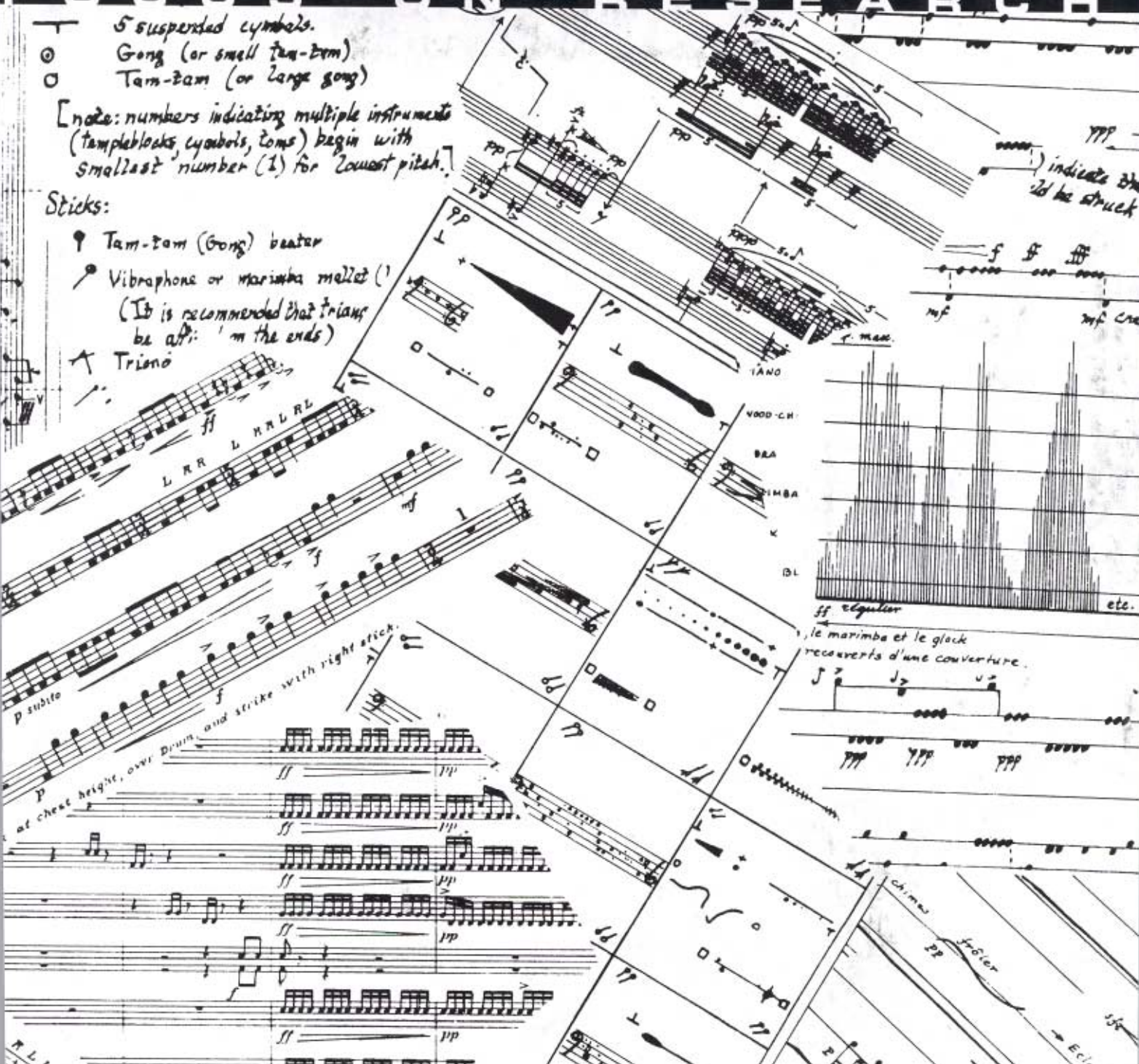
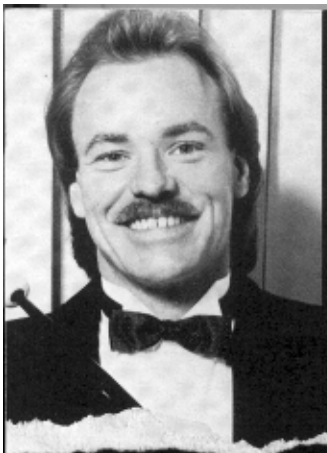
An official publication
of the Percussive Arts Society

