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The Improvisation of Figuration Preludes and the Enduring Value of Bach Family Pedagogy

BY AUSTIN GROSS

Figuration preludes present flexible tonal models that provide a dynamic way for students to engage with musical structure. The variability of these models allows for musical creativity through progressive stages of mastery. Students begin with a basic model, learn standard variants, and then proceed to more complex variants. Figuration preludes also provide an early opportunity for students to study complete pieces, to examine the interaction of form and tonal structure, and to integrate the study of musical structure, history, and creativity.

J. S. Bach featured figuration preludes prominently in his teaching, maintaining different versions of these pieces for use with different levels of students. He used basic versions of his preludes in C major, C minor, D major, and E minor at the beginning of his instruction book for his son, the *Clavier-Büchlein vor Wilhelm Friedemann Bach*. He included slightly more advanced versions of these four preludes in the opening of Book I of *The Well-Tempered Clavier*, a work which Christoph Wolff notes had a “pedagogical intent.”¹ In fact, because these four preludes share basic elements of their tonal plans, they constitute a kind of introductory chapter in J. S. Bach’s teaching of tonal structure.²

Another of his sons, Carl Philipp Emanuel Bach, advised using a four-part plan for improvising preludes: an opening tonic pedal, a bass octave, a dominant pedal, and a closing tonic pedal. After describing this formal outline, he provided specific tonal models for each of these types of sections.³ J. S. Bach’s introductory figuration

I would like to thank Michael Callahan and Mark Rimple for their thoughtful comments on this paper.

¹ For the *Clavier-Büchlein*, see J. S. Bach 1720/1959. For the widely available paperback copy of *The Well-Tempered Clavier*, see J. S. Bach 1983. David Schulenberg provides a listing of sources for *The Well-Tempered Clavier* (2006: 206-207). For Wolff’s comments on the pedagogical intent of *The Well-Tempered Clavier*, see Wolff 2000: 226

² Robert Gauldin (1988: 103) and Joel Lester (1998) have both noted that the versions of these four preludes in Book I of *The Well-Tempered Clavier* share basic elements of their tonal plans.

³ C. P. E. Bach 1762/1949 (Part II): 431-433.

preludes follow this four-part plan and demonstrate salient aspects of the tonal models that his son presents, suggesting that C. P. E. Bach was in part transmitting some of his father's instruction.⁴ These models and the various techniques employed in the different versions of J. S. Bach's introductory figuration preludes provide evidence of this creative tradition and demonstrate the fruitfulness of the model.

The four-part plan allows students to internalize and, subsequently, develop tonal models within an overarching formal framework. When students encode voice-leading principles from these models into hand positions at the keyboard, they group discrete information into larger patterns, uniting voice-leading and harmony.⁵ Grouping these hand shapes, known by German Baroque musicians as *Griffe*, or grips, into a comprehensive overall hand position plan makes this knowledge accessible in performance, and provides a physical groundwork for the improvisation of chord alterations and ornamentation.⁶ Here, the physical motion of the hands reinforces conceptual mastery and enables creativity.

⁴Joel Lester has noted the relationship between C. P. E. Bach's comments and J. S. Bach's figuration preludes (1998: 33-37).

⁵Felix Diergarten (2011) examines the relationship between creativity and the physicality of performance in evaluating Haydn's connection to the Italian partimento tradition (see especially pages 55, 72, and 74).

⁶On the German practice of teaching *Griffe*, see Ledbetter 2002: 44, 56. Using handshapes as performance aids anticipates more recent work examining how learned motor skills precede the accomplishment of specific tasks. For an account of casting chords and melodic gestures as handshapes within the jazz tradition, see David Sudnow's book, *Ways of the Hand* (1978/1993/2001). In discussing the role of the hand in craftsmanship, Richard Sennett notes the idea of "prehension", where a person forms the shape of an object with the hand prior to grasping the object, as in cupping the hand while reaching for a glass (2008: 153-155).

J. S. Bach's Precepts Model

In a set of pedagogical materials associated with his teaching in Leipzig, *Precepts and Principles For Playing the Thorough-Bass or Accompanying in Four Parts*, J. S. Bach provided a basic tonal model that underlies each of these four preludes.⁷ While much of this work is based on the treatise of Friedrich Erhardt Niedt,⁸ Bach's own additions include a section on harmonizing octave bass lines, a tradition of harmonic pedagogy known as the rule of the octave.⁹ Although the rule of the octave tradition provided harmonization options for any scalar bass fragment, Bach's harmonization (Figure 1) can also serve in its entirety as a tonal plan that can be used as the outline for a figuration prelude.¹⁰ Starting with this sequence gives students a picture of the overall work, since students can then embellish this model to create the four-part formal plan.

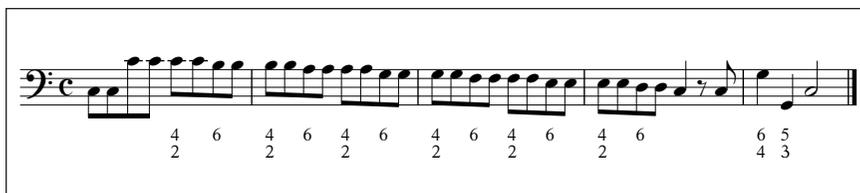


Figure 1: J. S. Bach's Harmonization for an Octave Bass Descent using $\frac{4}{2} - 6$ Sequence¹¹

⁷ In her introduction to the translation, Pamela L. Poulin provides an overview of the history and scholarship surrounding the extant manuscript (Bach 1738/1994). While Poulin notes that student realizations appear elsewhere in the work, the title for the section of figured basses that includes the pattern shown in Figure 1, "Principles for Playing in Four Parts", suggests that this set of examples was to be realized directly at the keyboard, and accordingly no extant student realizations appear here (see Poulin in Bach 1738/1994: xiv-xv).

