

# Westfield

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*A National Resource for the Advancement of Keyboard music,  
serving Professionals and the Public since 1979*

**SUMMER 2010**



Summer is finally here! Before everyone runs off to vacation and various festivals, here is the latest news from Westfield. First, we call your attention to the quickly approaching conference at Yale University led by David Breitman and Andrew Willis this September devoted to the music of Chopin. Second, we announce the remaining concerts of Erin Helyard, the 2010 Westfield Concert Scholar. Third, we highlight a groundbreaking project devoted to the Art of Fugue by organist George Ritchie which includes a two-disc recording and a DVD with two films. Last, but certainly not least: an article by organ builder Gene Bedient which delves into the history and aesthetics of meantone temperament, and into his own journey in choosing a temperament for his Op. 21 in 1985, and then in revisiting and revising the temperament for this instrument when it changed homes twenty-five years later.

Have a wonderful summer!



## **Playing Chopin His Way:**

**Romantic Pianos and Performance Practice**

**A Westfield Center Conference  
at the Yale Collection of Musical Instruments**

**24-26 September, 2010**

2010 marks the 200<sup>th</sup> anniversary of the birth of Chopin, a composer whose style, highly original and designed for the intimate drawing rooms of Paris's high society, became the bread and butter of twentieth-century virtuosos. Decades after Wanda Landowska's famous remark to Casals,

“continue to play Bach your way, and I’ll play him his way,” there have been few attempts to discover what playing Chopin “his way” might be like.



Silhouette of Fryderyk Chopin at the piano  
F. Phillip, Lebrecht Music & Arts

The conference will bring together

- appropriate instruments, including: ca. 1830 Bösendorfer, 1842 Pleyel, ca. 1842 Broadwood, 1864 Steinway, ca. 1864 Bechstein, 1881 Erard
- scholars working on Chopin performance practice, including Jonathan Bellman (University of Northern Colorado), James Parakilas (University of Maine), Sandra Rosenblum (author of *Performance Practices in Classic Piano Music*), Donald Manildi (University of Maryland)
- restorers knowledgeable about 19<sup>th</sup>-century piano building styles, including Rod Regier, Anne Acker
- pianists open to questioning the assumptions of the Chopin Tradition

Sessions will be devoted to

- examining and hearing the relevant instruments in the Yale Collection
- particular problems in Chopin performance (pedaling, articulation, fingering, rubato)
- close investigation of musical sources (comparison of manuscripts and first editions)

Featured Performer: Jean Saulnier (University of Montreal)

Other performers include David Breitman (Oberlin Conservatory) and Andrew Willis (University of North Carolina at Greensboro)

Registration opens July 1<sup>st</sup>. For registration and the conference schedule please visit

[www.westfield.org/chopin](http://www.westfield.org/chopin)

Registration fees:

Full:	\$250
Westfield member, before September 10:	\$165
Westfield member, after September 10:	\$200
Student:	\$100

Registration includes all concerts, lectures and study sessions, access to instruments for participants, Friday reception buffet and Saturday dinner.

**2010 Westfield Concert Scholar Erin Helyard to give two concerts this fall, at the University of Michigan in Ann Arbor, and the National Music Museum in Vermillion, SD**



Following his recent performance at the Smithsonian's Hall of Instruments at the 39th annual meeting of AMIS (American Musical Instrument Society), where he played two wonderful instruments from the Smithsonian collection, **ERIN HELYARD** will present two more Westfield Concert Scholar performances this fall.

Wednesday, September 29 – 8 pm  
University of Michigan School of Music, Theatre & Dance

Friday, October 1 – 12:05 pm  
National Music Museum, Arne B. Larson Concert Hall, Vermillion SD  
(For further details, visit <http://orgs.usd.edu/nmm/Calendar/calendar.html#October>)

