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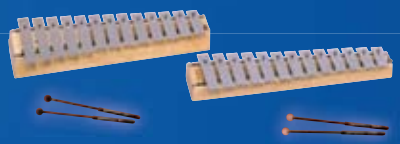

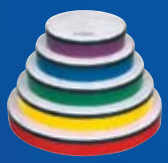

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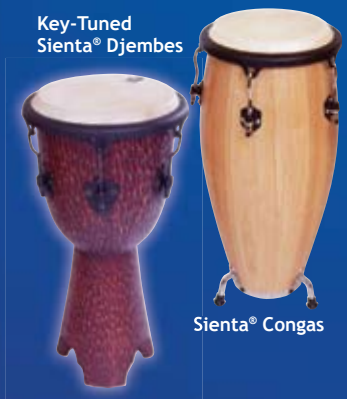

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Music and Technology

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DEPARTMENTS

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The American Orff-Schulwerk Association is a professional organization dedicated to the creative teaching approach developed by Carl Orff and Gunild Keetman. We are united by our belief that music and movement—to speak, sing and play; to listen and understand; to move and create—should be an active and joyful experience.

Our mission is:
- to demonstrate and promote the value of Orff Schulwerk;
- to support professional development opportunities; and
- to align applications of the Orff Schulwerk approach with the changing needs of American society.

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Issue	Topic	Coordinator(s)	Contributor's Deadline
Winter 2010	Orff Media: Drama	Alan Spurgeon	July 1, 2009
Spring 2010	The Brain	Carlos Abril and Pam Hetrick	Oct. 1, 2009
Summer 2010	Open Submission	TBD	Feb. 1, 2010

Writer's guidelines available through the Editorial Office

We seek articles on these topics as they relate to Orff Schulwerk or to broader areas of teaching and learning. Editing and production is in process for some articles one year ahead of the publication date. If one of these topics appeals to you, please contact the appropriate editorial coordinator soon. Also, articles on topics other than those listed above may be considered at any time. Before submitting manuscripts, please contact the editor for a copy of editorial guidelines. We cannot guarantee the publication of any submitted material. The Orff Echo makes every effort to trace ownership of copyrighted materials and to secure permission from copyright holders. If there is a question regarding ownership of any material, we will be pleased to make the necessary corrections in an upcoming issue.

For guidelines or other editorial queries, please contact:
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BY JULIE SCOTT

Lifelong Learning in Orff Schulwerk

My new e-mail signature reads, "Julie Scott, President, American Orff-Schulwerk Association." Every time I see it in print, I am still honored, awed, and even a bit astounded. How did I get here? Well, a lot of it goes back to how I became a lifelong learner. And for that story, I have to tell you about my mother, Martha Scott.

My mother was a music teacher for more than 30 years. In fact, she was the music teacher at the rural Texas elementary school I attended in the 1960s. Her music classes were fun, and my classmates and I loved it! We didn't just sing songs; we dramatized them, moved to them, and played unpitched percussion instruments to accompany them. My mother never missed an opportunity to learn new approaches to teaching music. She attended the Texas MEA conference every year and completed a master's degree when I was in second grade. She started using the Mary Helen Richards solfége and rhythm syllable charts by the time I was in fourth grade, while the singing games, dramatizations, and playing of instruments continued. During my high school years, she began to talk about the Orff approach to teaching music. She attended all of the TMEA workshops she could find on the subject.

When I entered college, I began accompanying Mother on those trips to TMEA. We attended sessions together, but they were out of context for me. When I began teaching elementary music, I did the best I could with the resources I had, but by my third year of teaching, I was dreaming of a new career as a travel agent!

Sometime that spring, just after the death of my father in January 1986, my mother said, "Let's take the Orff Level I class together." I wasn't particularly fond of the idea of giving up two weeks of my summer, but my dad had just died, and my mother asked. We attended Level I with Avon Gillespie and Rick Layton that summer and Level II the subsequent summer. In 1991, she said, "Let's go to the AOSA conference in San Diego!" and that began our foray into national conferences. The last conference she attended with me was the first one where I presented a session—1998 in Tampa. By that time, I was hooked on learning and on Orff Schulwerk. My life was changed forever, and my students' musical experiences were much the better for it.

Once you have experienced learning through Orff Schulwerk, you want more—no matter how much teaching experience you have, and no matter what your age. Orff Schulwerk teachers seek out professional development opportunities for at least three reasons.

1. For our own musical, pedagogical, intellectual, and aesthetic nourishment. Professional development keeps us fresh, interested and motivated to teach. After completing Level I of Orff Schulwerk teacher education, I noticed a distinct change, not only in my teaching, but also in the children's attitudes toward music class. I was excited about the music I had to share with them, and my excitement was contagious!

2. For the benefit of the students. As I became more experienced at teaching, I learned that my students would rise to higher levels of musicianship if I led them there. This meant that my understanding of concepts or theories had to be at least a few steps beyond where I wanted theirs to be. It wasn't until I finished Level III that I truly began to assimilate the Orff process and was able to devise a curriculum with an age-appropriate sequence for my students. Orff Schulwerk workshops and conferences were additional incentives, which provided perspectives of presenters from other traditions and countries, introducing me to different dimensions of Orff Schulwerk.

3. To lend professional credibility to the field of music education. As music educators, we constantly struggle with convincing the general public that what we do is valid. If we want to be treated as professionals, we must present ourselves as professionals who continue to learn. We can stay current with educational and musical trends by obtaining professional development in areas such as arts integration, children's literature, research, technology, urban education, and world music—topics that are offered at the AOSA Professional Development Conference in Milwaukee.

My mother was a church musician, a leader in her teachers' sorority, and an avid reader until the end of her life in 2004. She worked the *New York Times* Crossword Puzzle every day, had a computer, used the Internet and e-mail, and would have followed the last presidential election with great interest and delight. Martha Scott, lifelong learner and Orff Schulwerk enthusiast, would have turned 80 years old this November 8. And I have no doubt that she would have celebrated, in part, with a trip to Milwaukee to the AOSA Professional Development Conference.

I want to thank my mother for leading me, by example, to be a lifelong learner and for leading me to Orff Schulwerk. With love from her daughter Julie, president of the American Orff-Schulwerk Association. ■

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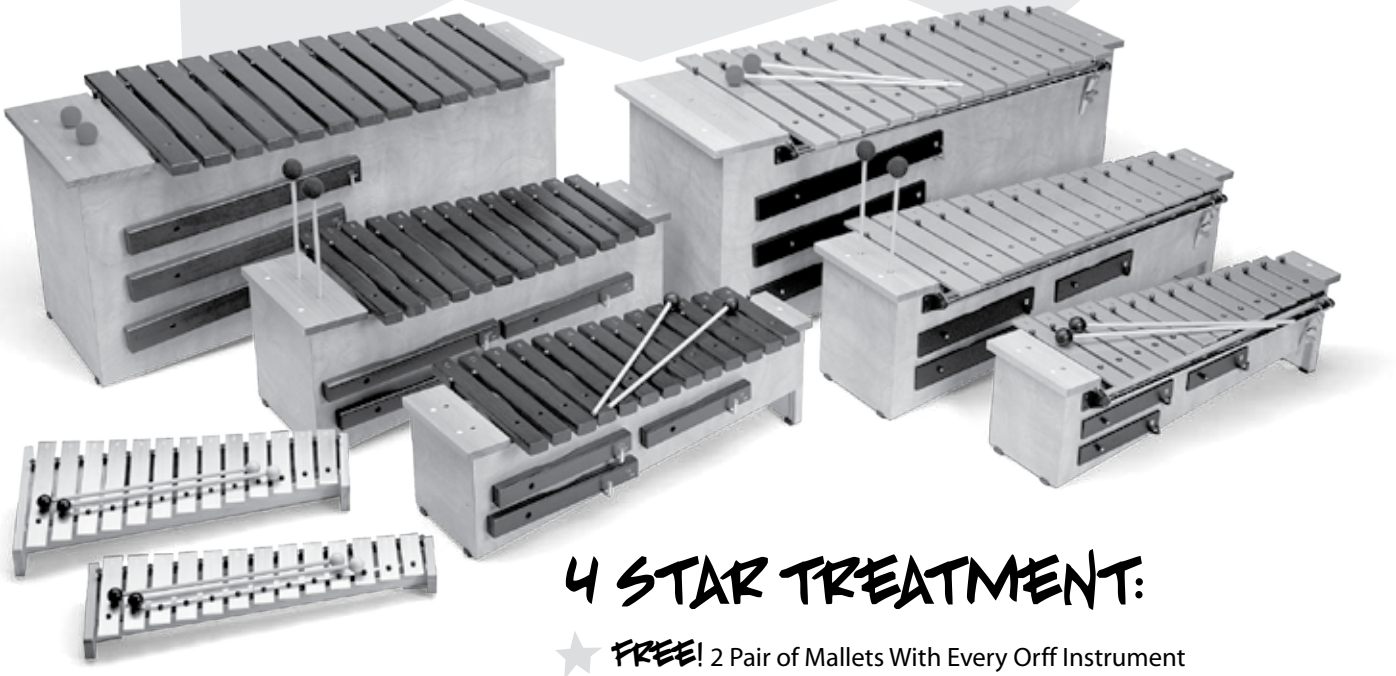

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Music Technology as a Servant to Real Music Experience

BY PETER R. WEBSTER

At a recent music education meeting in the Chicago area, I had the pleasure of talking with a number of elementary general music teachers about curriculum. Most were certified Orff teachers or used many Orff principles in their teaching. When I explained that my research at the university often involved creative thinking in music with children, it began a lively exchange about what imaginative thinking is in music and how best to encourage it in our teaching. We talked about the importance of student-centered learning and the power that comes from having children construct their knowledge by experimenting with sounds, both playing and singing. We also all agreed that the teacher is the key to knowing when to allow this kind of exploration and when to teach knowledge and skills more directly, so that the children have something credible with which to be creative. All the teachers around the table valued composition and improvisation, and we had great fun talking about the challenges and the many rewards that come from placing an emphasis on these areas in making music happen with kids.

However, when I started talking about how excited I was with some of the latest advances in music technology that support this approach—especially some of the free and very inexpensive software that is readily available—the conversation became far less animated. In fact, things seemed to grind to a halt. My sense was that many of the teachers all used computers in their personal and professional work administratively, but few had chosen to actually engage such technology in their teaching with children. One person, commented that "… kids have enough of this at home and other places. I have so little time with them. I want music to happen, not computers."

Our use of these computer resources as partners to what we believe is perhaps vital in reaching the children of today.

I was stunned. But later, after thinking about this, I realized that I shouldn't be. Time *is* precious in teaching and making music *should* be the focus of what teachers do. My passion for technology in the classroom needs to be tempered with the realization that music experience and sound should be the focus. Perhaps there are ways to use technology to genuinely support the music experience.

GROUND RULES

Let's begin with some assumptions.

- **First and foremost, music time with children in school should be about making or learning about music.** This means that music performance with instruments, singing, listening, and moving to music, and perhaps some group work in composition and improvisation are central and will occupy most of the instructional time.
- **Teaching music to children is a blend of teacher-directed content and child-centered exploration.** Research has shown that kids often learn best when they work on projects, either singularly or jointly with their classmates—especially in settings where the teacher has established clear boundaries and the tasks are understood by the children.
- **Technology is not the point.** Music is the point. However, wise use of technology can enhance musical understanding in service to the first two bullet points above. For example, if the teaching goal is to experience how a changing music texture (e.g., from monophonic to more polyphonic and complex textures) can effect the felt experience of the music, teacher-directed performance of a piece of music that is built this way can occupy the majority, if not all, of instructional time. However, having children work with a simple music sequencing program or online music notation program to create something similar makes sense as a powerful extension, especially if they can do this outside of the required music instructional time.
- **Most children are very comfortable with using computers and software to make things or using the Internet to help find the answers to problems.** For those of us over forty years of age, we remember how comfortable we might have been experimenting with reel- to-reel tape—splicing, and recording sound pieces. Perhaps, too, you will remember how our teachers might have learned how to do this from our energy and encouragement. Children today do not understand a world without YouTube, iPods, Internet, and instant access to media of many kinds. Our use of these resources as partners to what we believe is perhaps vital in reaching the children of today. We have a professional obligation to understand

Criteria for Software Selection

OVERALL INSTRUCTIONAL DESIGN

- Program objectives are clear and suitable for target audience.
- Program content evidences and reinforces good musicianship.
- Prerequisites for program use are reasonable and required tutorial information is provided.
- The range of content and difficulty levels are sufficient to provide scope.
- User can control the presentation rate, sequence, and overall content (if appropriate).
- Program is designed to intelligently and sensitively respond to user responses (if appropriate).
- Feedback or other approaches to interaction seem appropriate and well designed.
- Concern for different learning styles is evident.
- Transfer or combination of music concepts is encouraged.
- Instructor management features provided for customizing, record keeping, and the like.
- Standards: instructional content fits within the national, state, or regional music standards in terms of the intended audience, the music skills reinforced, and the age group served.

INTERFACE AND TECHNICAL DESIGN

- Screens are well-balanced and free of unnecessary clutter and text.
- Text is free of spelling and grammatical errors and is appropriate for age level.
- Menus, menu items, and dialog boxes are logical and consistent with expectations.
- Method of input is clear and uncomplicated, avoiding unnecessary typing or mouse gestures.
- Appropriate use is made of graphics and text to supplement music experience.
- Variety of sound sources are offered and these sources are of the highest music quality.
- Required response is musical or consistent with music experience.
- User feels in control of the interface (knows how to leave the program or move elsewhere).
- Program is designed so that incorrect or unexpected responses will not "crash" the computer.
- Program executes quickly with no awkward time delays.
- Setup of hardware for sound and MIDI options is easy to implement.

DOCUMENTATION AND SUPPORT (ELECTRONIC OR PAPER)

- Manual has clear instructions for installation, including list of minimum hardware requirements.
- Manual contains an explanation of program features, options, and overall use.
- Program has online help.
- Publisher provides information on licensing and product support in case of problems. Publisher provides notification of upgrade.

these technologies—their strengths and limitations for learning.