Percussive Notes

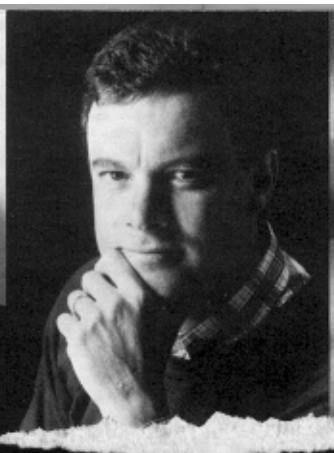
Volume 29, Number 5
June 1991

FOCUS ON RESEARCH



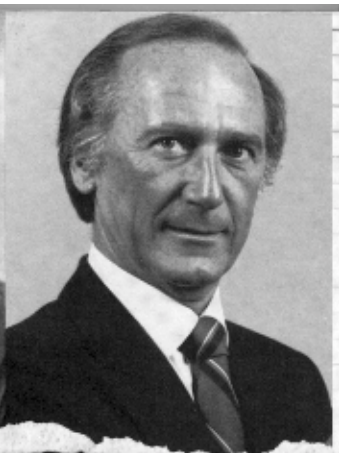


Steve Houghton
Percussion Specialist



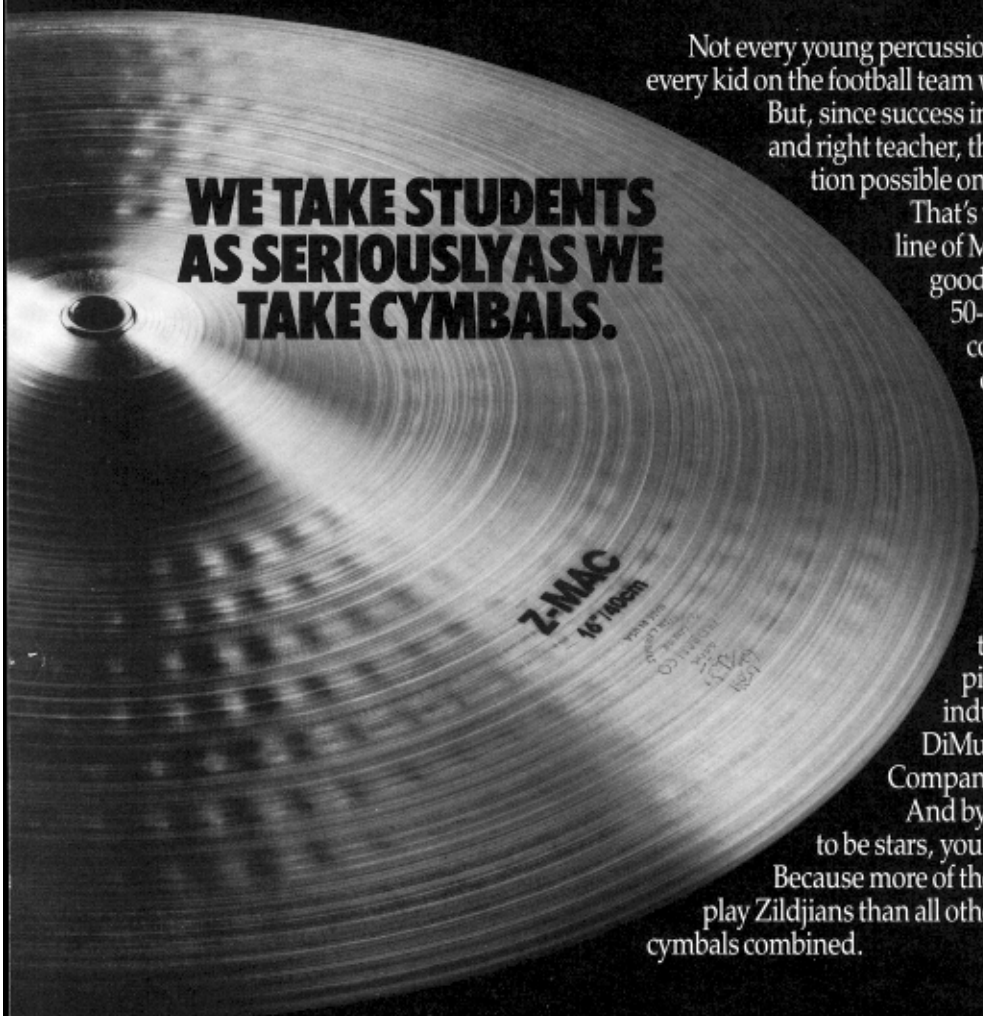
Ed Soph
Drum Set Specialist

Gary Chaffee
Drum Set Specialist



John Beck
Percussion Specialist

Johnny Lee Lane
Percussion Specialist



WE TAKE STUDENTS AS SERIOUSLY AS WE TAKE CYMBALS.

Not every young percussionist will grow up to be a star. (Any more than every kid on the football team will go on to the NFL.)

But, since success in music is often inspired by the right instrument and right teacher, they still deserve the best equipment and instruction possible on the budget you have to work with.

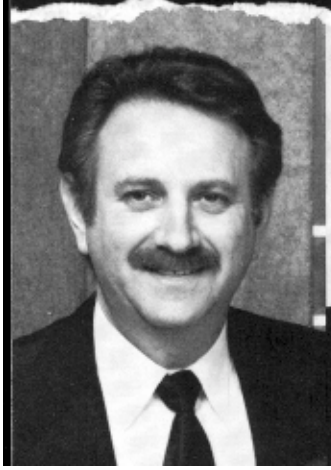
That's why we offer you the Z-MAC: the first and only line of Multiple Application Cymbals that sounds as good in the orchestra or jazz group as it does on the 50-yard line. It comes in a wide range of sizes, and covers the complete spectrum of sound and tonal colors from the original, full-bodied A. Zildjians to the legendary, hand-hammered K's.

That's why we offer a spectrum of marching and symphonic mallets, and a complete line of drumsticks.

But most importantly, that's also why we offer you a Zildjian department dedicated to helping educators educate, providing literature, teaching aids and, like the instructors pictured here, the greatest clinicians in the music industry. (For more information, write Lennie DiMuzio, Director of Education, Avedis Zildjian Company, Longwater Drive, Norwell, MA 02061.)

And by the way: if some of your students *do* grow up to be stars, you know very well which cymbals they'll choose. Because more of the world's great percussionists play Zildjians than all other cymbals combined.

Zildjian®
The Only Serious Choice.

