



Goulding & Wood façade, Palladium Concert Hall, Carmel, Indiana



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Goulding & Wood installed the pipe organ façade in the new Palladium Concert Hall at the Center for the Performing Arts in Carmel, Indiana. The 27-pipe façade of polished tin graces the front of the hall designed by David M. Schwarz Architects, Inc., with local consultation from CSO Architects. The acoustical engineering ideas of the late Russell Johnson were carried out under the leadership of Damian J. Doria of ARTEC Consultants, Inc., as one of Johnson's final designs resulting in a 1,600-seat hall that is completely tunable for each type of performing ensemble. Behind the façade pipes is a large organ chamber and separate blower room, preparing the hall for a future organ installation.

The eleven-member crew from Goulding & Wood spent over 600 man-hours preparing and installing the pipes and supporting structure in October and November of 2010. The pipes, taken from the 16' Principal and 16' Violone ranks of the organ, weigh up to 250 pounds and range in size from 15 feet 9 inches to 21 feet 9 inches. They had to be hoisted via a 45-foot scaffolding

tower from the concert stage to the tone openings that spanned the third and fourth balcony levels.

The hall's grand opening the end of January 2011 featured performances by the Carmel Symphony Orchestra, Michael Feinstein, Dionne Warwick, Chris Botti, Neil Sedaka, the Chamber Music Society of Lincoln Center, the Miro Quartet, and Lynn Harrell.

This installation is the latest instance of Goulding & Wood's ongoing presence in the Indianapolis area. Future projects include the installation of the restored 1892 Sanborn organ for the Cook Grand Theatre in the new home of Indiana Landmarks (the former Central Avenue United Methodist Church), and new consoles for Roberts Park United Methodist Church and Trinity Episcopal Church, both in Indianapolis. For information: <[www.gouldingandwood.com](http://www.gouldingandwood.com)>.



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Allen Organ Company announces that the Royal Military Academy Sandhurst, England, is the new home of a large Allen organ. Installed in the Royal Memorial Chapel, this 4-manual instrument includes a unique Antiphonal String division. The organ is the culmination of a lengthy design and manufacturing process. The design team included Allen's tonal director Randy Miller, Paul Arkwright of Allen Organs UK, and the Memorial Chapel's director of music Peter Beaven. The organ will be featured in a gala concert by Carlo Curley on June 19. For information: <<http://www.christchurchsingers.org/titlepage.htm>>.

## On Teaching

by Gavin Black



### Buxtehude BuxWV 141, Part 6: the final section

This month's column wraps up our detailed look at Buxtehude's *Praeludium in E Major*, BuxWV 141, by examining the final section, a 20-bar fugue lasting from m. 91 to the end. Next month we will look at the final movement of the Böellmann *Suite Gothique*—the *Toccata*—and then in the column for May, I will provide an overview of the process of studying these two pieces that has occupied this column for about a year.

#### Analysis

The fugue subject (Example 1) is introduced in m. 91 of BuxWV 141, in what turns out to be the alto voice of a completely regular four-voice fugal texture. There are several interesting things for the student to notice about this subject and about the way the fugue based on this subject develops in Buxtehude's hands. Before going through a few of them, however, I want to review what I think is the principal purpose of engaging in this kind of analysis for the student actually learning a piece. Analysis can serve many purposes. For one thing, it is—or should be—intellectually interesting and satisfying in and of itself. It also satisfies, specifically, the puzzle-solving or detective instincts that many of us have. It can help us understand—or move closer to understanding—why the composer wrote the piece the way that he or she did. This might, again, be interesting in itself. It might also lead to discoveries about interpretation, perhaps in conjunction with knowledge about performance practices that prevailed around that composer. Analysis of a piece can also help us learn about connections and influences among composers, and in particular to understand what it was that a subsequent composer learned—perhaps, if we are lucky, in specific detail—from the composer whose work we are analyzing.