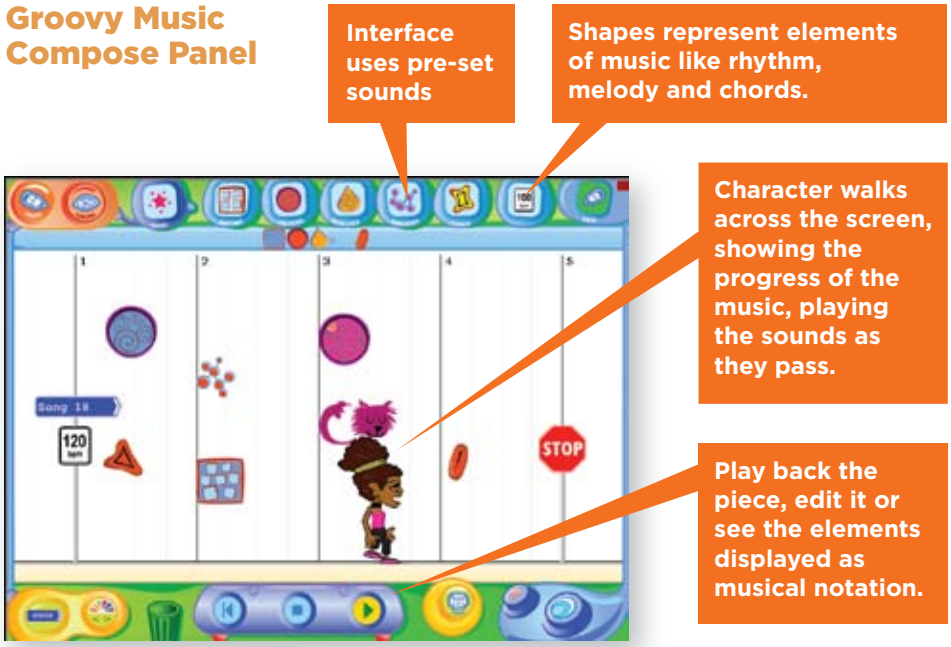
- **Our strategies in using computers and music software in schools is not too different from our use of Orff instruments or a CD player or iPod.** These material objects are not what defines us as music teachers and musicians. Our children understand this because, at the end of the day, it is not the objects that last; it is the resulting experience that is the focus of our teaching that lasts—or at least should.

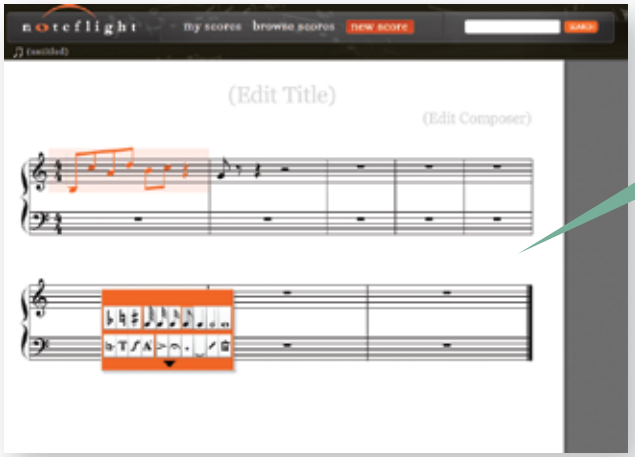
SIX WAYS TO USE MUSIC TECHNOLOGY WITHOUT THREATENING MUSIC CLASS TIME

Here are specific ways to consider using music technology while spending most or all of your time with your standard music curriculum. Examples below include some of the software titles that I have seen teachers use very effectively in and outside of class. All of the software runs on both Macintosh and Windows operating systems unless otherwise indicated. You do not need a fancy music keyboard to use any of these titles unless you want to. All of the titles are either free or are about $50 or less, and discounts are always possible for quantity purchases. For more information on these titles and others (see www.teachmusictech.com/music_software_list.html).

Projects outside of music class. Most schools have learning centers that have computers. Math, science, English, and other subject-area teachers use resources in these centers routinely to support their teaching. Why not music? Consider a program like Harmonic Vision's *Music Ace Maestro* or Sibelius' *Groovy Music* series. Each program is designed to teach music fundamentals while providing creative ways to write music. Imagine working with your students in class on topics like dotted rhythms or syncopation and then assigning an out-of-class exercise using this software in the media center. Each program can be easily purchased by parents, too, for continued work at home. I especially like each of these programs because music skills are ac-

Groovy Music Compose Panel





Noteflight

Displays, edits, prints and plays back music notation in any standard web browser. Users can create scores, choose to share them with others, or publish them to an online database.

companied by a chance for children to make their own compositions that show that they understand the music concepts being taught!

Online assignments for homework. Most students have access to the Internet outside of class time, either at home, at a public library, or in a media center. How about a simple music notation assignment using the free, online application called *NoteFlight* (http://www.noteflight.com/info/learn_more)? If one of your teaching objectives is learning traditional music notation, *NoteFlight* might be a perfect way to have your students create some music of their own or notate music of others without taking valuable time away from class. Other outstanding places for online music teaching support is the New York Philharmonic's KidsZone (www.nyphilkids.org/main.phtml) or the Dallas Symphony's DSOKids (www.dsokids.com/2001/rooms/DSO_Intro.html). Children can work in teams to satisfy a number of innovative assignments that support your class work.

By the way, while you are online exploring resources for your students, check out the support pages at the Kennedy Center's ArtsEdge (http://artsedge.kennedy-center.org/). This is a wonderful collection of links and ideas for you and your students. There is so much online now that can be used in important ways to support what you do in the classroom.

After-school composition or improvisation clubs. Saturday morning garage bands occur frequently in today's high school student culture. In preparation for this, how about some opportunities for children in elementary school to learn to think in sound with composition and improvisation experiences in after-school settings? Consider starting a composition club one day per week that meets in the learning center and works with Apple's *GarageBand* (Mac) or Sony's *ACID MusicStudio* (Windows). Each program has recording capabilities, built-in loops of previously created music, and ways to play music into the program from attached music keyboards. This might require some teacher-time to organize, but it would not take long for students to gain confidence in working on their music on their own both in and outside of school. There may be a parent with music knowledge who could also serve as a teacher's aid to help extend your curriculum.

PG Music's *Band-in-a-Box* provides wonderful opportunities for children to use the computer as a kind of backup band while they improvise on either a classroom instrument or an attached music keyboard. Choose a standard song and put in the chord changes. The software provides accompaniment based on the chord changes in many musical styles. Flexibility for tempo and key choices make the program very flexible, and students can play along and improvise a bit as they get more comfortable with the music. Improvisations can be recorded and presented to the whole class at an appropriate time. All of this can be done in an after-school setting or introduced into the classroom or ensemble at times that make sense.

Using technology yourself as a teaching tool. It is so thrilling when we use teaching aids in such a way that they melt into the background and are ignored, with the real experience of the content rising to the surface. When teaching about melody and harmony or possibly form, instead of drawing graphic notation on the board, think about using a computer with a program like Morton Subotnick's *Making Music* or *Making More Music*. You can use a portion of *Making Music* online (http://www.creatingmusic.com/) interactively

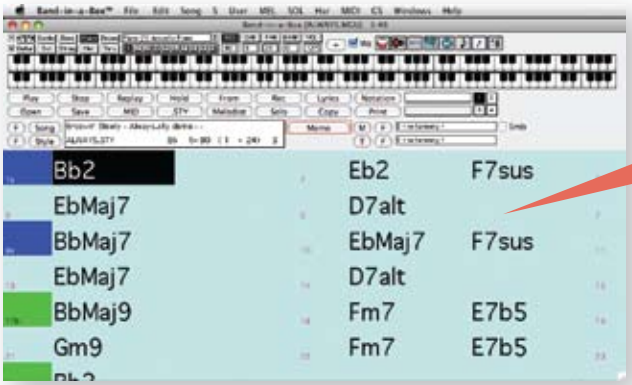
in the classroom or order CDs for the more complete programs. Subotnick offers other interesting and very musical programs online as well, including *Hearing Music* and *Playing Music*. These programs let you draw musical gestures to demonstrate how music is constructed and allow much flexibility in teaching about timbre, key, scales, augmentation, and inversion. In these cases, you are devoting class time to teaching music and simply using the technology to do what you normally do better. The technology floats to the background and simply is a means to better music teaching.

Music learning centers. Another way to integrate technology into your classroom in powerful ways without interfering greatly with your curriculum is to consider establishing a small music learning center in a corner of your room that can be visited by children on a rotating basis. A music listening program like *Sibelius Instruments* that explores the instruments of the orchestra and band might be a nice program to include in the center. It features many audio clips of both instruments singly and in the context of real musical examples drawn from the standard repertoire. While you are teaching the large class, students can take turns visiting the learning center in your room to work with this or other programs that you might choose to install. Again, children can work in teams with a single computer.

Recording concerts. Kids love to be technologists. Remember the days of the AV Club? How about using the advances in music recording technology by having a team of kids record a public concert or school assembly. Set up a computer with a quality microphone attached (or maybe more than one microphone), and use the *Audacity* software to record and then edit a concert performance. Have the students become the sound engineers, and use the software to help teach digital audio editing and post processing sound effects. Use Apple's *iTunes* to create a CD for parents or post the music on the school's Web site. All of this needs a bit of teacher help, of course, but you will be amazed at how quickly your students will gain the requisite skills on their own to do this and how eager they will be to teach others what they know. This would be a great project, too, for a student teacher to help guide, since most music education preparatory programs today have music technology expectations for new teachers.

Garage Band

Band in a Box



WHAT TO DO NEXT

As I think about my conversation with the Chicago teachers, I should have described to them some of the possibilities above. The most important thing to remember is that good music technology experiences start with a strong philosophy of music teaching. Music itself is the focus, and the technology simply supports it. Success comes from matching your teaching with what appeals to you. Summer is a great time to explore the Internet, take a class at a local college, or visit a local music store. Try some of this software on your own and think creatively about how to match it to your teaching strategies in ways that make sense.

In the sidebars that accompany this article, I have included a chart of criteria that might guide you in selecting software.

One final point: Using computers and software in instruction is not trouble-free, and at times there are frustrations. But I can promise you that the technology has never been more stable and the rewards that can come from pairing some of the best software with your fine music teaching can be enormous for your students. ■

Peter Webster *is the John Beattie Professor of Music Education and Technology at the Bienen School of Music at Northwestern University in Evanston, Illinois. He is co-author of* Experiencing Music Technology, 3rd edition *(Schirmer Cengage Learning, 2008).*

Carl Orff and Technology

BY PAMELA STOVER

Carl Orff and technology? Is this combination like oil and vinegar, repelling each other at the molecular level, or do they mix to make a great vinaigrette? Orff was well known for his penchant for Monteverdi, Bavarian Fairy Tales, antique instruments, the tragedies of the ancient Greeks, and other historical icons. His compositional style, however new, was influenced by these antique elements. Although Orff was steeped in the historical, he embraced the modern technology of his time for communication, as tools for composition, and as a means to promote the Orff Schulwerk.

COMMUNICATION VIA TECHNOLOGY

One of the most common uses of technology for Carl Orff was for communication. The typewriter, telephone, and telegraph were the communication technologies of Orff's time.

Typewriter: Although Orff did not know how to type, he owned a typewriter. Since he had florid, yet nearly illegible, handwriting, he hired a secretary or had letters typed by his girlfriends or one of his two wives. Gertrud Orff took care of the typing and business correspondence during their marriage, and Liselotte Orff was his secretary prior to their marriage. After their marriage, she continued to manage his correspondence. In reviewing Orff's correspondence of the 1920s and 1930s, it is obvious when Orff had a different typist, as the margins, spelling, and grammar are different. Furthermore, Gunild Keetman did not own a typewriter, and used the Orff family typewriter for some of her business correspondence, often typed by Gertrud or Liselotte Orff or Orff's secretary.

Telephone: There is little written evidence of Orff using the telephone, although he had one. One post-World War II use of the telephone was the mention of the phone call in 1948 from officials at the Bavarian Radio station requesting his services to produce educational radio broadcasts. It was difficult to use the telephone during World War II in Germany, and Carl and Gertrud Orff used carrier pigeons to communicate between their home in Gräfelfing and an apartment in Munich. One entry in Gertrud Orff's diary states, "the bird came today, Orff stays in Munich."

Telegraph: This was a popular and quick form of communication for long-distance short messages. There are many congratulatory telegrams sent to Orff that are archived as well as a jubilant telegram announcing that Keetman was convinced to accompany Orff to teach at the Toronto international course in 1962.

Orff's use of technology for communication was important in arranging publishing contracts and performances, and coordinating publicity. In addition, he used the technology of his time in the publication of his compositions.

TECHNOLOGY AND THE COMPOSITIONAL PROCESS

When thinking of historical or modern technology used in composition, one must consider the time before musical notation computer programs and desktop publishing. Getting a composition ready for publication was a long, tedious affair. Often, Orff called in his friends and colleagues to copy (by hand) parts or scores when he was preparing music for the publisher and time was short. It was a common practice at the time for composers to hire a copyist to prepare a clean copy for the publisher to typeset.

THE FOUR Ps: PENCIL, PAPER, PRINTING PRESS, AND PEN

Now let us journey to the time of early inventions that Orff used in composing—paper (105), pencil (1565) printing press (1455), and the pen (1884). An examination of autograph scores archived at the Bavarian State Library and the Orff Center-Munich reveals that Orff used pencil and pen on staff paper when composing drafts, and what appears to be either a fountain pen or ballpoint pen in edited drafts. The ballpoint pen was invented in 1938 and was not used as much as the fountain or calligraphy pens by Orff. Keetman more often used pencil, including red pencil as well as red, black, or blue pen in her writing. Orff would use either a blue or graphite pencil edit and leave comments on Keetman's arrangements for the radio broadcasts and *Musik für Kinder*.

The hardships of raging inflation in pre-World War II Germany and lack of materials during the war itself are shown in some of Orff's correspondence to his publisher asking for staff paper so that he could compose. Schott did not always comply with his repeated requests, but frequently told him to buy his own staff paper at the local music store. Often, sketches for different themes or even different compositions are found on draft copies for both Orff and Keetman.

Once the composition was finished, it needed to be prepared for publication. Once the clean copy was prepared by Orff or a copyist, the composition needed to be copied and sent via mail to Schott. Making copies today is as simple as hitting the "print" icon on a computer or running the composition through a photocopier. In Orff's time, however, making copies was a complicated process. There is mention in

Gertrud Orff's diary of making photostatic copies of scores when they were in the publication process. These were not photostatic copies from a modern copy machine, but were actual photographs of the scores on photosensitive paper, rather than regular glossy photo papers. There were other traditional score preparations used, such as blueline copies on vellum or regular paper using the same process as creating architectural blueprints (1870s). There were also galley proofs that look like "x-ray" photostats where the background is black and the notation is white (1907).

A private photograph of Gunild Keetman, taken by her brother Peter, offers historical evidence that these "x-ray" photostats were used in the publication of *Musik für Kinder*. Keetman is relaxed and sitting on a patio in summer clothes including sunglasses with a stack of "x-ray" sheets to one of the *Musik für Kinder* volumes in her lap.