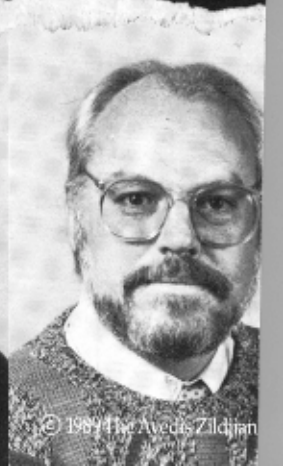


Frank Epstein
Boston Symphony

Sam Denov
Chicago Symphony

Anthony Cirone
San Francisco Symphony

Thom Hannum
Marching Percussion Specialist



Fred Sanford
Marching Percussion Specialist

PERCUSSIVE NOTES

An official publication of the Percussive Arts Society
Volume 29, Number 5 / June 1991

PERCUSSIVE ARTS SOCIETY

The Percussive Arts Society is a worldwide organization founded in 1961 and incorporated as a not-for-profit corporation under the laws of the State of Illinois. Its purpose is educational, promoting through its activities a wide range of musical knowledge, encompassing the young percussion student, the teacher, and the performer. Its mission is to facilitate communication among all areas of the percussive arts. PAS accomplishes its goals through its 6 annual issues of ***Percussive Notes***, its worldwide network of chapters, and its annual International Convention (PASIC). Annual membership begins in the month dues are received and applications processed. Eighty percent ($32) of dues are designated for subscription to ***Percussive Notes***.

Percussive Notes (ISSN 0553-6502) is published 6 times a year: February, April, June, August, October, and December by the Percussive Arts Society, 123 West Main Street, Box 697, Urbana, Illinois 61801-0697. Second Class postage paid at Urbana, IL and at additional mailing offices. Annual subscription rate: Professional & Library—$40, Student—$20.

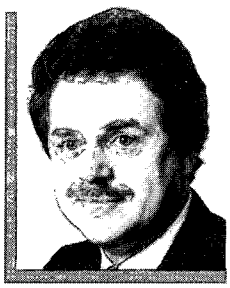
POSTMASTER: Send address changes to: *Percussive Notes*, Box 697, 123 West Main Street, Urbana, IL 61801-0697.

Correspondence regarding change of address, membership, and other business matters of the Society should be directed to: Percussive Arts Society, 123 West Main Street, Box 697 Urbana, IL 61801-0697.

Editorial material should be sent to: James Lambert, ***Percussive Notes***, P.O. Box 16395, Cameron University, Lawton, OK 73505.

Advertising copy, negatives, insertion orders, etc., should be sent to: ***Percussive Notes***, 123 West Main Street, Box 697, Urbana, IL 61801-0697 (217) 367-4098.

PRESIDENT'S MESSAGE



Robert Schietroma

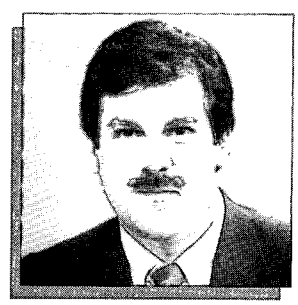
In the Spring, 1990, issue of ***Percussive Notes***, my First Vice-President's message optimistically highlighted the activities of the various Percussive Arts Society committees. These committees are continually generating important ideas and projects which need to be shared with all the membership. One such committee, the PAS New Music/Research Committee, has stimulated a wealth of material through the PASIC New Music Day's lectures and presentations.

This issue of ***Percussive Notes*** (June, 1991) features some of the research activities of the Percussive Arts Society. Richard Gipson, ***Percussive Notes'*** Focus on Research editor, has so effectively integrated research into a regular column in our magazine that it became apparent that PN needed to present this information as a feature. In fact, the number of articles submitted for publication in the research column has grown substantially since it was intiated. Even with this month's feature format, PAS through ***Percussive Notes*** cannot sufficiently present the backlog of quality articles; therefore, we are preparing a new octavo publication, ***PAS PROCEEDINGS.***

The first issue of ***PAS PROCEEDINGS*** will highlight research presented during past PASIC New Music Days and related articles submitted for this month's feature. Future issues will focus on a specific research topic presented during the New Music Day at the Percussive Arts Society International Convention. Please take time to complete the post card enclosed in this issue, and please mail it to PAS' home office to reserve your copy of ***PAS PROCEEDINGS.*** ■

THE SECRETARY'S MESSAGE

As Secretary of the Percussive Arts Society, one of my duties in this administration has been to develop a handbook that will outline in specific detail the various duties, responsibilities, and expectations of each Executive Officer, Board of Director, Committee Chairperson, and Committee member. In addition, the handbook will contain detailed information that will aid future PASIC hosts as they begin the important job of organizing their convention. To compile the "PASIC Host Guide" section of the handbook, I have drawn upon my experiences as host for PASIC '88. Valuable contributions have also been made by past PASIC hosts including Randy Eyles [PASIC '86], Bill Wiggins [PASIC '89], Dean Witten [PASIC '90], and our current host Dave Black [PASIC '91].



Genaro Gonzalez

One of the many goals of the Executive Officer is to maintain strong lines of communication among the various networks of the organization. To enhance communication within the Percussive Arts Society we have incorporated the use of an electronic mailing system. By subscribing to a system called Bitnet, it will be possible to communicate long distance through a computer generated system. In order to use the electronic mail system it is necessary to have basic computer skills. Terminal software is used to enable the computer to communicate. With the use of a modem attached to a telephone jack and into the computer, an individual wishing to "send mail" will simply log onto the computer using the local Bitnet number. By entering a user identification and a password, any information can be typed on the computer which can then be sent directly to any specified party on this electronic mail system. To "receive mail", an individual will log onto the computer in the manner mentioned above and then choose "receive" from the menu displayed. Any items that have been "mailed" to that individual's E mail address will then be printed on the computer screen.

Current plans are for Executive Officers, Board of Directors, ***Percussive Notes*** Editors, and Committee Chairpersons to be using this electronic mail system as the chief means of communication. Plans are also to expand the possibilities for advertising access, sustaining member access, general membership access, and enthusiast access.

We currently communicate with you, the PAS member, through ***Percussive Notes*** and our bimonthly newsletters, but with the introduction of the electronic mail system into the Percussive Arts Society the lines of communication will be greatly enhanced. Communication **is** the name of the game. ■

Today the world's great percussionists play SABIAN.