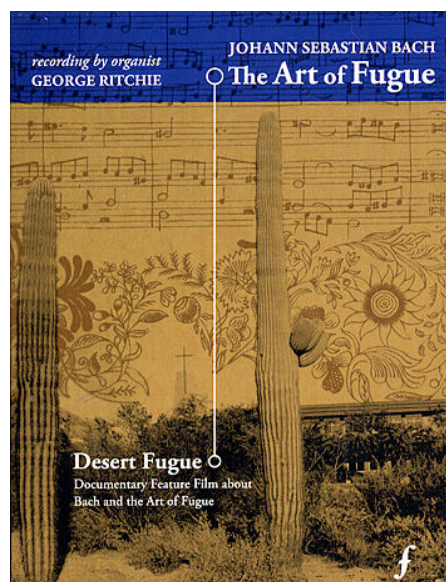
**“Could only be performed by the author himself or the Devil:”  
Clementi from Dorset to London**



After being “bought of his father” by the English aristocrat Sir Peter Beckford in Rome in 1766, a teenaged Clementi (1752 – 1832) “devoted eight hours a day to the harpsichord” in the isolation of Beckford’s estate in rural Dorset. Here he “practiced and studied continually” the works of Scarlatti, Paradies, Handel and the Bachs. This recital traces Clementi’s path from provincial obscurity to cosmopolitan success with performances of works by Paradies, Scarlatti and Clementi on a mid-century English harpsichord by Burkat Schudi as well as a 1794 piano by John Broadwood, featuring on the latter revised versions of sonatas from Clementi’s ground-breaking Op. 2 (1779, rev. 1807) as well as his grand sonatas of the 1790s.



Organist George Ritchie releases a critically acclaimed recording of J.S. Bach's complete *Art of Fugue*, as well as two films on DVD: a full-length documentary about the *Art of Fugue*, and a filmed lecture-demonstration on the seventeen individual pieces



A boxed set containing a 2-CD recording by organist George Ritchie of J.S. Bach's complete *Art of Fugue* plus two films on DVD – a full-length documentary film about the *Art of Fugue* and a filmed lecture-demonstration by George Ritchie on the 17 individual pieces – has been released by Fugue State Films of Great Britain. In the documentary *Desert Fugue* (90 minutes) George Ritchie is joined by scholar Christoph Wolff and organ builders Ralph Richards and Bruce Fowkes in discussing the history and performance of the *Art of Fugue*. In his Introduction to the *Art of Fugue* (100 minutes) George Ritchie introduces each of the individual pieces, illustrating points with dozens of musical examples from the score, and discusses the full range of fugal techniques used in the work. A booklet contains extensive notes by George Ritchie about the music, specifications of the recently built organ in 18th-century central German style by

Richards and Fowkes in Pinnacle Presbyterian Church in Scottsdale, Arizona, and a list of all registrations used. The CD plus DVD boxed set is available in the U.S. from [www.ohscatalog.org](http://www.ohscatalog.org) and [www.ravencd.com](http://www.ravencd.com), and from Fugue State Films [www.fuguestatefilms.co.uk/shop](http://www.fuguestatefilms.co.uk/shop). *Gramophone* magazine (July, 2010) has called this “a reference recording” and “the finest recording of Bach's *Art of Fugue* irrespective of media or instrument”, and *Choir and Organ* (July/August, 2010) has stated that “this remarkable production should be a set text for all university, college, and conservatoire courses for performers and academics alike”.



**Temperament Reconsidered and Revised: Bedient Opus 21,  
The Auditorium, North Texas University**

by Gene Bedient

In the 1970s and 1980s in America, there was a great deal of interest in not necessarily copying specific historic European organs but rather, as modern organ builders, studying the instruments of the ancestors and becoming immersed in the style to the point that one could create a new instrument that possessed the salient musical qualities of the old.

Many important organs were born during this fertile era and one was Bedient Opus 21, built in 1985, now in the Auditorium at NTU.

Creating an instrument that has the main mission of accurately rendering music of a particular era and nationality must necessarily take into consideration a myriad of details and techniques as well as aesthetics of the past era. At the end of the journey, the instrument must be voiced to emulate its ancestors and then there is the final but crucial question of selecting a temperament. This article is about my ongoing temperament journey with this particular instrument.

Keyboard instruments are nearly the only musical instruments that must function with a fixed tuning system. While singers and the majority of instrumentalists can make slight alterations in the absolute pitch of notes they produce, thereby matching pitch at will with other instrumentalists or singers, a keyboard player cannot. A temperament for a keyboard instrument is therefore a system that determines the intervallic relationship among the twelve notes of the Western scale. The absolute pitch of each note must be determined by this system and in so doing, the character of the major and minor tonalities of Western harmony is also established for the particular instrument in question.

