



INFORMATION ON THE INSTRUMENTS FOR THE NCEM COMPOSERS AWARD 2013

The ensemble consists of:

Either Flute or Recorder

Either Violin or Viola d'Amore

Either 'Cello or Piccolo 'Cello

Either Harpsichord or Chamber Organ

The instruments will be tuned to A415. This means that they will sound a semitone lower than modern pitch (A440). Baroque keyboard instruments are usually tuned to an unequal temperament, which means that the distance in pitch between the semitones of the chromatic scale are not identical, as is the case with a modern piano, but vary within the notes of each octave. This makes keys with no or few sharps and flats sound particularly sweet, with very pure intervals. Keys with more than three sharps and flats can sound harsh and somewhat 'out of tune'. Baroque composers sometimes exploited this feature of unequal temperaments, writing in 'out of tune' keys to create dark or disturbing effects. While it is possible to tune the keyboard instruments to equal temperament, it is advisable, when composing for the instruments, to consider how the music might sound in a Baroque temperament. Retuning an instrument and allowing it to settle takes a considerable amount of time, and cannot be achieved mid-concert, so the players need to decide on a temperament that suits their entire programme, rather than just one piece.

Recorder

Recorders come in many shapes and sizes: the tiniest being about six inches long and the biggest about six feet. The larger instruments generally work best within recorder consorts as they are too quiet to balance with, for example, the violin, and the very small instruments are very high pitched and can sound rather squeaky. The three most versatile instruments, therefore, are the soprano (or descant), alto (or treble) and the voice flute. The alto is the most commonly played in baroque ensembles. It has a sweet, clear tone and balances well with a baroque violin and continuo. As its name suggests, the soprano is higher in pitch and has a slightly less mellow tone – it can be used with effect to cut through the instrumental texture but blends less well with other melody

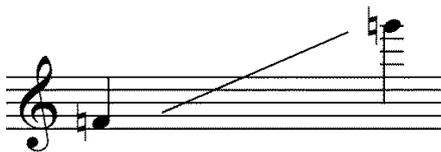
instruments. The voice flute is slightly deeper in tone than the alto – its range is similar to that of a baroque flute, but somewhat narrower.

Recorders are chromatic instruments but their tuning can be slightly less reliable the further they play from their home keys. The soprano's home key is C, the alto's F and the voice flute's D. Soprano and alto recorders favour flat keys and there will be no significant tuning problems in C, F, B-flat or E-flat major and their relative minors. G and D major (and their relative minors) will not pose any major difficulties, but music in three or more sharps or four or more flats will be slightly more awkward to tune (though by no means impossible). The voice flute favours sharp keys – particularly D major and G major – and flat keys tend to be a little more problematic.

The ranges of the instruments are shown below. Recorders are strongest in the upper part of their register; the lowest fifth is, in particular, quite weak. It is worthwhile remembering that recorders have a limited dynamic range – play too softly and a note will sound flat, play too loudly and it will squeak or sound sharp. Recorder players have developed a number of techniques to give the effect of a wider dynamic range. For example, alternative fingerings allow a player to over- or under-blow a note and maintain its pitch, and legato and staccato can also help give the impression of louder and quieter dynamics, but it is not possible to stretch the acoustics of the instrument too far – fortissimo on the lowest note simply will not happen!

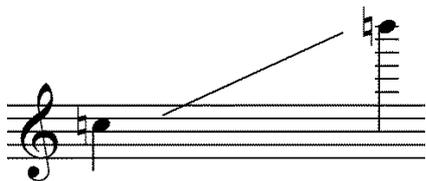
Range

Alto (treble)

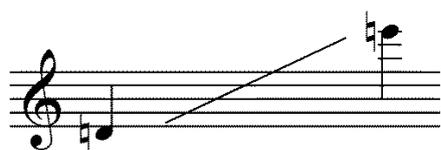


Soprano (descant)

Written an octave lower.



Voice flute



Special techniques

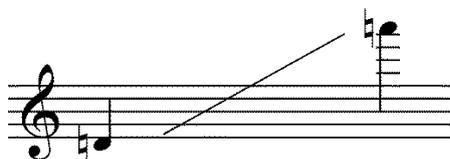
Recorders lend themselves well to extended techniques such as glissandi, 'flutter-tonguing' (where the player rolls his/her 'rs' at the same time as playing a note), various kinds of tremolo and vibrato and selected multiphonics. A good source of information is Hans-Martin Linde's *Music for a Bird*, which utilises a range of extended techniques. The score contains information about how the player produces all the effects used in the piece.

