As it was in the beginning

Every student of the music of Johann Sebastian Bach learns early how much more there is to it than meets the untrained ear. There's no contesting that he was a genius of melody and harmony, but when you start digging into the mathematical structure of his music, you quickly get the sense that the depth is infinite. We might take for granted the seamless counterpoint between the obbligato and the chorale tune in the ubiquitous *Jesus bleibet meine Freude* (Cantata 147), *Nun danket alle Gott* (Cantata 79), or *Wachet auf, ruft uns die Stimme* (Cantata 140), but if we think it through even superficially, we're baffled by how the harmonic progression of the obbligato anticipates the relative cadences at the end of each phrase of the chorale.

We learn about the Fibonacci series, a simple and infinite progression of equations that starts with zero and one, and continues so that each successive number in the series is the sum of the previous two (0+1=1, 1+1=2, 1+2=3 . . . 5, 8, 13, 21, etc.). Use that series to chart the entrances of a fugue subject.[1]

Or use the formula of numbering the letters of the alphabet (A=1, B=2, etc.). Add up BACH and you get 14. Add up J. S. BACH and you get 41. Look for those two numbers recurring in Bach's music—how many notes in a fugue subject, how many measures, etc.? Start digging and you'll find you're figuratively sweeping a beach. There's no end. I haven't tried it with *Anna Magdalena*, but I'll bet it's a gold mine. Maybe a good pick for the lottery.

When I was an undergraduate, I spent a semester with Bach's *Magnificat in D* (BWV 243), writing a nicely researched paper and leading the church choir I directed through a performance. I was amazed to chart the sequence of movements and find the architectural symmetry, and the piece has been with me ever since. It includes some very nice examples of "word painting," where the music illustrates the text. One of those beauties is the last chord of the alto aria. The text is *Esurientes implevet bonis, et divites dimisit inanes* (He hath filled the hungry with good things, the rich he hath sent away empty). The alto soloist is accompanied by basso continuo and two flutes in a beautiful duet with lots of parallel sixths. The figures repeat many times (maybe a Fibonacci number?) with a lovely cadence at the end of each, but at the closing cadence, the flutes leave out the last resolving note, sending the rich away hungry with a wafted dominant-seventh chord.

The opening movement is a rollicking jubilation with full orchestra, including three trumpets and timpani like only Bach could do—bouncing chords and driving rhythm. As the piece nears its end, there's a boisterous reprise of the opening figure driving toward the final *Amen*. The text for the reprise is *Sicut erat in principio* (As it was in the beginning)—terrific.

Turn, turn, turn

Another part of my undergraduate days was the purity of the music we were focused on. The resurgence of interest in organs with mechanical action was in full swing— there were dozens of companies around the country digging in the history of the trade and creating wonderful new instruments with mechanical action and low wind pressures, and we as students of playing were in the thrall of the quest for authenticity in our performances. When we laid out a concert program, we were careful to consider the progression of keys, and the juxtaposition of historical styles and epochs. Including a transcription of a romantic orchestral piece was unthinkable. We considered them decadent. And the symphonic electro-pneumatic organs on which they were played were considered decadent. As I look back on those days, I see how easy it is to dismiss something about which you know nothing.

Chickens and eggs, smoke and fire, and trees falling in the woods

César Franck (1822–1890) is generally considered to be the first of the composers of Romantic French organ music, the father of the style. His melodic and harmonic languages exploited the resources of the organs of his day, and his use of tone color foreshadows the voluptuous orchestral intentions of the great masters who followed him.

Consider this incomplete list of Franck's successors:

Camille Saint-Saëns (1835–1921)
Charles-Marie Widor (1844–1937)
Gabriel Pierné (1863–1937)
Marcel Dupré (1886–1971)
Charles Tournemire (1870–1939)
Louis Vierne (1870–1937)
Henri Mulet (1878–1967)

The span between Franck's birth and Dupré's death is nearly 150 years. The lives of all these revered composers were intertwined. Two of them were born in the same year, and three of them died in the same year. They were each other's teachers and students. They lived near each other. They must have heard each other play. Think of the Sunday evening dinner after someone's recital, a festive bistro table with cheese, wine, and cigars, and Pierné and Tournemire arguing about Widor's registrations. I don't know enough of the personal relationships between these men to certify such a possibility, but it's fun to imagine. I've been at quite a few of those post-concert tables, at which no one is in doubt!

Keeping in mind those organist-composers, consider the genius organbuilder Aristide Cavaillé-Coll who lived from 1811 until 1899. Monsieur Cavaillé-Coll was eleven years old when Franck was born, and Tournemire and Vierne were twenty-nine when he died. Throughout the nineteenth century, Cavaillé-Coll was putting magnificent organs under the hands of a bevy of marvelous composers. He was the constant among them, and his mechanical and tonal genius influenced that entire epoch of music. From one monumental organ to the next, he gave his colleague musicians new voices to try, new registration aids, and radical concepts like progressive wind pressures that increased as you went up the scale. The highest notes of Cavaillé-Coll's Trumpets and Harmonic Flutes soared across the vast stone naves like little comets. What would Widor's music have been without those heart-rending trebles?