‘Pure’ is defined as the absence of acoustical beats of interference when two musical sounds comprising a consonant interval are excited into oscillation simultaneously. Fortunately or unfortunately, those consonant musical intervals that we hold sacred in Western music, the octave, the perfect fifth, its inversion, the perfect fourth and the major

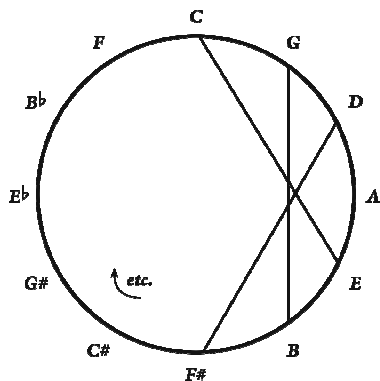


Figure 1

third cannot all be absolutely pure in tuning at the same time. This is a mathematical impossibility. Because keyboard players are required to play beyond the compass of one octave, it is therefore essential that the octaves be in tune. As a result the major 3rds and the perfect 5ths must somehow be compromised. Tuning any one interval of the perfect 5<sup>th</sup> or the major 3<sup>rd</sup> pure is very easy and simple. However, all notes of the scale are inter-related. When you change one note, those others that might also be used in combination with it are also affected. To systematically achieve a major 3<sup>rd</sup> by altering intervals of the perfect fifth, we proceed around a circle-of-fifths. (Figure 1). A pure major 3<sup>rd</sup> is achieved by tuning each of the encompassing intervals of the perfect fifth somewhat out of tune or too small to be pure. It is acceptable to modify the perfect fifths in this way because even though they do have significant acoustical beats of out-of-tuneness, when the pure major 3<sup>rd</sup> and the altered perfect 5<sup>th</sup> are played together, the purity of the 3<sup>rd</sup> masks the problem of the out-of-tune 5<sup>th</sup> to the point that it hardly seems out-of-tune at all.

The primary temperament that was in use from the Renaissance through the middle of the Baroque era is referred to as quarter-comma meantone temperament. Because the highly

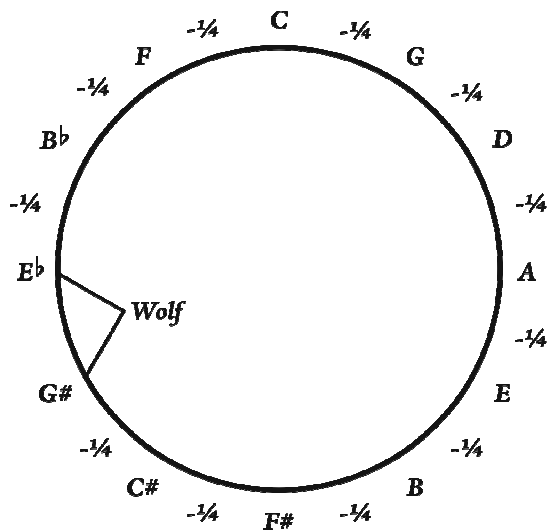


Figure 2

satisfying sound of the pure major third interval was prized during this era, meantone temperament systemized the tuning of pure major 3rds on those major keys E-flat, B-flat, F, C, G, D, A, and E. (Figure 2) The major 3rds on the remaining four, B, F-sharp, C-sharp and G-sharp were compromised to the point of being painfully out of tune. Because eleven of the intervals of the perfect 5<sup>th</sup> are tuned narrow by one-fourth of the Syntonic Comma to attain the eight pure major 3rds, the twelfth interval, falling between E-flat and G-sharp, is exceedingly compromised or very wide. On the keyboard, it looks like a perfect 4<sup>th</sup>, the inversion of a perfect 5<sup>th</sup>, but compositionally speaking, it is an augmented major 3rd.

Because it is so severely compromised it was said by early writers to make a ‘howling’ sound and therefore is referred to as the ‘Wolf 5<sup>th</sup>’.