It's an educated choice. They know that for the most demanding professional or the discerning student, playing the best creates an immediate advantage. The sounds of SABIAN - from the dark tones of the hand hammered HH, to the brightness of the AA, to the tonally tight, budget conscious B8 Pro - offer just that. A sound advantage that separates them and you from all the rest.

SABIAN

Cymbal Makers

HEAR THE DIFFERENCE.

Roy Edmunds
Director of Educational Sales
652 Highview Road, Pickering, Ontario
Canada L1V 4W5
Telephone (416) 420-2216
Fax (416) 420-5053

Alan Abel, Philadelphia Orchestra
Michael Bookspan, Philadelphia Orchestra
Gary Cook, Tucson Symphony
Evelyn Glennie, Solo Percussionist
Fred D. Hinger, Professor Emeritus
Chris Lamb, New York Philharmonic
Frank Oddis, Morehead State University
Mitchell Peters, Los Angeles Philharmonic
Michael Rosen, Oberlin Conservatory
Dan Ruddick, Toronto Symphony
John Somka, Pittsburgh Symphony
Michael Udow, Santa Fe Opera

20"/51 cm AA ORCHESTRAL *Viennese*

FEATURE: PERCUSSION RESEARCH

Introduction

Richard Gipson

*The articles in this **Percussive Notes** issue illustrate the wide range of research topics being addressed today in the percussion field*

IN 1987, THE PERCUSSIVE ARTS SOCIETY discontinued publication of its research edition, an established and scholarly publication which had served the membership well for many years. The decision was a painful one resulting from significant financial difficulties encountered by PAS. In an effort to maintain a forum for the dissemination of research in our field, the *Focus On Research* segment was added to ***Percussive Notes*** magazine beginning with the Summer 1988 issue. Since that time numerous research articles dealing with virtually all areas of percussion research have been presented in the magazine.

Concurrently, research presentations have been a part of each PASIC. Realizing that many members of the Society cannot attend each of the conventions, this issue of ***Percussive Notes*** features research presentations from recent PASIC conventions. Articles range from Brian Cole's exploration of stylistic marimba transcription techniques to Glenn Steele's discussion of performance-related injuries. Norman Weinberg applies technology to performance-related questions, and James Moyer focuses his research on some basic pedagogical questions facing marimba teachers and students.

The articles in this ***Percussive Notes*** issue illustrate the wide range of research topics being addressed today in the percussion field. I stated in my first column as *Focus On Research* editor that research involves questioning, questioning our methods, our understanding and our beliefs through a comprehensive and rigorous process. I continue to solicit and welcome your research efforts to share with the members of PAS.

The Percussive Arts Society is committed to publishing the research proceedings from each future PASIC, including the New Music Day's activities, in a separate volume. Future *PAS PROCEEDINGS* will be made available at cost to Society members. I solicit your feedback and opinions on the research presentations to date in *Focus On Research* as well as PASIC research presentations and the *PAS PROCEEDINGS* format ■

FEATURE

Percussion Research

Baroque Performance Practice and the Marimba Transcription

Brian Cole

Brian Cole presented the following article on November 9, 1989 in Nashville, Tennessee as part of the PASIC '89 Scholarly Paper Presentations.

The transcription process has always been part of the musical landscape. Marimbists should not hesitate to consider transcribing pieces for their repertoire; it is neither taboo nor musically unsatisfying. As long as the stylistic demands are met, many kinds of music need not be limited to the original sound source.

Attention to style represents integrity in music. There are many decisions to be made in the course of developing a piece for performance. Making sure those decisions are made within the confines of the style is the job of every performer. This is the business of interpretation and transcription.

This whole approach is based on two premises that must be accepted if the conclusions are to be believed and successfully applied. They are:

1. Period style is important to a successful transcription.
2. A marimba transcription performance practice model can be created by using the available scholarship from other instruments as a guide.

Marimbists should not hesitate to consider transcribing pieces for their repertoire; it is neither taboo nor musically unsatisfying.

Western music has always placed a premium on style. In recent times, much effort has been given to reconstructing the original intent of the composer and the style of his time. The term performance practice comes from this interest in a stylistically correct performance. This is certainly true of our own time as well. Players expend enormous amounts of energy realizing the wishes of modern composers, and this same effort should be expended on the transcription process.

The marimba transcription presents an obvious problem. There is no baroque marimba performance practice. However, there are general practices that apply to all baroque music, and the performance practice of other instruments may be consulted as additional sources. It is then possible to construct a reasonable "baroque marimba" performance practice model based on the available information. This model will then serve as a guide to a stylistic performance.

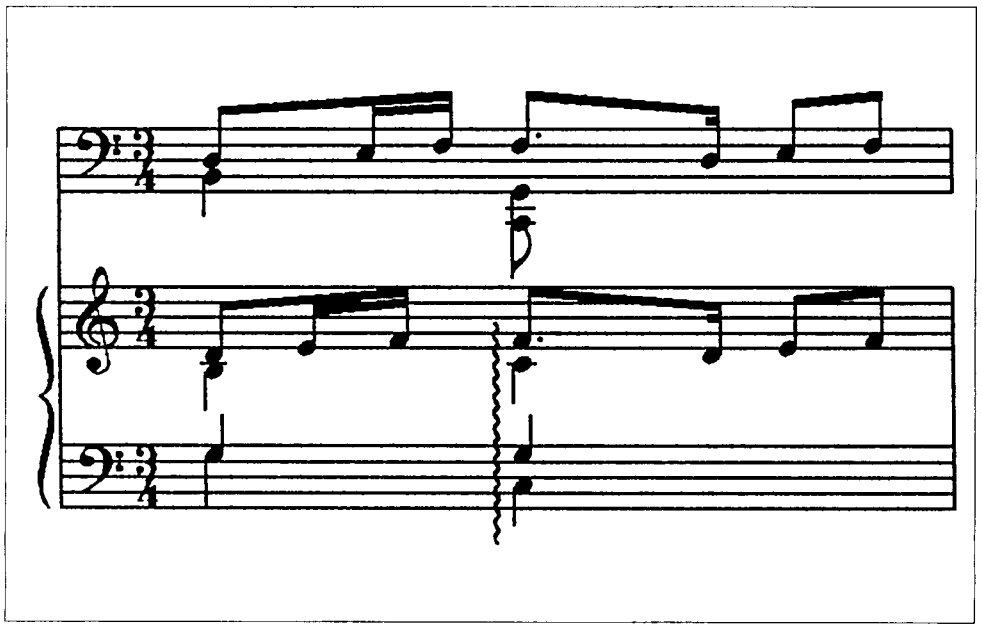
Both premises center around style. If a transcription cannot communicate baroque style, it should not be done. It will be outside of the stylistic intentions of the composer and the period, and thus define a bad transcription.