Flute

Baroque flutes differ in a number of ways from modern flutes. They are made of wood and have only one key. Their tone is softer and mellower than the modern flute. Like the recorder, the flute is a chromatic instrument (its range is shown below). Its home key is D. Notes outside the key of D major require what are known as cross-fingerings. These are perfectly possible, but the tone of cross-fingered notes is very slightly 'fuzzier' than other pitches. The further away the instrument plays from D major, the more cross-fingerings will be introduced, making the instrument's tone a little less direct.

The flute has a wider dynamic capability than the recorder, but its lower register is softer than its middle/high register.

Range



Notes above high G are rarely used.

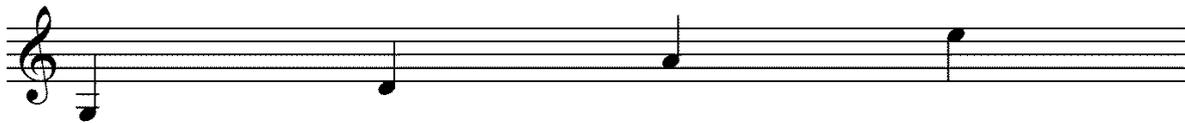
Violin

Like Baroque flutes, Baroque violins differ quite significantly from their modern counterparts. The neck is much straighter (it is not angled backwards as on a modern violin) and it uses gut rather than metal strings. This makes the instrument slightly quieter than a modern violin, with a more translucent tone. The fingerboard is shorter than on a modern instrument, meaning that the range is smaller. Players can play comfortably in 6th and 7th position on the E string (up to the g/a 2 octaves and a 5th/6th above middle C), and fingerboards generally allow players to reach an additional octave, but the gut strings begin to sound less sweet higher up the fingerboard. Baroque music written for the instruments does not usually go higher than 7th position.

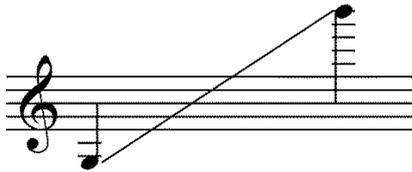
The four strings of a violin are tuned to the same pitches as a modern violin (G, D, A and E). Baroque violins cope just as well as modern instruments with techniques such as pizzicato and harmonics.

Baroque bows are convex in shape (where modern bows are concave). This accentuates the difference in strength between an up-bow and a down-bow (the down-bows are much stronger). The shape of the bow gives a natural swell and decay to a sustained note (unlike the modern bow, which lends itself to a more even tone). This means that baroque bows are not particularly suited to long legato phrases or sustained powerful notes. The shape of the bow naturally shapes the dynamics of the note.

Strings tuned to:



Range

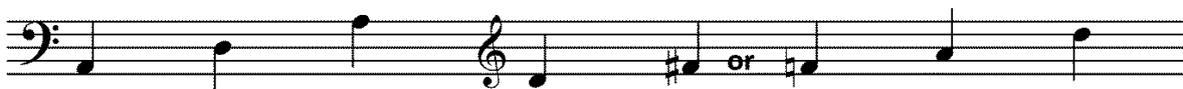


Viola d'amore

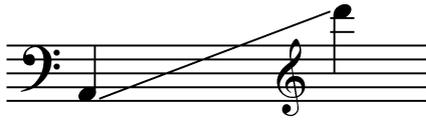
The viola d'amore is rather like a cross between a viol and a violin. It is unfretted and played under the chin like a violin but, like a viol, it has a flat back and a larger number of playing strings (seven). Unlike either the viol or the violin, it also has sympathetic strings, which are not bowed, but sound when their resonant frequencies are played. This gives the instrument a sweet, gentle tone. It is much less strident than the violin. It is most famously used in Arias 19 (Betrachte meine Seel') and 20 (Erwäge, wie sein blutgefäbter Rücken) of Bach's St John Passion. Listening to these arias will give a good indication of the instrument's timbre.

The strings are tuned either in D major/minor or in C major/minor (a tone lower) depending on the key of the music to be played.