This temperament served the Western musical world quite well until the middle of the Baroque era, when composers became less and less willing to limit modulation in their compositions to keys with no more than three sharps or two flats. As a result, a flood of alternate temperaments espoused by composers and theoreticians began to appear,

For French instruments built from the 16<sup>th</sup> century until near the Revolution, quarter-comma meantone temperament was the order of the day. And while it is relatively easy to change the temperament of the other primary keyboard instruments of the 18<sup>th</sup> century, the harpsichord and clavichord, it is much less practical to change the temperament of an organ because that requires changing the physical length of the pipes. Although new temperaments were being proposed, it was much more practical to test and use them on the harpsichord or clavichord. It was unusual for an existing organ to have its temperament changed due to the work involved and therefore the expense. Organ builders also tended to be conservative, holding to time-honored tuning practices that would result in an organ sounding its best in the commonly-used major and minor keys. The primary printed source of 18<sup>th</sup>-century French organ building, *L’art du facteur d’orgues* by François Bédos de Celles, written in the middle of the 18<sup>th</sup> century and published in 1766, describes only one temperament to be used for organs: quarter-comma meantone.

There is an interesting by-product of meantone temperament and it has to do with the sizes of half-steps and whole-steps. In Equal Temperament, the half-steps and whole-

steps are all identical in size. However, in meantone temperament, there are two sizes and they occur in two overlapping patterns:

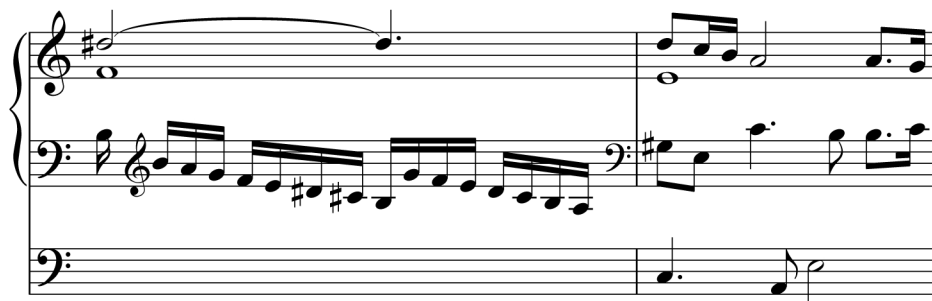
{B+C-CS+D+Eb-E+F-FS+G}-GS+A+Bb-B+c-cs+d+eb

B+C-CS+D+Eb-E+F-[FS+G-GS+A+Bb-B+c-cs+]d+eb

- + = wide interval
- = narrow interval

Thus the repeating pattern: + - + + - + - +

There are major implications to ignoring these patterns when playing Renaissance and early Baroque keyboard music or transposing music from the original key. Chromatic pieces which are melodically quite stirring and magical in meantone and related temperaments become bland and not very interesting when played in equal temperament. Anyone who has experienced the resolution of a dominant 7<sup>th</sup> chord to tonic in C major on a meantone instrument will know immediately what I mean. As seen in the pattern of wide and narrow half steps above, the semitone from b to c is one of the wide ones. Thus when the soprano voice in the resolution moves from b to c, the wide distance of that motion tends to focus the attention of the listener. This is especially moving to 21<sup>st</sup> century ears that hear such resolutions regularly in equal temperament which has no melodic coloration effect at all. An excellent example of melodic consideration occurs at the beginning of measure 28 in the Tierce en Taille, of François Couperin's *Convent Mass*. (Example 1) The measure before has a descending passage of 16<sup>th</sup> notes ending on tenor A. At the beginning of the next measure the A moves to an eighth-note G-sharp (on the first beat of measure 29). A to G-sharp is one of the wide half-steps in meantone temperament and it makes the melodic journey to G-sharp very significant. Anyone visiting the organ at Houdan (quarter-comma meantone) should try this passage to experience the importance of temperament to the composition. It is even more poignant because of the effect of the strong tierce stop in the appropriate registration with the characteristic sound of the Clicquot instrument.