⁸ Friedrich Erhardt Niedt's (1674-1708) *Musikalische Handleitung* was published in three volumes, some of them posthumously: 1700/1710, 1721, 1717.

⁹ For an overview of the rule of the octave, also known as the *règle de l'octave*, see Barnett 2002: 441-444, Christensen 1992, Jans 2007, Lester 1992: 72-74, and Lester 2007. The models of both J. S. Bach and C. P. E. Bach suggest that having more than one chord per bass note was standard fare, even if it may not have constituted the introductory approach to the *règle*.

¹⁰ Lester notes that the *règle* was used as the basis for the opening of J. S. Bach's C Major Prelude in Book I of *The Well-Tempered Clavier*, but with "interpolated harmonies" (1992: 74).

¹¹ J. S. Bach 1738/1994: 54. As in the other figured bass examples in

Conveniently, the $\frac{4}{2} - 6$ sequence consists of an alternating set of hand positions. Students with little to no keyboard background can internalize this pattern by working in a step-by-step manner, as shown in Figure 2, starting with the bass line alone, adding parallel 3rds, and then adding a 5-6 motion above each bass note. Finally, as shown in Figure 3, a 2-3 bass suspension yields the model, which can be played in major or minor modes.¹²

Figure 2: Preliminary Steps in Internalizing the $\frac{4}{2} - 6$ Bass Octave Model

this section of his work, Bach presents this pattern in C major, G major, A minor, then again in C major (through a *Da Capo* indication). Since a transitional leading tone occurs on the upbeat before each of the two internal keys, this has been replaced here by rendering the final C in Figure 1 as a half note rather than a quarter note, modeling the rhythmic setting that Bach used for this pattern in A minor, where there is no leading tone pick-up note back to the *Da Capo* in C major.

¹² Figures 2 and 3 provide a pedagogical sequence for internalizing the hand positions of a $\frac{4}{2} - 6$ sequence. Giorgio Sanguinetti notes that, historically, Italian partimento pedagogues led students sequentially from simple cadential patterns to the ascending rule of the octave through a series of increasingly elaborate diminutions (2012: 114). In addition, Matthew Brown

Replicating the hand position pattern for each $\frac{4}{2}$ - 6 motion facilitates the eventual figuration of the model. For the $\frac{4}{2}$ chord, students can make the space of a 3rd with the thumb and middle finger of the right hand, and place this a step above the bass note. To move to the 6 chord, they expand the outer voices. This process then repeats through the descending bass octave, so students hold the bass note of the 6 chord, again “make a 3rd” with their right hand, and place this third a step above the held bass note to create the $\frac{4}{2}$ chord. They then “expand” the outer voices to move to the next 6 chord, and so on. I find that the “make a 3rd” and “expand” prompts are helpful to students as they practice this component.

Figure 3: $\frac{4}{2}$ - 6 Bass Octave Model (3-Voice Setting)

Completing the Basic Model

After internalizing the general tonal outline shown in Figure 3, students can complete the four-part formal model by expanding the opening tonic chord and treating the culminating dominant and tonic notes as pedal points. Students can develop these areas by following the guidelines given by C. P. E. Bach and the principles demonstrated in the four introductory figuration preludes of his

(2005) has provided a conceptual framework for generating sequences through the manipulation of voice-leading lines over an octave bass line. His Figure 3.23a shows a rhythmic displacement of parallel 3rds, as in Figure 2.2 here, leading to the displacement of these two lines and resulting in the arrangement shown in the lower two voices of Figure 3 here.

father. Couching these three additional sections within the model students have already learned reinforces the idea that each of these formal sections expands a single structural component from a basic tonal plan, and that more specific versions of the model are realized through hierarchical levels of ornamentation, or diminution. The following discussion examines the opening tonic expansion, dominant pedal, and final tonic pedal, as well as a short pre-dominant area that generally precedes the dominant pedal point. As a point of reference, the tonal plan and formal layout for the C Major Prelude from Book I of *The Well-Tempered Clavier* is provided in Figure 4.

The figure displays two staves of musical notation for the C Major Prelude from Book I of *The Well-Tempered Clavier*. The top staff is labeled "Exordium (opening tonic expansion)" and "Octave Descent in Bass (including local interpolated 5-1 motions)". The bottom staff is labeled "Pre-Dominant Link", "Dominant Pedal", and "Closing Tonic Pedal". The notation shows a series of chords and bass line movements, with a clear tonal structure.