Strings in D major/minor



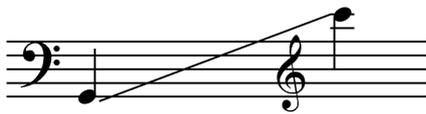
Range in D major/minor



Strings in C major/minor



Range in C major/minor



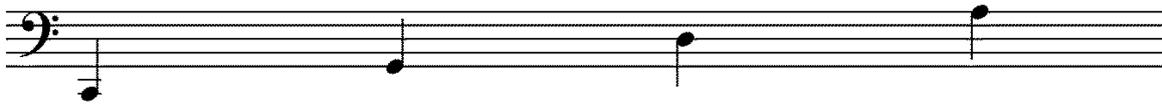
Cello

There are similar differences between the Baroque 'cello and a modern 'cello as there are between modern and Baroque violins: the Baroque instrument has a straighter neck, gut strings and a convex bow. Baroque cellos do not have a spike. This means that it is much harder to play highly virtuosic passages high up the fingerboard, as the instrument is supported only by the player's legs and not anchored to the floor. The bow is naturally heavier at the frog, light at the tip and has less sustainable power than a modern bow. This emulates the patterns of speech and the figures of baroque dance.

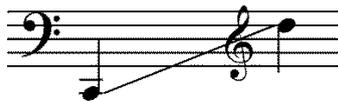
Strings are tuned to the same pitches as a modern 'cello (C G D A). It is perfectly possible to play up to the D an octave and a tone above middle C. As with the violin, pitches above this are not impossible, but do not sound particularly pleasant. Pure gut strings have many more overtones.

Baroque stringed instruments rely much more heavily than their modern equivalents on the resonance of open strings for maximum tone production. This means that the more sharps and flats in the key signature, the less bright the instruments will sound. The notes in the "cracks" provide colour. This becomes particularly noticeable beyond E major/A-flat major and, of course, their relative minors. Baroque composers sometimes exploited this characteristic for particular effects, writing, for example, in F minor to create a particularly mournful or sinister mood.

Strings tuned to



Range



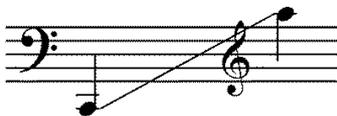
Piccolo 'cello

The piccolo 'cello is very similar to the Baroque 'cello, but is slightly smaller and has an additional 5th string, giving players access to higher pitches, and more virtuosic passagework. The range of this instrument is shown below:

Strings



Range



Keyboard instruments

Writing for the historical harpsichord and chamber organ sets very different challenges from the strings and wind:

- their timbre and sound production is unique to Baroque music
- their playing technique is not equivalent to playing the piano or modern organ
- the instruments are non-standardised and can vary widely in sound colour, range and specification
- most keyboard parts in a Baroque ensemble are improvised to fit with the prevailing harmonies (continuo, figured-bass or thorough-bass) and fully written-out *obligato* or *concertante* parts for both hands are rare.

The following remarks are intended to help competitors to write idiomatically for historical keyboards

1. Although both have an excellent attack (i.e. initiation of each note), they are *cantabile* rather than percussion instruments, and a fine harpsichord will have good sustain, especially in the bass (audible at a distance for at least 5 seconds). Both respond well to cantabile writing (Bach's Two-part Inventions are a good model.) Clarity of voicing in counterpoint is essential and anything over congested with notes (especially in chords) is best avoided.
2. Consider embracing the spirit of true continuo playing by leaving the keyboard part largely improvised by the player who can then create sounds appropriate to the limitations of the instrument at hand.
3. For your work to gain a regular place in the repertoire chose the most common working range. Harpsichords: GG–d3 (or even C–c3) rather than FF–f3. Chamber organ: C–c3.
4. Leave registration and manual changes (two manuals are not always available) to the player's discretion. Baroque pieces generally require no changes of registration or manuals. General dynamics will be helpful (*f/p*. etc.) to show the dynamic level required but frequent gradations of piano writing will not be realizable.
5. Both instruments respond well to subtleties of touch and indications of phrasing and articulation will help the player.
6. Neither instrument can be 'prepared' (i.e. modified in the manner of John Cage's prepared piano.) The buff stop on the harpsichord, however, will produce a softer, drier sound.
7. The technical extremes required in many 20th-century harpsichord works inspired by piano playing and/or designed for non-historical instruments with pedals (e.g. Elliot Carter, Gorecki etc.) are not compatible with the nuanced touch required by historical instruments. Examples of the idiomatic writing can be found in Louis Couperin's unmeasured or non-measured preludes and Takemitsu. You may wish to read *L'Art de toucher le clavecin* by François Couperin, available in French online and in a good English translation published by Edition Breitkopf.