The Schulwerk parts and the performers' parts for the music for the 1936 Berlin Olympics would have especially benefited from today's "cut and paste" computer technology. The part folders from the Olympics were most likely in the performers' own handwriting and consisted of strips of staff paper labeled with the name of the piece and whether it was the A, B, or C theme. There was usually a little note indicating the form of the piece, but the performers were not playing off of a professionally published clean single sheet of music. The elemental forms of the Schulwerk were particularly evident in these scores.

It is also interesting to note that on the "blue copy" of Volume I of *Musik für Kinder*, the title page lists only Gunild Keetman as the composer, which is fairly accurate as the majority of Volume I came from her orchestrations from the 1948 radio broadcasts. This authorship is crossed out and edited to show "Carl Orff—Gunild Keetman."

It was important to Orff to use photographs, and all kinds of audio-visual media in disseminating information about his stage works and the Orff-Schulwerk.

TECHNOLOGY TO PROMOTE THE ORFF-SCHULWERK

Orff embraced the technology of his time especially in promoting the Orff-Schulwerk. It was important to Orff to use photographs, and all kinds of audio-visual media in disseminating information about his stage works and the Orff-Schulwerk. Various means of transportation also cannot be overlooked as a means for spreading the seeds of the Orff-Schulwerk worldwide.

Print media in magazine and newspaper articles were used in addition to advertising flyers from Schott in promoting Orff's compositions. In post-WWII, Gunild Keetman's brother, Peter, took many pictures of the Orff Schulwerk process, both for publicity and for publication. The 1975 collection from Suse Böhm's dance studio was even made into a lovely picture book.[1]

Audio technology was embraced in many venues, including the 1936 Berlin Olympics where microphones (1827) and loudspeakers (1924) were used to amplify the sound of the small Orff Schulwerk orchestra from the Güntherschule for the outdoor pageant following the Opening Ceremonies. What may have been the first Orff Schulwerk recordings were also pressed in conjunction with the Berlin Olympics. Rehearsal recordings were pressed on 78s and later sold to the public.

It was this recording of the music for the Olympics that lead to the Bavarian Radio's interest in the Schulfunk *Wir Singen und Musizieren: Das Orffsche Schulwerk* broadcasts in 1948. Orff was a familiar face at the Bavarian Radio, as he supervised many recordings and broadcasts of both his stage works and the Schulwerk. Later radio broadcasts by Keetman and Willibald Götze, Keetman and Ludwig Wismeyer, and Hermann Regner also promoted the Schulwerk.

After the publication of *Musik für Kinder*, LPs (1947) were pressed using the German version (1956) and the English version (1957). These recordings were called Musica Poetica and were the first extensive recordings of the Orff Schulwerk to be made commercially available. The German version by Harmonia Mundi contained ten LPs with extensive liner notes in German, English, and French.

Video technology was also used to showcase German engineering at the Berlin Olympics. There were actually television broadcasts on the Olympic grounds. Film-maker Leni Riefenstahl shot footage for newsreels and for a two-part feature film Olympia.[2] There were other films of the Orff Schulwerk including Orff-Schulwerk: *Musik für Kinder* (1954), *Japan-Schulwerk Film* (1962), and a nine-part *Mit Xylophone und Fantastie* (1982) series of international films with personnel from the Orff Institute in conjuction with the Göthe Institute. These films featured the Orff Schulwerkat the Orff Institute as well as the Schulwerk in Greece, Spain, Thailand, Japan, Argentina, Ghana, Indonesia, Korea, Mexico, Canada, and the United States.

From 1957–1960, Gunild Keetman and Godela Orff (Carl Orff's daughter) produced an eighteen-part television series called *Kinder Musizieren*. The television broadcasts were a great improvement over the 1948 radio broad-

[1] Böhm, Suse. *Spiele mit dem Orff-Schulwerk: Elementare Musik und Bewegung für Kinder.* Stuttgart: Matzler, 1975 (Photographs by Peter Keetman).

[2] The first part was titled "Festival of the People" and the second "Festival of Beauty."

casts, in that the movement element of the Orff Schulwerk could be featured. Dancers from Suse Böhm's studio joined Keetman's Orff Schulwerk students, especially in the grand-finale piece that used drama and movement.

The spread of the Orff Schulwerk was certainly hastened with the advent of commercial jet travel in 1952. Prior to this time, people would take ships for trans-Atlantic journeys. In 1962, Orff, Keetman, and others from the Orff Institute took jets to give workshops in Toronto, Canada, and then Tokyo, Japan. This trip to Toronto was Orff's only journey to North America. With the advent of air travel, it became much easier to study at the Orff Institute for teachers and students from many countries. This ease of travel, compared to steamer and train, certainly helped accelerate the international adaption of the Orff Schulwerk.

TODAY'S CONTINUATION OF TECHNOLOGY WITH THE ORFF-SCHULWERK

It is clear that Orff embraced the technology of his time in order to promote the Schulwerk. But what would he think of today's technology? The literal cutting and pasting of strips of music indicate that Orff, or more likely his copyists, may have enjoyed using today's MIDI computer technology and notation software. It would have been much easier to write out ostinati as well as scores and performers parts.

Orff would also probably have enjoyed using videotapes, DVDs, CDs, CDRoms, MP3, and iPods. He listened to music using the technology of his time, and recorded his music so that others could listen to it. The newer formats and quicker dispersal would have undoubtedly been attractive to Orff.

Since Orff did not know how to type, one can only imagine whether he would have used e-mail or participated in Orff Schulwerk listservs, such as the Yahoo groups "Music for Children" list. One can only imagine him dictating an e-mail message to his secretary. Though certainly, the instant communication with people world-wide would likely have had great appeal to him.

Note that Orff would certainly not approve of the easy and illegal copies of his printed or recorded music. During his lifetime, he was extremely protective of his copyrights, and Schott publishing continues that sentiment today. Orff would surely be saddened by the cut in his income from music piracy that is facilitated by modern-day technologies.

History reveals that Orff and technology were not like oil and vinegar, but like a tasty vinaigrette, dressing a music and movement salad known as the Orff Schulwerk. ■

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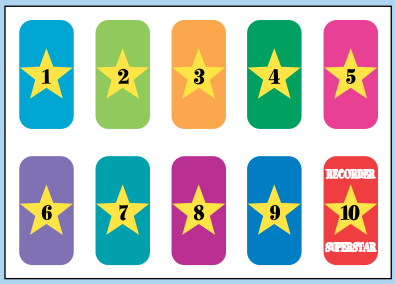

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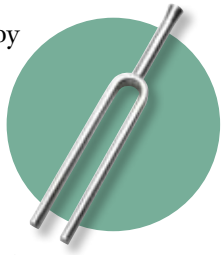
It Was a Very Good Year

A Timeline of Inventions, Innovations, and Educational Technology

COMPILED BY PAMELA STOVER

Technology—it's not always new. In fact, sometimes it is very old. Sometimes it is hard to imagine life without our modern technology. This timeline of inventions, innovations, and educational technology will help you imagine what schools and life were like in Orff's time and before. For instance, in publishing, Orff often referred to the "blue copies" from Schott (see 1870s) or the Photostat copies that made an "x-ray" black copy (1907). Where would we be today without paper (105), pencils (1565), television (1925), ballpoint pens (1938), word-processors (1972), or the iPod (2001)? And how many of you remember the lovely aroma and blue-ink stains from the Ditto machine (1924), being chosen to turn the film strip projector at the "Ding" (1960s), or using record albums (1947) or cassettes (1962) in your teaching?

105 Paper invented in China
1045 Movable type printing by Bi Sheng in China
1400 Spinet piano
1455 Gutenberg printing press with metal movable type
1486 First known copyright granted in Venice
1487 Bell chimes
1565 Graphite pencil by Conrad Gesner
1650s "Magic Lantern" projector for "Lantern Slides"
1709 Bartolomeo Cristofori invents the piano
1711 Tuning fork by John Shore in England



1799 Froudrinier Machine for making sheets of paper invented by Louis Robert
1800 Battery by Count Alessandro Volta
1801 Blackboard chalk becomes common in the classroom
1806 Carbon paper
1809 Arc lamp/electric light by Humphrey Davy
1812 Metronome
1814 First photograph using a camera obscura; took eight hours to take by Joseph Nicéphore Niépce
1827 "Microphone" coined by Charles Wheatstone
1829 Typographer (an early typewriter) by William Austin Burt in the United States
1843 Facsimile by Alexander Bain in Scotland
1853 Chalkboard and eraser used widely in schools and the "Vertical Lantern," a forerunner of the overhead projector by Edmund Becquerel

1858 Pencils with erasers
1863 Player piano
1861 Stereoscope viewer by Oliver Wendell Holmes
1867 Modern typewriter by Christopher Scholes
1870s Blueprint photographic process
1875 Mimeograph by Thomas Edison
1876 Telephone by Alexander Graham Bell and hectograph duplicating system using a tray of gelatin for making copies
1877 Cylinder phonograph (tin foil) by Thomas Edison. Moving pictures by Eadweard Muybridge. Stapler, and loudspeaker patented by Ernst Siemens (Germany) and Sir Oliver Lodge (England)
1881 Automatic player piano by Edward Leveaux, lateral-cut records by Charles Tainter and music broadcast from the Paris Opera by Clement Ader using 80 telephones
1884 Fountain pen by Lewis Edson Waterman and mimeograph machine by Albert Blake Dick
1885 Graphophone (wax cylandars) by Chichester Bell and Charles Tainter
1887 Gramophone (non-wax lateral cut discs) by Emile Berliner

1890 Coin-operated cylinder phonograph "juke box" by Louis Glass in San Francisco
1892 "After the Ball" was first million-selling song via sheet music
1894 Forerunner of the radio by Marconi
1895 Portable motion picture camera, film-processing unit, and Cinematographe projector and show the first projected motion picture to an audience by the Lumiere Brothers
1898 "Telegraphone" magnetic recorder by Valdemar Pousen in Denmark and rotary stencil duplicator
1899 Paperclip
1900 Kodak Brownie, first mass-marketed camera
1901 Radio transmission

1903 Crayons by Edward Binney and Harold Smith
1906 Radio broadcast using the human voice and music, Brandt Rock, Massachusetts
1907 Color photography by Auguste and Louis Lumiere. Rectigraph and Photostat—camera-based photocopying machines (the first print taken was a "black print")
1908 John Lomax recordings for the Library of Congress began with "Home on the Range" on an Edison cylinder as sung by a black saloon keeper in San Antonio
1910 Talking motion picture by Thomas Edison, instructional films, and Ditto gelatin duplicating machines
1912 Motorized movie cameras
1916 Radio tuners, allowing for different stations received from one radio
1919 Shortwave radio
1921 School paste by H.B. Fuller
1923 Television or cathode-ray tube iconoscope by Vladimir Kosma Zworykin
1924 Dynamic loudspeaker by Chester W. Rice and Edward Washburn Kellogg, and spirit duplicating machine using "Ditto Masters" by the Ditto company
1925 Mechanical television by John Logie Baird
1927 Complete electronic television system by Philo Taylor Farnsworth, Technicolor and Blue-Bird yellow school buses

1928 Car radio by Paul Galvin in America
1930 Analog computer by Vannevar Bush at MIT, Scotch Tape by Richard Drew, and "Dick and Jane" readers
1931 Magnetic tape recorders by Fritz Pfleumer in Germany
1933 FM radio by Edwin Howard Armstrong and stereo records
1934 Tape recorder for broadcasting and first magnetic recording by Joseph Begun and Musak sold recorded music on three channels to homes in Cleveland
1935 "Magnetophone" (magnetic tape recorder) demonstrated at Berlin Radio Fair

1937 Photocopier by Chester F. Carlson
1938 Ballpoint pen by Ladislo Biro
1940 Modern color television by Peter Goldmark
1941 "Z3" first computer controlled by software by Konrad Zuse
1942 Electronic digital computer by John Atanasoff and Clifford Berry
1947 33⅓ LP developed by Peter Goldmark, Elmer's Glue
1948 Wurlitzer jukebox by Robert Hope-Jones and cable TV

1949 45 rpm vinylite recordings by RCA
1951 Video tape recorder by Charles Ginsburg
1951 First color television broadcast
1952 Magic Markers and transistor radio by Sony
1953 Musical synthesizer by RCA
1956 Computer hard disk
1957 Launch of Sputnik—the first artificial earth satellite and digital synthesis with Music I and II programs in Bell Labs by Max Matthews
1958 Computer modem
1959 Microchip by Jack Kilby and Robert Noyce and a practical photocopier based on xerography
1960 PLATO Computer assisted instruction system at the University of Illinois; overhead projector, film strip projectors, and film projectors common in schools
1961 Stereo FM radio broadcasts and carousel slide projector
1962 Audio cassette
1963 Video Disk
1964 Moog synthesizer prototype by Herbert Deutsch and Robert A. Moog
1965 Compact disc and soundless Super 8 film for home movies
1966 8-track tapes
1970 Daisy wheel printer and floppy disk
1971 Dot matrix printer, VCR, and e-mail program
1972 Word processor
1973 Cellular telephone by Martin Cooper of Motorola, and sound added to Super 8 home movies
1975 Laser printer, and digital recordings via Sony Betamax
1976 Ink-jet printer
1977 Apple II personal computer, VHS format for videotapes, Synclavier music sampling instrument, and Sony PCM-1—a commercial digital audio recording system
1979 Sony Walkman
1981 MS-DOS and IBM-PC, MIDI
1983 Apple "Lisa," CD player, Yamaha DX7 digital keyboard, and camcorders
1984 CDRom and Apple Macintosh
1987 DAT recorders
1989 High-definition television and digital cameras
1990 Powerpoint, World Wide Web and http, and HTML by Tim Berners-Lee
1994 Palm Pilot
1995 DVD
1998 Smart Boards and Blackberry 850
2001 iPod
2005 YouTube

SOURCES:

http://inventors.about.com/od/timelines/Timelines_of_Invention_and_Technology.htm
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Pause and Consider: Electronic Technology and Orff Schulwerk

BY DOUG GOODKIN

Without a doubt, electronic technologies have changed our world. Think of the distance traveled from Alexander Graham Bell's first phone call to the iPhone, from Edison's first scratchy recordings to today's digital wonders, from the old flickering silent movies to the IMAX theater. Speed, accessibility, size, sharper images, clearer sounds, and step-by-step enlarging of our visual and sonic worlds accessible through increasingly smaller devices—these are all truly miraculous achievements.

