



STARTING AT THE BEGINNING, NOT THE END GAME

When Nicolai Rimsky-Korsakov wrote, “Orchestration is composition,” he was describing the end game of the learning process which is really a process of discovery, cataloging and usage.

Music writers understand this because in the very beginning they hear a sound in their head. It could be a color combination, or the harmonic way a passage is written, or both. They like the sound so much they want to use it in their own compositions. So begins the search. Maybe it’s listening to the recording over and over until they figure it out. If a score is available, they’ll get the score and pore over it until they find the sound heard in their imagination.

That’s the first step - discovery.

Next is defining just what went into making that sound, “that sound.” So begins the analysis of the harmony and the instrumental combinations and logging down what “it” is and how “it” was achieved.

That’s the second step - cataloging.

Enter musical imagination. Having discovered and cataloged, one must now imagine different scenarios and harmonies where this device (combination) might work. The real experimentation takes place in the mind. If the writer has an excellent set of orchestral samples, he can experiment to approximate with sonic snapshots of how this device might work. But the library has to be of superb quality, otherwise, miscalculations will be made.

Now comes the writing of the thing - *commitment*. Once on the score page, it goes to parts, then to the musician’s desks where it’s played and ultimately, the audience hears it.

That’s the third step - usage.

Only as these steps are repeated, and a writer has enough devices discovered, cataloged and ready for usage, does orchestration become composition.¹

This is the path on which orchestration is learned. But it’s not where the teaching of orchestration begins.

¹ Put differently, this three-step process is also a way of decision making. DCA (discover, catalog, apply) is similar to a process put forth by Air Force Colonel John Boyd called the OODA Loop. The first O stands for Observation, the second Orientation, D is for Decision and A is for Action. Observation is data collection through the senses. Orientation analyzes the information to form a current view or perspective. Decision is an action plan and Action puts the decision into play. Orchestration titles can cover Observation and Orientation as long as the writer studies in cooperation with the text. D and A are up to the writer. Decision comes through creating a series of sketch scores. Action is the final score whose parts go onto the music stands.

Kastner and Berlioz got it right

In 1837, Jean-Georges Kastner wrote the first modern orchestration book, *General Treatise on Orchestration*², on which some scholars believe that Hector Berlioz modeled his 1843 work, more simply titled *Treatise on Instrumentation*.³

Both books are similar. What is striking is that both contemporaries agreed on the place to begin instruction: *instrumentation*. Simply put, instrumentation is knowing enough about an instrument to write idiomatically for it *and* the *colors* the instrument is capable of producing.

That is the beginning where instruction must begin. It's also the starting point of learning devices unique to each instrument to be applied to the larger whole through composition.

In the 1858 edition, Berlioz cites the techniques for each instrument and then adds experiential insights from a dramatist's perspective. Consider the following insight:

*Accompaniments pizzicato piano, have always a graceful effect; they afford a sense of repose to the hearer, and impart - when not abused - variety to the aspect of the orchestra. In future, doubtless, more original and striking effects will be obtained from pizzicato, than have hitherto been essayed. Violinists, not considering pizzicato as an integral portion of violin-playing, have studied it but little. Even yet, they have only cared to use the thumb and forefinger in playing pizzicato; so that they have never been able to execute passages or arpeggios more rapid than the semiquavers of a bar in four-time of very moderate rate. Instead of which, if, laying down their bow, they were to use the thumb and three fingers, letting the little finger support the right hand, by resting upon the violin, as when playing the guitar; they would soon obtain facility in executing passage such as the following; - impossible at present;*⁴

Berlioz goes one further step. The technique taught, where possible, is illustrated within the context of a full page score.

Here, then, are the two beginning steps for teaching instrumentation:

1. Instrumentation notes about each individual instrument⁵
2. Score reading

² For her Master of Music in 2003 for the University of North Texas, Patricia Jovanna Woodward translated the Kastner book with added commentary.

³ In 1858, Mary Cowden Clark translated Berlioz' work into English for Novello. A downloadable copy of this edition is available online at books.google.com.

⁴ Berlioz' insight stems from him being a guitarist having applied guitar concepts to the strings. Given the similarity of guitar to bowed instruments, you would think more guitarists would be competent string arrangers and orchestrators.

