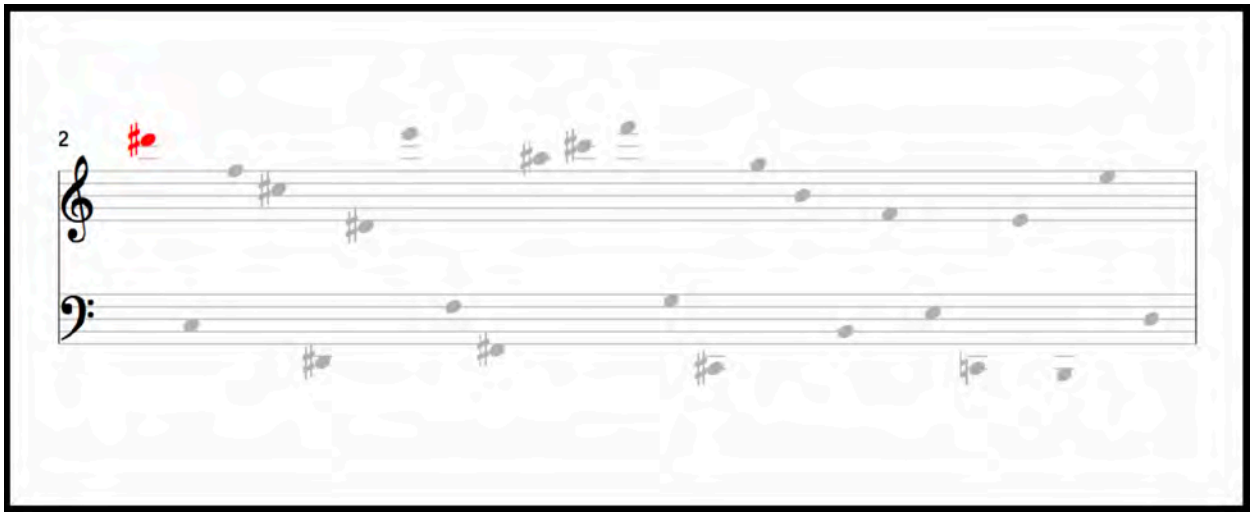
The result looks like this:



Being a function of the room's acoustics, this "tone row" is different for every hall, and can even change from sound check to concert, as the audiences fill the space. It is exceedingly unlikely you will play in concert the notes appearing in this guide.

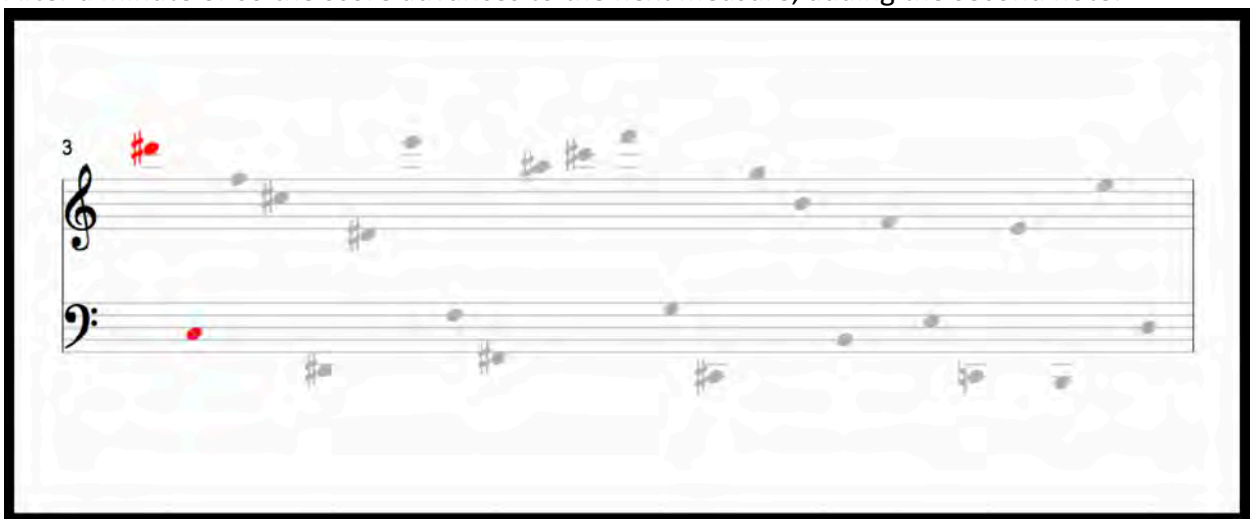
As soon as the analysis ends, the computer generates a 16-measure score. Each measure of the score contains the same 24 notes as the analysis, but with color (red or blue) highlighting which of the notes can be played. All notes are indicated at concert pitch – they are not transposed for transposing instruments. The conductor steps through this score, so that one measure at a time is displayed by video projection or on individual displays, over a course of 12-20 minutes.