Like everyone these days, technology has changed my life. I started using the notation software Sibelius a few years ago. Having my scores neatly organized has spared me the frustration of rifling through my chaotic paper files. It's exciting to hear the arrangement played and get instant feedback on my mistakes. The ability to transpose at a flick of a button is a modern miracle. I was the first on my block to get an iPod and just in time—if I was still carrying those books of CDs to workshops, I'd go over the new weight restrictions for airplane luggage. Occasionally, I confess, I don't go to my local shop and buy an entire CD when I can get the single tune I want at the iTunes store. And it's nice to make my playlist for my eighth-grade listening class and not change CDs or fast-forward through cassette tapes. YouTube is a constant marvel, awakening a neo-oral culture by showing all the dances, body percussion, and live music that just can't be captured in print. No more trips to the video store to buy *Singing in the Rain* and fast-forwarding to just the right spot to show the "Moses Supposes" song and dance—just type it in on YouTube and you get instant gratification. This site houses not just great classic clips, but also dances, worldwide comedy sketches, and amazing home videos.

Remembering that time is short, think long and hard before exchanging the chance to sing "We Shall Overcome" for a snazzy piece of music software.

Sometimes these technologies enter my classroom in unexpected ways. Recently, I was playing a Ghanaian game with fourth graders in which they needed to know which day of the week they were born. Nobody did, so I got out the laptop and Googled (our culture's new favorite verb!) "Calendar 1998/99." They told me their birthday, I told them their birth day, and now we were ready to play the game. When the sixth grader who wanted to try the tune he learned on the xylophone on his violin gave me his e-mail address, I sent the Sibelius file and— voila!—he's practicing at home while I write. Then there's arranging Orff workshops through e-mail, advertising courses through Web sites, booking planes quickly online, group e-mail discussions about Levels Training, and writing articles and books. Oh, did I mention the small digital camera that also shoots video so I can quickly record that clapping play the kids in Buenos Aires showed me, bring it back to the kids, and show it to them on the LCD projector? It's a glorious new world out there—and I haven't said anything about synthesizers or music software and composition programs or—well, before I finish the sentence, something new has probably been invented.

None of these technological tools existed in Carl Orff's time. Most of them were barely around five years ago. And so with this rapidly shifting technology, the question of its impact deserves to be asked—how has all of this improved my Orff music program? And the perhaps surprising answer: hardly at all—except in an unexpected kind of way. I now feel more committed than ever to use as little of these technologies as possible in my classroom and continue to work directly with the body, the voice, simple materials, the unmediated imagination, and a circle of engaged children sitting barefoot on the floor. Ever since the practice of Orff Schulwerk captured me in its magical web and turned me back to my own physical, emotional, and imaginative capabilities—all of which had been severely neglected in my own schooling—I've been trying to articulate what precisely is so engaging

about it, what sets it apart from other ways of being in this world, and what is worth considering in order to preserve its gifts. The question of electronic technology's role in Orff practice is best asked within this larger context.

THE HEART OF ORFF PRACTICE

Our three great learning tools are the body, heart, and mind. They always have been and they always will be. The body can be trained for elegance, grace, control and power, the heart for compassion, nuanced emotion and love, the mind for intuition, intellect and imagination. That's the business of a thorough education and one that Orff Schulwerk contributes to significantly. Let's look at each one separately:

Body. Music and dance, the center of the Schulwerk's concerns, are body-based disciplines of the highest order. The body becomes both an instrument of knowledge and a vehicle for expression. In Orff classes, patterns are mapped on the body through body percussion, movement, and gesture. Geometry is made concrete, physical, and visible through games and folk dances. Raw expression, inevitable in children, is cooked slowly through guided movement exploration, refined and controlled. The children's always-busy hands and extravagant sensual entanglement with the world are given focus and aimed toward expressive control. Percussion instruments train the hands in a variety of motions lost in our button-pushing world—think of the diverse technique of guiros, afuches, shakers, whip-sticks, spoons, frame drums, tambourines, congas, and xylophones, and you'll get a feeling for how the vocabulary of the hand is significantly enlarged. As Frank Wilson so eloquently describes in his book, The Hand, the hand speaks to the mind.

Recorder playing calls on another kinesthetic skill-set, now combined with breath. Singing elevates the unconscious use of breath to a higher level of awareness and control. Though attention to sound, pattern, ensemble, and more will be essential to musicianship, mastering the specific physical demands of a particular instrument, learning the proper shapes for the hand, the tensions and relaxations to release sound, the lexicon of fingering patterns, the support from the whole body posture and breath, is the basic ground of any music study.

The range of physical skills necessary to master even the simplest musical expression is monumental, and time is short. Such skills demand perpetual practice, ongoing habits and a lifelong attention. Computers and their cousins, however, are masters of disembodied learning, altering the ratio of the senses and reducing our sensual delight to fingers tapping on plastic, bright images, and little beeps. Given a choice between using the next available moment to further train the body and breath or bypass it all with electronic gizmos, we should pause and consider.

Heart. Art calls forth some of our highest capacities of intellect and then leaves it all behind to make room for its deeper purpose—the capacity to

feel, to evoke and articulate emotion. No piece of music communicates from sheer intellectual calisthenics, and though we may be dazzled by virtuosic physical technique, the simple Satie piano piece or a capella folk song often speaks more eloquently. The body and mind are essential to all the arts, but only as servants to the heart. Music and dance make visceral, immediate, and real our deep need for connection and belonging, letting us lose our worried selves in the twirling motion on the dance floor or the swirling sound in the symphony. They shine light into the dark corners of the psyche that gather dust in the workaday world. We may resist grieving at the office meeting or crying out in anguish at the water cooler, but art is not afraid of any human feeling and goes to great pains to shape the conversation so that we can open our heart in socially acceptable ways.

In today's media circus, emotions are reduced to childish anger, repressed newscaster affects, or superficial "have a nice day" smiles. No one can make a great painting with three colors in the paintbox. Art enlarges the range of emotion and brings us into the intimacy of nuance. When children sing "Go Tell Aunt Rhody," "Nobody Knows the Trouble I've Seen," "The Water Is Wide," "Side by Side," and hundreds of other songs, they are getting to know something about what their heart can hold and express. When they play xylophones in six different modal scales, they can feel the connection between mode and mood and learn to call on the one they need at any given moment. When they hear the deep resonance of a drum, the energizing shaking of a maraca, the liquid sounds of metallophones, the fiery ring of agogo bells, the celestial tone of their head voice or earthy shout of their chest voice, they are training their heart to open habitually to a wide range of emotion. They can taste the richness that life has to offer, all of its joy, sorrow, silliness, rage, exuberance, and silence given voice.

None of this is easily available on screens manipulated by mouse clicks; indeed, these screens tend to shield us from the direct power of life and train us to disengage, keep a cool emotional distance and a false sense of control and power. Remembering that time is short, think long and hard before exchanging the chance to sing "We Shall Overcome" for a snazzy piece of music software.

One of my guiding dreams, given both wings and feet by Orff Schulwerk, is to enlarge our definition of intelligence to include body, heart, and the intuitive and imaginative mind.

Mind: We often associate the mind with theory, analysis, and retention of data—the kinds of things that can be assessed on paper tests. But mind has larger capacities often untapped in schools—it is a three-way conversation between intuition, intellect, and imagination. Intuition comes ready-made in children, but is rarely affirmed by adults in the classroom. From my preschool classes to my eighth-grade jazz ensembles, I like kids to trust their intuitive feel for something before learning the details that ultimately give them greater understanding, control, and power. I leave them alone with five notes on a xylophone and listen to what emerges. I give them time to play in the root sense of that word, to explore freely without worry about right and wrong answers. From this free play, we move into a concrete work: learn this piece, analyze its phrase structure, rhythms, scales, and textural devices. Now improvise again, letting your imagination play within the given structure. Here all three qualities of mind are exercised, and children emerge with a greater depth of understanding than mere surface analysis.

Computers are wizards of data storage and information dissemination. But despite our strange efforts to try to make machines "smarter" than people, the bandwidth of such intelligence is narrow, indeed, compared to any three-year-old on the planet. The mind processes information, but the mind also dreams in ways that machines cannot. It is our capacity to dream that is the crowning glory of evolution. And also its biggest danger—it is our ability to dream that lured us down the path of putting more energy into Smart Boards than smart children, helped us use bulldozers to raze the rainforest, and got us working on challenging "projects" like building nuclear weapons. So in our classroom—and in the world—we need to choose our dreams carefully.

One of my guiding dreams, given both wings and feet by Orff Schulwerk, is to enlarge our definition of intelligence to include body, heart, and the intuitive and imaginative mind. Each will need its own kind of focus and separate training, but each lesson, when well taught, will also keep them stitched together. And central to that vision is to also keep the children themselves in conversation with one another, not just to develop their personal body, heart, and mind, but our collective one as well. If we keep those dreams at the center of decision-making, then the question of which technologies enter the classroom and how often and with what age and in what capacity and at what cost is given a context.

For example, I once took the children to the computer lab to look up some information for a jazz history report. The first thing that struck me was the physical set-up of the room. Children sat with their backs to one another, the room pulsed with flickering lights, kids snuck off to different sites and needed monitoring. The feeling both during and after the class was markedly different from sitting barefoot in a circle. And different again from sitting around tables talking about why Duke Ellington hired his own Pullman train cars. In short, the bang was far too little for the buck.

Now, my jazz history classes start with me telling stories about the musician in question.

The students sometimes take notes with paper and pencil, a still durable technology, or write comments about the piece they listen to from the iPod speakers. At the end, I may cap it off with a short video clip that we watch together. Most importantly, in the Orff ensemble class, the kids will play a piece composed by the musician and improvise within it according to their own understanding and capacity. Here the mix of technologies serves the purpose of the class—not only to learn something about jazz, its history, its repertoire, its guiding theory, but to also use jazz to learn something about ourselves, both individually and collectively. By playing and singing "Mood Indigo," the children are training their hand, their heart, and their head in a joyful ensemble experience.

People often say, "It's up to us to control our technologies so that they are our servants and not our masters." I couldn't agree more—yet who is helping us learn how to control these technologies? We have hundreds of books telling us how to control our appetite and how to diet, but who is telling us strategies to curb our addiction to our machines? Certainly not the manufacturers. Not the school boards requiring us to use computers in our curriculums. Not our friends urging us to get a cell phone and keep it on 24/7. Not the people who shout "Luddite!" if you dare refuse an upgrade.

More importantly, who is teaching children? Those of us who grew up without these machines and got along just fine playing in the park at least have an alternative forever etched in our memories. But today's world is different from yesterday's world in ways that might make us pause and consider. Mothers are now strolling babies while chatting on their phones instead of talking to their children. Kids are going into cars at the end of the school day plugged into their iPods while the parent continues the cell-phone conversation. They are talking to one another in chat rooms instead of out on the front stoop—and all we can think to do is marvel about the wonders of our technologies.

We have hundreds of books telling us how to control our appetite and how to diet, but who is telling us strategies to curb our addiction to our machines?

Children growing up within an electronic culture who have never known anything other than instant entertainment, access, and sensory input (or overload) may need some antidote to keep them whole and healthy. And I believe Orff Schulwerk can be just what the doctor ordered.

Reread the beginning of this article—indeed, the gifts of today's technologies are many, but they also carry a caveat. To rightfully enjoy their gifts, we need to be aware of their limitations and their impact on our soul life. We need to cultivate active alternatives to mediated lives and experience directly in our body, heart, and mind the pleasures of a human incarnation in company with others. At its best, this is what an Orff classroom offers, and beyond its efficacy in developing children's musical skills lies this real possibility of developing the soul life of children in real community.

Electronic technologies in Orff classes? I don't hope to persuade or convert or cajole you here—this article simply asks you to pause and consider. Soul life is an intimate affair and community is a delicate system, created by what we do and equally by what we choose not to do. When trying out something new, it's always a good idea to ask a few questions. What can this machine do that no other technology (and remember, a xylophone is a technology) can do? What is it's real cost—not only dollars initially spent, but maintenance, upgrade, storage, schedule, security? What age is appropriate? How much of my limited time is worth spending on this? And most importantly, "What do my children need that only I can offer them and they're not likely to get anywhere else?" Machines are rampant in all our children's lives—singing, dancing, Orff instrument ensembles, playing, imagining, improvising are not. Choose wisely. ■

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Two "digital natives" playing Guitar Hero.

Learning from Digital Natives: Children's Thoughts on Music Video Gaming

BY CHEE-HOO LUM

Talk to any child in the contemporary classroom and one will soon realize the pervasiveness of video gaming in children's lives. Arcade games not withstanding, many children are aware of and most likely own a portable or home video game player or do some kind of video gaming on the computer or on their mobile phones. Video gaming has become an increasingly popular leisure pursuit among children and adults. While some music teachers may be familiar with video gaming; others might feel completely left out. Some popular video game consoles include Playstation, Gameboy, Xbox, Wii, and Nintendo. As Marc Prensky, noted speaker on learning and education, stated, "Our children today are being socialized in a way that is vastly different from their parents. The numbers are overwhelming: over 10,000 hours playing video games … over 10,000 hours talking on digital cell phones; over 20,000 hours watching TV… all before kids leave college …These are today's 'Digital Native' students."[1] Digital natives are accustomed "to receiving information really fast … like to parallel process and multi-task … prefer graphics before their text … prefer random access (like hypertext) … function best when networked. … thrive on instant gratification and frequent rewards … (and) prefer games to "serious" work."[2]

Music is a prominent feature heard in most every video game. In recent years, many video games have been created in direct relation to music, like the simulation of musical instruments or rhythmic matching games.

Examples include: 1) Guitar Hero, which uses a guitar-shaped console to simulate the playing of rock music. Players match colored notes on-screen to the corresponding fret buttons on the controller. The game can be played individually, cooperatively, or in competitive modes for two players. The musical repertoire encompasses actual rock music tracks from mainstream to independent rock bands from the 1960s to the present, allowing players to be exposed to and be familiar with this musical genre through its historical context; 2) Dance Dance Revolution, a dance-simulation video game that features popular music like rock, rap, and techno; 3) Mad Maestro, where the player conducts classical music with the ability to control tempo, balance, and volume; 4) BeatMania, where players scratch hip-hop turntables in time to the beat; and 5) Taiko no Tatsujin, which features two Japanese Taiko drums. Some of these music video games have an active and diverse fan following around the world where international competitions are held and active blogs and Web sites are being managed to update fans on the latest developments.

