JOHANN SEBASTIAN BACH

The Well-Tempered Clavier

Books 1 and 2 | BWV 846-893

Judith Lambden | *piano*



The subject of tuning musical notes is deceptively simple. The basic mathematics is straightforward, but can get complicated quickly. It is mathematically provable that there is no perfect system of tuning, so the history of temperament (adjusting the tuning of notes to meet certain criteria) has been a pastime of mathematically minded musicians since the time of Pythagoras.

When harmony began to be based on three-note chords (triads) in the renaissance era, the issue of how to tune a keyboard that contained twelve notes in every octave. In 1523, Pietro Aron described a system called quarter-comma mean-tone, which produced sweet-sounding triads in musical keys that were commonly used at the time. As composers began to write music in more keys, there began to be issues when for example a note tuned to G sharp was used as an A flat. This produced an unpleasant-sounding chord that was not desirable.


Photo: Alexander Kerschhofer

Some keyboards had split keys both notes available. By the nineteenth century, keyboard instruments had to be able to play in every key, so a compromise tuning called equal temperament was settled upon, and this tuning, with its sharp major thirds, is what we are accustomed to today.

JS Bach lived in the middle of the evolution of keyboard tuning from the relatively pure tunings of the renaissance to the compromise tuning of the nineteenth century that was equal temperament. As a busy working musician with mathematical inclinations, he would have been tuning organs, and especially harpsichords, probably on an almost daily basis. He wanted every key to sound good, and presumably wrote The Well-Tempered Clavier, two collections of preludes and fugues in every key, to be a test or demonstration of a well-tuned harpsichord.

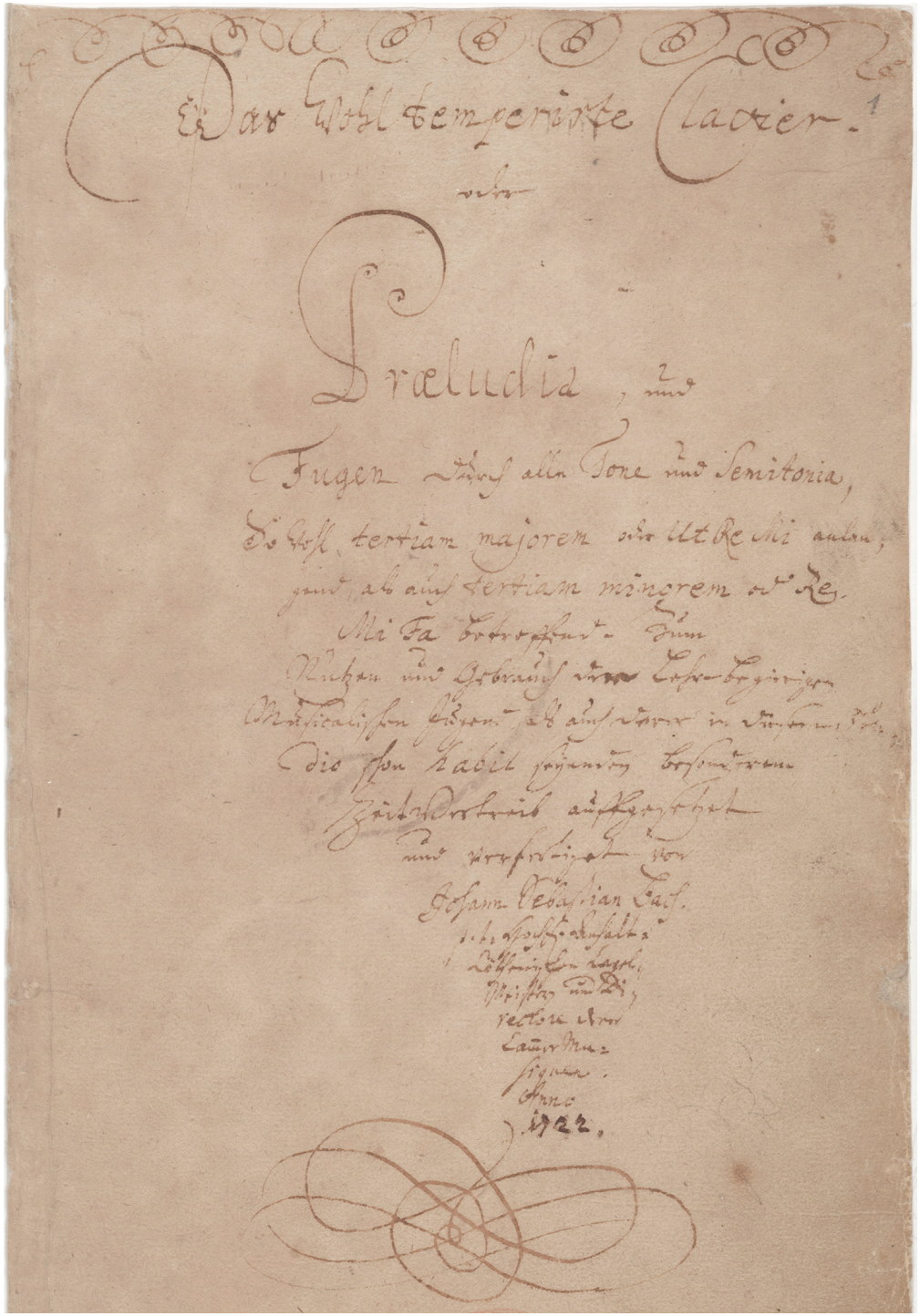
The only real consensus among musicologists about Bach's tuning system was that it was not equal temperament. A standard tuning used by modern harpsichordists was one described by Andreas Werckmeister in 1691. This is close to Bach in distance and time, but its primary benefit is that it is well described and easy to reconstruct. Three years after his death, Bach's son CPE Bach how to tune keyboards in his Essay on the True Art of Playing the Keyboard. He described a way of tuning by ear which would accommodate all tonalities, but was not as pure as older tunings. Sadly it is not as well described as Werckmeister's tuning, so it cannot be reconstructed.