In the first measure displayed after the analysis only the first note is highlighted, in red:



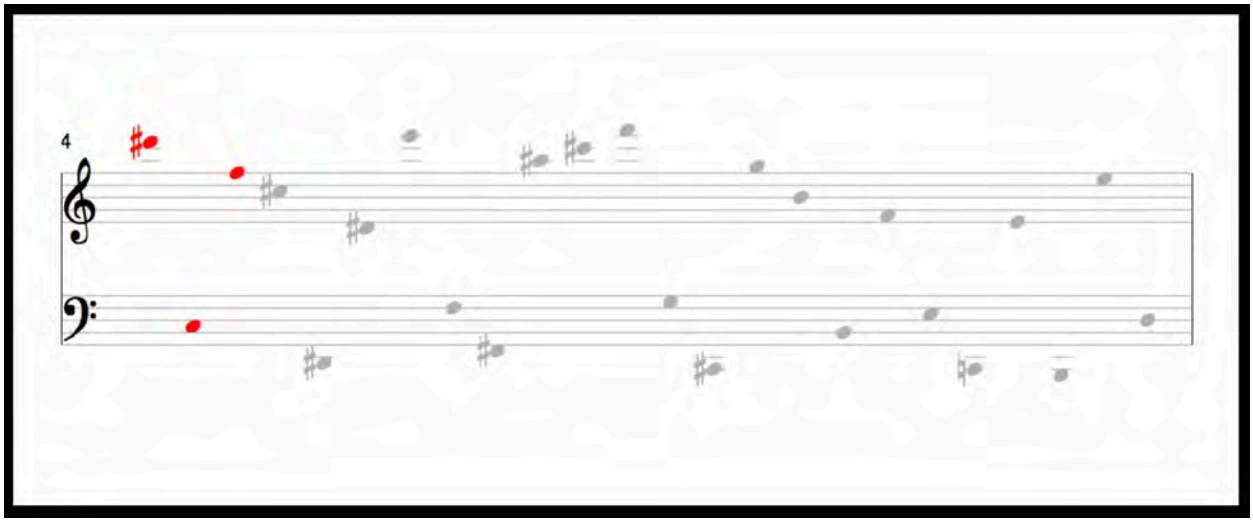
If this note is within the range of your instrument, play it, *mf* with crescendo and decrescendo. When several musicians are playing the same pitch they can detune slightly to produce a rich drone with shifting timbre.

After a minute or so the score advances to the next measure, adding the second note:



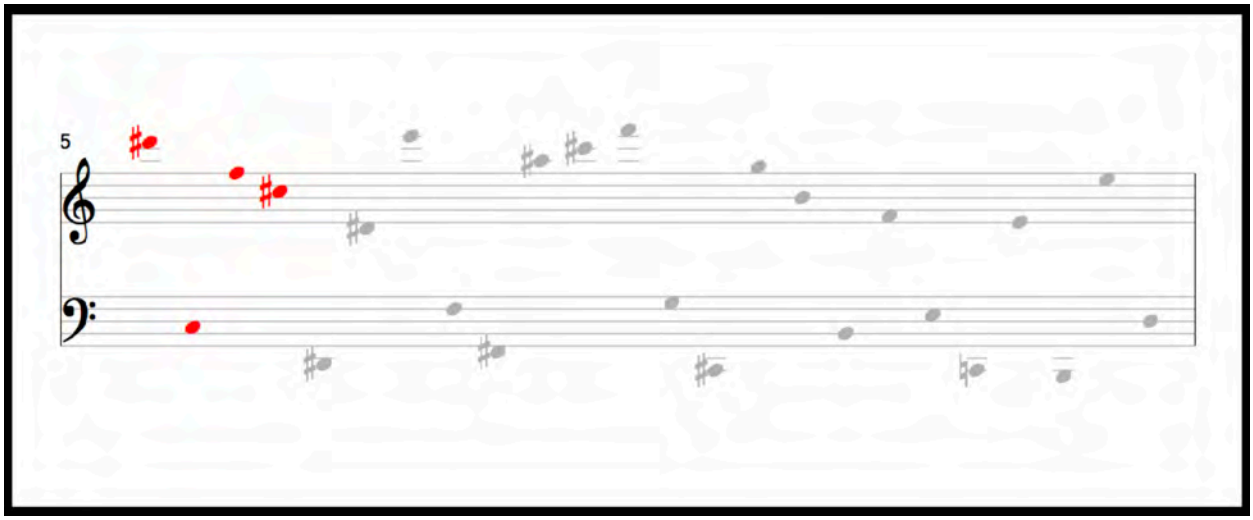
Play the two notes in parallel (chords/double stops) or sequence (melodies), *mf* with crescendo and decrescendo.