Depending on how one defines video gaming, perhaps another great inclusion into the world of technological music-making are the many music applications available in the much talked about iPhone. Applications range from a digital mouth-blown ocarina (Smule) to a collection of virtual instruments (Band), to applications (Beatmaker) that allow the user to create his or her own mixed tracks just like a DJ in the professional circuit, with playback and limitless possibilities of sound and effects. Gaming researchers like Jacob Smith suggests that "playing these games can feel like a genuinely musical experience: the controller is no longer a trigger but a percussion instrument, and the player stops thinking in terms of locking on targets and instead tries to feel the groove."[3] Matthew Belinkie has noted that musical tunes like that of the Super Mario Bros become ingrained in students "to an extent few rock stars could match," as they can hum its melody despite the fact that many have not played the game for years.[4]

Research on the effects of music video gaming are limited and "remain a tangential footnote and fail to account for the ways by which the musical soundtrack of a game affects the user's experience and creates a seamless impression of gameplay."[5] It has also been noted by Annabel Cohen that "studies of cognition and animation suggest that objects are perceived as alive and exhibiting anthropomorphic behavior when their motions are accompanied by a synchronized soundtrack."[6] The power of music video games should not be underestimated as they can serve as motivational and instructional tools in and out of the music classroom.[7]

JULIAN AND SEBASTIAN ON GUITAR HERO

In a casual conversation with a music teacher at a local international school, I found out that some students are playing Guitar Hero and it is the latest "cool" thing to do, particularly for the secondary school students (age 12–15). I got in touch with two brothers (Julian, age 14, Sebastian, age 9) from the school to find out what got them interested in Guitar Hero.

Julian had been playing the drums and guitar for a number of years, and Sebastian, following in his brother's footsteps, has been at the guitar for about two years. They have lessons with a guitar teacher once a week, have been actively playing in school concerts, and take advantage of any other opportunity they get to play with classmates and friends. I was curious about their interest in Guitar Hero given that they are already playing "real" instruments.

One of the obvious answers I got from Sebastian was that it is the latest craze: "I heard about it [from the media] and it sounded really cool and I'm really into music as well … It was the newest at that time and everyone wanted it." Peer pressure played a huge part in Julian's class, as all of his twenty-four classmates are currently playing Guitar Hero. Some of them gather in one another's houses over the weekends and play competitively with one another.

Sally, Julian and Sebastian's mother, noted that the parents were supportive of these games as they were not the usual "killing, shooting types." Interestingly, too, Sally related that Guitar Hero III (the latest version) struck a chord with her and her husband, as the repertoire consisted of pieces from bands like Guns N' Roses and Eric Clapton, which were repertoire that they knew: "We can relate to it and for our children to relate to something that we can relate to, we bought it … it's not offensive and it is also a game."

The brothers were thankful for the creation of Guitar Hero, as it created a perfect avenue for them to share their passion of the guitar with their friends. As Julian stated, "Most times (before

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1 Marc, Prensky, Marc. "Digital Natives, Digital Immigrants," *On the Horizon*, *9* (2001), Retrieved April, 2, 2009, from http://www.twitchspeed.com/site/Prensky%20%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.htm.

2 Ibid

3 Jacob Smith, "I Can See Tomorrow in Your Dance: A Study of Dance Dance Revolution and Music Video Games," *Journal of Popular Music Studies*, *16* (2004), 65.

4 Matthew Belinkie, "Video Game Music: Not Just Kids Stuff." Retrieved April 2, 2009, from http://www.vgmusic.com/vgpaper.shtml.

5 Zach Whalen, "Play Along: An Approach to Videogame Music," *Game Studies*, *4* (2004). Retrieved April 2, 2009, from http://www.gamestudies.org/0401/whalen/, 1.

6 Annabel Cohen, "Film Music: Perspectives from Cognitive Psychology," in *Music and Cinema* ed. Flinn Buhler and D. Neumeyer (Hanover, NH, University Press of New England, 2000), 5.

7 Harold Abeles, *Foundations of Music Education*, eds. Charles Hoffer and Robert Klotman, New York: Schirmer Books, 1995.

Guitar Hero) when I go over friends' houses and they want to jam and then I play something and they can't play, they stop. So, most of them were intimidated by that … but when it comes to Guitar Hero, many of my friends are so much better than me, and they are the ones that don't play guitar. Actually, most of them don't even play instruments." Sally also pointed out that Sebastian is much better on Guitar Hero than Julian, and that "boosts his morale while he is not as good as his brother on [real] guitar."

Guitar Hero created a "new space" for the brothers and their friends to share their love of music—a space that develops the interest and familiarity with the guitar and guitar repertoire, a space that motivates amateur musicians and non-musicians alike in a friendly competitive environment, and a space that allows for the feeling of satisfactorily performing like a guitar icon.

Julian has always been into heavy metal, thus feeling very "at home" with the Metallica repertoire within Guitar Hero. But since the introduction of other repertoire while playing Guitar Hero, Julian has taken a liking to the "softer" bands like Guns N' Roses, AFI, and pieces by Eric Clapton. Julian is convinced that if ACDC and the Iron Maiden were included within the Guitar Hero repertoire, the game will be a much bigger hit. From playing Guitar Hero, Sebastian has widened his guitar repertoire, trying out aurally on the real guitar, pieces that he has played successfully and repeatedly on Guitar Hero. He has also approached his guitar teacher to obtain scores for repertoire he would like to learn from Guitar Hero.

Sebastian feels that being engaged with the game (i.e., in "press(ing) things at the same time" while playing), "you feel more into it." Listening becomes an enactive and engaged process[8] in gaming, allowing for a more direct interaction with the music. And because the guitar controller is shaped like a real guitar, Julian and Sebastian are of the opinion that it helps with the development of "finger strength and strumming" as one proceeds to the real guitar. As Julian remarked, "It helps… beginners with movements that they are not so comfortable with. Just getting used to it and that helps them a lot … It's a good starting point."

The boys were quick at pointing out the motivating factors of the game: A scoring system, the exciting visuals of animated singers, guitarists, and audience accompanying the game, the choice of easy-to-difficult levels, the 'dueling' with guitar icons, and the ability to stop and start wherever and whenever one pleases, are but some of the attractions for these boys in their childhood and early teen years. The player is also represented by an avatar, "an embodiment of the player's actions and experiences… in such a way as to become the in-game embodiment of our gameplay experience"[9] or as Julian put it, "you have one character throughout the whole thing and you can also choose the characters… eventually you start challenging these famous guitar icons like Slash from Guns N' Roses … It gives you the feeling that you can really play the song … gives you a sense of performing," which is seldom the case for any amateur learner starting on a real musical instrument. Julian's friends, who know how to play guitar, have become very frustrated by the fact that they didn't improve as fast as they've expected and "since Guitar Hero came along, I guess it has been a motivation for them … I know of two friends who have picked up the guitar because of Guitar Hero." Sally said that Guitar Hero "can make you want to learn, definitely!" Wanting to learn as a self-development process where one can choose to improve at one's own pace is an attractive proposition for Julian, Sebastian, and their friends.

THOUGHTS

Music video games like Guitar Hero are popular with the boys and their classmates in school. They play these games at home and over the weekends in gatherings with their friends, supported by their parents who see these games as positive learning experiences. Guitar Hero appeals to this adolescent age-group. The boys and their friends saw it as "cool" and "now." The instrument and repertoire of Guitar Hero matched the current musical interests of the boys, their parents and their

[8] Patricia Shehan Campbell, *Teaching Music Globally: Experiencing Music, Expressing Culture*, New York: Oxford University Press, 2004.
[9] Jon Dovey and Helen W. Kennedy, *Game Cultures: Computer Games as New Media*, Maidenhead: Open University Press, 2006.

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peers, making it contextually significant and interesting.

Guitar Hero creates further interest in the musical instrument and repertoire of bands that have been endorsed by the game. Interestingly, for Guitar Hero III, the musical repertoire also had resonance with the boys' parents; it seemed to serve as a bridge between the generations. The boys' parents find that it is "not just a game," but also a learning opportunity for the boys to expand their guitar repertoire and a social opportunity for the boys to share their love of music with their classmates and friends.

Guitar Hero creates an avenue for an initial "successful" contact with the electric guitar, leading to a possible transfer from virtual to real experience with the electric guitar. This is perhaps an example of what would be considered "situated meaning," where the player can eventually "apply in actual contexts of use for action and problem solving … when they have heard these words (or played in this case) in interactional dialogue with people more expert than themselves and when they have experienced the images and actions to which the words apply."[10] It allows for the video game player to feel that he or she has the ability to play a complete set of repertoire of their favorite bands, and the ability to perform like their favorite guitar icons even though they are not able to play it on real instruments. Guitar Heroes, like many video games, "allows the player to begin to act, with some degree of effectiveness, before being really competent …The player thereby eventually comes to gain competence through trial, error, and feedback, not by wading through a lot of text before being able to engage in activity."[11]

According to the boys, the game helps with the development of basic techniques like finger positions and strumming in electric guitar playing because the controller is shaped like an electric guitar. The music video game also provides for enactive listening (active participation by the listener in some extent of music-making with recorded, or live, music sounds), allowing for a better engagement with the musi-

cal repertoire. It presents visual aspects (animated guitar icons, singers, band members, and audience) that add to the excitement and motivation of the playing process. The music video game has a scoring system, a basic-to-expert mode, individual and duo-play modes, and duel-battling possibilities with guitar icons, which provides motivation to play in a competitive, friendly, and supportive environment. Guitar Hero, like many video games, is based on user-centered designs that "motivate through learning, arousing players' interest (desire to act) and giving them the power of ample expression (pleasure to act)."[12]

Also like many video games, Guitar Hero draws the player into the game through an avatar that becomes a virtual embodiment of the player in the game world. The avatar can motivate the player to improve his game-play. It allows for non-musicians and musicians to come together to share a common musical interest, at the same time, have the opportunity to play competitively with one another. As James Gee has described:

> Video games are all about identity. The player "plays" some character … takes on, carries out, and identifies with some special identity in a virtual world … (The player) project … goals, desires, values, and identity into the game world, melded with the "in game" identity and goals of the virtual character. The "project" now becomes "mine" and not just something imposed on me, because I have "projected" myself into it (p. 19).[13]

Video games like Guitar Hero provide a self-paced learning environment, an "I can press the stop button any time" possibility. The boys enjoy playing (learning) in this mode, as opposed to the typical teacher-student interaction, which can be frustrating for some students, especially if the teaching does not take into account students' interests and insists on predetermined set repertoire. Fortunately for the boys, their music teacher saw Guitar Hero as an opportunity and avenue for him to introduce new repertoire to the boys.

Video games can help in learning because they have the capacity to provide "action-and-goal-directed preparations for, and simulations of, embodied experience."

IMPLICATIONS FOR MUSIC EDUCATION

According to James Gee, video games can help in learning because they have the capacity to provide "action-and-goal-directed preparations for, and simulations of, embodied experience."[14] I do think these are significant thoughts for music educators to reflect upon and not dismiss music video games or their technological equivalent as a mere commercial venture. As music educators become more aware of the increasing number of music video games and technology music-making possibilities in the commercial market, we should stop and examine: 1) current content of music video games for its musical elements (rhythmic, melodic, form); 2) transferability of musical elements gleaned from the music video games into classroom practices and pedagogical possibilities; 3) children's music learning abilities through visual and kinesthetic associations as exhibited in music video games; 4) how music video games enhance students' learning abilities; and perhaps even 5) the possible creation and/or collaboration with computer scientists/gaming experts to come up with a music video game or technology music-making tool that is useful and contextually significant to children's music education. Above all, music educators need to seriously consider that our students have changed radically. Today's students are no longer the people our educational system was designed to teach … We need to invent digital native methodologies … using our students to guide us.[15]

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[10] Michael Tomasello, *The Cultural Origins of Human Cognition*, Cambridge, MA: Harvard University Press, 1999 (as cited in Gee, 2005, 16).
[11] James Paul Gee, "Why are video games good for learning?" Retrieved April 2, 2009, from http://www.academiccolab.org/resources/documents/MacArthur.pdf.
[12] Guillaume Denis and Pierre Jouvelot, "Motivation-driven Educational Game Design: Applying Best practices to Music Education. ACE 2005, Valencia, Spain, 4.
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[15] Marc, Prensky, Marc. "Digital Natives, Digital Immigrants," *On the Horizon*, *9* (2001), Retrieved April, 2, 2009, from http://www.twitchspeed.com/site/Prensky%20%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.htm.

When Children Create Music Using Technology

BY SANDRA L. STAUFFER

Technological innovations change music—how we make it, how we share it, when and where and how we hear it. From the simple addition of keys on instruments centuries ago, to Edison's accidental discovery of sound recording in 1877, to the early analog synthesizers of the mid-twentieth century, to contemporary digital media devices, technological inventions and innovations are part of the history of creativity and discovery in music. New technologies provide new opportunities to engage, explore, and bring the creative impulse to life.

In 1993, American composer Morton Subotnick addressed a group of music educators who gathered at a national symposium to discuss the future of music teaching and learning.[1] In a series of two talks, Subotnick elaborated on the communicative power of music and its metaphorical meanings.[2] He discussed the possibilities of technology and demonstrated his own use of technology to create music, including presentation of part of his work *All My Hummingbirds Have Alibis*—a composition for flute, cello, midi piano, midi mallets, and computer, which premiered in 1992 and was released in an interactive CD-ROM version in 1994.[3] (CD-ROM was new to some members of the audience at the time.)

Subotnick then turned to technology and children's musical creativity. He described ideas he had about creativity, technology, and education as early as 1967–1968 while working with children in the Henry Street Settlement in New York and later in various Los Angeles neighborhoods. Subotnick challenged the audience to imagine the computer screen as a time canvas on which children could create as though they were "fingerpainting in music," then demonstrated a prototype version of a software program he had imagined 25 years before advances in technology made it possible to complete.[4] Two years later, in 1995, Subotnick's music creativity software for children was released under the title, *Making Music*.[5] Since then, he has developed and published five more music software programs for children—all focused on creativity—and launched an online "creative music environment for children of all ages"[6] (see http://www.creatingmusic.com).

I began working with Subotnick in the fall of 1994 on a project that was part of the development of his *Making Music* software.[7] We established an after-school composition lab for children at Arizona State University to test versions of his software. Subotnick made revisions based on our observations of how the children worked and what they said and did as they created music or played with the games imbedded in the software. When *Making Music* was released, I continued the after-school composition lab to study musical creativity. Children as young as kindergarten attended once-a-week sessions in the lab and created music using computers and software.

