The Mystic Writing Pad

for Switched-On

Durata: ~7'00''

Program note

This piece is an improvisation based on the structure of the American composer Harry Partch's 43-tone Just Intonation scale; a division of the octave in 43 unequal steps. The 43 notes of the scale have been distributed among the five instruments, and it is only together that they can explore the full potential of the scale. The collaborative aspect of this piece is further explored by its meta-instrumnts: instruments that are hidden under the surface and for which the players need to join forces in order to control.

The title, The Mystic Writing Pad, refers to Freud's 1924 paper in which he lays out a hypothesis about the inner functionlity of human perception. Though much can be said about his hypothesis (and much has been said about it, not the least by French philosopher Jacques Derrida) my resons for choosing this title is much more practical and metaphorcal. The functionality of the technology upon which Switched-On relies can often be very mystical, but the ease with which it can be used to register the phrases played by the musicians is truly akin to a writing pad: great at quickly taking notes (in two senses of the word), but terrible at making thoroughly thought through statements.

Notes to the score

This piece is a structured improvisation and should begin with the cello playing the low C fundamental with a perfect fifth in the harmonizer. As soon as this harmony has been established, the guitar should come in and play a chord consisting of all six open strings with a soft, clean, electric guitar sound. The next entry should be the percussion playing crotales and gongs softly. After this the other instruments are free to enter as they wish. Apart from the individual voices of the five instrumentalists there are virtual layers controlled by the combined efforts of some of the members of the group. One of these meta-instruments are the harmonizer which is applied to the cello but the pitch of which is controlled by the MIDI-marimba. The other is the ornamentation of the wind controller which is controlled by the guitar and the wind controller player.

The black notes in the scordaturas of the cello and the guitar denote the possible stopped notes in this mode, i.e. notes that have the same, or almost the same, relative intonation as the (re-tuned) open string. So, for the Cello, the quarter tone sharp C is playble on the 2nd string with the index finger in the fourth position. The deviation in cents in parenthesis (+2 in this case) is only there for information. In other words, the quarter tone sharp C in the example above is already 1 cent sharp from the tuning of the string and its relative pitch (33/32) is well approximated by this stop. The notes in the set B of the Cello, however, needs to be intonated according to the cent deviations relative to the string they're played on.

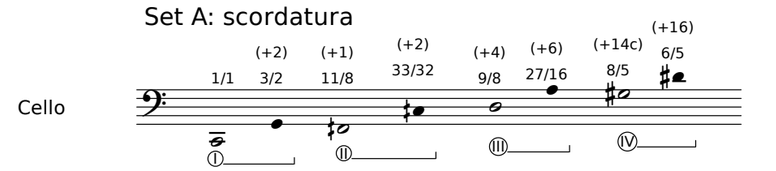
Cello

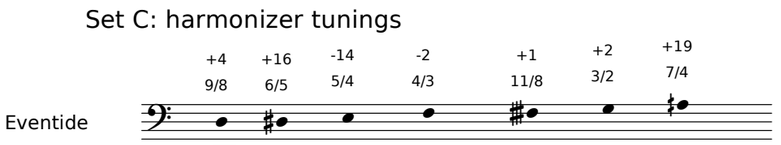
The cello alternate between playing in one of three modes:

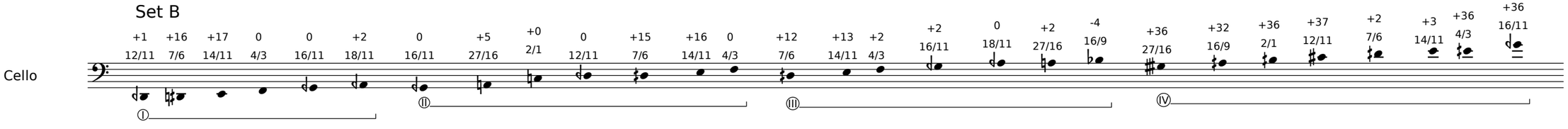
i) Pressing the footpedal and play any one of the notes of the scordatura (notes from set B may be introduced towards the end of the piece). The notes will be harmonized with any onf of the intervals in set C (relative to the note played). The notes in this set notate the harmonizer notes played to a fundamental C. Note that the intervals are only harmonic with regard to the current mode if the fundamental played by the cello is C. Dissonance is increasing the further away from the fundamental the note played is (3/2, 4/3, 5/4, 6/5 etc.). A new harmonizer note is chosen for every press on the pedal.

ii) Pizzicato using primarily the eight notes in set A, embellishing the lines with notes from scale B.

iii) Choosing notes from set A (using stopped, rather than open strings) and making a glissando to any note held by any of the other instruments.