However, for a student learning a piece or a passage, analysis of that piece or passage also serves simply to increase the

#### Example 1



#### Example 2



#### Example 3



#### Example 4



student's awareness, both conscious and unconscious, of what is in the piece and, in particular, of what is coming up next at any given moment. This awareness—which comes into play, in somewhat different ways, both with memorized and with non-memorized performance—is the most important prerequisite for playing a piece securely and comfortably, and thus for being able to project an interpretation in a convincing manner. This is why I tend to emphasize simple motivic analysis, which I describe as “noticing anything and everything that happens more than once.” There is nothing about a passage the noticing of which won't contribute to security of performance.

#### Fugue subject

The first thing that stands out about the fugue subject of this final section is that it is intimately related to the opening four notes of the *Praeludium*, the short motif that I pointed out in my first column about this work (Example 2). In fact, it is probably fair to say that this subject is derived from that opening motif. This is explicit in the end of the fugue subject (Example 3), and implicit in the opening (Example 4), where it is inverted and decorated, but still meaningfully related to the opening motif.

Of course, it is possible to give a name to the four notes that we hear at the opening of the piece: they are a rising tetrachord, and the later instances of this motif that pervade the piece are tetrachords, perhaps rising, perhaps falling, perhaps augmented or diminished or decorated in some way. I am always a bit concerned that this kind of terminology can tend to trivialize the thing being observed. After all, every piece has tetrachords in it, usually many. It is so simple that it scarcely rises to the level of a theme, motif, or subject. However, the point isn't that it is a tetrachord or any other particular theme, simple or complicated, common or (close to) unique.

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And the point isn't to tie this theme to any other piece. The point is specifically that it happens to be the opening gesture of this piece, and that it is then found recurrently throughout the piece. The fugue subject under discussion here is the culmination of the development of that theme.

This fugue, twenty measures long and in four voices, has eight full and unambiguous subject entries. There are also, at mm. 100 and 101–2, three entries that are full-length but in which the second half of the theme is somewhat altered. (Are these “fugue subject entries”? Does it matter?) Beyond that, the first half of the theme occurs by itself, without the second half, approximately ten times; again there are a few spots that are hard to categorize precisely, such as the alto voice in the first half of m. 104 and again in m. 107. The second half of the theme also occurs several times by itself, for example in m. 98.

### Tetrachord motif

Stepping back from the fugue subject or its halves to the tetrachord motif derived from the opening of the *Praeludium*, we see that this motif is found in almost every spot in this section where the fugue subject itself is not present. These spots are the second half of m. 98 into m. 99 in the tenor voice, m. 103 into m. 104 in the alto voice, and elsewhere. If a student goes through these twenty measures highlighting the tetrachord motif every time it occurs in any genuinely plausible form—simple, inverted, ornamented—the moments in the piece that do not have at least one voice highlighted will be—at most—as follows: part of m. 103, the final whole-note chord, and (maybe) the two 32nd-note flourishes in mm. 106 and 109.

This section is, as noted above, a fully worked-out fugue in which the four voices all maintain integrity throughout and the rules of counterpoint are followed. However, looked at through the lens of the tetrachord motif, it also appears to be a piece of the sort that is built around the inexorable repetition of a single motif that is always present: that is, the kind of piece that might be described as a *chaconne* or *passacaglia*. Even though fugue is a quintessentially contrapuntal form and *chaconne/passacaglia* is fundamentally a harmonic form, the two can actually co-exist, and many of Buxtehude's fugues do indeed shade over into being *chaconnes*. This gives them, or tends to give them, a driving or hypnotic feeling.

(A wonderfully unambiguous example of this is the short fugal section that begins at m. 55 of the *Praeludium in C Major*, BuxWV 136. The subject is exactly one measure long, the section is seven measures long, and the subject is heard once in each measure, in one voice or another. This short passage can be analyzed as a fugue without compromise, but it is also—without compromise—a *chaconne*. The *chaconne* theme migrates from one voice to another, but that is only somewhat rare in *chaconnes*, not against the “rules”.)