⁵ In 1904, Charles Marie Widor pushed instrumentation notes to an extremely precise degree with the publication of *The Technique of The Modern Orchestra* which was translated into English in 1906. The instrumentation notes in *Professional Orchestration™ Volume 1, Solo Instruments and Instrumentation Notes*, were edited and updated for me from the Widor book by leading Hollywood studio musicians, some of whom played under Arturo Toscanini.

There's a third step, but it's unstated which is attending live concerts and interacting with musicians. Kastner, Berlioz and others would never once think to tell a beginning composer of the need for attending concerts. It's a "given" as they say.

What Berlioz didn't teach directly within his book is composition. That's because it's expected that the reader is composing already and has acquired some compositional language through counterpoint and harmony.

In our online *Professional Orchestration*[™] classes, these two factors are the hinge-point of instruction using the *Professional Mentor*[™] workbook. The student is taught about the individual instruments and applies the information by writing every 10 days, (weekly if an on-campus class) a two-minute work for solo instrument only, based on a poem. This demonstrates that the student has read the material in the book (which is a test in its own right!).

In short, in class the student must demonstrate his or her ability to compose a short dramatic work which is then performed and reviewed for playability by the class teacher, Stephen Hill.

Students are then required to learn score study.

Here students are first taught what I call the *8 Keys to Learning Professional Orchestration*[™]. The *8 Keys* enable the student to begin effectively questioning a score to discover what the composer has done:

1. Orchestrating the melody with either a solo instrument or a soli section
2. Orchestrating the melody within each orchestral section (unisons, octaves, thirds, sixths, other open intervals)
3. Orchestrating the melody is treated by combining orchestral sections
4. Harmonizing the melody with three or more parts in each orchestral section
5. Harmonizing the melody with three or more parts by combining orchestral sections
6. Solving practical scoring issues
7. Writing for voice and orchestra
8. Writing for voice

With a highlighter, the student goes through the score excerpts in the book looking for each key. This is an eye-opening approach. By doing this, the student learns the most basic level of score reading and how to spot devices and combinations.

Next is transposing the main examples in the chapter to concert key and then reducing to a six-stave score with woodwinds on one grand staff, brass on grand staff, and strings on a grand staff.

On the next page is an example done by Stephen Hill who teaches our online classes. Stephen took the template included in the *Professional Mentor* and re-created it in Sibelius. Below it he added the six-stave reduction on the three grand staves. See the Beethoven example on the next page.

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Fl.

Ob.

Cl.

Bsn.

Hr.

Vln. 1

Vln. 2

Vla.

Vc.

Score Reduction

WW

Brass

Strings

Why is this so important?

First, it's about *success*. All the great composers knew how to score read and analyze scores. Nearly all professional writers with successful long term careers today, possess the same skill.⁶ So, a major success step is knowing how to read and analyze scores.

⁶There's always an exception!

Second, nearly all the great composers were *autodidacts* - self-teachers. Self-teachers learn to question, to think through material, and to apply it. In other words, autodidacts discover, catalog and apply (use).

Anyone can learn to teach themselves. So in the six weeks we have students in our online training, that's a major emphasis: focusing on how to teach yourself.

One critical thing I've learned is that you can teach students mechanically how to do it. But no matter how long in time the class runs (six weeks versus a semester) what you the instructor cannot do in that time is teach them how to think and apply.

That can only be learned by the student post-class through relentless self-study and application (actually composing and writing!).

OBSERVATIONS - STUDENT ATTITUDES

One of the corporate goals of teaching orchestration online is to put our materials to work in the crucible of actual training so that when teachers adopt *Professional Orchestration*TM as the class text we have a body of data by which to help you teach *your* class.

The very first *Professional Orchestration*TM online class had a global student population. Since then, we've had a global student mix for every class. From this, the observations I'm sharing are without border. Whether a music student is from Singapore or Surrey, in or out of academia, we're dealing with a fairly consistent world view and set of habits.

Inability to focus and study for long periods of time - In my White Paper, *How the Great Composers Taught Themselves*, I described how I applied the New York State Learning Styles Inventory test to the biographies of composers over a span of several hundred years. A distinguishing trait of the great composers was their ability to sit at a desk for a long time - *focusing*. Doing one thing at a time. Study was considered *work*.

Many, not all, but many students, enter class with an inability to focus and a belief that to be "efficient" you have to multitask (do several things at once). Among some, there is an attitude that putting time in to developing musical skills is less important than putting time into learning music technology skills.

