

# Singles, Doubles, Triples: Rudimental Building Blocks as Applied to Four-Mallet Keyboard Technique

BY NICHOLAS PAPADOR

The continuing expansion and evolution of marching percussion is, in part, a result of numerous performers, educators, and clinicians who have explored the technical aspects of rudimental playing at a base conceptual and physiological level. Various method books examine basic stroke types and hand motions—often from precise and narrowly focused standpoints—in order to isolate and remedy technical inconsistencies in students’ playing and to unify technique between section players. One concept that I find most useful with drumlines and in my own playing is that of single-, double-, and triple-beat stroke types.

## Example 1

**Singles**  
R R R R R R R R  
L L L L L L L L

**Doubles**  
R R R R R R R R R R  
L L L L L L L L L L

**Triples**  
R R R R R R R R R R  
L L L L L L L L L L

Played at slow tempi, all of the examples require single wrist strokes. However, at faster tempi, when the wrists alone cannot produce the second or third notes with an equal or stronger dynamic level, the player must incorporate finger muscles to reinforce the volume of these notes. As an example, consider the Flam Tap rudiment.

## Example 2

**Flam Taps**  
L R R R L L L R R R L L L R R R L L L R R R L L L

### Flam Taps (with LH omitted)

R R R R R R R R R R

### Flam Taps (with RH omitted)

L L L L L L L L L L

If the player omits either the right hand or the left hand, the result is groups of three consecutive strokes in one hand. Therefore, the maximum tempo that a player can play triple-beat strokes will be the tempo at which the player can cleanly execute Flam Taps.

Using this concept as a component of a drumline or personal warm-up/chop builder can accurately ascertain which written passages are within a player’s ability and which passages need extra attention. Therefore, rudimental players will often drill single-, double-, and triple-beat strokes to build their threshold of speed before working on rudiments, show music, or solo literature.

Since the origins of the modern drumset, such performers as Warren “Baby” Dodds and William “Cozy” Cole contributed to the early vocabulary of the kit employing traditional, rudimental influenced drumming; this practice continued and evolved from players like Buddy Rich to Steve Gadd and up to the present day. In four-mallet keyboard percussion the technical treatises and stroke types are established and well documented, but rarely are parallels drawn between this field and the rudimental tradition.

There are a number of reasons this may be the case. Often times in marching percussion, attention to muscular detail is not meant to develop only technique, but also uniformity among players. Other than in unison passages, this uniformity does not always apply to a mallet section. Also, but hopefully less likely, young players may be tempted to forsake alternating sticking in keyboard passages in favor of an inefficient sticking that the student finds easy to memorize, resulting in a lack of fluency and of legato phrasing. Perhaps more importantly, mallets and mallet instruments do not provide the natural bounce of drums that inspired such virtuosic and idiomatic rudimental drumming.

While four-mallet technique bears even less physical resemblance to rudimental snare drumming than two-mallet work, devising a common terminology can be a valuable tool in find-

ing technical equivalents between these two major percussion areas. Single/double/triple-beat building blocks offer the same useful applications for building chops and technique in four-mallet keyboard percussion with the proper muscular adjustments. For this reason, I am presenting several techniques and exercises based upon this premise. Moreover, since the keyboard percussionist is playing with four mallets, possibilities for right-hand and left-hand applications of these stroke types are often increased.

When selecting warm-ups and exercises, I echo Leigh Howard Stevens' sentiment that mallet percussionists should pick their battles and make sure to recognize whether they are working on the hands (technique) or on the brain (theory), and to devote time to both disciplines *separately*. Exercises should not only warm up the hands, build chops, and increase overall accuracy; they should help you pinpoint what kinds of mistakes you make and give you the means to fix them.

In the following discussion, I will be using Stevens' stroke designations "single independent," "double vertical," "double lateral," etc., introduced in his book *Method of Movement* in 1979.

