

## The Revolution of Bach's 'Well-Tempered Clavier'

Bach's *Well-Tempered Clavier* (1722) has been referred to as the "Old Testament" of Classical piano music. (The New Testament being Beethoven's piano sonatas.) Book I of the *Well-Tempered Clavier* (BWV 846-69) contained 24 preludes and fugues, one for each of the major and minor keys.

A second book, *Twenty-four New Preludes and Fugues*, which repeated the procedure with 24 new compositions, was written between 1740 and 1744 (BWV 870-93).

Bach used this work to explore, in depth, the new musical possibilities that arose as a result of the development of a new system of tuning keyboard instruments, called well-tempering, which could give these fixed-note instruments increased ability to play multi-voiced, or polyphonic music, as if there were different species of human voices singing together, with similar flexibility and irony.

In 1691, the German organist and mathematician Andreas Werckmeister (1645-1706) published a treatise entitled, "Musical Temperament or ... mathematical instruction how to produce ... a well-tempered intonation on the clavier." Bach, Werckmeister, and others who supported the well-tempered system, rejected the previously held idea that musical intervals in the physical universe, had to conform to abstract mathematical proportions. This idea had put a straitjacket on the musical universe, limiting it to only those keys in which "pure" intervals could be played.

The new movement, of which Bach was a leader, created systems in which it would be possible to play music in all keys. The "comma" (the part of the octave that is left over if only mathematically "pure" musical intervals are used) was distributed unequally throughout all of the keys. (Different keys had different-sized intervals, giving each key its own nuance or "color," creating a "musical palette," which is lost in the modern practice of "equal-tempering," where all half-notes have the same value.) It were then possible both to write music in every key, and to modulate—to move from one key to any another—within the same piece of music, in a way not possible before.

The musical universe was liberated from a system

centered in the key-in-itself, or its closest neighbors, to being a system that was expanded to encompass all of the major and minor keys. In addition, Bach's use of the Lydian interval, previously banned, and other lawfully created dissonances, served as a musical transcendental bridge, to allow musical development to supercede even the 24-key system.

Musical action was transformed from being limited to change within a few keys, to becoming action based on the unlimited development of musical ideas throughout the entire "24-key-plus" musical universe, where musical development takes advantage of explicit and implicit relations between a whole range of different keys; where the possibilities to create musical change, transformation, paradox, and development are increased to the maximum.

"As any listener to a Bach composition can easily recognize," wrote Bruce Director in *New Federalist*, May 28, 2001, "the position of any note, is an ambiguity, that becomes less ambiguous, as the composition unfolds, and the intervals so generated, and their inversions, are heard with respect to the well-tempered system of *bel canto* polyphony as a whole. It is the change, with respect to the whole well-tempered system, that determines the notes, not the notes that determine the change."

Just before Bach, other composers had experimented with writing single pieces which modulated throughout all the keys, or with writing different pieces for all 24 keys. But Bach's musical genius surpassed them. Bach-family biographer, Karl Geiringer, writes that Bach realized that the new system could revolutionize the method of fugal composition. Before, change was only possible by introducing new musical subjects or "counter-subjects," or variations of the theme. Now, change was possible by writing developmental sections, called episodes, which would transport the theme from one key to another, with the establishment of the new key being solidified by the theme being announced in the new key. A greater "oneness" existed than ever before, because the material for the episodes was taken directly from the main theme, or the theme's counterpoint.

Bach continued to develop his fugal compositional method, later creating such masterpieces of creativity as the *Musical Offering*, and the *Art of the Fugue*.

*From "Bach, Mozart and the 'Musical Midwife,'" by Michelle Rasmussen (www.schillerinstitut.dk/bach.html).*