The baroque marimba model may be constructed using the performance practices of the lute and the harpsichord. This decision is not arbitrary; the sound characteristics of both instruments are similar to the marimba's struck sound. All three instruments have pronounced attacks with a relatively rapid decay. All are polyphonic instruments in which a single note crescendo is not possible (The roll was omitted from this discussion for reasons that will become apparent). Due to these similarities, the lute and the harpsichord are a much better source for our marimba model than voice, strings or any other baroque sound source.

Marimbists often play string music, but they must use a keyboard example as a model. Since the marimba does not produce sound the way string instruments do, string instruments should not be used as a model. Bach made lute transcriptions of his string compositions, but they do not emulate the string sound. The marimba's method of sound production is much closer to the lute and harpsichord.

It is impossible to discuss in this brief article all the musical issues that would develop from using the lute or harpsichord as a model. Peformance practice is a vast and complicated subject, and all areas of interpretation would need to be considered in light of our stylistic model. This article will focus on one important area of consideration.

The consensus among non-percussionists is that the marimba roll sounds out of place in the baroque style. The roll is usually perceived as a tremolo, and the disruption in the musical line is undesirable. Marimbists often train themselves to hear the roll as sustained, but a critical ear will hear it as a tremolo. Under certain circumstances, the roll may be perceived as sustained,



Example 1

but the majority of situations in the baroque literature do not fit into these circumstances.

The lute has a similar problem, but the tremolo was not part of the technical approach The guitar, a sister of the lute, would eventually develop the tremolo in the 19th century as part of its musical vocabulary (i e Francisco Tarrega-*Recuerdos de la Alhambra*), but there is no evidence that the tremolo was part of the lute technique The tremolo is simply not possible on the harpsichord due to its design.

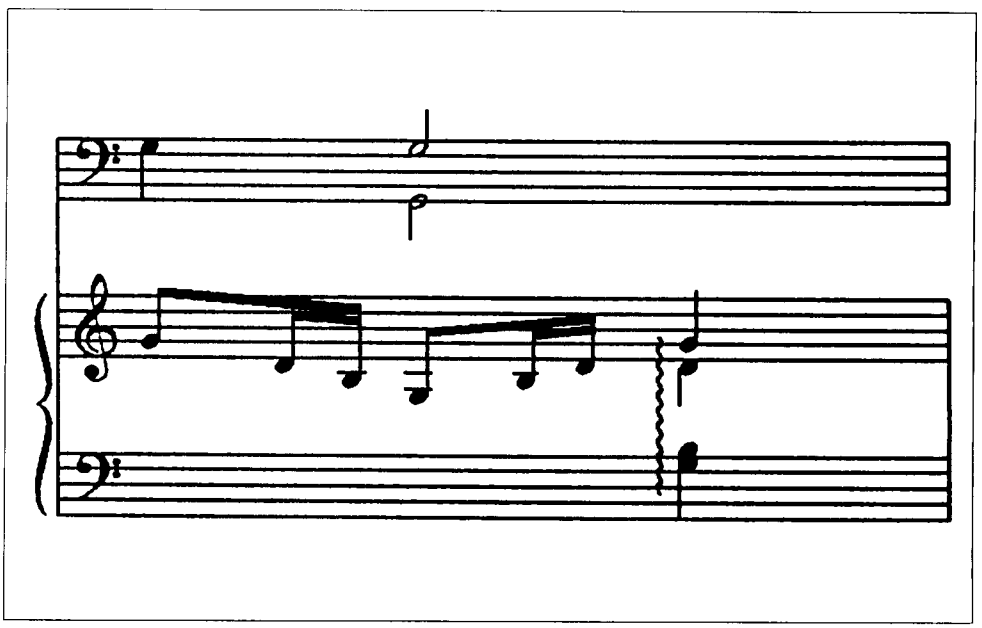
The roll is idiomatic to the marimba, but the roll (perceived as tremolo) is not part of the baroque style If premise number one is true, the use of the roll in a baroque transcription is a mistake It is not a part of the performance practice model.

However, the marimbist is left with an enormous problem if he intends to play the unaccompanied string literature There will be periods of silence that will be equally as disconcerting as the roll. Does the performance practice model provide a solution to the problem? If a stylistically accurate performance of a transcription is important, the transcriber must learn to ask this question and answer it with integrity.