## PART 1: SINGLE-BEAT STROKE EXERCISES

### Double Vertical Strokes

Two common four-mallet stroke types that correspond to single-beat strokes on drums are commonly called the double vertical stroke and the single independent stroke. Double verti-

cal strokes do not require the "lateral motion" of turning the wrists. The stroke is created with up-and-down wrist motions familiar to snare drumming and two-mallet playing.

The most frequent problem I encounter with students is when the four-mallet grip (Musser/Stevens or cross-grip) is held too tightly, because the player does not feel in control of the sticks. The percussionist's natural instinct is to use the fingers to accommodate for speed, as one would when playing singles, doubles, and triples on the snare drum. On mallet instruments, however, tightened strokes will likely compromise the natural resonance of the bars. Additionally, the tightened grip can often "slice" the natural up-and-down motion of the stroke and/or inadvertently change the interval of the two mallets.

Another common problem is that students often will play Musser/Stevens grips with the wrists pointing up instead of the thumbs. Variations of this problem also exist in cross-grips. This alteration inhibits the outer mallets' striking independence because the player is using the inside mallet in a manner more consistent with snare drumming or two-mallet playing, making the outer mallets cumbersome.

Perhaps the most conceptually basic exercise using double vertical strokes (both hands) is chromatically ascending major chords (Exercise 1) and exercises 162–170 from *Method of Movement* (one hand at a time). These are exercises that Stevens stresses should not be skipped. These warm-ups should be retained and executed at fast tempi—even if the student is moving forward to new exercises—to promote strength without



The Peabody Conservatory boasts a preeminent faculty, a nurturing, collaborative learning environment, and the academic resources of one of the nation's leading universities, Johns Hopkins.

For more information, contact:  
Office of Admissions  
One East Mt. Vernon Place • Baltimore, MD 21202-2397  
Toll Free: 800/368-2521 In Maryland: 410/659-8110  
[www.peabody.jhu.edu](http://www.peabody.jhu.edu)



THE Peabody  
CONSERVATORY  
OF THE JOHN HOPKINS  
UNIVERSITY

using finger muscles, which is common in fortifying snare drum technique. All of the exercises presented in the article are to be played and transposed upward chromatically until they have been played in all keys.

### Exercise 1

#### Double Vertical Strokes

continue exercise upward chromatically through all 12 keys

#### Single Independent Strokes

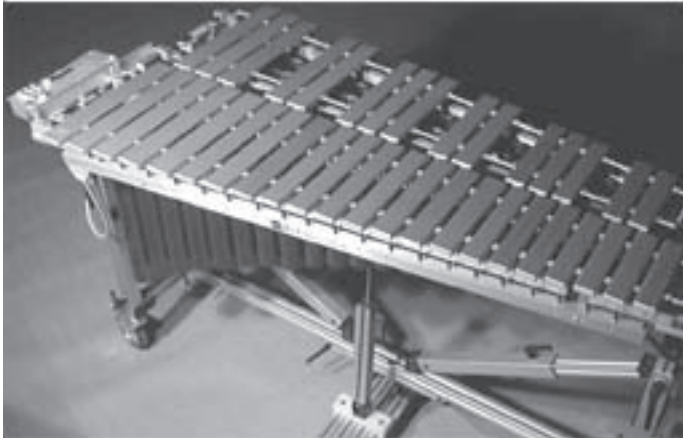
Single independent strokes are more difficult than double vertical strokes because the technique requires a lateral wrist motion not used in snare drumming or two-mallet playing. This stroke is made with a single rotation of the wrist. The best way to check the correctness of the stroke is to make sure the unused mallet does not move while the other is striking the bar.

Exercise 2 is an "Eight on a Hand" exercise for four-mallet

singles, which simply combines exercises 1–3 in *Method of Movement* to incorporate interval shifts. Make sure to hold the octave, fifth, and third intervals in each hand so you will develop a consistent sound and dynamic using different levels of torque or wrist-stroke pressure. The wrist-stroke torque is of the utmost importance and is analogous to the finger stroke in snare drumming in order to support additional strokes beyond the first in four-mallet keyboard playing.