Facts vs. Skills - Almost 100% of students enter class with an academic attitude which I relentlessly strive to defeat. My definition of the academic attitude is doing the work well enough to get a good grade, but not thorough enough to develop skill. This is the chief reason I require students to write original compositions versus turning in gradable homework assignments from a workbook. Those who've come into the class with the typical workbook experience are shocked when put into the crucible of writing a piece every week to discover that acing a workbook assignment previously doesn't guarantee they know how to orchestrate. Skill comes from learning to think through the material and then applying it when writing.

Reading Comprehension - Many students don't read prose, they scan. This shows up in the written assignments where they have to create a two-minute work based on a poem. The reason for a poem is

that a poem is a vehicle on which many compositions have been based or set to music directly, including *The Psalms*. A poem, if it's well known, can help the composer get a live performance of their work. A poem can also be used as representative of a film script from which the composer must use to derive themes or a main theme for the film. These are cogent reasons to create assignments based on a poem all of which the serious student must deal with post-graduation. My teaching experience has found that often the point of the poem is entirely missed. When asked, "How does your composition describe this poem?" few are able to give a good answer. When questioned, it becomes painfully obvious to both student and instructor that they don't know how to analyze and process what they've read. We found this to be also true when the students were given a video reading of the poem with appropriate graphic backgrounds. With or without the video, we're not seeing students with the critical reading skills needed for genuine long term career success.

Listening and Concert Going - This is the unstated expectation. Whether the student has had academic music training makes no difference here. Most students come to class underexposed to music other than their favorite genre and frequently resist listening to anything else.

Supporting my comments about multitasking, some students have complained that qualitative listening is time consuming, and not an altogether productive use of their time.

There's almost a feeling of guilt about "just" sitting and listening. I'm not the only teacher who's observed this. Other teachers of orchestration have shared with me their difficulty in getting students to sit in the library for their required listening assignments. Some orchestration class syllabi I found had to threatened a loss of grades if the students didn't attend concerts given a neighboring school, too!

I wish I could tell you what causes this, but I can't. What I can report to you is that it's global.⁷

With this is the wide spread belief that listening to CDs, MP3s, sample libraries, and MIDI mockups is the same as going to concerts and hearing the "real" deal. In my first online class, I challenged students to go a concert and to report back their response. One student, who has since gone on to score motion pictures for theatrical release and recently had a CD released of his score, wrote back that after listening to the orchestra and coming home and listening to his string samples he, "...wanted to throw the whole computer right out the window."

When Stephen Hill has taken the time to do simple recordings of submitted works, students are always shocked at how much better "live" sounds over student's sample recordings.

We can't fight this attitude and we don't try. The student who wants to excel, will go the second mile.

But to encourage learning in the way the great composers learned, we've licensed MP3s from eClassical.com and use videos from YouTube to bring the concert experience to them. This is how we bring the concert hall to the student.

I start with a simple collection created for us by eClassical.com called our *Concert Package*, specifically designed for the first semester of orchestration. Within this excellent package is an average 20-minute concert for each solo orchestral instrument including percussion. This is an optional downloadable

⁷ So if you're experiencing this with your own students, it ain't you!

purchase. Students who do buy it, often encourage other students to buy it, too. These MP3s are digital rights management (DRM) free and therefore, can be downloaded to their computer, MP3 player, or even cell phone. Where available they cover an historic time span of writing.

Next, rather than include musical recordings of *Professional Orchestration's* examples, I went further and licensed the whole movement, in some cases, the entire work, the example came from.

With the release of *Professional Orchestration 2B* and the planning of volumes 3 & 4, I'm releasing the timings within the pieces to which they can "dial in" to just hear the excerpt. This has a specific benefit. For the student who wants to sequence and record their work, the eClassical.com MP3s can be imported into a sequencer; the desired section to be studied located, cut, and saved. From here, with the full page scores in *Professional Orchestration*, the student working with a quality recording, can begin a twenty-first century approach to score study by recreating it in their computer.

Score re-creation via MIDI mockups is an area where some student's do feel their time is managed well because they're creating as they're learning. And as suggested by Walter Piston long ago, they're working through each part one by one.

This brings us to another reality that we touch on in class, but lack the time to fully develop in one six week class - recording their work.