The two flourishes that are constructed of 32nd-note rising scales, found in

mm. 106 and 109, could be seen as the apotheosis of the tetrachord motif, constructed as they are out of two of them in a row, sped up. Is this a convincing connection? I am not sure; a scale is pretty basic and common, and clearly the main point of these flourishes is to heighten visceral excitement leading to the final cadence. The main point against considering these scales to be a direct outgrowth of the opening four notes of the *Praeludium* is that the scales begin on the beat, whereas the tetrachord motif most emphatically begins just after the beat. Nonetheless, in playing this piece myself, I have always found it meaningful to hear those two half-measures as being an outgrowth of the four-note half scale that has been so important in the construction of the work. I would again say that it doesn't matter what conclusion a student comes to about this, or indeed whether he or she comes to any conclusion at all. The act of noticing and thinking about the question will help fix the piece in the student's mind and make the performance more secure and convincing.

### Practicing this section

So, how should a student approach the actual practicing of this section? I believe that there are several practice possibilities that work especially well for these measures. To start with, since this passage is both fairly short and extremely well worked out as a fugue, it is a good section to choose for a rigorous application of the technique of practicing separate voices and pairs of voices. I would organize this practicing as follows:

1) **Divide the section** into either two or three shorter bits. These will each be somewhere between six and ten measures. They do not have to correspond to natural musical divisions, though of course they can.

2) **Choose one of these shorter passages and play each voice through several times**, slowly and accurately. It is fine to keep the bass voice in the hands for the time being, even though it is certainly a pedal line. Each of the two inner voices should be played, at this stage, an equal number of times in each hand.

3) **Combine the voices into pairs**. With four voices there are always six pairs: SA, ST, SB, AT, AB, and TB. They are all equally important and should all be practiced a roughly equal amount. Note that for these combinations the alto voice and the tenor voice each have to be sometimes in the right hand and sometimes in the left. It is extremely important to keep the tempo slow enough that this process feels easy.

4) **Repeat** this with each of the other short sections.

As I have written elsewhere, I do not consider it particularly necessary or useful to try to put together the groups of three out of four voices. (There are four such groups of three.) Of course, the three upper voices may well be practiced as a group under the heading of “practicing the hands.” That is a practical/technical step rather than a musical/listening step, as the above exercise is.

Another specialized technique that can be incorporated into the learning of

this passage is that of actually leaving out notes that are rhythmically lighter and that, on a piano or violin, for example, the player might well play quietly. This is an extremely useful technique on instruments that do not offer dynamic inflection of individual notes, that is, for keyboard players, on the harpsichord and organ—so much so that I will at some point devote a column to it. In this piece it has a special relevance to the motivic analysis that we did above. If the student plays the theme leaving out the off-the-beat sixteenth-notes, then the structure of the theme becomes abundantly clear. Then, when those unaccented notes are added back, they stand a good chance of coming across to a listener as light, without the player's having had to do anything very calculated to make them light. The theme without the off-the-beat sixteenth-notes looks like this (Example 5, with the newly-created eighth-notes played detached).

Of course I have used some judgment about which notes to omit. You could actually make a case for leaving out—again, obviously just for purposes of this exercise—the first note of the theme. The student can play the theme this way one voice at a time and also with pairs of voices.

### Fingering and pedaling

The next set of steps is the usual: working out fingering and pedaling, practicing hands and feet separately, putting hands together, putting each hand with the feet, and, finally, putting the whole texture together. The bass voice is clearly a pedal line here. (Remember that with Buxtehude, the sources do not always make this clear.) There are a few spots—I have found them in mm. 96 and 97—where the two hands alone cannot reach all of the notes, and the bass line is well suited to the pedal. The pedaling has a couple of interesting issues to work out. The first of these is the transaction in the middle of the theme in which the feet have to move down by two successive thirds (Example 6).