### Exercise 2

## To Amplify A VIBRAPHONE, THE PROS CHOOSE K&K.



**Mike Mainieri:** "There is ONE midi-vibe system on the planet that works. It's compact, virtually indestructible and easy to use. I recommend the K&K system highly to vibists."

Also played by Dave Samuels, Joe Locke, Emil Richards, and the late Lionel Hampton.

Available for vibraphone, marimba, and xylophone. New in 2004: Vibe Wizard MIDI with advanced features.

**K&K SOUND**  
kksound.com  
1-800-867-6863

As you advance through all 12 keys with Exercise 2, you will encounter thirds that cross keyboard manuals (such as D-flat to F, or D to F-sharp). To develop greater consistency, I don't cater to the "shape" of the interval by continually adjusting my arms and elbows to place both mallet heads over a two-note diad. Instead, I do "push ups" and "pull offs" that allow me to maintain my basic general stance and posture (see Example 3). This will become more important in maintaining sound and accuracy when approaching double lateral strokes as double-beat stroke concepts.

Exercise 3 is recognizable as Exercise 29 in *Method of Movement*. Once the player is able to quiet the unused mallet, playing and building speed on major scales with one mallet is another effective means of single-beat development in a setting where the player can concentrate on building physicality and strength.

### Exercise 3



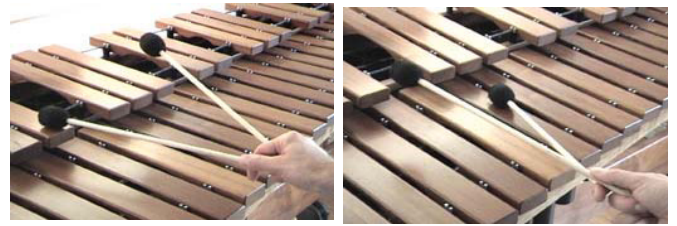
One other technical consideration for these exercises is that while we use the wrist in a rotating fashion to quiet the unused mallet, a traditional up-and-down wrist motion in combination with rotation is often appropriate in practice for additional control of dynamics or articulation. An up-and-down wrist motion is, in fact, often required in combination with the rotation for double-beat strokes.

### Single Alternating Strokes

Single alternating strokes are usually the first type of four-mallet permutations a student encounters. They appear in most four-mallet works and are often integral compositional components of pieces like Mitchell Peters' "Yellow After the Rain," my own "Autumn Portrait," and several works by Keiko Abe. Although these sticking patterns are the most accessible to beginning four-mallet players, they can be technically more difficult than "advanced" strokes in sound development because they do not allow for up-and-down wrist strokes at fast tempos. In fact, if you omit one hand from a very fast single alternating permutation, you'll find you're actually playing a slow, metered, independent roll, albeit with a different articulation.

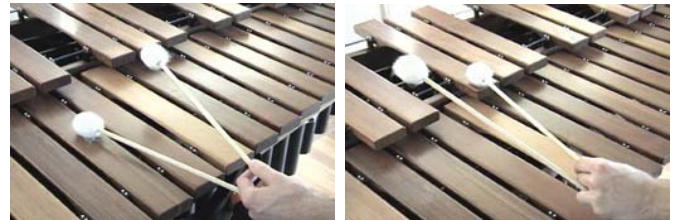
Exercise 4 concentrates on two single alternating stroke permutations, though there are countless others to choose from. These exercises provide the minimum core coverage of wrist control in both directions in each hand. It is important for the player to have equal control of upward (mallet 1 to 2 and 3 to 4) and downward (4 to 3 and 2 to 1) sticking motions. Equal ability should be attained not only in right-hand and left-hand lead

### Example 3 The "Pull Off" Motion



The primary note of this double lateral stroke is an E-flat struck by mallet 3. The wrist rotates to the right while the elbow pulls backward, allowing mallet 4 to strike the G.