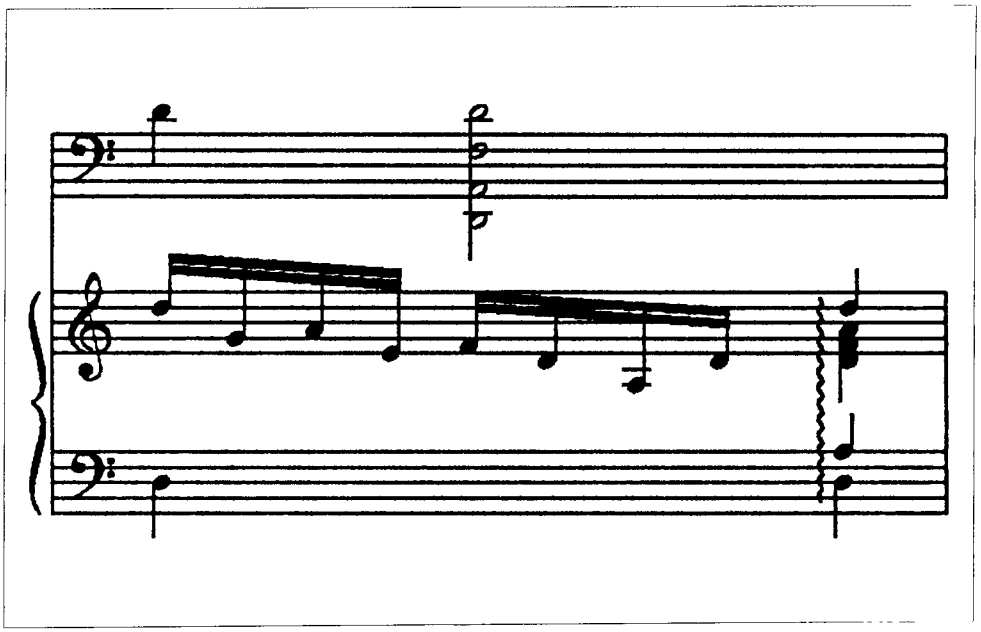
A solution is to ornament the music. Lute and harpsichord performers compensated for the lack of sustain by adding pitches and figures to the original material. This solution should not be considered a cue for freely altering the piece. This could be done, but it would be as big a stylistic mistake as using the roll. Certain rules and guide lines must be observed. Frederick Neumann's *Ornamentation of Baroque and Post-Baroque Music* (Princeton University Press) is a comprehensive source of information

Use of ornamentation is the most *stylistic* solution to the marimba's inherent limitation, the lack of sustain. It is not only a reasonable solution; the ornamentation is itself a necessary stylistic element The omission of

Example 2



The time spent in pursuit of stylistic transcriptions will strengthen the player's understanding of the music and result in a more rewarding experience for both player and audience.



Example 3

ornamentation is also a stylistic mistake. Ornamentation provides the performer with an opportunity to be creatively involved in the recreation of the piece. He is free to choose, within the style, his ornamentation, and no two performances need be identical.

The three musical examples below are from the Sarabande movement of Bach's Cello Suite No. 3 in C major, BWV 1009. The principles are certainly applicable to the violin, lute or harpsichord repertoire. In the examples, the top line is the original notation, and the bottom two lines are possible solutions for the marimba transcription.

A common problem with marimba transcriptions occurs at cadence points. Without the roll, the cadence chord cannot receive the proper durational note value. If the chord is simply struck, there will be too much silence before the music continues. Baroque performers filled in this silence with a variety of ornamentation solutions.

Example 1 is a familiar solution to most marimbists. The player simply arpeggiates the chord quickly from bottom to top. This solution works best with chords of short note value. Called a *chordal arpeggio*, the arpeggiated chord has been filled out with additional chord members.

Examples 2 and 3 are best used at cadences that close sections of the composition (i. e. before repeats and final cadences). Example 3 is more elaborate than example 2. The performer would choose a solution based on the musical context and the relative amount of additional ornamentation elsewhere in the composition.

Examples 2 and 3 are *linear arpeggios*. They are performed melodically with a definite rhythm. Example 2 is a plain linear arpeggio and example 3 is a *figurate* linear arpeggio. The plain version uses only pitches present in the cadence chord. The figurate version will include nonharmonic tones. It is advisable in the figurate version to arpeggiate the cadence chord after the "figure." This will clarify the harmony and strengthen the cadence. For those who may be skeptical about examples 2 and 3, examination of the Bach harpsichord suites will display numerous instances of both arpeggios written out by Bach.

This essay is certainly not an exhaustive discussion of the issues surrounding baroque transcriptions for marimba. If the reader is persuaded to pursue this approach to the transcription process, a great deal of research and study will be required to assimilate the necessary concepts to create a stylistic transcription. The performer is advised not to make expediency the final arbiter. The time spent in pursuit of stylistic transcriptions will strengthen the player's understanding of the music and result in a more rewarding experience for both player and audience.

Brian Cole has toured as a soloist since 1984, performing across the country at colleges, music festivals and community concerts. Currently he is on the faculty of Idaho State University.■

FEATURE

Percussion Research

Applications of Four-Mallet Technique for the Beginning Marimba Student

James Moyer

James Moyer presented the following article on November 8, 1990 in Philadelphia, Pennsylvania as part of the PASIC '90 Scholarly Paper Presentations.

INTRODUCTION

Technique and literature for keyboard percussion have perhaps evolved more in the past twenty years than in the 130 years since the introduction of the strohfiedal, a sixteenth-century xylophone. This is largely a result of the compositions as well as general contributions of outstanding keyboard percussionists like Jose Bethancourt, Clair Musser, Leigh Stevens, Gordon Stout, and Keiko Abe. Although these artists have contributed both technical innovations and literature, their idiomatic approaches to the instrument have also affected the performance demands placed upon today's percussionists, especially in the area of four-mallet keyboard percussion performance Stout and Stevens continue to be two of the most influential American marimba virtuosos Interviews were conducted in May 1989 with both artists The purpose of these interviews was to focus on the pedagogical and performance views of two leading marimba virtuosos based on questions listed below. Additional questions are referred to throughout the remainder of this article Although both Stout and Stevens have earned international recognition as concert artists, their contrasting ideas and techniques provide an interesting reference as well as essential background related to two different approaches to marimba pedagogy and performance

The Stevens grip, served as the basis for this study, is essentially a Musser grip with several important modifications Created by Leigh Howard Stevens, this grip expands and combines wrist and finger motion to create techniques not possible with other grips. According to Stevens, the development of the grip began in January 1972 and continued through the following winter. The mallets are held between the same fingers as the Musser grip, however, their position in relation to the shaft is quite different, especially in the outside mallets Here, Stevens extends the range and flexibility of the outer mallets by holding them near the ends of the shaft so that the ends do not extend beyond the fifth finger when the hand is closed. However, apart from this, it is the motion involved in Stevens' technique that perhaps is the most innovative concept in four-mallet playing since the introduction of the Musser grip. Since the mallets are controlled by the fingers rather than the hand, as in the Musser and crossed grips, numerous techniques are available, including greater individual mallet control, one-handed rolls, several types of four-mallet rolls, greater intervallic capabilities between mallets, and overall expansion of technical facility.

