Breathing, bowing

for viola da gamba and steel plate

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1 Viola da gamba

1.1 Tuning

The viol should be tuning to pure fourths. This is achieved by means of tuning all strings below the E string one semitone down, creating the tuning C♯, F♯, B, E, A, D.

1.2 Fret placement

Below you will find an instruction of how to place the frets. To find the correct fret placements a pair of adjacent strings are played, and since the viol is tuned in fourths any adjacent pair of strings can be used. It is however suggested to use the E and A string to find the correct fret placement, since the tunability of the intervals is affected by register.

The fingerings used for finding the correct fret placements is written as a list containing two elements: the first element is the fret to play on the lower string and the second element is the fret to play on the higher string. The fingering [1, 3] is thus the first fret on the lower string and the third fret on the higher string.

If possible, the fifth fret should be split. If not possible, the fourth fret should be moved to fret desired position of the lower part of the fifth fret. The part of the fifth fret that is placed closest to the nut (or the fourth fret, if the fifth fret cannot be split) is called $5_1$, and the part of the fifth fret closest to the bridge is called $5_2$.

1. Pick a pair of adjacent strings and make sure that they are in tune.
2. Move the part of the fifth fret that is closest to the bridge so that the fingering $[5_2, 0]$ is in unison.
3. Move the part of the fifth fret that is closest to the nut (or the fourth fret if the fifth fret cannot be split) so that the fingering $[0, 5_1]$ is a harmonic seventh, i.e the seventh partial two octaves down, i.e the interval $7/4$.
4. Move the third fret so that the fingering $[3, 5_1]$ is a perfect fifth.
5. Move the first fret so that the fingering $[1, 3]$ is a perfect fifth.
6. Move the second fret so that the fingering $[0, 2]$ is a perfect fifth.
7. Move the seventh fret so that the fingering $[5_2, 7]$ is a perfect fifth.

1.3 Notation

Since the frets have different positions than normal the viol will produce unorthodox intervals. Because of this, the Helmholtz-Ellis Just Intonation\(^1\) notation system is used. On top of this, the viol part also has tablature.

To differentiate between the two parts of the split fifth fret the symbol [^] is used to indicate the part of the fifth fret closest to the bridge and the symbol [v] is used to indicate the part of the fifth fret closest to the nut (or the fourth fret, if the fifth fret cannot be split).

\(^1\)https://marsbat.space/pdfs/notation.pdf
1.4  **Tempo and phrasing**

The tempo is determined in three ways in the piece.

1. During the bars that are separated and have repeat signs surrounding them (for example bars 1-3 and bars 7-9) the viol player should play continuously until they receive a cue from the person playing live electronics. After a cue is given the next bar should be played at the next time the viol changes bowing direction.

2. During the bars when *n bows* is stated the tempo is decided by the number of bows – for example, if it says 3 bows the bar should last for 3 bows.

3. During the last part of the piece, after the electronic part, a tempo is defined. The last part consists of a harmonic progression and is played four times in total. During the first two times, the viol player should play one bow per bar. During the final two times, the viol player should play two bows per bar.

2  **Electronics**

The electronics are played through transducer attached to a suspended steel plate, and the notes that are played through the plate are primarily pure sine waves. The plate will probably need to be amplified. The notes that are played through the plate are notated in HEJI-notation, similarly to the viol part, and are played live using a SuperCollider patch.

The electronic part starts at bar 22 and lasts for approx. 8 minutes. When the tape part ends, slowly fade in the notes played on bar 23 before the viol enters. The final part is played like the first part.
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Repeat, wait for cue

Add open E string when bowing

Electronic part