### The "Push Up" Motion



The primary note of the stroke is a D struck by mallet 1. The wrist rotates to the right while the elbow pushes forward, allowing mallet 2 to strike the F-sharp. Be careful not to "stub" the mallet pushing upward against the edge of the accidental bar.

Both "pull offs" and "push ups" can occur in either hand and can begin with either the inside or outside mallet. In rudimentary terms, these strokes could be thought of as equivalents to "sweeps" on marching tenors. The strokes can cut down on sticking the elbows outward for certain sticking permutations, contributing to a more consistent sound from mallet to mallet.

between each hand, but also with right-mallet and left-mallet leads *within* each hand. The demands of the keyboard repertoire written by non-percussionists often do not allow for hand-dominant pursuits often inherent in drumset playing, hand drumming, and aspects of snare drumming.

### Exercise 4





One common tendency with four-mallet warm-ups is to create a warm-up based on the piece you are playing, such as a 4132 permutation warm-up for Keiko Abe's "Michi." While this is certainly welcome, the hands are in a sense, "preaching to the choir." There are players who are quite adept with some sticking patterns but cannot maintain permutations where the mallet orders are reversed, because the warm-up and repertoire choices are the same, while other hand motions with subtle, but distinctly differently muscular demands, are ignored outright.

**PART 2: DOUBLE-BEAT STROKE EXERCISES**  
**Double Lateral Strokes**

Most of the motions and traditional sticking types fall into the category of single-beat strokes because keyboard percussion instruments do not have the natural bounce of a drumhead, but the use of double-beat strokes through double lateral strokes is an important skill with several overlooked benefits. It is the four-mallet equivalent of a "diddle" in snare drumming.

The biggest difficulty in developing consistent diddles on snare drum is getting the second note to match the first in volume and intensity. At faster speeds, the finger muscles are needed to fortify the second note when there is not time to complete two wrist strokes. The same principle is in effect with double lateral strokes, except that a wrist rotation is used rather than finger motion.

To review, the first stroke is brought downward and the wrist rotates to strike the second note (the diddle). The fingers and grip *should not* be tightened to fortify the second note; more often than not, this inhibits the resonance of the sound and contributes to inaccuracy. Double lateral technique is not new to most students in concept, but it is a muscular development rarely utilized when studying snare drum, timpani, two-mallet, or drumset curriculum.

Exercises 5a to 5d account for upward and downward motions in each hand. While numerous other combinations exist, your muscles should be able to adapt without too much difficulty once these motions are comfortable at quick tempi. The first two measures of each exercise should be performed as single independent strokes, and the second two measures require double lateral strokes because the speed of the strokes doubles. Stevens calls the first two exercises "sequential" since they move in upward or downward patterns, and calls the second two "mirror" double lateral strokes since they create repeating patterns in which each hand begins its "diddle" on the same corresponding mallet (either the inside mallet or the outside mallet). It will not take long to discover which motions

need more. I consistently need extra work with the 2 to 1 mallet motion.

Continue each of the following exercises chromatically through all 12 keys.

**Exercise 5**



Any of these patterns, once mastered at quick tempos with a fluid legato sound, becomes a double lateral roll or "ripple roll." Some players do ripple rolls by loosening the grip and letting arm movement produce a flam-like motion in the mallets. While this can be musically effective, it can also cause mallets to slip to wrong notes, and the individual strokes within each mallet can be less consistent in sound and articulation. Moreover, in

keeping with the singles/doubles/triples theme with double beats corresponding to diddles, the double lateral roll is the equivalent of the open roll on snare drum—one of the percussionist’s truly *fundamental* rudiments. With that in mind, any of these double lateral patterns can and should be practiced “open – closed – open.”