Like it not, the request for composers to create recorded scores with sample libraries is here. It's not going away. This is a skill the student needs to master. To master it well and excel requires that the student listen "to the extreme" with these recordings and get out to concerts to hear these pieces live. By doing score re-creation, the motivated student learns how to phrase properly instrument by instrument, and also how to mix their work.

This is the demand post-college. And to repeat myself, it's not going away.

However, to at least give the student the resources to study post-class, the Vienna Symphonic Library and composer Jay Bacal gave us permission to include with our special packages, each solo instrument demo of the orchestra recreated by Jay for Vienna Instruments library along with its MIDI file.

Students wanting to go to the next step can download the matching works from iTunes that Mr. Bacal MIDI realized. Once a student has gone through each of these realizations, which are masterful, he's now prepared to begin sophisticated MIDI mockups on his own that are quality enough for commercial release.⁸

Attitude towards notation programs versus sequencing

You can virtually divide the class in two halves based on the tool of production to be used. Students coming out of academia are more inclined to use notation programs versus sequencing programs.

Which is right for the individual student depends on their career goals. A graduating student wanting to be a composer must accept that post-school they're entrepreneurs and that making money comes not just from writing, but producing their music and merchandising their copyrights.

⁸ Post-school, students *do* have to eat and pay rent.

From this perspective, a student must be able to work both a dedicated notation program and a sequencing program with notation. The notation program is for print publishing while the sequencing program is for music production and audio distribution.

However, a student coming from academia is often, if not usually, benign to the business side of composing and getting work. Their objective with the notation program is to avoid sequencing, preferring the artificial intelligence aspect of the notation programs to replace the need for sequencing.

The career problem for the student today in 2009 is getting a quality audio output from this approach.

The compromise is doing the work in a notation program then exporting the work to a MIDI file to then be imported into a sequencing program. This can work depending on how intricate the score is. As we learned in producing the audio for *Professional Orchestration: A Practical Handbook*, the MIDI files outputted from Sibelius 5 didn't always translate as well to either Cubase or Logic. So a student can do MIDI export from a notation program, but they may not get the results they expected, or even wanted.

Students coming from outside academia are sequencing driven and understand by experience the need to have several sample libraries, both orchestral and non-orchestral. Usually, students in this group have to learn the reverse: why they *need* a notation program. Creating a score in a sequencing program requires many tracks (sometimes from 80 to 220 or more) depending on the project. This is because none of the sample libraries have all the articulations capable from a live orchestra. So to achieve that sound, multiple libraries are required with specific libraries, each to their own tracks, used for specific articulations. In short, mix and match. Even though all the sequencing programs have varying notation capabilities, trying to print out a project produced this way as a score is both unreadable and unmanageable.

This where the student learns the sad business reality today that you end up handling the same work twice. It is either a score to be sequenced, or a sequence to be recreated as a score.

Both groups of students raise barriers to learning one or the other types of programs. However, from a business/career perspective, it's both/and, not either/or.

Form - In or out of academia, either type of student is very weak on understanding form in music. This includes standard pop song types like AABA and Verse-Chorus, up to the "classical" forms like the rondo, sonata-allegro, and others. Since the student is only required to write two minutes of music, we've moved form instruction to the *Professional Mentor* workbook where the standard pop forms are explained. For the poem, if a student doesn't create a song from that work, the task is to outline the form of the poem and compose to that form.

Melody - This is another surprising weakness from students. I can't say all students, but I can say that many students coming into our classes lack melodic and compositional skills. I see a few causes. In most music schools, my observation is that we've moved from teaching musical skills in theory class to teaching musical facts. Admittedly this sounds like a sweeping criticism on my part, but consider the following text example written originally in 1889.

HARMONIC FIGURATION.

444. The simplest kind of harmonic figuration is based upon regular four-part harmony. The notes of two, or three (or of all four) adjacent parts appear successively, in such order as the adopted motive dictates, but usually so that the most important harmonic interval (usually a 3rd or 6th) falls upon the accented beats.

For illustration:

EX. 347.

Throughout Goetschius' book, *The Material Used in Musical Composition*, students learned about phrases, harmony, harmonizing melodies, modulation, wandering harmonies, and by the book's conclusion, at the end of the Sophomore semester, techniques of harmonic figuration (pictured above). In short, "old Goetschius" (as some teachers refer to him) was skill-based in his teaching approach. A student coming into an orchestration class with this skill level, learned by the end of the Sophomore year, has composition skills to build on by which to teach orchestration.