It seems inconceivable that the F-sharp would not be played by the right toe (though someone could prove me wrong about this). How should the D-sharp and the B then be played? There are a number of possibilities that the student can explore, and they have somewhat different implications for articulation. (I myself would play the D-sharp also with the right toe, trying to make the articulation that this pedaling automatically creates as subtle and light as possible. It is also possible to play the D-sharp with the left toe, and then the B either also with the left foot—creating a significant articulation—or, reaching under, with the right toe. This latter might be awkward or might not, depending on both the build and the habits of the player.)

There is also the question of how to pedal the last four notes of the theme, the rising tetrachord. In many passages in the repertoire, legato can be achieved equally well with toe/heel or alternate toes. Here alternate toe is made difficult, at least, by the pattern of sharps—at least if the left foot takes the low B. Since

Example 5



Example 6



Example 7



there were physical constraints against heel pedaling in the late seventeenth century—high benches, small pedal keys—a passage like this forms part of the evidence that in general in those days organists did not expect always to play legato. That is a big subject, beyond the scope of this series of columns, but it is something for a student and teacher to think about. Successive toe pedaling is easy here, and leads to a non-legato approach to, at least, the eighth notes. When the pedal plays the opening half of the fugue subject without the latter half, as it does repeatedly in the last third or so of the section, the pedaling is straightforward, as it also is with the quarter-note passages, since those notes are fairly slow. These pedalings are straightforward, but still have to be thought out carefully and practiced well.

### Hand choices

Since all three upper voices belong in the hands, the same issue arises that we have discussed in the last few columns: the dividing of the middle of three voices between two hands. There are many places in this section where multiple solutions are possible, for example, mm. 93–94, 97, 102–3, and more. As always, the student should not forget to take a comfortable hand position into account in sketching out the hand choices for those spots. Another important consideration is that of allowing faster or more intricate notes to be played with as little interference as possible from other notes in the same hand. So, for example, in m. 101, I would have no temptation whatsoever to take any alto voice notes in the left hand, whereas in m. 105 and the identical m. 108, I would take both alto voice notes in the left hand. In mm. 106 and 109, I would take all of the tenor and alto notes in the left hand to facilitate the trills.

A special hand-choice issue in this piece is the fingering of the 32nd-note scales in mm. 106 and 109. They can be played in the right hand, split between the two hands, or even, somewhat counter-intuitively, played by the left hand, with the right hand taking the high e" in

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m. 106 and the middle e' in m. 109. This latter would only make sense for a player who finds it easier to play upward scales rapidly and fluently in the left hand than in the right hand. (This makes sense physiologically. Each hand can play more naturally going towards the thumb than going away from it. This is the "drumming on a table" effect.) These flourishes can work any number of ways, but it is, again, something that the student should make a point of thinking about and planning out well.

Everyone that I have known who has worked on this piece has found the passage in the second half of m. 102 (Example 7) to be the most difficult to finger and play securely. This is because of several things: it is impossible for both of the two voices playing sixteenth-notes to be unconstrained by other notes; the tenor voice and the alto voice keep bumping into each other; and the placement of the sharps makes some fingerings that would otherwise be possible impossibly awkward. This is a passage for the student to pick apart very thoroughly, with no preconceptions about which hand or which fingers should do what. It is important, probably, to change fingers on all of the hidden, that is voice-to-voice, repeated notes. It is almost certain that it is a good idea to divide the alto voice fugue subject fragment between the hands. Therefore, it is important to listen carefully to that motif as it passes from one hand to another to make sure that it flows the same way in two hands that you would want it to flow in one.

This ends our detailed look at the *Praeludium in E Major*. Next month, back to Boëllmann. ■

Gavin Black is Director of the Princeton Early Keyboard Center in Princeton, New Jersey. This spring he will be playing recitals around the Northeast. Details and contact information can be found at <gavinblack-baroque.com>.

## In the wind . . .

by John Bishop



Whenever I'm demonstrating, playing, selling, or moving an organ, people ask, "How did you get into this?" I'm pretty sure every organist and organbuilder has fielded a similar question.