Once the muscle motion begins to feel good, these strokes should be practiced with interval changes. I recommend the following exercises from *Method of Movement*: 279–294, 307–314 (hands alone, no hand shifts), 327–334. Pay particular attention to 283–4 dealing with thirds. Make sure to work on “pushing up” to the black key when playing diads such as E to G-sharp and “pulling off” the black key with diads such as E-flat to G rather than adjusting your elbows for every motion. There will be repertoire pieces where the spread of your arms and body positioning will not allow you to always be able to position each mallet head over every note (review Example 3).

### PART 3: TRIPLE-BEAT STROKE EXERCISES

Triple-beat strokes on snare drum are not easy at fast tempos and are rarely the most efficient sticking choice. However, in flam rudiment passages, accent isolations, one-handed ostinati, or inventive rudimental phrasings/stickings, triple strokes (and strokes in one hand in excess of three) are a skill percussionists in most genres need to develop in order to build chops and fortify the rhythmic integrity of the music they are playing.

The same is true with four-mallet keyboard playing. Advanced solo keyboard percussion repertoire, and arrangements/transcriptions for keyboard percussion (including Baroque arpeggiation/ornamentation suggestions), contain passages that rely heavily on triple strokes within mallets on a single hand to economize arm and body motion, and to avoid overly cumbersome crossovers. Triple strokes are also the first step in developing a relaxed and even one-handed roll, without resorting to a stiff twitch motion to rotate the wrists.

As with double-beat strokes, the triple-beat stroke motions in Exercises 6a and 6b require a vertical wrist stroke followed by two rotation strokes to complete the triplet. They should be played at a slow tempo at first; evenness of the rhythm and articulation is key. The player’s overall technical fluency will benefit from the ability to start the triple strokes with either the left or right hand, and also with the left or right mallet within each hand.

Exercises 6c and 6d take the triple-beat idea one step further to create a two-beat one-handed roll. The second two beats of each bar are more difficult because the sticking does not allow you to re-attack with a vertical wrist stroke. If the exercise can be executed evenly and gradually advanced in tempo, each hand should be able to continue rolling beyond the two beats.

Continue each of the following exercises chromatically through all 12 keys.

#### Exercise 6

6a Alternating Triple Strokes

6b

6c Paradiddle Triple Strokes

6d

With wrist rotation being the four-mallet player’s equivalent to the finger stroke, percussionists can develop these muscles by investing time and patience to translate the techniques that rudimental players use when playing sixteenth notes with one hand at fast speeds using the finger stroke. Urban myths persist that some players cannot play an independent roll, or that

## EDUCATION COMMITTEE CHAIR SEARCH

Applications are being accepted for the chair position of the PAS Education Committee. Among the many responsibilities, the chair will facilitate and coordinate the activities of the committee by examining and addressing topics and issues related to the committee and the Percussive Arts Society.

Deadline for applications:  
October 1, 2004

Applicants should send a letter of interest and a current vita to Michael Kenyon, Executive Director, Percussive Arts Society, 701 NW Ferris Avenue, Lawton, OK 73507.

the rolls can only be played using particular grips. Each four-mallet grip requires a different physicality that contributes to a different personal tone at the instruments, but no commonly used techniques should be inaccessible to any four-mallet grip.

If you look carefully at the stickings in Exercises 6c and 6d, you will notice that each triplet is in either your right or left hand; if you give each triplet an R or L label, you'll see that both exercises are extensions of a paradiddle concept. This frequently happens in modern rudimental snare drumming, resulting in hybrid rudiments.

Example 4 is a hybrid rudiment commonly called a "Shirley Murphy" (different drum corps may have alternate stickings for this). Looking at the boldfaced stickings, it is quite similar in design to the triple-stroke keyboard paradiddle in the previous exercise.