Figure 4: Tonal Plan and Formal Layout of the C Major Prelude from WTC1

The expansion of the opening tonic chord consists of a four-chord succession, with tonic, pre-dominant, dominant, and tonic. Such an opening pattern is often referred to as an Exordium, a term borrowed from the tradition of rhetoric.¹³ Whereas in public discourse an Exordium allowed the speaker to provide an overview of the forthcoming speech, students can be reminded that their Exordium patterns provide the listener with a tonal orientation as they expand the opening tonic chord, introduce the listener to the figured pattern to be used in the piece, and even provide a small-scale version of the tonal underpinnings of the large-scale formal sections of the piece (T-PD-D-T). Figure 5 shows two possible voice-leading patterns for the Exordium, each of which is shown in a 3-voice and a 4-voice setting. Patterns 1a and 1b use a $\hat{3}-\hat{4}-\hat{4}-\hat{3}$

¹³On the precedents for the formal arrangement of preludes as described here, see Porter 2000.

soprano line over a $\hat{1}-\hat{1}-\hat{7}-\hat{1}$ bass line.¹⁴ Patterns 2a and 2b use a $\hat{5}-\hat{6}-\hat{7}-\hat{8}$ soprano line over a pedal bass. Hand position motions can be helpful here as well. For example, in pattern 1b, students move the right hand shape up a step, then bring the two lower voices down, then contract the reach of the hands as the top two voices and the bottom voice converge back on the tonic.

Figure 5: Two possible Voice-leading Outlines for Exordium (in 3- and 4-voice settings)

The stages of learning to perform over the dominant pedal area consist of a gradual increase in complexity and length. The versions of the C Major Prelude and C Minor Prelude in the *Clavier-Büchlein vor Wilhelm Friedemann Bach* contain abbreviated dominant pedal sections that are expanded in the corresponding versions of these

¹⁴The opening up of the texture here, with the line starting on $\hat{3}$ in Figure 3 inverting with that starting on $\hat{5}$, leads to the construction of parallel 10ths between the soprano and bass. Robert Wason (2002) has noted how this bass-soprano structural duet in parallel 10ths serves in many figuration preludes as a more specific underlying model than just the descending bass line.

pieces in Book I of *The Well-Tempered Clavier*. This of course makes sense considering that the *Clavier-Büchlein* was begun when Wilhelm Friedemann was only nine years old. Presumably, the student would elaborate in greater detail as his or her skills improved.

With the help of the underlying pedal point, the dominant function of this section can be preserved by following simple models and principles, such as using a specific set of embellishing chords and ending on the dominant chord. One can begin by simply arpeggiating the dominant chord. Initial tonal alterations include a 4-3 suspension as well as a three-chord set: $\frac{6}{4}, \frac{\#7}{2}$ (that is, $\text{vii}^\circ/\text{V}$ or vii^{o7}/V), and $\frac{7}{3}, \frac{6}{4}$ (or $\frac{7}{3}$) chords. As shown in Figure 6, J. S. Bach's chordal succession in the C Major Prelude from Book I of *The Well-Tempered Clavier* shows these different techniques in combination. The simpler dominant pedal area in the *Clavier-Büchlein* version of the C Major Prelude, shown in Figure 7, utilizes only the first four chords in Figure 6, leaving off before the chromatic $\text{F}\#^{o7}$ chord.

7 6/4 7/4 — 7/6^b 6^b/4 7/4 — (b7)

Figure 6: J. S. Bach's Dominant Pedal Progression in the C Major Prelude from WTC1

7 6/4 7/4 — —

Figure 7: J. S. Bach's Dominant Pedal Progression in the C Major Prelude from the *Clavier-Büchlein*

Having students focus on linear motion in one voice, such as the initial 5-6-7-8 strand over the bass in Figure 6, can provide a stronger sense of forward motion and a conceptual guide for the

hand.¹⁵ The two dominant pedal models that C. P. E. Bach provides in his discussion of improvising preludes both contain embedded descending lines through the 8-5 tetrachord over the dominant, with the line from G moving into the lower voice to land on the inner voice D. As shown in Figure 8, these two progressions include varying degrees of chromaticism in this fourth-span.

Figure 8: C. P. E. Bach's Examples of Dominant Pedal Elaboration¹⁶

Although the closing tonic pedal area serves as the resolution of the tonal motion of the work, localized voice-leading motions often occur above this pedal. As in the Exordium, these often involve a T-PD-D-T motion. This closing tonic pedal frequently contains a tonicization of the chord built on scale degree 4. As shown in Figure 9, one of the identifying voice-leading strands of this classic

Figure 9: Closing Tonic Pedal Model

¹⁵ It is certainly the case that, as Matthew Brown has noted, the examples from C. P. E. Bach's treatise "indicate that [he] preferred stepwise strings in the upper voices" above pedal points, and that these strings may be invertible. Brown's Figures 2 and 3 provide a helpful compendium of C. P. E. Bach's pedal point options for varying skill levels (2010: 7-9).

¹⁶ C. P. E. Bach 1762/1949 (Part II): 433. The upper voices have been supplied by the author.

progression moves from $\flat\hat{7}$ down to $\hat{6}$, then back up through $\hat{7}$ to $\hat{1}$.¹⁷

Finally, students can connect the end of the bass octave to the dominant pedal with a pre-dominant area. This connective may consist of a diatonic pre-dominant or may include a motion from a diatonic pre-dominant chord through a chromatic approach chord to the dominant (such as $\text{vii}^{\text{o7}}/\text{V}$). More specific tonal models occur in different preludes. For instance, the approach to the dominant pedal is the same in the WTC1 preludes in E minor and C minor, with a bass line of $\flat\hat{6}-\hat{6}-\hat{5}$ supporting $\frac{6}{3}$, $\frac{\#6}{5}$, and $\frac{6}{4}$ chords, respectively.