The next measure adds the third note:



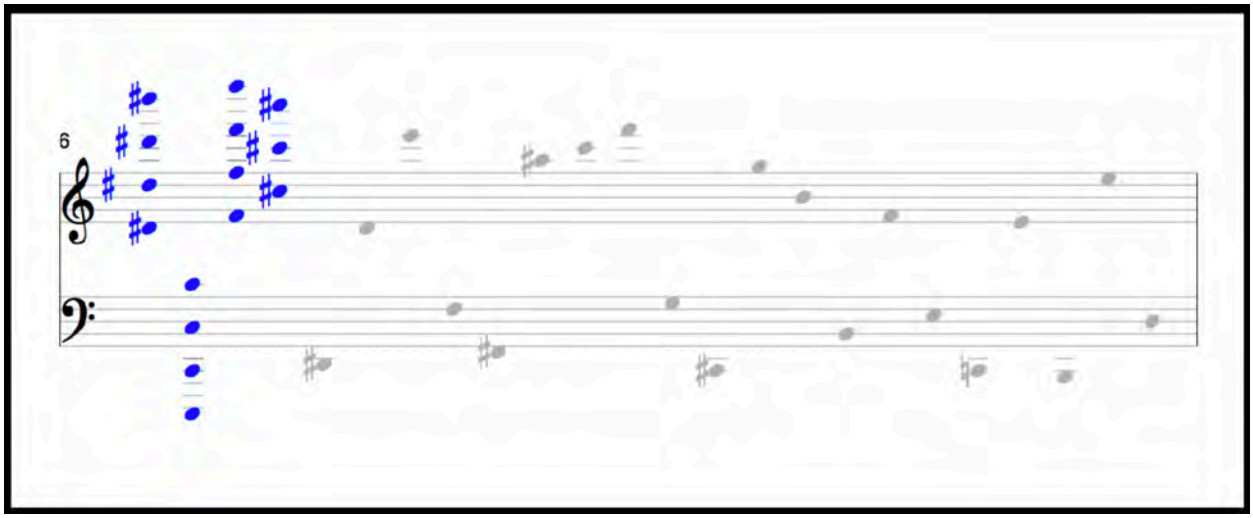
Play as many permutations of highlighted notes as possible, in parallel or sequence, *mf* with crescendo and decrescendo.

The next measure adds the fourth note:



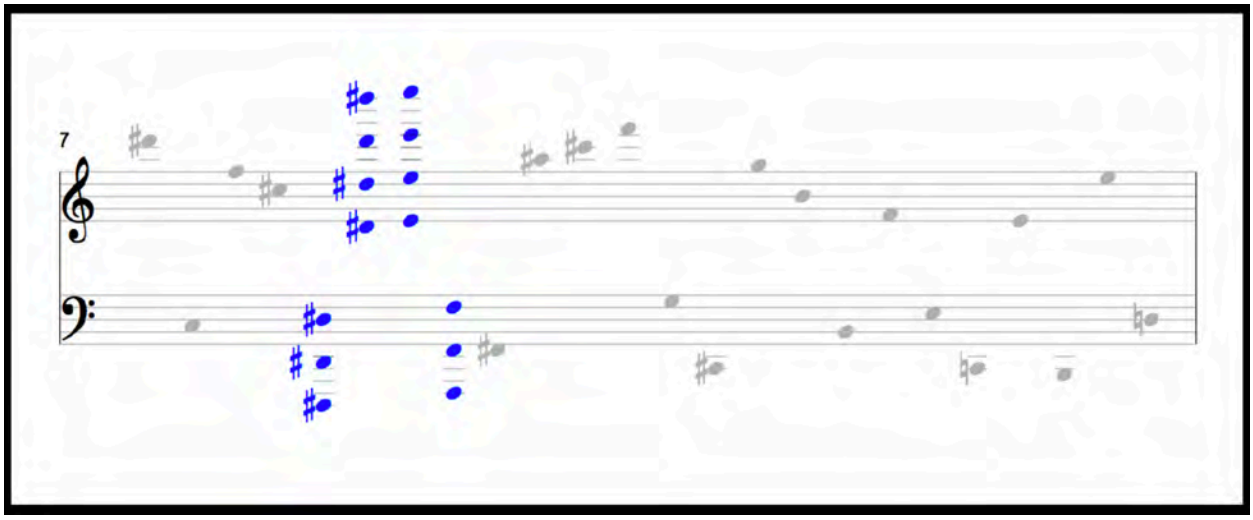
Play as many permutations of the highlighted notes as possible, in parallel or sequence, *mf* with crescendo and decrescendo.