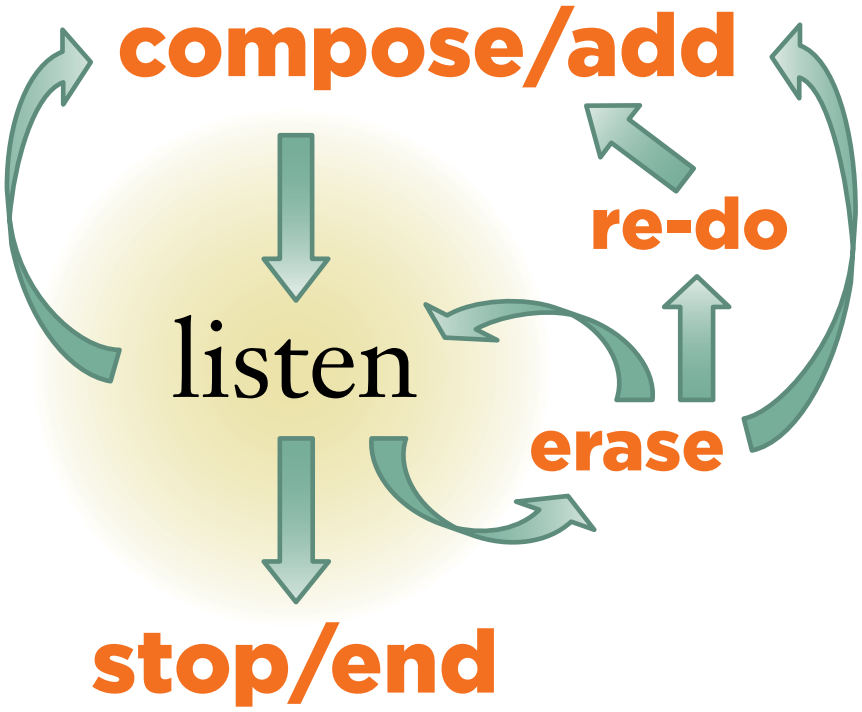
One of the working principles of the lab was non-intervention. I sought to gain insights and understandings about children's creative processes as they occurred naturally—without adult intervention. At the time, some of the researchers and scholars writing on the subject suggested that children's creativity is different than that of adults; others used adult models or criteria to measure children's creative thinking, and still others discounted children's creativity entirely.[8] I wanted to understand creativity from the perspective of the child and as it naturally unfolded in children's music making. In the lab, the children composed; the adults listened or answered their questions, which tended to be about the computers or the software, not about their music. We did not give assignments, tasks, or directives. Instead, we observed, took notes, documented, and interviewed the children about what they were doing.

Some of the children continued in the lab for several years (one for eight years—from fourth grade through eleventh grade), and as they matured, I added different kinds of software to the lab collection. I also continued to work with Subotnick in projects with children at community-based sites in other cities. After eight years, I closed the lab, and continued observing children using technology to create music in schools and community-based programs. The notes and suggestions that follow are based on these observations and experiences.[9]

TIME, TOOLS, AND TECHNIQUES

One of the most important insights from the projects described is that time, tools, and techniques interact in the creative process. Each element is crucial to the process. Each intersects with and impacts the other. Technology, like an instrument or any other sound source, is a tool. Whether a new technological tool is hardware (e.g., a mallet controller) or software (e.g., the *Making Music* program), children's first instincts are to explore to find out what it does, similar to the ways in which they might explore an instrument. When children use Subotnick's *Making Music* software, for example, they hear sounds simultaneously while drawing them on the computer; their physical gestures as they move match what they see and hear on the screen. They soon discover that high sounds appear high on the screen and low sounds appear low, thick lines sound louder than thin ones, each timbre appears in a different color, and so on. Their early explora-

Figure 1. Children's Creative Process



tions involve testing limits and conducting their own sound experiments, such as figuring out how to make the longest, loudest, highest sound possible, or filling up the entire screen to see and hear what it will sound like.

Regardless of the technology (software or hardware), this early tool exploration stage is important in children's learning and development. Typically, their focus is so intent on discovery that directing them to a project or assignment before they have satisfied their own curiosity is a distraction to their natural learning processes. For example, in the lab described earlier, the children began creating pieces that *they* called compositions only after they had satisfied their own curiosity about how the tools worked, even when they had experienced composing and moved from *Making Music* to other kinds of music software. In general, the tool exploration stage frees children's minds for musical creativity. As they satisfy their need to know and grow adept at using the tool, they become more interested in what it—and they—can do.

A PROCESS DIVERSION

Before talking about time and technique, an excursion to examine process is in order. As I watched children creating music with technology in the lab and elsewhere, I kept field notes to record (among other things) the steps in their creative process. Figure 1 shows a working model of the children's creative processes in a single composition session, based on the observation of children creating music in multiple settings. A short description of how the model works follows.

Notice that "listen" appears at the center of the model. As I watched the children and took field notes, I wrote an "L" every time the children paused to listen to what they had created or when they did something else to indicate that they were listening internally, such as singing with, prior to, or after an action. Why is this crucial? Music is aural art, and as Peter Webster notes, creative thinking in music is the ability to think in sound.[10] In the settings in which I observed, the children's tendency to listen to and make decisions about what they were doing—both in the moment and as pause-and-play action—became an indication of the extent to which they were thinking in sound. "Listen," then, is at the center of the model, and the arrows indicate that the child has made a decision to do something, based on what he or she is hearing or has heard.

When creating music using a computer and composition or music software,[11] a child's trips through the loops of the model may be as simple as create-listen-end. Or, the compositional journey may wind through dozens of loops of the model over a long working session on a single piece. To illustrate (follow the loops in the model while reading), a child may create a musical gesture, then listen to it, then add more, then listen again, then erase what was just added and put in something similar (re-do), then listen, then add more music, then listen, erase what was just added and add something new, then listen, then erase part of what was added and re-do it, then add more music, then listen, then stop, either because the piece is finished (or done for the moment), or because the child is ready to move on to something else.

The complexity of the child's process is linked to age and developmental level and to experience creating in music. Young children make fewer trips through the loops and their pathways tend to be simple—create, listen, add, listen, end, for example. Sometimes young children even skip "listen" entirely in their initial experiences. Similarly, older children with little composition/creative experience tend to make fewer trips through the loops of the model, though they begin moving toward more extended and complex processes more quickly than their younger counterparts. Experience composing makes the most difference in the children's processes. The more experience a child (of any age) has composing or creating music, the more complex and extended the pathways through the model.

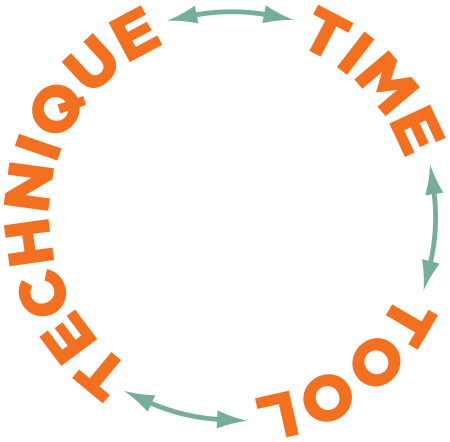
TIME, TOOLS, AND TECHNIQUES REDUX

Time impacts the creative process tools and techniques in multiple ways. Given time to explore the tools or media for creating, children then move smoothly toward exploration of their musical ideas, which they realize through the tools/media available to them. In other words, time invested in tool exploration supports the exploration of musical ideas. Similarly, over time and with multiple opportunities, children's creative processes grow more extended

and complex, as shown through their loops of the model above.

Time impacts the creative process in additional ways. As children gain time/experience in composing/creating, their musical ideas become more varied and complex. For example, the initial stage of creative endeavors is often referred to as "exploration," and as children gain composing experience, they develop multiple ways of exploring musical ideas. For example, in addition to experimenting to generate ideas, children derive ideas by revisiting their previous work. In our lab, children frequently played back and listened to their own pieces, and derived ideas for new works from their own compositions—a kind of cumulative exploration. And, as they gained experience and confidence, they began to generate musical ideas away from the lab. One of the students in the lab frequently came to sessions with bits of music scribbled on the back of science papers, in the margins of stories he wrote, or on the backs of drawings he made—an a priori exploration of ideas.

Similarly, children's techniques—while always idiosyncratic to their individual working styles—grow and change with time and experience. One of the most fascinating changes has



to do with the ways in which children naturally begin revising their own work. There are two ways to look at revision—revision within a single working session, and revision from one working session to the next. Within a single session, young children and less experienced older children tend to add to their works, rather than making internal revisions (as shown in the loops of the process model above), whereas older children and more experienced creators make more changes.

The second kind of revision—changing a work from one session to the next—is even more interesting. Until about age eight, children tend to complete a creative work in a single session and consider it "done," particularly when working on their own. In our lab, for example, children age eight and under very rarely returned to a piece they had created to make any changes. Even when we invited them to listen to previous works or opened their work stations to a "done" composition, they simply listened and moved on to a make a new piece. At the transition of age eight to nine, they began to add new endings or maybe alter a very small section. By age nine to ten, they began to revise in the way adults typically think of revision over time—by making large changes in their own previously created works.

Does that mean that young children don't revise? No, but their revision technique is different. Young children get better at a technique or better at developing an idea by repeating that idea in multiple *new yet similar* pieces rather than by revisiting and revising previous work. The same is true of young children's drawing and writing; as children draw the same figures over and over again, each consecutive drawing typically becomes increasingly complex and sophisticated. For children up to age eight, musical revision occurs through new repetitions of similar pieces rather than through revisiting works they consider finished.

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[1] The symposium, *Toward Tomorrow: New Visions for General Music*, was sponsored by the Society for General Music of MENC, and held in Reston, Virginia, in October of 2003. About 200 people attended.

[2] Both of Subotnick's talks were transcribed and published. See Morton Subotnick, "The Music and Musicians of the Future," in *Toward Tomorrow: New Visions for General Music*, ed. Sandra L. Stauffer, (Reston, VA: Music Educators National Conference, 1995), 31-46.

[3] For more about Morton Subotnick and his music, see http://www.mortonsubotnick.com/.

[4] Subotnick, 1995, p. 33.

[5] Making Music was originally released by Voyager. Since 1995, the software has been updated for current operating systems and is now published by Wizard Music.

[6] The online environment can be found at http://www.creatingmusic.com/. The music composition spaces are similar to Subonick's software, but more limited in power and options. For example, in the *Making Music* software, children both see and hear what they are doing as they create. On the website, they sometimes hear in playback only, so the experience is different.

[7] For those interested in the historical record, I was seated next to Subotnick at the dinner that closed the *Toward Tomorrow* symposium, and we began a conversation that has lasted for 16 years and has changed my thinking. I remain grateful to Mort for the opportunities and the inspiration.

[8] See Mark A. Runco and Robyn E. Charles, "Developmental Trends in Creative Potential and Creative Performance,"in *The Creativity Research Handbook*, *Volume 1*,ed. Mark A. Runco (Cresskill, NJ: Hampton Press, 1997), 115-152.

[9] To read more about the lab and some of the children, see Sandra L. Stauffer, "Composing with Computers: Meg Makes Music," *Bulletin of the Council for Research in Music Education*, 150: 1-20; Sandra L. Stauffer, "Connections Between Music and Life Experiences of Young Composers and Their Compositions," *Journal of Research in Music Education* 50, no. 4, 301-322; Sandra L. Stauffer, "Identity and Voice in Young Composers," in *Why and How to Teach Music Composition: A New Horizon for Music Education*, ed. Maud Hickey, (Reston, VA: MENC: The National Association for Music Education), 91-111.

[10] See, for example, Peter R. Webster, "Creativity as Creative Thinking," *Music Educators Journal* 76 no. 9: 22-28; Peter R. Webster, "Research on Creative Thinking in Music: The Assessment Literature," in *Handbook of Research on Music Teaching and Learning*, ed. Richard Colwell (New York: Schirmer Books, 1992), 266-280.

[11] This caveat—"when creating music using a computer and some kind of composition or music software program"—is important. This model works under these conditions, and although it appears to hold true in other contexts, I have not yet done enough systematic study to make that claim with confidence.

LOOKING IN, LOOKING OUT

Put simply, children get better at composing by composing. Children develop facility in creating music through repeated opportunities to create, for like any other ability, creative ability improves with practice. While this is hardly a surprise to music educators who consciously engage in the commitment to creativity embodied in Orff Schulwerk practices, examining how children create and how their creative processes develop over time and in contexts in which they use technology can heighten awareness of practices that support their abilities. As always, the most important element in the creative process is the creative mind and spirit.

***Sandra Stauffer** is a music education faculty member at Arizona State University (ASU) where she teaches undergraduate and graduate courses. Prior to joining the ASU faculty, she taught in three states and served on the faculty of the Peabody Conservatory. Her writing includes music textbooks, articles on children as composers, and a recent book (co-authored) on narrative research. She gives clinics on the connections between listening and creativity in music.*

Index of Advertisers

What's in Your iPod?

BY DAVID THAXTON

"What is your favorite music?" A simple question, one would think—especially for musicians. However, for those whose lives are infused with music, a simple answer is hard to come by. Often, a singular answer will lead to a cascade of "favorites." In this age of instant access to millions of musical, video, and literary selections, such a cascade easily turns into a tidal wave. Where does one start?

The nexus of our diversity as a group, our connectedness with one another through the Schulwerk, and with the world through technology is a fertile piece of ground, indeed. To begin an exploration of this space, a sampling of members of our AOSA community were asked to share what they were listening to—not necessarily anything they were using for teaching, but whatever was speaking to them as a musician, listener, thinker, artist, and human. They were asked simply, "What's in your iPod?" Here are some of their responses:

- Radio Lab's podcast focusing on the nature of human choice
- Pauline Oliveros, *Deep Listening*, "Lear"
- Miles Davis, *Sketches of Spain*, "Concierto de Aranjuez"

–Carlos Abril, Illinois

- Ry Cooder, ragtime and early Jazz
- *This American Life* episodes
- Danny Elfman film scores
- Garrison Keillor's PHC episodes

–Dale Misenhelter, Arkansas

- Lectures by Pema Chödrön and Eckhart Tolle
- Folk dance music (to accompany exercise)
- Podcasts from WNYC's Radio Lab series

–Liz Gilpatrick, Colorado

- American Public Media podcasts: Speaking of Faith with Krista Tibbetts, The Splendid Table, Capitol Steps, Travel with Rick Steves, and WNYC's Radio Lab
- The Amidons and New England Dancing Masters
- Brave Combo
- Frank Sinatra

–Karen Benson, Nebraska

- *Eat, Pray, Love* by Elizabeth Gilbert
- *Arabian Nights* as told by Jim Weiss
- *The Very Best of Jethro Tull*
- Nightmare Revisited: Various Artists

–Malia Walter, Nevada

- Donna De Lory, *The Lover and The Beloved*
- Chris Rice, "Peace Like a River"
- Queen Latifah, *The Dana Owens Collection*
- Steven Walters, "So Many Blessings"

–Roger Sams, Ohio

- YouTube: Jazz Dispute
- YouTube: Blues Singing Bird
- YouTube: Mother William Tell Overture

–Doug Goodkin, California

- Hamlet Gonashvili, *Hamlet*
- Bobby McFerrin, *Circlesongs*
- Sting and Edin Karamazov, *Songs from the Labyrinth*
- East Village Opera Company

–David Thaxton, Nevada

Happy listening!