Unlike other grips, the palm of the hand faces inward rather than down, allowing the wrists to pivot or rotate in either direction without causing tension. By rotating the wrist back and forth in rapid succession, the alternation between the inside and outside mallet produces the equivalent of a standard two-mallet roll. This allows the player to sustain a roll in one hand while playing contrasting textures in the other, much the same as a pianist

Identification of the Problem

Since most of the recent additions to the quality literature for solo keyboard percussion involve four-mallet technique, it is essential that an organized method exist for developing these abilities at the beginning through advanced levels Method of Movement for Marimba by Leigh Howard Stevens includes complete explanations and exercises designed to develop independent mallet control, alternating strokes, and combinations of these techniques designed to expand students' facility beyond that encountered in any other method for marimba yet published [1] There are, however no etudes or musical examples included since the focus of the method is to introduce new techniques. Karen Ervin's Contemporary Etudes for 3 and 4 Mallets includes short pieces for marimba employing various techniques, but the materials are not presented in a progressive order of difficulty and the book does not include exercises designed to develop these skills.[2]

Although there are a number of methods devoted primarily to exercises and technique as well as numerous etude sources and anthologies, no single publication attempts to present technical studies and etudes that in turn apply these techniques in a logical sequence.

Numerous techniques which are idiomatic to the marimba are the source of a wide range of etudes. The application of these pieces to the students' musical training has proven invaluable since these pieces are a means of developing technique. By examining some of these works, such as the etudes of Clair Musser, Stout's

marimba etudes,[3] Contemporary Etudes for 3 and 4 Mallets[4] by Karen Ervin, and the three etudes by Paul Smadbeck,[5] one can see the focus of specific techniques unique to each composition.

In addition to the lack of methods for the beginning four-mallet student, there are few examples of serious literature for this developmental level. A large portion of marimba music involves techniques far beyond the first-year student. Music written for and edited by Leigh Stevens, like his method, are intended for the mature player. Composers of marimba music like Gordon Stout, Murray Houliff, Raymond Helble, John Serry, David Maslanka, Clair Musser, Keiko Abe, and Bill Molenhof have contributed a wealth of fine music to the literature. While these works have become standard recital pieces, they too are designed for the advanced performer. Developmental four-mallet literature is "obviously the weak area of our literature."[6]

In summary, there is no method currently available which logically presents both technical studies and etudes in order to develop the techniques of the beginning four-mallet marimba student. Although a majority of idiomatic marimba literature has been written over the last ten years, most of this new music is designed for the advanced student. The lack of an organized beginning method for the four-mallet marimba student has resulted in a void of performable literature at this level as well as a difficulty in developing fundamental skills for the first-year performer.

Perhaps the most difficult task of introducing four-mallet marimba technique involves the sequence in which the materials should be presented.

Purpose of the Study

The purpose of the study was to develop a sequential outline for first-year study by the four-mallet marimba student, complete with etudes and studies. The sequence presents six major sections: double vertical strokes, double vertical rolls, single alternating strokes, sequential rolls, single independent strokes, and combination strokes. Each section is written in sequence, graded in difficulty, and includes etudes as well as a listing of related literature appropriate for the student at each particular stage. Each section focuses on a specific technique, and progresses to more difficult exercises and studies in successive sections. All techniques included in this outline are presented in a similar manner. The exercises and etudes that comprise each section are designed to introduce the specific technique at an entry level and progress in difficulty throughout.

Perhaps the most difficult task of introducing four-mallet marimba technique involves the sequence in which the materials should be presented. Since a majority of marimba literature requires the performer to utilize numerous techniques, specific techniques must be presented to the student in a logical progression of difficulty. It becomes necessary, then, to introduce the most basic of skills first and categorize the remaining techniques by their similarities, differences and level of difficulty. For example, two of the six techniques presented in this outline are the double vertical stroke and the double vertical roll. Since the technique of rolling involves a rapid alternation of right hand and left hand double vertical strokes, the roll cannot be presented until the basic stroke is mastered. Similarly, the technique of single alternating strokes serves as a prerequisite skill for sequential roll studies. Single independent strokes require the most control of the individual mallets, and therefore should not be presented until more basic techniques have been studied. Finally, focusing on combinations of several basic stroke types will enable the student to further develop the ability to perform a number of individual techniques simultaneously.

The logical progression of techniques in relation to difficulty has been established as the most important aspect of beginning four-mallet training for marimba and serves as the basis for the remainder of this article.