At this point, students can begin to figurate the model.¹⁸ Some possibilities are shown in Figure 10. First, students can substitute simple arpeggios for block chords, whether the arpeggios are unidirectional or involve some changes of direction. Translated to the hands, this involves simply “oscillating” the hands during the chord progression (Figure 10a). Next, one or two non-chord tones can be incorporated into the figuration pattern, such as neighbor tones (Figures 10b-d), passing tones (Figure 10e), or a combination of both (Figure 10f). Care must be taken with passing tones, as the distance between voices may change from one chord type to the next, such that a third that is filled with a passing tone in one chord (for instance, a D between a C and an E) may become the span of a fourth in the next chord (say, from a D up to a G). Students may also invert the voice-leading lines, such as the arrangement from J. S. Bach’s Prelude from Cello Suite No. 1 (Figure 10g).¹⁹

¹⁷This is a common pattern that Robert Gjerdingen refers to as a Quiescenza. See Gjerdingen 2007, especially pages 181-184, 460.

¹⁸David Ledbetter provides a cogent overview of the pedagogical goals of different fingering patterns in the figuration preludes in *The Well-Tempered Clavier* (2002: 56).

¹⁹From J. S. Bach’s *Six Cello Suites*, this prelude uses a figuration pattern that consists of a lower neighbor tone in the top strand of voice-leading, but eventually moves away from a strict repetition of this figure. These pieces, written around 1720, are contemporaneous with the *Clavier-Büchlein vor Wilhelm Friedemann Bach* and Book I of *The Well-Tempered Clavier*. The edition of the cello suites by Diran Alexanian (reprinted 1987) includes both a modern edition as well as a manuscript copy attributed to another of Bach’s students, his second wife, Anna Magdalena Bach. Both Alexanian and Christoph Wolff set the date of composition around 1720 (J. S. Bach 1987; Wolff, “Johann Sebastian Bach”), while Wolff also notes that the copy by Anna Magdalena, who sometimes served as her husband’s copyist, dates from around 1728 (Wolff 2000: 231, 395).

Additionally, students can now attempt to add more voices to the model, taking care to avoid doublings of other voice-leading lines. Bach's C Major Prelude contains 5 voices, but the doubled E in the opening measure is carefully handled moving into the second measure (Figure 10h). The D Major Prelude adds a more active bass, creating more rhythmic diversity between the hands, while the right hand provides a more diverse decoration of the common $\hat{3}\text{-}\hat{4}\text{-}\hat{4}\text{-}\hat{3}$ soprano line over the Exordium (Figure 10i). The opening tonic chord is also doubled in length compared to the pre-dominant and dominant chords in the second measure. More advanced students may wish to incorporate a thicker texture, such as the double lower neighbor tones in the C Minor Prelude, with two hands moving at one time rather than striking each note alone (Figure 10j). Here, for the parallel motion on the offbeats, students should strive to find 3rds or 6ths within the chordal voicings, to create parallel 3rds or 6ths, respectively. Alternatively, students can focus the rhythmic activity in the left hand, as in the E Minor Prelude (Figure 10k), a pattern which can also be used monophonically on a non-keyboard instrument.²⁰

²⁰ Students may also wish to work on transferring Figures 10a-g, or even Figure 10h, to monophonic instruments. For brass or woodwind instruments, I have suggested that students adapt or devise a figuration pattern that incorporates rests, in order to facilitate breathing.

Figure 10 consists of nine systems of musical notation, each illustrating a specific figuration pattern. The patterns are labeled as follows:

- a**: A single eighth-note pattern in 4/4 time.
- b**: A single eighth-note pattern in 4/4 time.
- c**: A single eighth-note pattern in 4/4 time.
- d**: A single eighth-note pattern in 4/4 time.
- e**: A single eighth-note pattern in 4/4 time, noted as including a passing tone.
- f**: A single eighth-note pattern in 4/4 time, noted as including a passing tone.
- g**: A pattern in J. S. Bach's Prelude from Cello Suite No. 1 in G major, shown here in C major.
- h**: A pattern in J. S. Bach's C Major Prelude from the *Clavier-Büchlein* and *WTC1*.
- i**: A pattern in J. S. Bach's D Major Prelude from the *Clavier-Büchlein* and *WTC1*, shown here in C major.
- j**: A pattern in J. S. Bach's C Minor Prelude from the *Clavier-Büchlein* and *WTC1*.
- k**: A pattern in J. S. Bach's E Minor Prelude from the *Clavier-Büchlein*, shown here in C minor.

Figure 10: Figuration Patterns

More Complex Variants

Having internalized the basic model, students can begin to incorporate tonal alterations. Figure 11 offers multiple possibilities for the descending bass line, and each of these patterns can be varied metrically to fit different patterns of figuration. Figure 11.1a utilizes local ii-V-I motions to move to the dominant and into the final tonic. These embedded progressions situate a dominant bass note underneath the upper contrapuntal motion, but the underlying linear motion of the bass remains. The model can eventually be expanded to a 4-voice model.²¹

Figure 11.1b chromaticizes the lower neighbors to the goal notes of each 6 chord. This results in a “tonicization” of many of the 6 chords, as this alteration reconfigures many of the $\frac{4}{2}$ sonorities into dominant seventh chords. Students can be instructed to raise any lower neighbor note that is not already a half-step below its goal note, except where the goal note is scale degree 7. Figure 11.1c combines the variants shown in Figures 11.1a and 11.1b, resulting in the model that serves as the basis for J. S. Bach’s C Major Prelude from Book I of *The Well-Tempered Clavier*.