Simply put, we're not seeing students with this basic level of compositional skill entering class.

Students from outside academia suffer the same weakness but for a different reason - focused time listening to pop and some film scores where you hear a melodic thread, then an ambient or musical effect, then a melodic thread, followed by yet another ambient or musical effect. It's the same problem - a lack of understanding of musical form, but added to this, a lack of harmonic understanding, too.

So if I step back and ponder what Rimsky-Korsakov said, that orchestration is composition, then I'm compelled to acknowledge that many students coming into our classes, even with sample libraries, are way behind the power curve in possessing the fundamental compositional skills needed to apply orchestration to!

THE TEACHING RESPONSE

Having identified the issues common to most students, it was necessary to develop a healthy teaching response to set expectations for both teachers and students.

Alexander University - Musical Marine Corps Training. While these are volunteer student classes I do make a habit of getting into a student's "face" and challenging them. It's up to them to discipline themselves and to do the work on time. As such, I treat assignments as if they're professional projects. If a student misses a deadline, his composition may not be reviewed. If the student turns in a composition that lacks title, author at the top, it's rejected. If the student turns in a composition lacking tempo markings and dynamics, it's rejected. If a student turns in a composition with musical

spelling errors, it's rejected. This may seem harsh and right-wingish, but these are the fundamentals of being responsible and pro-active for your own career.

Part of the education process requires self-review. If a student isn't doing this right, he's not being well-served by a teacher accepting an assignment however it's turned in. There are professional consequences to sloppy work.

Positive Mentoring - Once the composition has been received, we evaluate it to see where the student's skills are. We are firm on making deadlines and legibility, things directly under the student's control, but we are super supportive when evaluating the creative content. Every student is asked to tell the other students their goal for the class. Compositions are reviewed considering that goal. And we do that because in most cases, this is the first time a student has had to turn in a genuine composition for performance. Consequently, we understand that they're at the beginning of the process. So over four compositions, we undergird with loving confrontation along with encouragement and insights on how the composition could be strengthened.

Learning to Self-Teach - We start with instrumentation because learning orchestration so that it becomes part of the compositional process is a cumulative task. Understanding this, I've learned that you really cannot teach orchestration in either a six-week online situation⁹ or in a full semester's class. But what we can do is put the student on the road to doing the right kinds of things so that they know how to teach themselves. This is where the *Eight Keys to Learning Professional Orchestration*, and score reduction, are central to our instruction. Every 10 days they're required to analyze and reduce from the book at least four excerpts. Or 16 by the time the class is completed. If they take all three classes (strings, brass and woodwinds), they will have completed 48 score analyses and reductions. They now know the beginnings of how to read a score to see what's going on. If the student goes to the ultimate step by recreating the score with sample libraries, musical skills increase.

INSTRUCTIONAL INNOVATION

I would be remiss by not pointing out some of the innovations Stephen Hill has brought to our training. Stephen received his Bachelor of Music in Theory and Composition (1980) from Ouachita Baptist University, Arkadelphia, Arkansas where he studied with Dr. W. Francis McBeth, and his Master of Arts in Music Composition (1984) from Cal State University, Los Angeles where he studied privately with the noted composer, Dr. Byong Kon Kim. Steve's passion is teaching and he teaches band at the elementary, junior high and high school level. Playing all the instruments enables him to comment very practically on a student's work.

So that's the first innovation Stephen brings in - playing all the compositions and critiquing them from a player's perspective.

As an excellent composer himself, Stephen has taken constructive criticism to new levels. Rather than just giving a brief comment on a student's work, Stephen takes the composition, keys it into Sibelius, then adds a second stave below where he keys in alternate suggestions as to how a student can improve their compositional skills. This is then PDF'ed and e-mailed to the student.

⁹ One orchestral section is covered in each six week class.

Stephen has also effectively used SmartMusic by reviewing the student's composition, then video-ing the explanation and emailing it as a .mov file.

All of these innovations breathe a musical life into our online classes.

CONCLUSION

There is a path for the successful composer. We can initially put the student in that path, but in the end, it's up to the student to do the work, and to have sufficient vision of where they can go, to generate the self-motivation needed to pursue a very difficult, but also rewarding, artistic career in music composition.

Peter Lawrence Alexander

Author, Professional Orchestration

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