### Roots

I got interested in the pipe organ as a pup. When I sang in the junior choir as an eight-year-old kid, the director was Carl Fudge, a harpsichord maker and devoted musician. When my voice changed and I joined the senior choir, I sat with other members of Boston's community of musical instrument makers. I took organ lessons, found summer jobs in organbuilders' workshops, studied organ performance at Oberlin, and never looked back. It's as if there was nothing else I could have done.

As I've gone from one chapter of my life to the next, I've gathered a list of people who I think have been particularly influential in the history of the pipe organ, and who have influenced my opinions and philosophy. I could never mention them all in one sitting, but I thought I'd share thoughts about a few of them in roughly

the order of their life spans. This is not to be considered a comprehensive or authoritative list, just the brief recollections of their role in the work of my life.

**Arp Schnitger** (1648–1719) was a prolific organbuilder active in Germany and the Netherlands. He was involved in the construction of well over a hundred organs—more than forty of them survive and have been made famous through modern recordings. As a modern-day organbuilder, I marvel at that body of work accomplished without electric power, UPS, or telephones. Schnitger's work burst into my consciousness with E. Power Biggs' landmark Columbia recording, *The Golden Age of the Organ*, a two-record set that featured several of Schnitger's finest instruments. I was captivated by the vital sound, especially of the four-manual organ at Zwolle, the Netherlands, on which Biggs played Bach's transcription of Vivaldi's D-minor concerto from *L'estro armonico*. His playing was clear, vital, and energetic, and I remain impressed at how an organ completed in 1721 could sound so fresh and brilliant to us today.

Schnitger's organs all sport gorgeous high-Baroque cases and some of the most beautiful tonal structures ever applied to pipe organs. Many of the most influential organists of his day were influenced by Schnitger's work, which was a centerpiece of the celebrated North German school of organbuilding and composition.

In my opinion, **Aristide Cavallé-Coll** (1811–1899) is a strong candidate for best organbuilder, period. No single practitioner produced more tonal, mechanical, or architectural innovations. Among many other great ideas, he pioneered the concept of multiple wind pressures, not only in a single organ but also in a single windchest. Big organs in large French churches had the perennial problem of weak trebles, especially in the reeds. That's why the Treble Cornet was so important to Classic French registration—if you wanted to play a dialogue between the bass and treble of a reed stop, accompanied by a Principal, you used the Trompette for the bass and Cornet for the treble (remember Clérambault 101!). Cavallé-Coll used one pressure for bass, slightly higher pressure for mid-range, and higher still for the treble. This required complicated wind systems that would be no problem for us today, but remember those were the days of hand-pumping. Imagine that for more than half of Widor's career at St. Sulpice, the 100-stop organ had to be pumped by hand. Those poor guys at the bellows handles must have hated that wind-sucking Toccata!

Cavallé-Coll's organs created vast new possibilities for composers through tone color and snazzy pneumatic registration devices. It's safe to say that without his work we wouldn't have the music of Franck, Vierne, Widor, Dupré, Tour-

nemire, Messiaen, Saint-Saëns, Pierné, Mulet, or Naji Hakim, to name a few. A pretty dry world . . .

**Andrew Carnegie** (1835–1919) was a Scottish-born industrialist who built great companies in nineteenth-century America for the production of steel and many other products. The rapid expansion of the railroads formed a lucrative market for Carnegie's products, and he built a vast fortune. He once stated that he would limit his earnings to \$50,000 a year and use the surplus for the greater good. He gave millions of dollars for the establishment of great universities, notably Carnegie-Mellon University and the Carnegie Institute of Technology, and countless library buildings were built throughout the United States with his money. He loved the pipe organ and was a loyal customer of the Aeolian Organ Company, commissioning several instruments for his homes. His love of the organ did not carry across to religious devotion—he was cynical enough about organized religion that as he gave money for the commissioning of new organs for churches he said that it was his intent to give the parishioners something to listen to besides the preaching. In all, Andrew Carnegie and the Carnegie Foundation contributed to the purchase of more than 8,000 pipe organs. During the time I was a student at Oberlin and for several years after my graduation, I was organist of Cal-

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