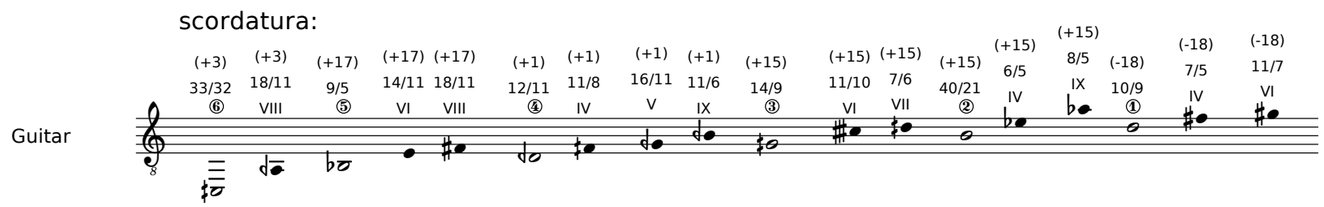






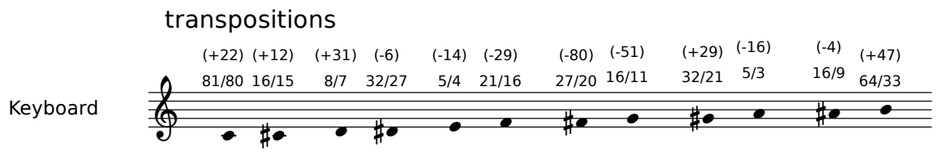
Guitar

Similar to the one for the cello, the scordatura for the guitar has a set of 'preferred notes', stopped notes that have the same relative tuning as the (re-tuned) open string. Together with the open strings they form the idiomatic scale for the piece. In addition, any harmonics may be added to the set.



Keyboard

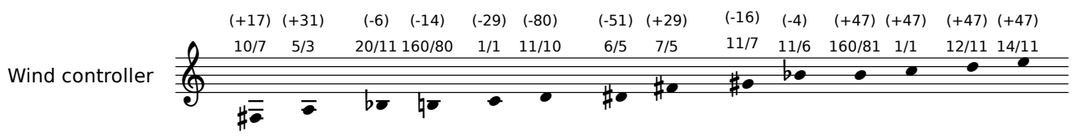
The keyboard can be any MIDI-emitting standard keyboard. Its instrument has a chromatic scale with tranposed pitches that matches 12 of the 43 pitches of the just Intonation scale. The notes D, E and A (8/7, 5/4 and 5/3) are closest related to the fundamental C and in a sense the most harmonic notes. The C on the keyboard corresponds to the syntonic comma (81/80) and is aproximately 22 cents sharper than the fundamental C.



Wind controller

The wind controller can be any MIDI wind instrument that, in addition to note-on and velocity also has support for breath control. It plays an instrument which has a 14 note, two-octave scale ranging from low F# to E. Playing any of the steps between two notes of the scale that are more than a chromatic step apart either results in no sound or duplicates one of the adjacent pitches. The scale it emplys is derived from the intervals of two axises of the 11-limit tonality dimaond. Although the range of the EWI, and many other wind controllers, is greater than the two octaves of the scale, only these 14 notes are playable.

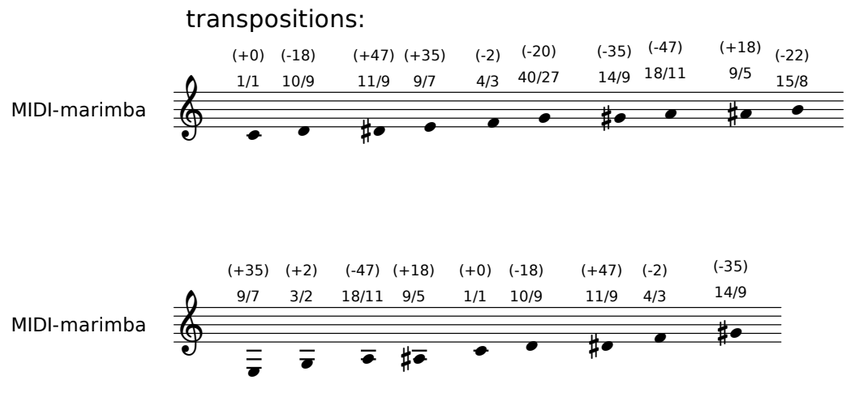
Apart from the note fingered by the player, under certain conditions an additional line is sometimes played out which is the result of the combined efforts of the wind controller player and the guitarist. If the player plays a note (the middle C in the example), sustains it and, with breath control, increases the volume of the held note a slow arpegio up is played, using notes from the Wind controller scale. The number of pitches played and the beginning note is determined by the level with which the guitar is currently playing (using amplitude envelope tracking). The length and speed of the accellerando is determined by the duration of the original Wind controller note and the range of the breath control crescendo (the delta value as the difference between the maxlevel and the level at the note onset + 0.5 seconds) respectively.



Percussion

The percussionists should be equipped with a five octave MIDI marimba used to control its instrument. This instrument is tuned according to the scale to the left, a twelve tone chromatic scale, likewise built from the 43-tone Just Intonation scale. Together with the other five instrument all 43 tones are playable. The core of this mode are notes chosen from the second to the last 'row', or axis, of the 11-limit tonality dimaond. For this reason the notes in the scales subset should be favoured.

Apart from the MIDI-marimba the percussionist should have a set of crotales (in pitches C, D, G and Bb) and a set of tuned gongs (at the same pitches as the crotales) for use in his improvisation.



The 11-limit tonality diamond