With the sixth measure the highlighting changes to blue:



The blue highlighting indicates the original notes of the analysis, plus a limited number of octaves above or below the root notes. Play as many permutations of the blue highlighted notes as possible, in parallel or sequence. Generally *mf* and slow, with occasional group crescendos/decrescendos, glissandos and detuning.

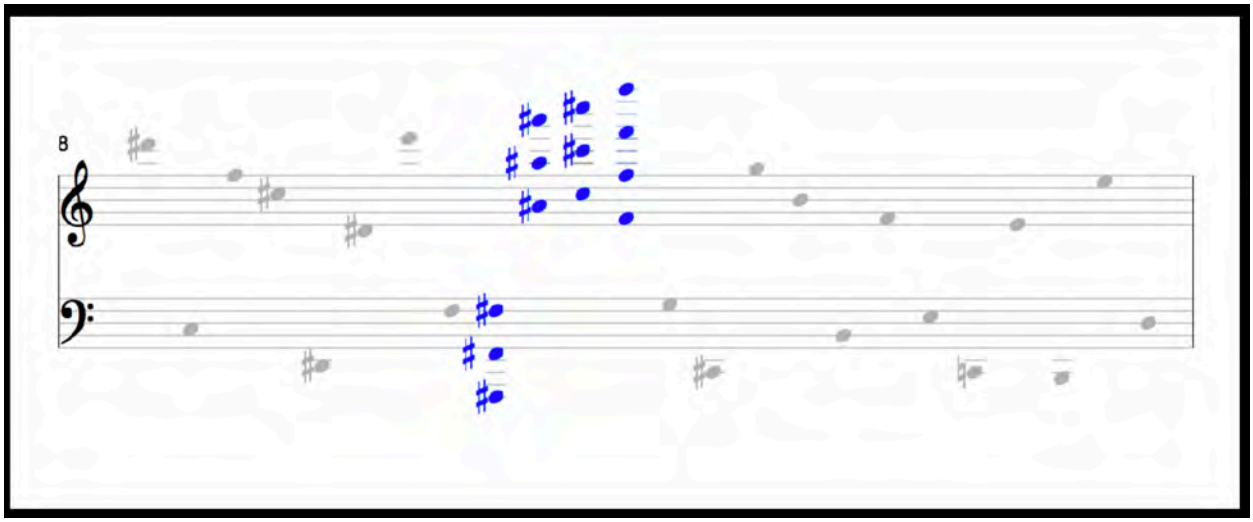
The next measure moves us to the next four notes of the row:



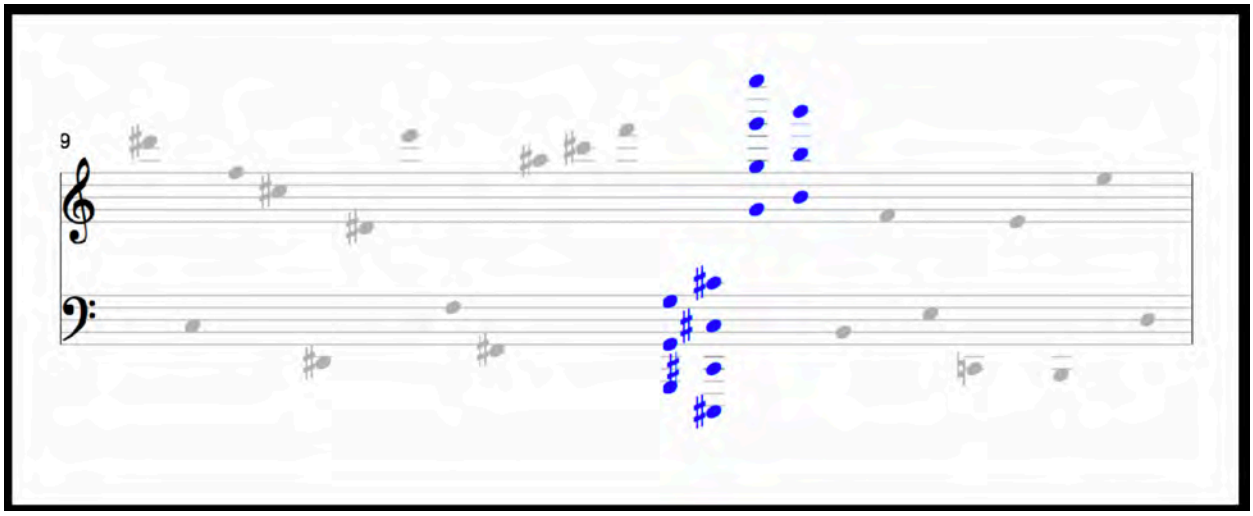
Play as many permutations of the highlighted notes as possible, in parallel or sequence. Generally *mf* and slow, with occasional group crescendos/decrescendos, glissandos and detuning.