In 1998, after centuries of speculation, the mathematician Andreas Sparschuh noticed a some curious squiggles in Bach's hand on the title page of Book 1 of The Well-Tempered Clavier (see illustration). Some have no loops, some one loop, and some two loops. Sparschuh hypothesised that the loops may signify the size of intervals when tuning, but was unable to come up with a workable hypothesis. Harpsichordists Bradley Lehman and John O'Donnell devised and refined a "Bach tuning" that used the squiggles to denote the size of fifths and semitones respectively. The idea is that while all keys are usable, each key should have its own characteristic sound.

This point is moot with pieces that Bach had previously had written that were originally in a common key, but that he transposed into a less common key to fill a gap in The Well-Tempered Clavier. For example, Book 1's Fugue in D sharp minor is thought to have originally been a fugue in D minor.

Bach had a practical interest in tuning, but his real enthusiasm was counterpoint. I suspect that being able to play in every key was just a pretext for Bach being able to set himself the challenge of writing 24 preludes and fugues. He forced himself to come up with new ideas, textures, and techniques. He enjoyed it so much that twenty years later he wrote another 24! He also stated that the music was "For the profit and use of the studious musical young, and also for the special diversion of those who are already skilful in this study", so he would have used them to teach his keyboard and composition students.

Today's concert grand piano would have been foreign to Bach in both construction and tuning. Nevertheless, his music often works well played on instruments other



than what he originally wrote for. Most of his keyboard concertos are transcriptions of concertos for other instruments, and I myself have played his cello suites transposed up two octaves on the flute. Parallel to the Early Music movement's exploration of Bach's music on the harpsichord, a tradition has developed of playing his music on the piano. Early in the 20th century, transcribers like Busoni emphasised the drama of Bach music. Later pianists were influenced by the growing knowledge of early music performance practices. While the modern piano does not have subtleties of tuning, an experienced pianist can bring different nuances to their performances, such as clarifying inner lines or subtly using the piano's pedal.

Judith Lambden is an experienced harpsichordist, having studied with Ruggero Gerlin, who learned from the pioneering Wanda Landowska. She utilises this wealth of knowledge to produce sensitive and informed performances of Bach on the piano. Her deep knowledge, experience with, and love of Bach's Well-Tempered Clavier is evident on this complete recording, produced over the course of nine years.

Book 1

Prelude 1 in C major: this prelude is probably the best-known piece in a genre of pieces that consist solely of broken chords. Even with its simple structure Bach paces the music perfectly. Throughout the piece, all twelve notes of the scale are heard.

Fugue 4 in C sharp minor: this is one of only two five-part fugues, It skilfully manipulates three contrasting motifs in every imaginable way.

Prelude 7 in E flat major: this piece is a whole prelude and fugue in itself! The following fugue almost comes off as an afterthought.