***David Thaxton** is a music teacher at Donner Springs Elementary in Reno, Nevada, and member of* The Orff Echo *Editorial Board.*

SMART TECHNOLOGIES

Teaching With an Electronic Smart Board

BY CHRIS JUDAH-LAUDER

Years ago, a white marker board was mounted in front of my classroom, which I used on a daily basis. Naturally, that meant erasing class notes between every section and hurriedly attempting to transfer board information to my lesson plan book. The objective was to record and save the material for a future class review. Another option was to create a visual during the five-minute passing period. Sound familiar? It was exhausting. The simple fact is, with the white board, you could not preserve daily work. This endless cycle continued on a daily basis, accumulating huge piles of visuals set aside on the floor. At the end of the day, more time and patience were required to organize, rewrite, label, and file the paper visuals.

During the next class review, once again, I transferred the information from paper back to the marker board. If the notes were inaccurately transferred to the marker board, inevitably, a heated fifteen-minute class discussion followed in an attempt to rewrite the past lesson. This was frustrating to both the teacher and student, and a waste of valuable classroom time.

The "solution" is an electronic Smart Board. With an electronic board, you don't have to erase your collaborative and brainstorming work after each class. A simple "save" will keep that file forever. An electronic board has virtually unlimited space and can be used with the classroom lights on. I can come back to a topic and its notes from an earlier lesson to even weeks prior, and move the lesson forward without distractions.

While I do not advocate using visual tools with every lesson, they are a great

Figure 1

Figure 2

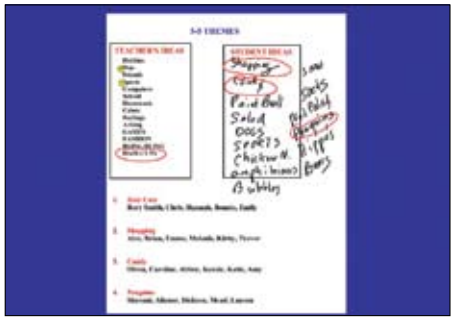

Figure 3

Figure 4

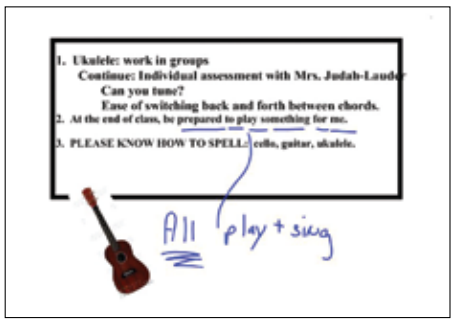

Figure 5

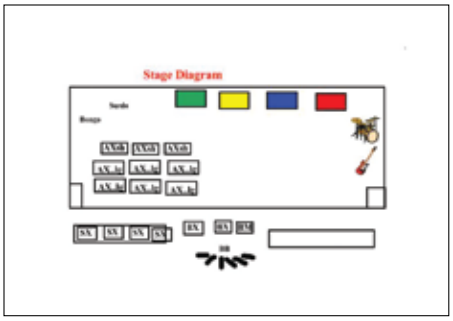

Figure 6

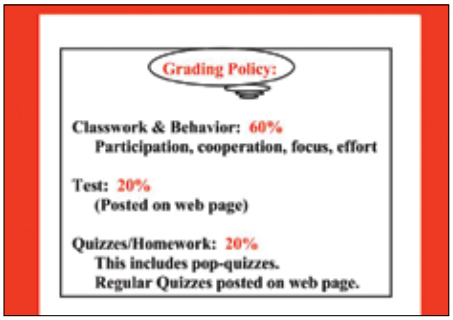

Figure 7

Figure 8

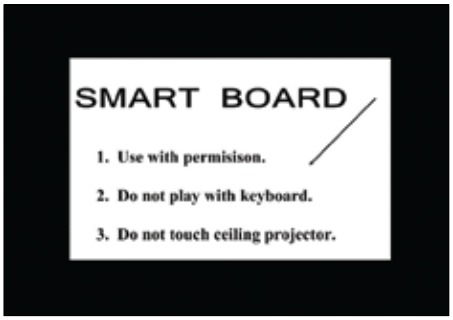

Figure 9

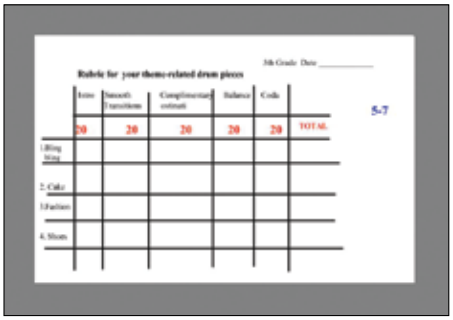

Figure 10

way of encouraging students to stay engaged, especially if your class time is limited. It keeps their eyes focused and allows the teacher to sequence, review, and save material as the lesson is being developed. The electronic visuals are techy, savvy, and colorful, and the gallery provides the opportunity to create aesthetically pleasing visuals.

Once familiar with the software, learning to organize electronic files becomes an essential part of the lesson planning. I typically create an individual smart board page for each grade (i.e., Smart_Grade 5) and a sub-file (i.e., 5_2008-09). The cover page includes: grade and section, teacher's name, date, and an interactive icon that is used to begin each class (see diagrams 1 and 2).

Smart boards are also effective for daily announcements, reminders, classroom set-up, lesson plan outline, hands-on interactive games to reinforce a concept, and displaying rubrics (see diagrams 3 through 5). Students are able to physically manipulate images on the Smart Board, which in turn gives them a hands-on approach to their learning so they can explore and find solutions to their questions.

Attachments are a finger click away, including Finale files, staff templates, sub plans, flash cards, current lists of classroom songs or activities, seating charts, Excel, PowerPoint, and an Excel list of assigned parts for an upcoming program. Creating a template of your stage is another valuable visual that clarifies your blocking and staging prior to the actual rehearsal (see diagram 6).

For those tedious yearly first-day announcements, consider creating a file of basic information to include classroom rules, tornado, lock-down and fire drill procedures, and grading policy. Once these files are created and saved, they can be pulled up from year to year, eliminating the "you didn't tell us that" argument (see diagrams 7 through 9.)

And finally, one of my favorite features is the ability to transfer the Smart Board lessons to the school server. With an assigned password, the substitute teacher can access the current and ongoing lesson in each class, which is saved as a "read only" file. Neither students nor the sub can make changes. Once the sub has opened the appropriate file, students can run the show. All of their songs, text, forms, assigned parts, etc. are included in their smart board file. Often, I set up a group project that includes the elements, sequence, and rubric. The visual outline of the project keeps the students directed, focused, and accountable. The music-making process continues, which is considerably more productive than showing a movie (see diagram 10).

After using the smart board for four years, I can't imagine teaching without it. I am able to cover twice the amount of material, create, write, and edit student ideas on the board. It's like having an electronic scrapbook. The lessons are sequential, and it's easy to check back on the progress and development of each class. The Smart Board enables flexibility, organization, access to links, opportunities for sorting, design lessons that include numerous visual aides, student-interactive programs, video, audio, stop watch, Internet-reference tools, scanned images, and a direct contact with the Web and music software such as Finale. Final thought: Save and back up often, and realize that with any new software, there is a learning curve.

The smart board is green, fun, and engaging, and it propels students to learn at an accelerated pace, which in turn brings the Schulwerk alive in full view. The efficient use of time allows students to be very active with singing, moving, playing, dancing, and creating. It's a smart way to teach. ■

Chris Judah-Lauder *teaches fifth through eighth grade music at Good Shepherd Episcopal School of Dallas. She has served on the AOSA National Board of Trustees as the 1995 local conference co-chair, a region representative and is presently the National Conference Chair for the 2009 AOSA Professional Development Conference in Milwaukee. Chris is an active clinician, has thirteen publications, and is a contributing author for MacMillan/McGraw-Hill's* Spotlight on Music.

Focus on Research Series

The Orff Echo will publish research reports that expand and enhance our knowledge of music teaching and learning. Articles can report on an original research study or synthesize an area of the research literature in ways that are relevant and meaningful to music educators. These articles must be research-based and include a discussion of the ways the knowledge can be applied in the classroom. Papers should be double-spaced using type no smaller than a 12-point font and should be between 2,000-3,000 words. Submissions should be sent electronically as a MS Word or PDF document to Carlos Abril, Ph.D., at c-abril@northwestern.edu.

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BY PAM HETRICK

Conducting Business

Conductor Alexander Adiarte remembers his cat mask, St. Paul Academy, Yale School of Music, and reveals how a Philippine-American musician finds himself in Stuttgart.

Editor's Note: This is the second interview in a new occasional series on former Orff Schulwerk students.

Alexander Adiarte

Q: Your parents originally came from the Philippines and settled in the Twin Cities. When did your musical training begin?

Adiarte: After attending various musical trolley courses, trying out different instruments, I began violin lessons at the age of five. At my school we had regular Orff music classes as well as opportunities to perform in the school orchestra, choir, and yearly musicals. I took advantage of all of these.

Q: What are your memories of Orff training in school?

Adiarte: I remember the xylophones, percussion instruments, singing in circles, and various musical games. Above all, I remember the positive energy of my music teacher. In fifth grade, I was one of ten students selected to go to the Carl Orff Canada National Conference in Winnipeg. We performed "The Cat Came Back" (Harry S. Miller) and I was the cat with my cat mask continually surviving every disaster!

Q: When did you begin to think about becoming a professional musician?

Adiarte: As well as playing violin with our high school orchestra, I played in the MacPhail Chamber Orchestra. One year we toured in Lyon, France where we had a partner school. My experiences during this exchange made me think seriously about being a professional musician. A few years later, after an intense and enjoyable summer at music camp I decided to pursue this career.

Q: At Yale you were a music major. How and when did you consider conducting?

Adiarte: During my studies, I realized that conductors must simultaneously incorporate both the analytical and performance aspects of music, leading to a greater understanding of the music. It was my music theory professor who suggested I try conducting. At first, I observed conductors from the vantage point of a violinist. Eventually, I became interested and curious enough to try it out. During my junior year at Yale, I founded a chamber orchestra, which I conducted, and have continued to conduct ever since.

Q: After a year working as a freelance violinist in Chicago, you went to Leipzig where you received a diploma in conducting. Now, several years later, you are still in Germany.

Adiarte: After completing my conducting diploma, I was lucky to be accepted at Tanglewood and returned to the United States to spend the summer there. However, I decided that I still had a lot to learn in Germany and went back to work as a freelancer in the Stuttgart area. After a few years, I was offered the full-time tenured position I have now as orchestra director at Stuttgarter Musikschule. I am now responsible for developing and organizing four different orchestras, as well as teaching conducting. In addition, I continue to conduct a choir to maintain my connection to vocal music.

Dive into music and get involved in music making as much as you can—as a performer, conductor, and listener.

Q: How has Orff training affected your conducting?

Adiarte: Orff training was an important part of my musical training. The rhythmic aspect of Orff teaching has contributed to my development of a good sense of rhythm, essential to being a good conductor.

Q: What advice do you have for aspiring conductors?

Adiarte: Dive into music and get involved in music making as much as you can—as a performer, conductor, and listener. Take advantage of every opportunity that comes your way. It doesn't matter what kind of ensemble you might be conducting. It's the whole process of learning to make decisions musically and personally that's important.

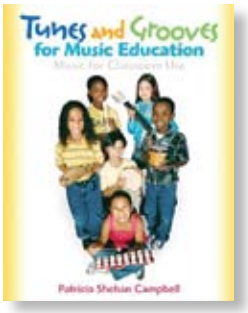
Q: How do you feel about your career choice?

Adiarte: I feel very fortunate that I'm able to make music as my living. It's a great way to live, and it's exciting to think about the path that has brought me to this point. I'm fortunate to have had teachers whose inspiration and passion made an impact on me. Now that I'm teaching at the school, it's exciting for me to be on the other side and to be inspiring others to make music.

Alexander's music teacher at St. Paul Academy was Jane Frazee, founder of the University of St. Thomas graduate programs in music education, recipient of the International Pro Merito Award from the Carl Orff Foundation as well as the AOSA Distinguished Service Award, past president of AOSA, international presenter, author of many books about Orff Schulwerk, and recently elected into the Minnesota Music Educators Association Hall of Fame.

***Pam Hetrick** is a member of* The Orff Echo *Editorial Board.*

BY SARAH H. WATTS



Tunes and Grooves for Music Education

Pearson, 2008

Patricia Shehan Campbell, professor of music education at the University of Washington and renowned scholar and teacher, has brought into the music education community a treasure trove of world music in her recent publication, *Tunes and Groves for Music Education*. This extensive spiral-bound collection of more than 200 songs, chants, rhythmic grooves, and listening selections samples the sonic uniqueness of nearly every corner of the globe and may have numerous applications with music-makers young and old, in the music classroom and out into the community.

Campbell's introductory remarks orient the reader to the volume's mission to include a "… more diversified musical palette" because "we live in a world of genuine diversity, a polyglot place of many-splendored expressions, both linguistic and artistic" (p. xiv). She further shares that "the time is past due for knowing music in its global and multicultural dimensions" (pp. xv). In response to the global and local diversification of people and musics, *Tunes and Grooves* taps into a variety of musical selections from all regions of the world, presenting these musical microcosms in ways that aid the user in understanding, performing, and teaching these musics in their distinctive cultural contexts. Fears of breaching musical authenticity are allayed as Campbell explains "music can (and does) change its sound as it shifts from one context to another" (p. xvi). Further introductory remarks address the roles of various instruments and the human voice in bringing these "tunes and grooves" to life.

The alphabetically organized treasury of "heritage songs" includes songs in one to several parts, rounds and canons, chants, rhythmic grooves to be played on instruments, and a variety

Tunes and Grooves taps into a variety of musical selections from all regions of the world

of listening selections. Examples from the extensive variety of musical selections include: "'Ulili E," "Ah, Poor Bird," "Benjamin Franklin," "Salsa Groove," and Copland's "Fanfare for the Common Man." Each song is presented in Western musical notation; many have chords indicated above the staff as appropriate. Additional verses are presented underneath main song notations as needed. A section entitled "The Tune" communicates important information about the origin and function of each particular musical selection. It is followed by a section called "The Culture" which delves into the musical, social, and cultural context from which the piece emerged. Genres, forms, and functions of the selections are included in this section. "The Culture" allows the user of the text to proceed with a firm foundation of the "wheres and whys" of each piece of music. A section entitled "The Experiences" follows and features techniques for moving the songs from the printed page into the ears, voice, and body. Each selection carries the potential to be spun out into activities involving singing, playing instruments, chanting, composing, moving, playing games, and more. A "Recommended Listening" list is provided as the finale to each tune, serving as a point of departure for further exploration of a particular musical culture, genre, or form. A helpful Appendix at the end of the text presents pertinent information for each musical selection including meter, key, chords used in the song, and vocal uses of the songs, such as in solo, unison, or choral singing.