In minor, Figure 11.2a incorporates a tonicization of III. Here, the tonicization of III is expanded, such that scale degree 5 and scale degree 3 both support III chords. The tonal pattern in III is then mimicked in the tonal pattern that closes on the final tonic (compare measure 3 with measure 4). Figure 11.2b again makes use of half-step lower neighbors, resulting in local tonicizations. Figure 11.2c combines Figures 11.2a and 11.2b, and shows the model that serves as the basis for J. S. Bach’s C Minor Prelude from Book I of *The Well-Tempered Clavier*.

Additionally, at the end of the bass octave the penultimate, dominant sonority can be held over the final tonic note before resolving to the tonic. This variant occurs in the *Clavier-Büchlein* version of J. S. Bach’s C Major Prelude. Filling in for the last five chords of Figure 11.1c, the passage in Figure 12 uses a dominant sonority rather than a pre-dominant sonority over the D in the bass, setting up suspensions that ultimately resolve onto the tonic.

²¹ For instance, in Figures 11.1a and 11.1c, a 4-voice setting could utilize a G-F# motion into the F# shown in the second measure. Until that time, students can strike the F# on the second half of measure 2 to fill out the chord, or eventually incorporate it into their figuration in other ways.

1a Major: Tonicize Dominant and Tonic

5 - 6 4/2 6 4/2 (7) 7 4/2 6 4/2 6 4/2 7

1b Major: chromaticize lower neighbors, resulting in local tonicizations

5 - 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6

1c Major: Tonicize Dominant and Tonic; chromaticize lower neighbors

5 - 6 4/2 6 4/2 (7) 7 4/2 6 4/2 6 4/2 7

2a Minor: Scale degrees 5-4-3 in bass suggest III

5 - 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6

III

2b Minor: chromaticize lower neighbors, resulting in local tonicizations

5 - 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6

2c Minor: Scale degrees 5-4-3 in bass suggest III; chromaticize lower neighbors

5 - 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6 4/2 6

III

Figure 11: Bass Octave Variants

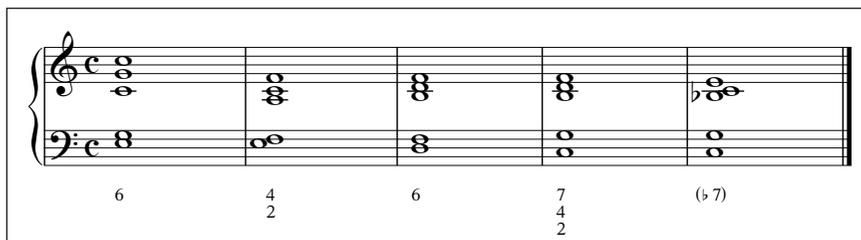


Figure 12: Ending for Bass Octave in C Major Prelude in the *Clavier-Büchlein*

In the C Minor Prelude from Book I of *The Well-Tempered Clavier*, J. S. Bach included a module for strengthening the motion to III, using a local $\hat{6}-\hat{7}-\hat{1}$ bass motion in III (C-D-E \flat), as shown in Figure 13. This allows for a register transfer in the bass from the bass G (global $\hat{5}$) to E \flat (global $\hat{3}$), thereby omitting the F (scale degree 4). He then uses the suspension pattern from Figure 12 during the return to the tonic.

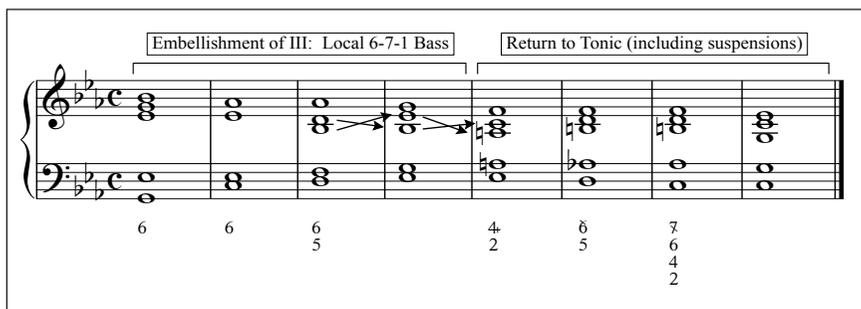


Figure 13: Expansion of III and Ending for Bass Octave in C Minor Prelude in WTC1²²

C. P. E. Bach also offered possibilities for bass line decoration, such as the chromatic treatment of the bass octave shown in Figure 14. While each tone of the descending diatonic scale in J. S. Bach's model (Figure 1) receives two chords, the younger Bach presents the $\frac{4}{2} - \frac{6}{5}$ sequence as a way to harmonize a descending, mostly chromatic octave bass line in minor. Along with the chromatically

²² The arrows in the example indicate a change in the ordering of the notes within the figural pattern at this point in the piece. Inferring that this re-ordering suggests a voice-crossing would obviate what would have been parallel octaves. Thus, from the 3rd to the 4th measure of the example, the D in the alto moves down to B \flat while the lower B \flat moves up to E \flat , resulting in a voice-crossing.

altered bass line, some of the $\frac{4}{2}$ chords utilize raised 4ths to tonicize the upcoming 6 chord, creating local $\hat{7}-\hat{1}$ motions in the upper voices, as in some of the examples in Figure 11. Even with these chromatic alterations, C. P. E. Bach's model still treats scale degree 5 in the area of III, as in the model used in J. S. Bach's C Minor Prelude in Book I of *The Well-Tempered Clavier*.