Example 4

The image shows two staves of musical notation for Example 4. Each staff contains two measures of music. The first measure of each staff has a triplet of notes with an accent (>) above it, followed by a triplet of notes with an accent (>) above it. The second measure of each staff has a triplet of notes with an accent (>) above it, followed by a triplet of notes with an accent (>) above it. The stickings are: Staff 1: R R R L L L, R L L R R R; Staff 2: L L L R R R, L R R L L L.

#### PART 4: PHYSICAL CHALLENGES AND PREPARATION

Because single/double/triple-beat strokes are base building blocks of most exercises and literature, locating each example in every piece could be an endless and redundant pursuit. However, I wish to point out some particular examples of these stroke types in a musical example to illustrate how a student or performer might assess the physical demands of a piece, not only by stroke types, but by physical prowess required in each.

David Maslanka's "My Lady White" (Keyboard Percussion Publications Inc., 1981) is an appropriate example because it is widely performed by students and professional players.

Example 5

The image shows two staves of musical notation for Example 5. The top staff is numbered 28 and the bottom staff is numbered 35. Both staves show complex rhythmic patterns with mallet markings (v, vcc, vccv) and dynamics (ff). The notation includes various rhythmic values and rests, with some notes marked with accents (>).

These three songs for marimba are beautiful in their relative simplicity; and yet, because of challenges posed by single-, double-, and triple-beat stroke ideas, the piece does not always come off with this sense of ease in performance, with inconsistencies in tone quality and accuracy.

#### Single-Beat Challenges: Double Vertical Strokes

Undoubtedly, the most difficult sections of the piece requiring single-beat double vertical strokes are the tremolo passages at measures 28, 60, and 71 of the second movement (see Example 5). In order to perform these passages with the "sense of tumultuous motion" as indicated by the composer, the performer will likely need to play the tremolos as metered sixteenth notes, as suggested. This pulse will help prevent the chorale-like texture from slowing the pace of the music. This also means that the player must maintain double vertical sixteenth notes at quarter note = 184 for as many as 12 measures. The notes and musical content should be relatively easy for a student to grasp, but building single-beat stroke chops will be necessary.

The first and third movements are technically less difficult, but this metered technique of practicing tremolos will be useful in developing even-sounding traditional rolls, a fuller sound at the instrument, and greater rhythmic integrity in the work's harmonic rhythm. For block-chord chorale practice, left-hand lead is desirable because the lower notes cut to the listeners' ears at a slightly slower rate. Often times playing the right hand of the "e" of the beat will give the aural illusion of the right- and left-hand voicing changing simultaneously.

#### Single-Beat Challenges: Single Independent Strokes

The only moment that repeated single sticking may pose difficulty in sound production occurs in measures 18 and 19 of the second movement on beats 2 through 4 in each bar (see Example 6). These accented eighth notes serve, in a sense, as the climactic material for the first section of the movement. Mallets 2 and 4 must play six consecutive notes each in a relatively high range at a fast tempo. Attempting to power out the volume from these notes without proper development of single-beat strokes could cause inaccuracy or too harsh of a tone quality. The "chirpy" character of these intervals in the upper register is crucial in creating the mood of spring and birds as indicated in the movement's title.

Example 6



**Single-Beat Challenges: Single Alternating Strokes**

One notable instance of this stroke type takes place in measure 42 of the third movement (see Example 7). Both hands alternate from outer to inner mallet in sixteenth notes for four beats. The single alternating strokes are not in the form of permutations, so the player must maintain an even tone and strong coordination to keep these unisons from sounding like flams. The player must also resist tightening the grip to execute the passage in order to maintain the mood of the passage, which is marked “simply”; it should sound relatively effortless. Although multiple strokes occur consecutively in each hand, the strokes are still to be considered single beats since a new stroke motion will likely be required for each note.

Example 7



**Double-Beat Challenges: Double Vertical Strokes**

While numerous passages in the work contain double vertical strokes, the passage beginning in measure 41 of the second

Example 8



Example 9



movement causes the most difficulty (see Example 8). Interval changes are one culprit, but it is primarily unsupported double lateral strokes that deter performances.