A Three-CD set accompanies *Tunes and Grooves* featuring more than 60 recorded selections that coordinate with the text. The recorded selections serve a variety of functions from modeling styles of musical performance, accompanimental backdrops, and, just fun listening. Artists spanning both time and geography are featured, from J.S. Bach to salsa-great Eddie Palmieri, to sitarist Ravi Shankar, to folk legend Lead Belly, bringing the sonic sensibilities of far away and long ago into one's immediate grasp. Although every selection from the text is not represented in the CD collection, the remaining tracks may be located under *Tunes and Grooves* in the iTunes online music store and purchased for classroom use.

Campbell's *Tunes and Grooves for Music Education* is a truly breathtaking addition to the resources available to those who make music. Tunes and Grooves holds enormous potential for use in K–12 music education settings in addition to university-level music teaching methods courses. By no means, though, is this a resource for music classrooms alone; its applications in music therapy and community music settings may be many and varied. *Tunes and Grooves* preserves these 200+ musical gems in order that they may "draw people of every age into the act of making music" (p. xx), truly, an admirable musical objective.

*Review by **Sarah H. Watts**, a doctoral student in music education at the University of Washington in Seattle.*

BY CAROL ERION

Aguinaldos

By Virginia Nylander Ebinger

Sunstone Press, 2009

Teachers familiar with the books of the late Gin Ebinger know them for their rich collections of Hispanic musical culture. *De Colores*, her first book, is a collection Spanish language songs for children, and *Niñez: Spanish Songs, Games and Stories of Childhood* offers Orff teachers even more material for the classroom. Gin's last gift to us, *Aguinaldos*, is the richest of all.

Aguinaldos is a collection of Christmas songs from the Spanish-speaking countries of South America, Central America, the Caribbean Islands, and Mexico and New Mexico (the only state in the United States that is officially bilingual). But this book is much more than a song collection. There is a fully developed section of the book that describes each country's geography, history, peoples, and their various Christmas traditions. And yet there is still more to this book! There are recipes (lots of them) from each of the countries included in the book for special dishes customarily served during the Christmas holidays.

The book's essence is captured in the title, *Aguinaldos*. This title was suggested to Gin by Sofia Lopez-Ibor, and the definition of the word tends to vary among Spanish-speaking peoples and throughout history: "To some it is a small gift, usually candy or fruit, given to children who go from house to house during the Christmas season 'begging aguinaldos,' or the verse by which they ask for these treats" (pp. 11–12). The word also applies to traditional gifts of money to employees—the Christmas "bonus." To many, the word also means that the particular body of Christmas carols that are sung by carolers as they walk through the streets and visit one another. These songs, *aguinaldos*, are folk-like, most often in triple meter and are accompanied by folk instruments.

The heart of this book is the rich song collection. There are 53 songs, with a majority of them having religious texts. Some of them have a long history (Riu, Riu, Chiu, for instance), but most are folk songs. The meters include 2/4, 3/4, 6/8 and mixed meters, and most of the songs have chords indicated, so that simple guitar or piano accompaniments can easily be made. The chords rarely go beyond I, IV, and V in harmonic complexity, so they lend themselves to functional harmony settings for Orff instruments. There are two Puerto Rican songs arranged for voice and hand drum by James and Isabel Carley and a two-part vocal setting by Pilar Posada included in the collection as well. There are also songs in the first part of the book where specific holiday customs of specific countries are described. These songs are part of religious dramas that have come through history from medieval Europe. "Las Posadas," "Los Pastores," "Los Tres Reyes Magos," and "Los Comanchitos" are among them.

While a review of a cookbook may well be a first in the pages of *The Orff Echo*, a cookbook review is perhaps long overdue. It seems quite probable that a high percentage of Orff Schulwerk teachers are also good cooks. After all, a really good cook knows well

all the ingredients, the elements, necessary in the creation of a dish, knows the cooking process, and also knows how and when to improvise. Does this not also sound like an Orff Schulwerk teacher's set of talents? Those who have had the pleasure of eating from Gin Ebinger's kitchen know full well her talents as a cook. The inclusion of recipes here in her song collection makes perfect sense.

Aguinaldos is really a genre unto itself. It is surely unique among materials published for music teachers, in that it is one of very few books that physically demonstrate the multifaceted-ness of the culture of a people. *Aguinaldos* is at once scholarly, engaging, and exceedingly useful. The layout of the book is in three distinct sections: information about the countries, the song collection, and recipes. Because many of the songs and recipes overlap countries, this division into three parts makes finding exactly what you need a fairly simple task. The book also has a helpful glossary, which covers unfamiliar words and phrases found in both the songs and the recipes, and there are references and resources listed at the end, as well. The publisher has even chosen an elegant typeface, so the overall impression is that the book is a thing of beauty.

Once *Aguinaldos* has been used and enjoyed in various ways, one is left with the dilemma of where to store it so that it will be handy when needed. On the music shelf? Ah, but then it would be too easy to forget the book when hunting up a good recipe for chile or tres leches. Perhaps it belongs in the kitchen, then? Well, no, the book needs to be among music books, in the holiday section, for convenience in planning lessons and concert programs. The solution? Two books!

Aguinaldos was published just days before Gin's death. She will continue to speak to us through this book that so beautifully demonstrates her love of Spanish language songs and culture … and cuisine. ■

Carol Erion *retired from Arlington County Public Schools in Virginia and is a former member of* The Orff Echo *Editorial Board.*

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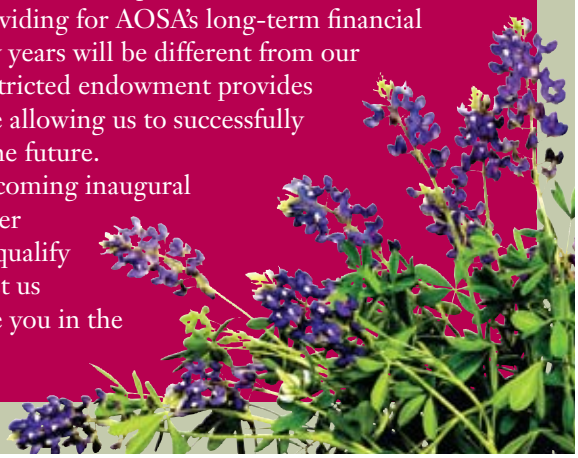

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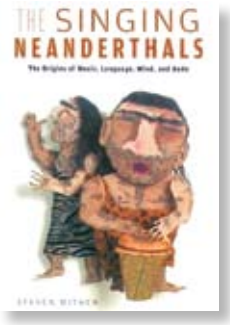

The Singing Neanderthals: The Origins of Music, Language, Mind, and Body

By Steven Mithen, Phoenix Books, 2005

Few lack convictions about why music is important. For virtually everyone, the music we love is a key shaper of our identity. It tells us where we fit in with our community and culture, with whom we love to work, learn, worship, and party, and how our deepest, most authentic feelings can be stirred. For a music teacher, the list gets much longer: music shapes and regulates our aesthetic sense, unleashes inner worlds of creativity and outer worlds of socialization and cooperation (add your own favorite items to the list here). But *why* and *how* does music do all of these things, not only in one's own culture, but also universally throughout planet earth and the long history of humankind? Because being human means being musical, does music exist for a reason bigger than even all of that (as if that wasn't big enough)? Can we go so far as to say that music was an evolutionary adaptation, crucial to our very survival? British paleo-archaeo-biologist-historian (the man's erudition defies classification) Stephen Mithen, a brilliant and humorously self-deprecating guide to these questions, tours their mind-expanding realms in this memorable, innovative book.

Around the world, the question of music's origins and purpose has always been answered in ways specific to different peoples and beliefs. Yet there was a remarkable consistency: music came from (the) god(s), was encountered in dreams, natural formations, or birds, or was invented by a revered ancestor. It is a conduit, in other words, to the world of the sacred, unseen and unknown, a force bigger than us.

But in the West, science gradually intervened to seek its own kind of clear-headed solutions the problem. Philosopher-scientist Jean-Jacques Rousseau wrote in his classic, *The Origins of Language*, (1792) that music predated language and was how humans communicated "the passions" at a time before we could even put words to our thoughts. Then in *The Origin of Species* Charles Darwin explained music as sexual selection or as it was formulated in a more tongue-in-cheek way recently, the "Mick Jagger effect": the better, more charismatic musicians get more and better mates. These speculations are suggestive, but they only scratch the surface

A full chapter is dedicated to one of the most persuasive arguments for music as a survival tool—how the innate capacity for rhythmic and melodic coordination enables mothers to bond with their infants literally from birth.

Darwin devoted only a few scant pages to music in his work, but it wasn't until the past few decades that new generations of scholars and scientists have probed further, using the combined tools of many modern disciplines and research techniques. Mithen reviews and synthesizes all of this in a lively prose style anyone can understand. In the book's early chapters he explores cutting-edge knowledge in neurology to tell us which regions of the brain activate and conspire to make us behave musically, emphasizing their integrated synchrony and taking care to distinguish between adaptations—capabilities evolved for a specific survival purpose and exaptations—adaptive behaviors that later developed non-survival uses. The history and function of emotion in the human past is surveyed, and shown to have been a central player in the development of our very strategies for existence. Emotion is linked to music's unsurpassable ability to encode, express, and stimulate crucial perceptions, and even heal the sick. A full chapter is dedicated to one of the most persuasive arguments for music as a survival tool—how the innate capacity for rhythmic and melodic coordination enables mothers to bond with their infants literally from birth. At an evolutionary level, this was an essential link to coordinated social activity, the development of ritual, and ultimately, human society itself.

In the second part of the book, Mithen takes us on a tour of our remote past, even as far as the world of our pre-human ancestors. Is there any link between primate vocalizations and human emotional expression? (Yes, as it turns out.) What about birdsong and human music? (You'll be surprised at the analogies.) What did learning to walk upright, when our ancestors lived on the African savannah, do for our potential musical abilities? (A great deal, as it forced us to walk in balanced, symmetrical rhythm, and run from predators in exhilarating, coordinated, pulse-pounding time.) On the savannah we also gradually learned *mimesis*—the imitation of environmental features through integrated sound and movement which ultimately spiced the stew leading to the now-distinct quali-

ties of music, dance and language.

Mithen's own theory—whimsically termed Hmmmmm (early human behavior was **H**olistic, **M**anipulative, **M**ulti-**M**odal, **M**usical, and **M**imetic)—brings together all of the separate researches he so lucidly summarizes. In our prehistory, there was no "music" separate from life and survival. Things have changed so much! The contemporary world of professionalism, musical consumerism, and the very idea of someone who is "not musical" seem a universe apart from how it once was, and despite humanity's many great musical achievers, a great deal seems to have been lost in the process. Thus Mithen's careful arguments end up becoming a sly critique of music in modern life. "Bring back Hmmmmm!" he writes with sweet, affecting plaintiveness. It's a lament that cannot fail to move anyone who teaches music to children.

*Reviewed by **Michael Tenzer**, professor of music education at the University of British Columbia.*

PREVIEWED BY BETH IAFIGLIOLA

Assessment: Piecing It All Together

Presenters: Christopher Tranberg and Donna Gallo ■ **AOSA AV Library:** 169CTDG

The assessment vocabulary "top hits": accountability, strategies, mastery, standards-based report card, data, quantify, interpret, measurement tool, checklist, rubric, benchmarks, and modifications for special learners. Does this sound familiar?

Join the discussion with Christopher Tranberg and Donna Gallo in this 2008 AOSA National Conference session.The pair brings order and understanding by breaking down a third-grade music lesson into manageable moments for assessment.

Technology provides the presenters with the organizational tool the duo need to display the process. The "hard copy" notes provide the viewer a record of this discussion for future reflection. The discussion at the end of the lesson gives insight into applications in various settings.

Although the presentation and this preview make assessment seem clinical, the goal is to give teachers a glimpse on how accurate assessment can meet the growing demand for information and accountability, yet still be part of an organic teaching process. At one point, the presenters make the point clear by commenting on how this system eliminates additional paperwork, and once in place, provides the feedback needed to demonstrate growth.

Tranberg presents the reasons why assessment is important. Assessment provides authentic information on when to move ahead in the curriculum, offers opportunities for teachers to improve and revisit a lesson, provides a way to record specific information on each student's progress, and acknowledges through data when a student has mastered a skill.

Assessment provides a way to record each student's progress, and acknowledges through data when a student has mastered a skill.

In each segment of this session, Tranberg uses a four step process he labels "Steps Toward Successful Assessment." The pair emphasize throughout the session that using generic lists, whether as rubrics or as a procedure for this session, the learner becomes part of the process. For the viewer, the repetition of "assessment steps" provides another example of how communication of expectations makes the goal easier to understand.

Gallo begins by singing a four-measure American Folk Song called "Save It." The presenters use this song as a seed for the session's activities: playing a singing game, outlining the process for a music dictation worksheet, reading a recorder melody from *Music for Children*, *Volume I*, and improvising a melody on mallet instruments.

Throughout each activity, Tranberg and Gallo add insights and strategies from their own experiences. For example, the component 'singing alone' is nurtured in the classroom from the beginning and becomes part of the culture of the room. The expectation of participation, respect for others, and acceptance of a strong effort eases the anxiety of performance. Gallo mentions that some of the session's activities were created in small groups in which the teacher chooses students with complementary strengths. The students learn from each other. Because each presenter stated that only seven or eight students were assessed each class period on any particular activity, the assessment exercise may extend past one class period. Gallo uses this extra time wisely by selecting the strongest candidates first to show an excellent student model while allowing other students additional time for further practice.

Throughout the entire presentation, both presenters continue to uphold the role of the teacher as the expert in the classroom. "The final grade is your judgment," states Tranberg. ■

***Beth Iafigliola**, a member of the Greater Cleveland Chapter AOSA, teaches music in the North Royalton School District, with past experience in strings, choir, private piano, and preschool music. She has been promoting the AOSA AV Library since 1995.*

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In the Fall Issue of *Reverberations*:

- Highlights scheduled for the Milwaukee conference
- Meet the newly elected members of the National Board of Trustees
- Saluting Jessie Vance and eleven years as *Reverberations*' Editor
- Chapter Workshop Calendar for 2009–2010
- OPUS: *How Do You Control Creative Movement*
- PATSCHWERK: *Starting a Percussion Ensemble*

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Henry Ward Beecher

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