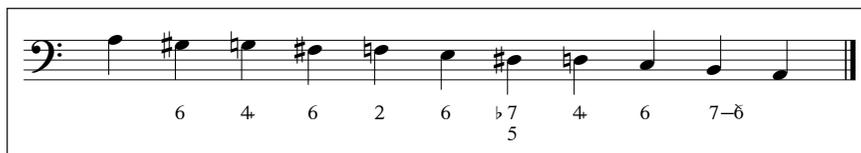


Figure 14: C. P. E. Bach's Rule of the Octave Harmonization using $\frac{4}{2}$ - 6 Sequence²³

Finally, $\flat\frac{4}{3}$ chords can substitute for $\frac{4}{2}$ chords. Whereas a $\frac{4}{2}$ chord can function as V^7 of the next chord, a $\flat\frac{4}{3}$ chord can function as vii^{07} of the next chord. An example of this substitution appears in the two versions of the C Major Prelude, as will be shown later (in Figure 17).

For the dominant pedal area, more advanced possibilities include the use of sequences, which can potentially be construed as canons. The top two staves of Figure 15 show a passage from J. S. Bach's C Minor Prelude from Book I of *The Well-Tempered Clavier*, and the bottom two staves show the tonal outline for this sequence. A solid arrow in the lower staves indicates imitation at the octave: as shown in the top staves, the melodic line on D in the first measure repeats an octave lower in the second measure. The sequence also includes a more masked canonic imitation, as the opening soprano D-E \flat motion on beats 1-2 is mimicked down a fourth on A-B \flat on beats 3-4 (this is indicated with a dotted arrow in the lower staves, since this imitation is only structural; that is, it is not mirrored in the figuration). The dominant pedal then concludes with two iterations of parallel 10ths ($\hat{6}-\hat{5}-\hat{4}-\hat{3}$ over $\hat{4}-\hat{3}-\hat{2}-\hat{1}$), the structural outline for the standard riposte that Robert Gjerdingen refers to as a Prinner.²⁴

In conceiving of sequences as canons, students can think of the alteration of voice-leading motions trading off between the hands. While such highly figured sequential patterns are more advanced, William Porter has noted that such learned patterns "constitute an important part of the vocabulary of images available

²³ C. P. E. Bach 1762/1949 (Part II): 433.

²⁴ Gjerdingen 2007: 45-60, 455.

to the improvising performer.”²⁵ The absence of this passage from the *Clavier-Büchlein* version once again suggests that such passages can be added as the player’s skill improves.²⁶

Byproduct of this sequential motion in thirds: canon at the lower 4th (structural, not figural)

Canon at the lower 8ve

Figure 15: J. S. Bach’s Dominant Pedal Sequence in the C Minor Prelude from WTC I

²⁵ Porter 2003: 141. Porter’s article includes a historical overview of the use of canons as a way to conceive of and construct sequences.

²⁶ David Schulenberg notes that the version of the C Major Prelude in the *Clavier-Büchlein* may represent an “intermediate” stage of development for the piece (2006: 208), whereas David Ledbetter states that the version of the C Major Prelude in the *Clavier-Büchlein* “is not an intermediate one, but the first version, into which Bach began to add the extra bars from the second version, but did not finish doing this...” (2002: 361, n4). While both of these viewpoints suggest a single-track development from conception to finished work, the absence of passages like the canon in the C Minor Prelude from the version in the *Clavier-Büchlein* highlight what may have been pedagogical choices. In other words, the development of these pieces may have included offshoots: altered versions for educational use that were adapted for different stages of student development.

One possible modification to the final tonic pedal section occurs in the C Minor Prelude from Book I of *The Well-Tempered Clavier*. Here, J. S. Bach embellishes the tonicization of the chord built on scale degree 4. As seen in Figure 16, while the opening chord serves as $\text{vii}^{\circ 7}/\text{iv}$, the F that serves as the local goal note of its double neighbors, E natural and G, continues to change its function, as the figuration dips further below the F in each subsequent arrival. F serves first as a root, then as a third, then as a fifth. This increasingly downward triadic projection from the F creates a tonal progression that moves from the pre-dominant area to the dominant, as iv moves through ii° to vii° , leading to the final return of the tonic.

Figure 16 shows a musical score for a 4-2-7 rotation in C minor. The score is presented in two staves: a treble staff and a bass staff. The bass staff contains three chords, each with a label below it: $4 = \text{Root}$ iv , $4 = \text{3rd}$ ii° , and $4 = \text{5th}$ vii° . Dashed lines connect the F notes across the three chords, illustrating the downward triadic projection.

Figure 16: $\hat{4}-\hat{2}-\hat{7}$ Rotation from J. S. Bach's Prelude in C Minor, WTC1, mm. 36-37

Comparing Variants of the Model in Two Versions of a Piece

A comparison of the versions of J. S. Bach's C Major Prelude from the *Clavier-Büchlein* and Book I of the *The Well-Tempered Clavier* puts the idea of variants on a model into a broader perspective. Although the same basic tonal plan underlies both versions, differences between them showcase the potential for variation. A comparison also provides a platform for students to study how these variants influence the work's overall effect and affect. Figure 17 aligns these two tonal plans, and numbers differences between them. These differences are described in more detail below the example.