Prelude and Fugue 8 in E flat minor: the fugue is actually notated in the equivalent D sharp minor because it is a previously existing fugue in D minor transposed up a semitone. The prelude is in a lyrical aria style, and the fugue is a "serious" fugue that uses techniques such as augmentation (putting the theme in longer note values).

Fugue 11 in F major: I used to enjoy playing this fugue as a teenager with limited keyboard skills.

Fugue 16 in G minor: this fugue is very dense, in that it subject that you can hear at the start, is almost always audible in one of the voices, often against itself (a technique known as stretto).

Fugue 20 in A minor: this has a long subject, and is a correspondingly long fugue with a climax that rewards attentive listening.

Prelude and Fugue 22 in B flat minor: these pieces perfectly suit the "serious" key of B flat minor. The five-part fugue has a stretto at the end where all five voices enter with the theme in quick sucession on top of each other.

Fugue 24 in B minor: the subject itself unusually contains all twelve notes of the scale, as if it is a compressed version of Prelude 1. Bach invents all sorts of harmonies to accommodate this unusual subject.

Book 2

Fugue 2 in C minor: I studied this fugue at university. As well as the subject appearing many times, the eagle-eared may hear it played in inversion (upside down).

Prelude and Fugue 5 in D major: the prelude begins very brightly, and is an unusual example of Bach combining duplets and triplets in the same piece. The fugue is so densely written that it almost ties itself (and the peformer's fingers) in knots!

Prelude and Fugue 9 in E major: the prelude is easy to play, and the fugue is one of my favourite fugues from the whole The Well-Tempered Clavier.

Prelude and Fugue 16 in G minor: the prelude is in a grave French style, and the lengthy fugue builds and builds, with Bach adding more and more ingenious contrapuntal techniques as he goes.

Prelude and Fugue 23 in B major: I enjoy playing this prelude and fugue, which richly reward the effort of negotiating the forbidding quantity of sharps that one must play.

NOTES BY VAUGHAN McALLEY

Judith Lambden

Judith was born in Creswick, Victoria in Australia, She graduated from the Melbourne University Conservatorium with a B.Mus(Hons) degree. While still in Melbourne for a further seven years, her teachers were Gordon McKeown for piano and John Ingram for theory and composition. She won many prizes and made national broadcast performances for ABC radio.

Having been awarded the Clarke Scholarship for three years of study at the Royal College of Music, Judith travelled to London. In her final year there, she won the Hopkinson Gold Medal and the Norris Prize. She then studied harpsichord in Siena, Italy, with Ruggiero Gerlin, who had been a pupil and associate of Wanda Landowska for twenty years.

Judith also studied under some of the great pianists and pedagogues of our times, including Kendall Taylor, Lamar Crowson, Nadia Boulanger and Paul Badura-Skoda. Later she was awarded a grant by the Dutch Government for one year of study with Gustav Leonhardt in Amsterdam. Aided by an ability to play a substantial number of Bach's keyboard works and other repertoire from memory, Judith has given many recitals in England, where she lived for 23 years, and throughout Europe. She broadcast for the BBC and Radio Hilversum. Recital venues included the Universities of Oxford, Durham, Colchester, Leicester, Surrey and London. Judith played and recorded, as harpsichordist, with the Dolmetsch Ensemble.



Judith has played under the batons of Sir Adrian Boult and Sir Malcolm Sargeant. Whilst in Paris, she accompanied on piano the Telemann Flute Sonatas with the great flautist Sir James Galway, who was then studying under Jean Pierre Rampal. She also accompanied other British flautists in professional concerts. e.g.Leonard Paice and later Andrew Day.

Since her return to Australia, concerts have included a performance of the Schumann Piano Concerto with the Camberwell Camerata and several solo piano recitals including two at the Castlemaine Festival. As harpsichordist with the group 'II Sole Barocco' there have been many tours and recitals including some at Monash University.

Judith taught at the Victorian College of the Arts and at other tertiary institutions, and became an AMEB examiner in 1985 as well as being an assessor for VCAA. She has adjudicated at more than sixty eisteddfodau throughout Australia.

Judith has recorded the Great B flat Sonata of Schubert, Bach's English and French Suites, the six Partitas, and is currently recording more JS Bach keyboard works, and Scarlatti.

Cover: The six Bach portraits are recontructions of Bach's head by anthropologist Caroline Wilkinson of Dundee University

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