Some of the more rewarding moments of my career have been those spent with clients brainstorming about the capabilities of an organ console as it relates to the tonal resources of the organ. *What if the Solo French Horn could be played from the Great, and if so, what if there were divisional pistons under the Great keyboard that affected the Solo stops?*

Imagine the conversation between organist and organbuilder involving "what-ifs" like that, before there had been a full century of whiz-bang electric and solid-state gizmos for organ consoles. If you had only ever drawn heavy mechanical stop actions by hand, how would you like an iron pedal that would throw on the principal chorus with one heave of the hips?

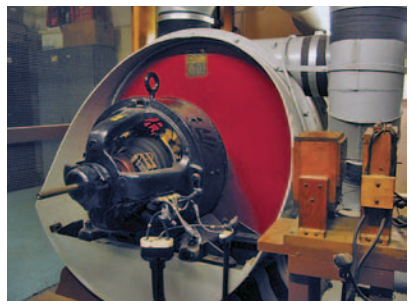
Or this:

> Cavaillé-Coll: "We could place the reeds and mixtures of the Swell on a separate windchest that you could turn on and off with a lever next to the pedalboard. Any stops you had drawn on that chest could be accessed at once. We could call it a Ventil[2] because it turns the air on and off."
>
> Saint-Saëns: "Yes, please."

There's a famous portrait of Franck seated at the console of Cavaillé-Coll's organ at Ste. Clotilde in Paris, his left hand poised with raised wrist on the (I assume) Positif manual, and right hand drawing a stopknob. Take a look: http://www.classicalarchives.com/composer/2536.html. Man, that knob travels far. It's out about five inches and it looks like he's still pulling. Franck's face wears a thoughtful expression—maybe he's wondering how far does this dagnabbit knob move, anyway? Reminds me of the Three Stooges pulling electrical conduits out of the wall.

During his lifetime, Cavaillé-Coll introduced dozens of state-of-the-art gizmos. You can bet lunch on the fact that the drawknobs on the famous organ console at St. Sulpice (built in 1862) don't move that far. For images of that spectacular console, take a look at www.stsulpice.com.

Let's skip forward 50 or 60 years. Ernest Skinner installed a new organ with four manuals and 77 voices at St. Thomas Church Fifth Avenue in New York City, the same year that T. Tertius Noble was appointed organist. New York's Grand Central Station was opened that year ten blocks from St. Thomas (the centennial has just been celebrated), as was the Oyster Bar Restaurant, which is still located in the station. I imagine



One of the blowers at Woolsey Hall

a power lunch at the brand new Oyster Bar during which Skinner and Noble argued about whether the 16-foot Swell reed should be available independently on the Pedal at 4-foot. They must have disagreed about something, and it must have been quite a show.

So what came first, the chicken or the egg? It's widely understood that Cavaillé-Coll was the great innovator, creating marvelous new devices and watching what the musicians could do with them. I think that the early twentieth-century version was more a collaboration between organist and organbuilder—they took turns influencing each other. Americans were being introduced to new technological marvels every day. I can picture a client asking, "If J. P. Morgan can have electric lights in his mansion on Madison Avenue, why can't I have one on my music rack?" Think of the lucky organist who was the first to have one!

From our twenty-first century perspective, one of the most remarkable but overlooked facts about the huge body of nineteenth-century French organ music is that it was all conceived, composed, practiced, and performed on hand-pumped organs. They may be hundred-stop jobs, but they were hand-pumped. It must be that the electric blower was the single most important innovation in the history of the organ. Widor started his work at St. Sulpice in 1870. I do not know precisely when the first electric blower was installed there, but let's guess that Widor played that instrument for 35 years relying on human power to provide his wind-pressure. At five Masses a week—again, I'm just guessing—that would be 8,750 Masses. *Kyrie eleison*.

All the photos I've seen of Widor show him to be serious, even dour, and the little herd of pumpers in the next room must have been a distraction, snickering and shirking. But I imagine he cracked a smile the first time he turned on the new blower and sat down to play in that great church, alone with his thoughts and imagination. Having the luxury to sit at the console for hours in solitude must have been a revelation. Organists on both sides of the Atlantic were freed to exploit their imaginations and their instruments.

Step right up . . .

Since the beginning of civilization, people have been flocking to share the latest in entertainment. In the fifth century B.C., a stadium was built at Delphi, high in the Greek mountains. It could seat 6,500 spectators, had a running track that was 177 meters long. There's a 5,000-seat amphitheater on the same site, built in the fourth century, B.C. I doubt they would have gone to the trouble if people weren't going to come. Today we crowd into IMAX theaters, elaborate cruise ships, and huge arenas. We've been celebrating the "latest thing" for hundreds of generations.