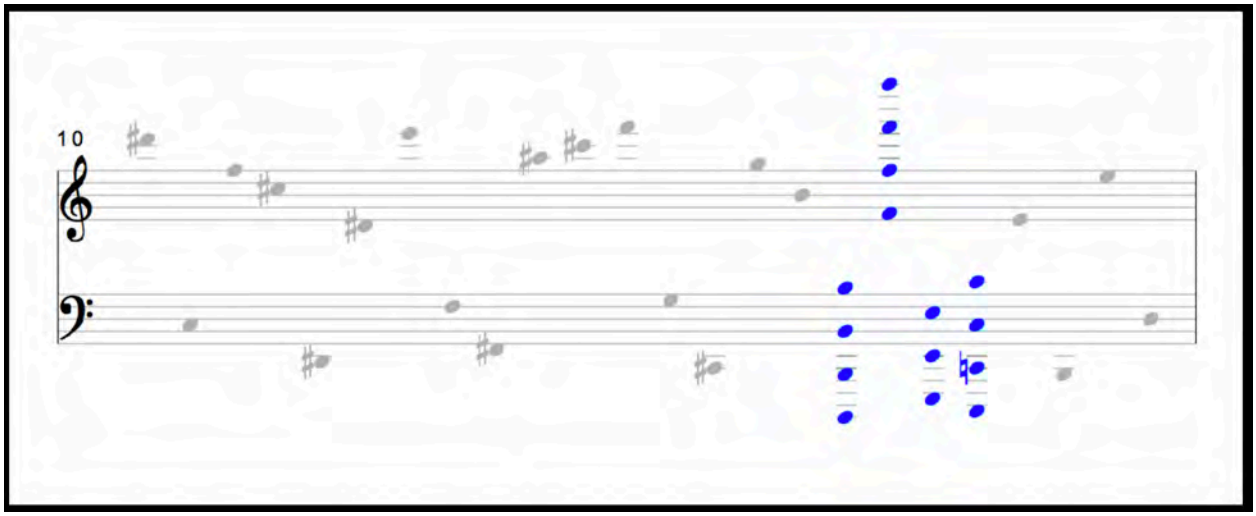
VERY IMPORTANT: Emphasize the feeling of a “chord change” when the highlighted block shifts forward from the previous measure, whether there is significant harmonic movement or not. Play legato over changes -- don’t cut off notes prematurely/disruptively. Don't be tentative.

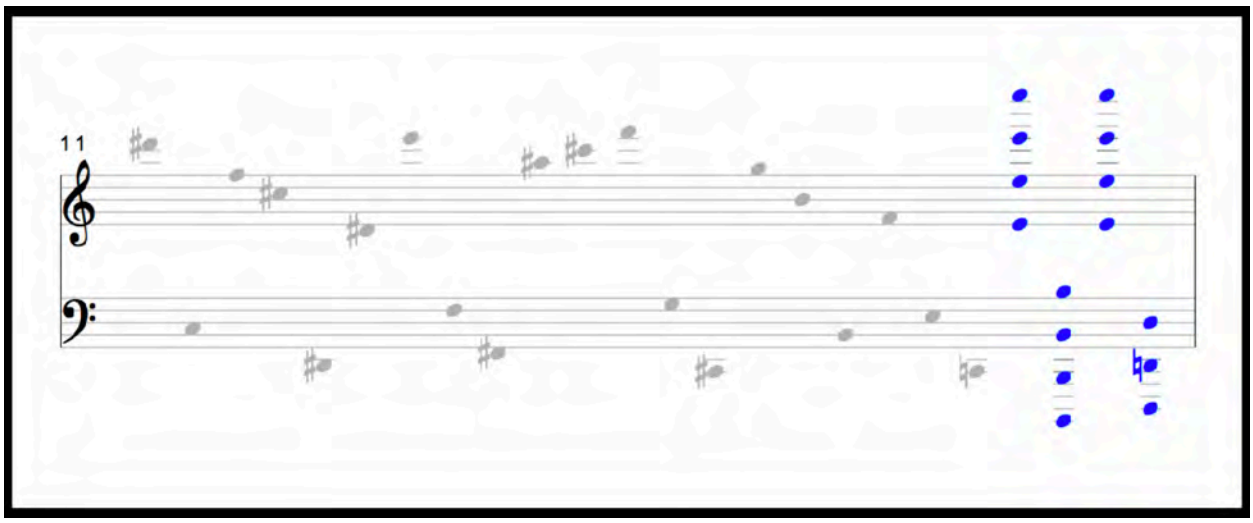
The score then steps through the balance of the 24 pitches, in groups of four:



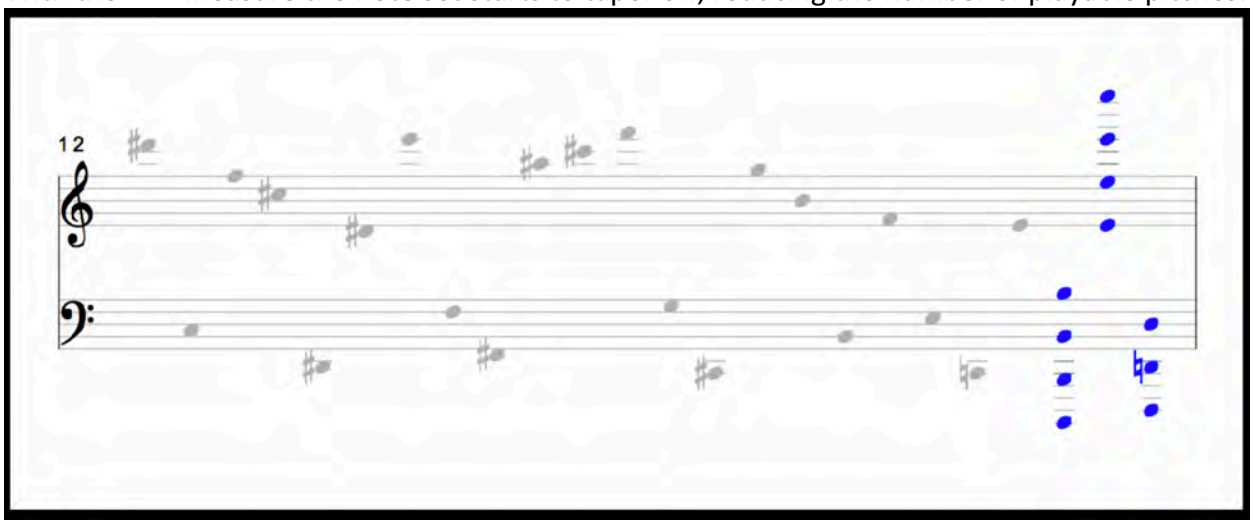
Continue to play as many permutations of the highlighted notes as possible, in parallel or sequence. Generally *mf* and slow, with occasional group crescendos/decrescendos, glissandos and detuning. Emphasize the “chord change” when the highlighted block shifts forward from the previous measure, whether there is significant harmonic movement or not. Play legato over changes -- don’t cut off notes prematurely/disruptively. Don't be tentative.