Again, learning to support second notes in the double lateral stroke is the equivalent to supporting rudimental diddles with the finger. Marimbists must practice the passage slowly while initially learning the notes at a tempo in which the strokes remain single independent strokes. The danger is in attempting to practice the passage too fast, because one cannot maintain an even rhythm and articulation at the tempos that lie in between the initial tempo and the performance tempo, where the strokes flow more naturally.

Developing wrist torque by increasing tempo in very small increments will allow even beginning four-mallet players to properly learn the passage by allowing rhythmic control in intermediate tempi, simultaneously developing technical strength and accuracy. The player must, of course, be patient and increase tempo only when the passage is performed accurately.

**Triple-Beat Challenges**

Musical passages with triple-beat stickings are brief, but crucial in retaining momentum in the second movement. In measure 14, a series of triple sticking patterns are indicated for three measures (see Example 9). The triple-beat sticking allows for accent isolation and eliminates any need for crossovers in the hands. Building triple-beat building block exercises will help to fortify the double *forte* dynamic and rhythmic integrity needed to reach the climax of the phrase in measure 18.

Another single-handed sticking passage occurs in the second half of measure 68. There are four consecutive strokes in the right hand, and because the preceding tremolos are played as blocked sixteenth notes, this passage constitutes a one-beat independent roll. The soft dynamic and possibilities for *ritardando* into the next passage make this passage more flex-



ible in execution than the triple-beat passage previously discussed.

The third movement contains tremolo passages marked as independent rolls, which the triple-beat development exercises will certainly help. However, with some very minor adjustments these passages can be substituted with a variety of roll types if needed.

With "My Lady White" and many works in our literature, we have the benefit of an experienced editor's sticking suggestions that give the performer some basic guidelines of the work's technical demands. However, written stickings do not necessarily reveal the physical development needed to perform them with convincing sound production and sense of authority. Using these single-, double-, and triple-beat strokes as an underlying criteria, one can have a clearer assessment of the physical strength needed to execute the piece before combining those challenges with the interval and body shifts that make "My Lady White" challenging. In cases where stickings or stroke types are not suggested by the composer or editor, these exercises based on single-, double-, and triple-beat strokes supply the performer with more efficient sticking options.

## CONCLUSION

The exercises contained herein are technical chop-builders that are the primary building blocks for musical passages found throughout most keyboard percussion literature and pedagogical materials. By aligning four-mallet stroke types with snare drumming and rudimental terminology, these exercises seek to provide congruent technical language for building a mature sound and speed at the instruments. By using analogous terminology, one can more effectively cross-train in varying areas of percussion by making the muscular adjustments for similar conceptual demands. This type of chop building at the keyboard instruments does not suggest that players develop additional speed at striking the instrument for its own sake; it is meant to promote full and confident sound production without the need to tighten the hands and compromise the resonance of the instrument to compensate for technical logistics within a piece of music.