The figure displays a side-by-side comparison of the C Major Prelude from J.S. Bach's *Clavier-Büchlein* (left) and *Well-Tempered Clavier Book I* (right). The score is organized into several functional sections:

- Exordium:** The initial section of both versions, marked with a fermata.
- Octave Descent:** A section spanning measures 1 through 7, characterized by a descending melodic line in the right hand and a steady accompaniment in the left hand.
- Pre-Dominant Link:** A section spanning measures 8 through 11, featuring a melodic line that leads into the dominant pedal.
- Dominant Pedal:** A section where the right hand plays a constant G4 note while the left hand plays a descending chromatic line.
- Closing Tonic Pedal:** The final section, where both hands play a constant C4 note.

Measure numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 are indicated at the top of the score. The left side is labeled 'Clavier-Büchlein' and the right side 'Well-Tempered Clavier Book I'. The bottom of the score is labeled 'CB' and 'WTC1'.

Figure 17: Comparison of J. S. Bach's C Major Prelude in the *Clavier-Büchlein* and WTC1

- 1 - CB includes an extra chord after the tonicization of the dominant, with a major seventh above the root.
- 2 - The voicing of these two chords differs: CB has a smooth soprano descent (B-B \flat -A) while WTC1 pulls the local leading tone motion to the soprano (C \sharp -D), mimicked two measures later with the B-C motion in the soprano.
- 3 - CB includes a 7-6 suspension over the F, with E moving down to D.
- 4 - WTC1 uses a \flat_3^4 chord here instead of the $\frac{4}{2}$ chord in the CB. Both examples also use the \flat_3^4 rather than $\frac{4}{2}$ at Box 2, over the G in the bass.
- 5 - WTC1 uses ii^7 to initiate a ii -V-I motion into the tonic to end the sequence, while CB uses a dominant, which prepares the delay of these notes into the tonic in Box 6.
- 6 - Whereas WTC1 uses a dominant chord here, CB has a dominant sonority delayed over the tonic bass note before resolving, as noted above in Figure 12. Such a displacement is also used at the close of the sequential passage in the C Minor Prelude from WTC1, as noted in Figure 13.
- 7 - CB moves immediately to a tonic with flatted seventh (V^7/IV), whereas WTC1 resolves first to a tonic triad before moving to the V^7/IV .
- 8 - WTC1 chromatically saturates the outer voice-leading lines in CB that connect the pre-dominant to the dominant: a chromatic passing tone in the bass (F \sharp) connects F and G and a chromatic passing tone in the soprano (E \flat) connects E and D.
- 9 - F \sharp from the bass of WTC1 at Box 8 moves to A \flat , overshooting the goal tone, G, and completing a set of chromatic double neighbors, F \sharp and A \flat , to the upcoming G. This delays the resolution into the dominant pedal, heightening tension.
- 10 - WTC1 includes a continuation of the opening four-measure unit of the dominant pedal, with the voice-leading continuing chromatically through the soprano F up to G before the motion through the third, G-F-E, back into the tonic area.
- 11 - CB ends here on the tonic chord whereas WTC1 expands the tonic with a T-PD-D-T motion over the tonic pedal, delaying the tonic arrival through the opening flatted seventh on the tonic chord and pushing the progression forward into the subdominant.

Other preludes also show the flexibility of the model. The *Clavier-Büchlein* version of the C Minor Prelude contains a dominant pedal section that is much shorter than the version in Book I of *The Well-Tempered Clavier*. The *Clavier-Büchlein* version omits the entire dominant pedal section after the change of texture, except for the first measure of the monophonic dominant arpeggio, thereby leaving out the canonic passage noted above in Figure 15. The measure of dominant arpeggio then resolves to what is measure 35 in the WTC1 version, albeit with a slight alteration in the first two sixteenth notes, as shown in Figure 18. This alteration in the *Clavier-Büchlein* provides a less syncopated arrival, as the low C sounds on the downbeat of the measure. In addition, the ending passage (including the passage shown above in Figure 16) is missing in the *Clavier-Büchlein*.

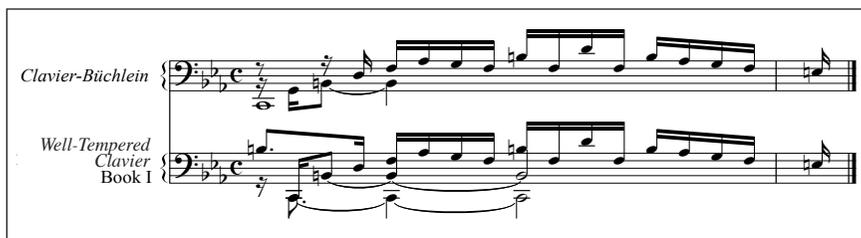


Figure 18: C Minor Prelude's Resumption of Sixteenth Note Pattern after Dominant Pedal

Another of J. S. Bach's introductory figuration preludes highlights different benefits to using these pieces as teaching tools. The opening of the WTC1 version of the E Minor Prelude provides what Robert Gauldin calls a "textbook model" of the technique of creating a melodic line from a simple soprano line, which was given in the right-hand block chords in the *Clavier-Büchlein* version.²⁷ By working between the different voice-leading strands, which have already been internalized in the hands, players can begin incorporating additional ornaments, thereby moving toward improvising more individualized melodic structures based on underlying tonal plans.²⁸

²⁷ Gauldin 1988: 104. Schulenberg couches the melodic additions and formal differences in the WTC1 version in a historical and stylistic context (2006: 222-223).