If you pay attention to the unique colour and speech of these beautiful instruments, you will create sounds fitted to their aesthetic and mode of expression.

Harpsichord

Harpsichords produce a sound when their plectra pluck their strings. When played as a continuo instrument (improvising chords from a figured bass line), the player can vary the volume by playing more or fewer notes in each chord.

Many instruments (but by no means all) have multiple sets (or choirs) of strings. Many instruments have two choirs of 8-foot strings (which sound at the pitch at which they are written), each of which will have a slightly different tone quality (one louder and more 'nasal' than the other). Larger instruments also have a choir of 4-foot strings (which sound an octave higher). Two 8-foot choirs playing simultaneously will sound louder. Adding in the 4-foot choir will also make the sound richer. The choirs are 'turned on and off' by operating levers (or stops). The instrument must not be sounding when the stops are operated. Players, therefore, need a rest for a beat or so (depending, of course, on the tempo), or a short pause to operate the stops. Larger instruments with multiple choirs often have two manuals, each of which can each strike different choirs and can be configured in advance. This allows players to change between two different timbres or dynamics instantly, without having to alter any stops. Some instruments also have a buff stop (also known as a lute stop) on one choir of strings. This presses a dampener against the strings, producing a muted, 'pizzicato' effect, rather like the sound of a plucked lute.

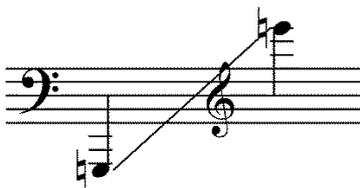
Because different harpsichords have different specifications, it is advisable to write for the instrument/s available to the player, and to bear in mind that not every harpsichord will be able to achieve every effect. Below are the specifications of the two harpsichords at the National Centre for Early Music.

The National Centre for Early Music's Harpsichords

Single manual harpsichord after Michael Mietke c.1710 (German)

Maker: Colin Booth, 1998

Compass: GG – e3

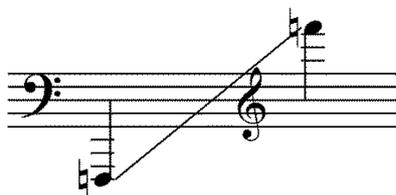


Two 8-foot choirs plus buff stop

Double manual harpsichord after Goermans-Taskin 1783 (Franco-Flemish)

Maker: Michael Johnson, 1997

Working compass at A 415: FF – f3



Two 8 foot choirs, plus buff stop and a 4 foot

Chamber organ

A chamber organ is a very small pipe organ. Its sound is quite different from large church organs, being softer and more intimate. It has only one manual and no pedalboard.

As with harpsichords, players are able to increase or reduce the volume by playing more or fewer notes in a chord. Thick chords played in the lower octaves, however, can alter the pitch because there will not be enough wind pressure to maintain the pitch (rather like a wind-player running out of breath on a long note).

To alter the dynamic through longer passages, players can use different stops (options are usually 8-foot, 4-foot and 2-foot).

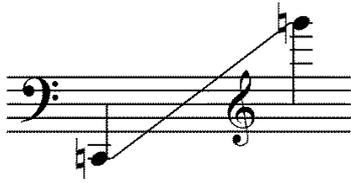
Unlike the harpsichord, the notes of the chamber organ sustain for as long as the keys are depressed, which, of course, enables the player to play more sustained sounds without spreading chords. The instrument, however, has a much less percussive sound than the harpsichord and cannot break through the ensemble's texture as readily as can a harpsichord. To accent a note, the player has to release the previous note early, the resulting gap drawing attention to the new note. Composers may consider writing this effect into the music, or leaving its application to the discretion of the player.

The National Centre for Early Music's Chamber Organ

Maker: Peter Collins 1995

Three-stop continuo organ (stops Wood Gedact 8, Flute 4, Principal 2). The 8-foot stop is the foundation stop and, as a rule, is engaged permanently (though the 4- and 2-foot stops could be played by themselves for special effects).

Compass at A440: CC – g3 (56 notes)



At 415 the bottom C does not sound.

Cathy Dew
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