Example 1: Couperin, Tierce en Taille from *Convent Mass*, mm. 28-29

In the course of following the rules of harmony, voice leading, and 16<sup>th</sup>-century counterpoint, even when staying within the basic confines of major key signatures of two flats and three sharps, there are many early examples where significant harmonic

dissonances are created. A good example is measure 44 of the *Fantasia Chromatica* of Sweelinck. (Example 2) The alto voice beginning on beat 3 of the preceding measure descends in a logical half-step sequence: E-Ds-D-Cs-C. The only problem is that meantone temperament which was without question the norm at the time of Sweelinck, has no D-sharp. Rather it has an Eb. Thus the major 6<sup>th</sup> that occurs on beat one of measure 44 is very dissonant. Why? Because the interval that is sounding is actually Eb-B, not a major 6<sup>th</sup>, but an augmented 5<sup>th</sup>. From a compositional perspective, Sweelinck's writing makes total logical sense. And in reality the augmented 5<sup>th</sup> which sounds quite dissonant is resolved quickly to a lovely pure major 3<sup>rd</sup> on the 3<sup>rd</sup> beat of measure 44. This happens occasionally when playing Renaissance and early Baroque keyboard music. We don't know, of course, if Sweelinck intended for this piece to be played on the organ, the harpsichord or the clavichord. On the latter instruments the dissonance would be less acute than on the open sound of the organ.



**Example 2: Sweelinck, *Fantasia Chromatica*, mm. 43-45**

Taking this anomaly into the genre of 18<sup>th</sup>-century French music, there are numerous interesting and acute dissonances in the compositions of most composers. Here we will consider two examples from music of DeGrigny.

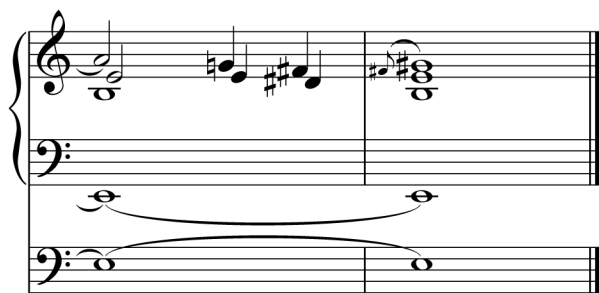
One interesting and also frustrating aspect of historic organ temperaments is that no organs from early times have retained their original temperaments. Thus, we can only speculate. It seems highly likely that the organ at Reims played by DeGrigny was in quarter-comma meantone temperament. The *Veni Creator* opening 'Plein Jeu' has a key signature of two flats and centers mostly around F Major. (Example 3) There are A-flats in the piece, as in measures 13 and 14. A-flat does not exist in meantone temperament, only G-sharp. Thus, where you would expect a minor 6<sup>th</sup> to occur with F above on the 3<sup>rd</sup> beat of measure 13, you have an augmented 5<sup>th</sup>. It is carried through to the first half of measure 14, but then on measure 15, it is resolved beautifully to F major. It is obviously normal within the writing of DeGrigny to find somewhat unusual modulations and voice leading. That is what is wonderful about his music and one of the reasons we appreciate it so much. But, whenever there is a strong dissonance which would be caused by meantone temperament, it is always resolved cleverly and beautifully, making the resolution even more striking.





**Example 3: De Grigny, Plein jeu from *Veni Creator*, mm. 13-15**

DeGrigny also frequently uses the tonal center of E minor. Obviously the note d-sharp will be required to resolve a dominant 7<sup>th</sup> to tonic in E minor. Look at the final cadence of the *Pange Lingua* Plein Jeu. On the 3<sup>rd</sup> beat of the penultimate measure, a strong dissonance is created on the 4<sup>th</sup> beat by placing d-sharp (sounding E-flat) against F-sharp above (creating an augmented 2<sup>nd</sup>) and against the tonic E in the pedal cantus firmus. It resolves magically to a Picardy 3<sup>rd</sup> at the cadence on the final measure. (Example 4)



**Example 4: De Grigny, Plein Jeu from *Pange Lingua*, final cadence**

It seems logical that composers used meantone temperament as a consideration when writing organ compositions up to that point where we observe actual key signatures or tonal centers indicating E-flat major and beyond or E major and beyond. Otherwise the accidentals of D-sharp, A-flat, A-sharp when they occur, were treated as exceptions and dealt with cleverly, using them to advantage for dissonance-to-resolution. Today it is expected that most will perceive such sounds as errors because we have been so conditioned to the blandness of equal temperament. In reality, these intense dissonances were the order of the day in the 17<sup>th</sup> and first half of the 18<sup>th</sup> centuries. Composers knew them and used them masterfully to their advantage.