²⁸ Michael Callahan (2010b) provides an excellent demonstration of the uses of specific types of figures from eighteenth-century pedagogue Michael Wiedeburg.

The *Clavier-Büchlein* version of the E Minor Prelude also differs from the WTC1 version in that it omits much of the WTC1 version after the first rule of the octave. The second half of the WTC1 version has an Exordium and a rule of the octave in the subdominant, A minor. This is similar to Bach's *Precepts* exercises, where he shows rule of the octave progressions moving through multiple keys. Furthermore, although the upper voice-leading of both passages begins in the same way, with a tonicization of the subdominant, differences in the vertical arrangement of the voice-leading strands provide students with the opportunity to examine and then to experiment with inverting lines of counterpoint, re-stacking lines from standard patterns over a pedal point at specific formal junctures.²⁹

²⁹ The WTC1 version includes a descending E-D-C-B-A bass motion into the pre-dominant area (mm. 21-23), while the *Clavier-Büchlein* version places the E-D-C motion in the upper voice, occurring against a tonic pedal in the lowest voice. The reason for the contrapuntal alteration depends upon the placement of each passage with respect to the overall form: the *Clavier-Büchlein* version is drawing to a close at this point, while the WTC1 version is leading into the rule of the octave on A.

CONCLUSION

The Bach family pedagogy for improvising figuration preludes can provide benefits to students today, particularly since it anticipates aspects of modern pedagogy. The act of improvising figuration preludes unites performance with the learning of theoretical concepts and compositional design, modeling aspects of Steve Larson's multi-faceted educational approach, "integrated music learning".³⁰ For Larson, integrated music learning includes engaging ideas not only conceptually, visually, aurally, and vocally, but also, in Larson's terminology, "digitally" (that is, with the fingers). The improvisation of figuration preludes can also build on or be integrated into other materials and approaches used in the theory curriculum. For instance, Aldwell and Schachter's textbook includes keyboard exercises as a way to reinforce student understanding of tonal concepts, presenting them in a larger context and allowing students to focus on voice-leading connections and larger patterns.³¹ Their examples also include embellished versions of tonal patterns.³² With specific regard to Baroque music, Michael Callahan has provided numerous protocols for integrating Baroque improvisation into the modern classroom, including standard patterns of diminution.³³

Figuration preludes also capture another key feature of Larson's approach, where students learn to improvise by using menus, maps, and models. Here, basic tonal patterns serve as "maps" of the possible tonal pathways, and "menus" provide the available chordal options for embellishing or altering these maps. This process

³⁰ The title of Steven Laitz's textbook, *The Complete Musician*, and the "Integrated Approach" noted in his subtitle also reflect this pedagogical goal. Many of Laitz's examples, which focus on voice-leading concepts, could be performed or realized at the keyboard. Indeed, the first edition of Laitz's text included overt "Keyboard" exercises placed regularly throughout the text. See Laitz 2003 (First Edition) and 2012 (Third Edition).

³¹ See the appendix in Aldwell and Schachter 1989.

³² See Aldwell and Schachter 1989: 587-588.

³³ See Callahan 2010a, 2010b, and 2012. While encompassing a much wider scope than figuration preludes, Callahan 2010a does include a brief treatment of diminution in figuration preludes, in which he discusses the use of different figurational permutations. See Callahan 2010a: 158-162.

results in specific pathways through the maps, called “models.”³⁴ Such an approach, adapted to figuration preludes, provides cognitive benefits for learning musical structures, adapting them, and creating from them.³⁵ Students may find it helpful to begin by playing from a written “model”, which can help to internalize the tactile patterning that will serve as a basis for future development and variations, as well as the idea of looking at a structure but playing an ornamented (or diminuted) version of it. Students in my first-level theory classes have found success elaborating at the keyboard from their own written-out “models”, indicating only the bass line and figured bass notation. Then, more advanced harmonic options can be incorporated as additional improvisational “menu” options later in the curriculum.

By improvising from basic patterns, students internalize tonal principles in a creative way. Examining tonal variants between historical works, students study how different pieces exist as multiple outputs from a single underlying model. In this way, this approach aligns the study of musical structure, history, and performance, while also supporting creative opportunities. In doing so, this method demonstrates a number of tenets of Baroque educational practice, including the emphasis on musical fluency in performance, a focus on practical examples in instruction, and the high level of attention placed on the learning experience.³⁶ Ultimately, Larson’s claim about integrated music learning can serve equally well as a slogan for Baroque pedagogical practice: “Music learning is best when it is ‘integrated’--when it combines different ways of understanding musical relationships.”³⁷

³⁴ Larson 1995.

³⁵ Psychologist Jeff Pressing has noted that increased practice of patterns in improvisation decreases the central processing load for playing those patterns, which allows certain features to run automatically and enables the player to focus on other aspects of musical creation during performance (1984: 356-360; see especially his Figure 3 on page 358).

³⁶ Butt 1994: 64-66.

³⁷ Larson 1995: 76.

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