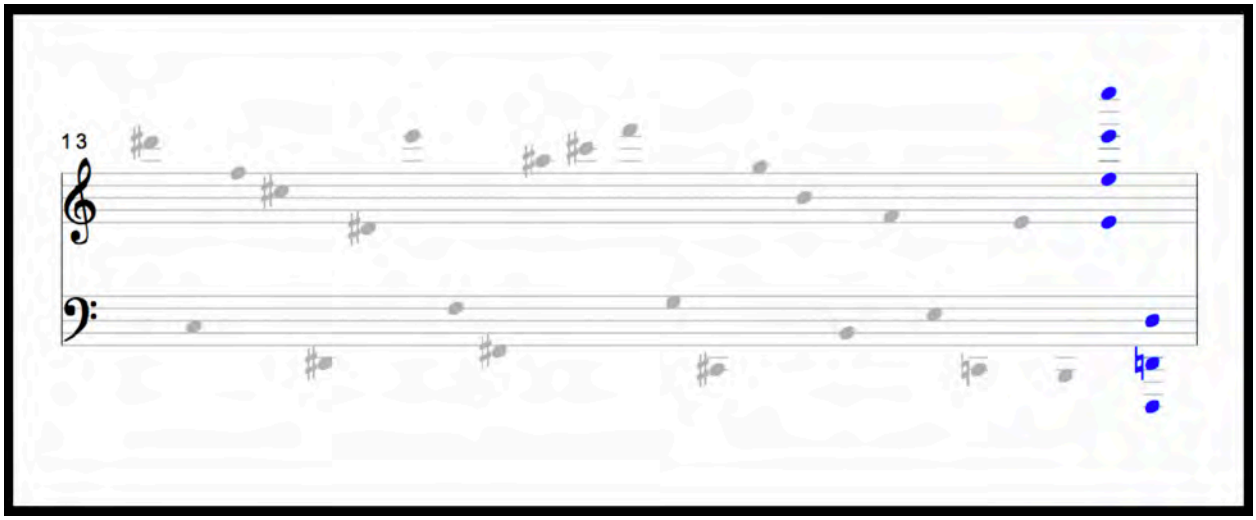


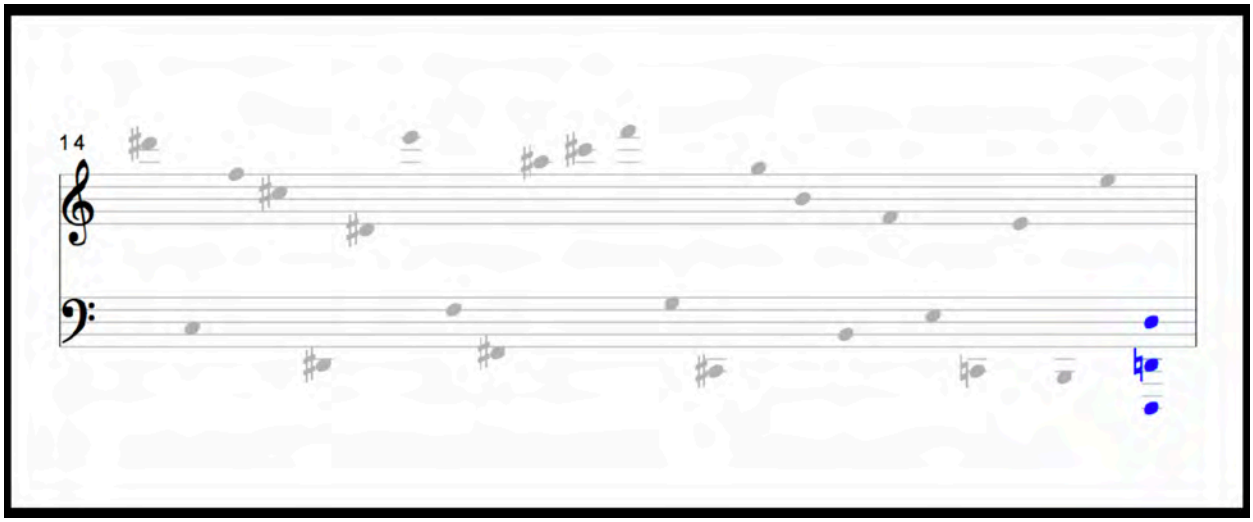




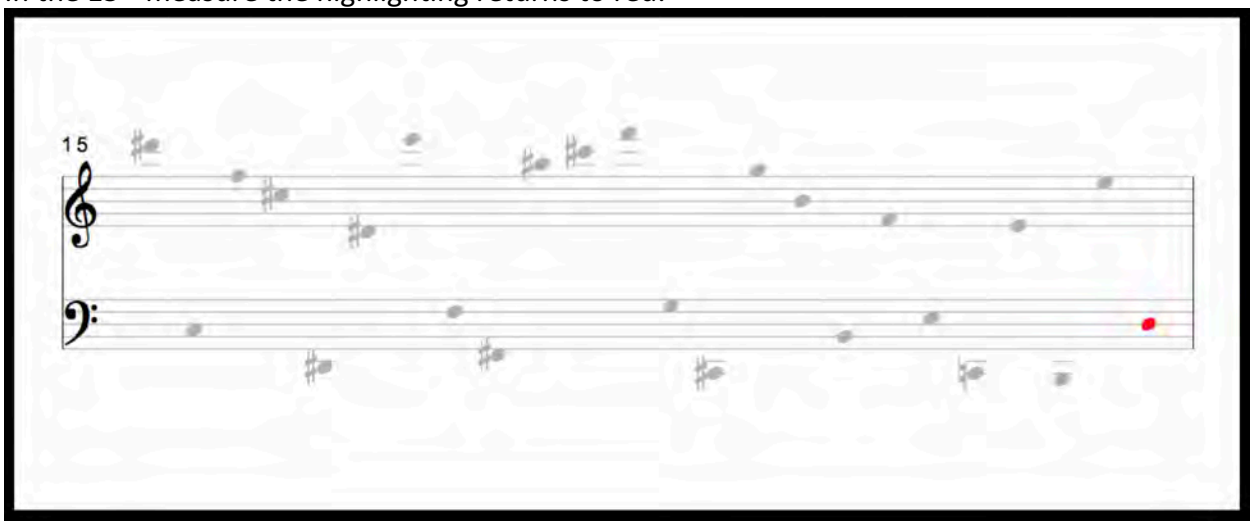
With the 12th measure the note set starts to taper off, reducing the number of playable pitches:





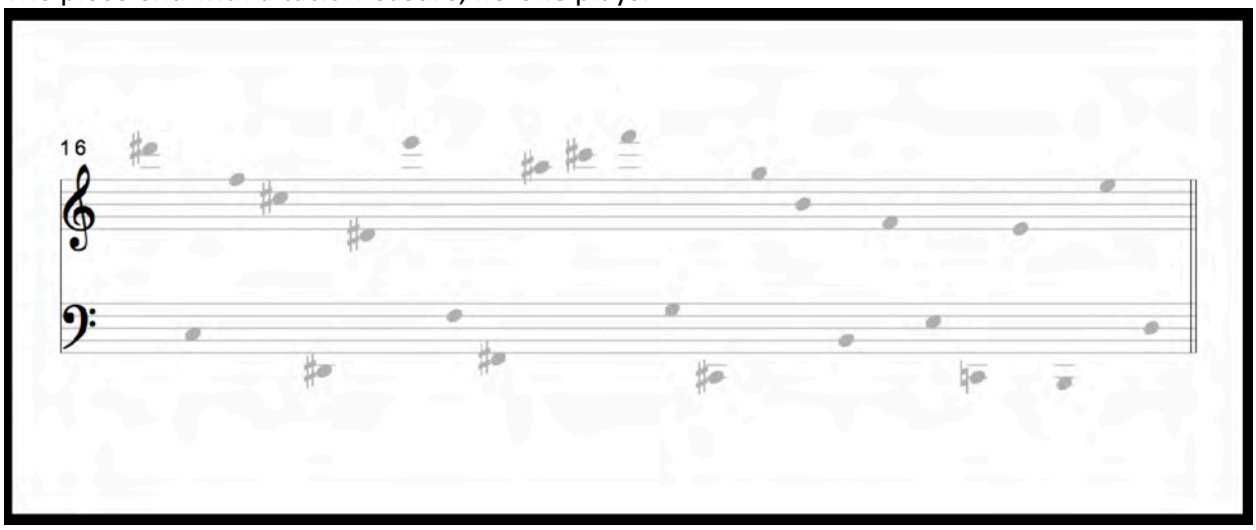


In the 15th measure the highlighting returns to red:



If this note is within the range of your instrument, play it, *mf* with crescendo and decrescendo, occasional detuning.

The piece end with a tacit measure, no-one plays:



Suggestions for practice

Roomtone is not a difficult piece to perform: there are only a few notes, and the notation is simple. But the pitch material can only be notated in the concert space, at the start of the performance, so you cannot "rehearse" the score. Moreover, something that might sound dumb on one instrument – like the first note – comes to life with an ensemble. And the piece requires moderate skill at improvisation.

The best way to prepare is to play through the sample measures shown above, following the prose instructions on how to interpret the notation. Familiarize yourself with this form of improvisation: the task is somewhat similar to playing a jazz standard from a simple "chart" rather than from a fully notated score.

Summary of guidelines for improvising on the highlighted notes

Red notes = play only these pitches (original row).
Blue notes = play these notes (original row) and all possible octaves on the same side of middle C -- the program adds notes to indicate which octaves can be played.

Play as many permutations of available notes as possible, in parallel (chords) or sequence (melodies). Generally mf and slow, with occasional group crescendos/decrescendos, glissandos and detuning.

Emphasize the "chord change" when the highlighted block shifts forward (whether there is significant harmonic movement or not). Play legato over changes -- don't cut off notes prematurely/disruptively. Don't be tentative.