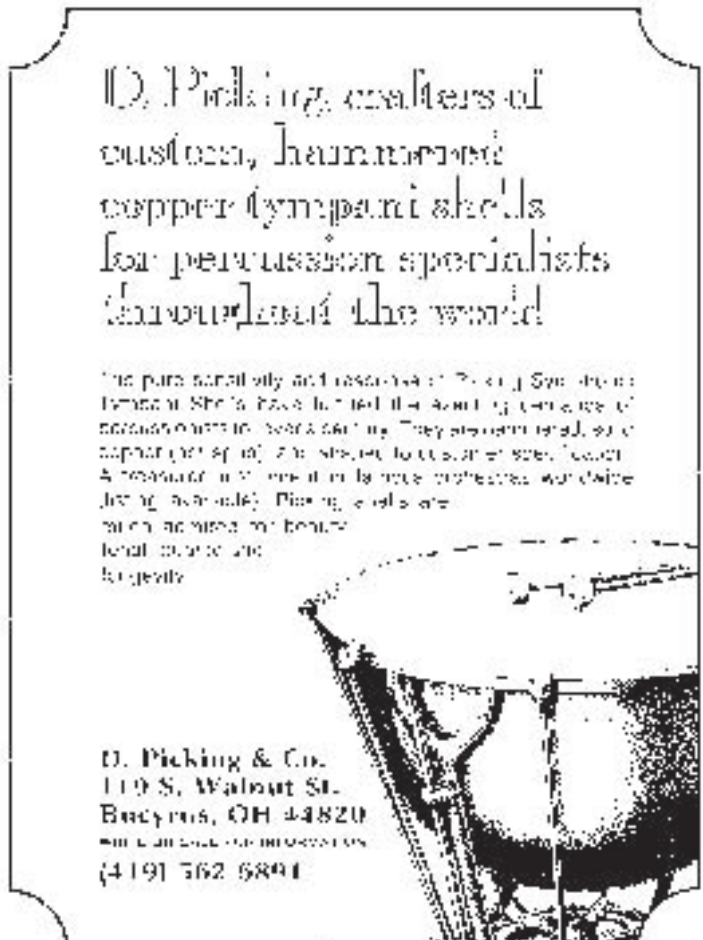
This conceptual parallel is not solely between keyboard percussion and snare drumming. I recently began performing in Cornell University's Middle Eastern Ensemble and discovered that to attain articulate and relaxed ornaments on the darbuka, I used wrist strokes followed by rotations to create finger rolls and ruff-like grace notes. The combination of wrist strokes provided energy needed to support articulate strokes with both the third and second fingers. I found the technique to be remarkably similar to double lateral strokes. Diddles and double strokes on these instruments are not supported by the finger since the finger itself is the striking implement.

These exercises are recommended as a routine for a number of situations, and its scope is limited only in that it does not address body motion up and down the instrument or efficiency in hand placement when jumping between registers. Students working on theory-based exercises using unfamiliar scales and arpeggios might consider using the exercises for muscle development, because students often initially learn the theory-based exercises at a tempo too slow to facilitate physical growth. When time does not allow a full 30 to 60 minutes of exercises, this routine is concise and adequately warms up the wrists and hands.

I hope that by suggesting analogous terminology between percussion instrument groups, students will be less overwhelmed by the numerous disciplines to which percussion majors must commit, knowing that even our most different instruments have technical concepts that inform and improve one another.

*Music examples from David Maslanka's "My Lady White" copyright © 1981 by Keyboard Percussion Publications Inc. Used by permission.*

**Dr. Nicholas Papador** is currently a Visiting Scholar at Cornell University where his activities include performance, accompaniment and composition with the Department of Theatre, Film and Dance; guest appearances as a soloist and conductor within the Cornell Department of Music; freelance activities in the Central New York area; and selected solo appearances/clinics nationwide. He completed his Doctor of Music degree in percussion from Northwestern University, an M.M. and Performer's Certificate at the Indiana University School of Music, and two bachelors degrees from the University of Oregon. His compositions for solo and ensemble percussion are published through Matrix Publishing and Warner Bros. Music, with forthcoming titles through Studio 4 Music and House Panther Press. **PN**



D. Picking & Co. offers a wide variety of custom, hand-made copper (cymbal) shells for percussion specialists throughout the world.

The pure quality and resonance of the original D. Picking & Co. hand-made shells have earned the company a reputation of excellence in the world of percussion. They are constructed from the finest quality of copper shells to ensure the best sound & resonance in the world. In the past, professional musicians have been advised to buy their shells from local music stores.

D. Picking & Co.  
119 S. Walnut St.  
Cuyahoga Falls, OH 44820  
513-325-1111  
(419) 762-6891