In 1920, a monumental antiphonal pipe organ was the latest thing. Today we joke about "cockpit syndrome"—teasing each other that our consoles look like the cockpits of airplanes. But there was

By John Bishop

Skinner console, Harvard University

no airplane to compare to the cockpit of a 1915 Skinner organ with four keyboards, a hundred stopknobs, and dozens of buttons, switches, and lights. Think of the impression it must have made to a parishioner, alighting from a horse-drawn carriage onto a cobblestone street, and encountering that gleaming organ console in the chancel. It could have been the most complicated and bewildering thing he had ever seen.

The organist must have been revered as a conjurer, a certified operator of one of the most complex devices in existence. They were the technical equivalents of today's air traffic controllers, nuclear power engineers, and voodoo software writers, but they were musicians first. It's no wonder that we read about thousands of people cramming huge municipal auditoriums to hear organ recitals. Attending concerts of a symphony orchestra was expensive, reserved for the elite. At City Hall, or in the church, one wizard could play an overture by Beethoven with grand effect, and no one was sent away empty.

And play them they did. With the electric blower grinding away for endless hours and an ever-increasing array of clever console controls, those organists could experiment with fingerings, and learn to access complicated registrations that were changing continuously, bringing complex orchestral scores alive single-handedly. And as a twenty-year-old I had the nerve to dismiss it as decadent. I hang my head.

Last Monday, the New York City Chapter of the American Guild of Organists presented their annual President's Day Conference. The subject was *Transcriptions Alive!* (Many thanks to my friends and colleagues who were involved in the planning.) On Sunday evening, theatre organist Jelani Eddington played a recital on a large Wurlitzer in Brooklyn. And on Monday, Michael Barone, Peter Conte, and Jonathan Ambrosino presented talks about various aspects of the art, hosted by the Riverside Church. The day concluded with a recital by Thomas Trotter played on the great Aeolian-Skinner organ of the Riverside Church, the home bench to Virgil Fox, Frederick Swann, John Walker, and so many others.

Michael Barone must be the best deejay the serious organ world has ever had. Using a nicely chosen string of recorded examples, he made the point that organists have been playing transcriptions of other types of music for some 450 years. Michael Praetorius (1571–1621) and Heinrich Scheidemann (1595–1663) played choral music on the keyboard, and Barone's demonstration flicked cleverly back and forth between the sung and played versions. Tempo and pitch were consistent, the differing factor being the tempered scale of the organs' keyboards. Good choirs sing in pure intervals.

J. S. Bach transcribed his own orchestral music for the organ, along with concertos by colleague/rival composers such as Vivaldi, Ernst, and Walther. I reflect that while I was ready to dismiss playing transcriptions of orchestral music on the organ, I surely was learning the sprightly stuff that Bach himself transcribed. It was good enough for Bach, but apparently not good enough for me. Point taken. I hang my head.

The terraced dynamics of Bach's organs were perfect for the terraced dynamics of the Baroque *concerto grosso*. A couple centuries later, the marvelous expressive capabilities of the symphonic pipe organ were equal to the expressive demands of complex Romantic orchestral scores, chock full of contrasting simultaneous solos (which are not synonymous with duets), and crescendos and diminuendos of all speeds and scopes.

We as organists are blessed with the wealth of literature written especially for our instrument. It comes in all shapes and sizes. It has national inflections and accents that are instantly recognizable to us. You may never have heard the piece, but the instant you hear that *Grand Jeu* you smell soft ripe cheese and the taste of rich red wine wafts through your imagination. But that doesn't have to keep us from playing any music on the organ. Any music that sounds good is fair game.

Transcribing orchestral and choral scores to organ keyboards is as old as the instrument itself. Technological advances in organ building between 1875 and 1925 allowed the art of transcription to reach new heights. Later, we spent some fifty years reflecting on the past—that which came before all that innovation, and went to great lengths to resurrect old ideas of instrument building and playing. *Sicut erat in principio*. And a century after the art of the pipe organ advanced to include all that electricity brought to organbuilding, it advances again to include solid-state controls—an additional wealth of gizmos allowing the organist to express the music ever more effectively. *Sicut erat in principio*. Cue trumpets. ■

Notes

1. Fibonacci gave us the system of numerals we use today (0,1), finding them easier to use and more flexible for complex computation than the older Roman System (I, V, X, etc.). The Fibonacci series applies to many aspects of nature, from the breeding of rabbits to the structure of the Nautilus shell. A quick Google search will give the interested reader a lot to think about.

2. Ventil comes from the same root as *vent*—the French and Latin words for "wind."