When we built Opus 21 we were at the point in 1984-85 of deciding what temperament to use. After experimentation and playing literature of the era, we chose a French temperament that was a slight compromise of quarter-comma meantone. Instead of having eight pure major 3rds, the Lambert Chaumont temperament we employed has six pure major thirds, and therefore is a little more friendly to modulation outside of three sharps and two flats than the standard quarter-comma meantone. Still, the Chaumont

temperament is a very close relative of quarter-comma meantone and it clearly has a ‘wolf’ 5<sup>th</sup> between E-flat and G-sharp.

Twenty-five years have passed since we built the organ and employed the Chaumont temperament. The organ has changed locations, users and function. Because so much music has been composed since the middle of the 18<sup>th</sup> century and because ears/minds of the 21<sup>st</sup> century are not very forgiving of harsh dissonances that one encounters in a temperament such as Chaumont, it was requested that we consider an alteration of the temperament. I talked to various experts on the subject and I experimented with several temperaments by trying them on a modern organ having pipes with tuning sleeves that could easily be changed. The two that I thought would be the best choices were:

1) A temperament I devised that had four pure major 3rds on F-C-G and D. This requires that the perfect 5ths beginning with F and proceeding around the circle of 5ths eight times are made narrow by  $\frac{1}{4}$  Syntonic Comma, just as quarter-comma meantone. The remaining four perfect 5ths are tempered equally to close the circle and permit the octaves to be in tune.

2) A  $\frac{1}{5}$ <sup>th</sup> Pythagorean Comma temperament, where the nominal 24 cent Pythagorean comma is divided into five equal parts starting with F, and going around the circle-of-fifths, by making the first five perfect 5ths narrow by  $\frac{1}{5}$  of the Pythagorean comma. The remaining 5ths are tuned pure. This results in no absolutely pure major 3rds but diminishes the problems of the out-of-tune major 3rds. Either temperament will permit acceptable modulation beyond keys with three sharps or two flats and the ‘Wolf 5<sup>th</sup>’ is largely attenuated.

To make the absolute decision, I set each temperament on the Swell Principal 8, Principal 4 of the Moller organ in the Auditorium at UNT and asked Dr. Eschbach to test each one by playing literature to evaluate. In the end, he said that either would be acceptable and I should decide. To remain faithful to the 18<sup>th</sup>-century French practices, I chose the first temperament with the four pure major 3rds. The  $\frac{1}{5}$ <sup>th</sup> Pythagorean comma temperament is a very good one and it has one important similarity to quarter-comma meantone: it has two uniform sizes of half-tones and whole-tones and they follow exactly the same pattern as the ancient temperament. However, by dividing the Pythagorean comma into five parts to establish the major 3rds, none of them are absolutely pure as you find them in quarter-comma meantone. My temperament with 4 pure major 3rds has somewhat of a variety of sizes of half-tones and whole-tones but they tend to be large or small and they do fall into the same pattern as quarter-comma meantone. I believe that the brain of the trained musician can easily distinguish between a larger half-tone and a smaller-one, with the absolute size and absolute uniformity being of secondary importance. I also decided it is more in keeping with the musical thought of 18<sup>th</sup>-century French keyboard composers to have some pure major 3rds and therefore I made the choice of my temperament with four pure major 3rds.

This temperament does not yield nearly as acute dissonances when employing D-sharp, A-flat, and A-sharp as the Chaumont temperament or quarter-comma meantone but it gives a good sense of the old system. Hopefully it will be more acceptable to my colleagues who have to use it on a regular or even an occasional basis. Organ builders have the advantage of making a temperament decision, proceeding and then leaving! Organists must stay and face the music!

Gene R. Bedient, Organ builder  
Lincoln, Nebraska



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