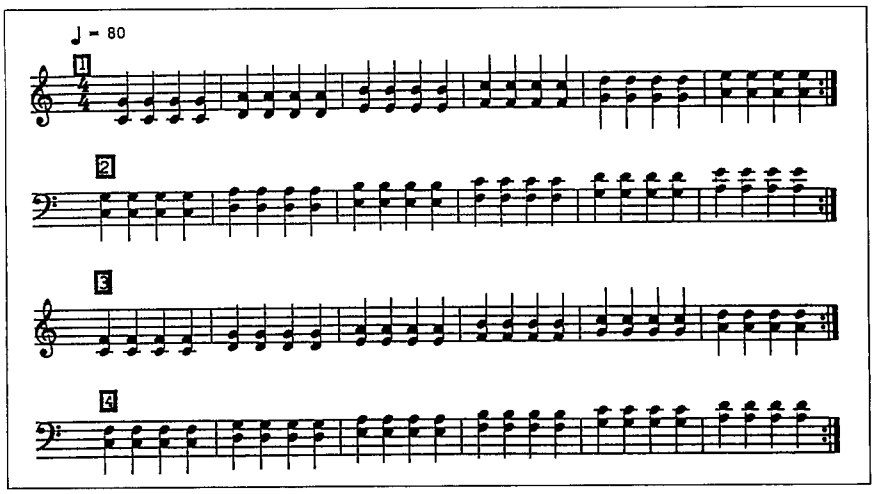
Double Vertical Strokes

The importance of presenting a logical progression of materials in this method has already been established. When asked to identify the types of exercises to best start the beginning four-mallet marimba student, most experts agree that the double vertical stroke would be the best choice. Stout explains his method of introducing the student to four-mallet technique.

"I am strongly in favor of starting with block chords technique. That is the most basic reason to have four sticks in your hand as opposed to two or three; so you can play more notes at the same time. For most of the grips, we start with a fourth, fifth, or sixth as being the sort of middle of the grip, where their hand is in the most normal position; it is not really cramped together for small intervals or spread apart for larger intervals. Then we just put the hands together in octaves, and just get the hands going up and down, doing double verticals, hands together. Usually, I start them on the lower keyboard only, so they do not have to change positions at the arm and elbow. The first goal of block chord

technique would be that I could give you any four pitches and you could run it up and down the keyboard chromatically and get a good sound from all four notes of any chord."[7]

Leigh Stevens also suggests that despite the myriad of potential problems inherent in the double vertical stroke, it is the best choice to begin with.



Example 1

"I say in Method of Movement that double verticals are best to start with. This depends a little bit on the tenacity of the teacher, because teaching double vertical strokes in the beginning can be fraught with problems. If you allow the student to use his or her arms; if you do not have the student holding the sticks properly to begin with, if you are not moving note to note properly off the rebound of the first note to the position of the second before you break the momentum . . there are a host of potential problems even on a simple stroke like the double vertical. Nonetheless, I think that it is best to start with as simple a stroke as possible, and the double vertical probably would be that."[8]

The double vertical stroke is so named because it involves striking two bars with two mallets in the same hand simultaneously with a vertical, up-down motion.

There is little doubt that all the variables of grip, hand-wrist motion, eye-hand coordination, and a host of physical details present the beginning student with much information. Taken slowly, and with no tolerance for deviations, the student will soon be able to control simultaneous pairs of notes in each hand and be ready to move on to other techniques.

It is best to introduce the double vertical stroke with one interval used throughout each exercise. Each hand should be practiced separately before playing hands together. This approach presents the student with the least amount of musical information necessary to perform the double vertical stroke. Only after all intervals can be performed simultaneously in both hands is the student able to progress to block chord exercises. Since any four-voice chord is constructed of two pairs of different intervals, the student is presented with more information than playing the same intervals in each hand, requiring a higher level of cognitive skills to enable performance.

It is imperative that once the grip is comfortable in the hand all attention be drawn to the use of the wrist to perform the double vertical stroke The exercises in this section begin with single hand, "white-keyed" studies. It is important to establish control of both mallets in each hand while maintaining smooth up-down wrist motion prior to playing both hands together. The height of the stroke will vary according to the dynamics indicated, however, a stroke height between ten and twelve inches is recommended for it requires the student to use the wrist muscles at their fullest potential. Since the first several exercises are written for the lower keyboard only, the student will not have to be concerned with the pivoting of the arm necessary to perform black-white key combinations, i.e. B and F# in the same hand This type of technique will be referred to later as position changes

The first exercise (Example 1) involves each hand playing the interval of a fifth Once the mallets are placed properly in the hand and relaxed, the interval between them is approximately a fifth, suggesting this interval to be the simplest

Each exercise should be performed hands separately; starting slowly and gradually moving to a tempo of quarter note equals one-hundred twenty beats per minute. Strict attention needs to be focused on maintaining even volume from both mallets. Each line of the exercise focuses on one specific interval between mallets. This presents the student with the opportunity to play a given interval at all the related positions possible on the lower keyboard of the instrument without having to be concerned with the interval relationship between the mallets in each hand.

The exercises continue to introduce the various

intervals on the lower keyboard only. This avoids the position changes in the arm necessary to perform chromatic intervals. Care should be taken not to allow the third finger to push out of position in the hand for intervals larger than a sixth. A natural tendency is to push the outside mallet to an extended position with the third finger.

More advanced exercises introduce chromatic movement of the intervals. Since this requires the use of position changes, the student is presented with additional skill sets that make the stroke more complex. The technique necessary to perform a position change involves the pivoting of the mallets from a white-key double vertical to a black-white combination: i.e. A-E moving to B-F#. It is important to realize that the principal pivot motion comes from the shoulder and elbow rather than from the wrist. Any more than just the slightest contortion of the wrist will cause a break in the natural alignment of the wrist to the forearm. This creates undue tension in the hand and constricts the natural up-down motion of the stroke.

The sequence in which the intervals are presented follows a logical progression from the least number of position changes in a single exercise, fifths, to the most number, thirds. After completing all chromatic interval exercises, the student is ready to perform four-mallet chords. The chord studies are presented in two forms: open position and closed position. This is the student's first encounter in playing different intervals in each hand at the same time. Since closed position block chords are easier to visualize on the keyboard, they appear before chord studies in open position. All major, minor, diminished and augmented chords should be examined before progressing to the interval changing exercises.

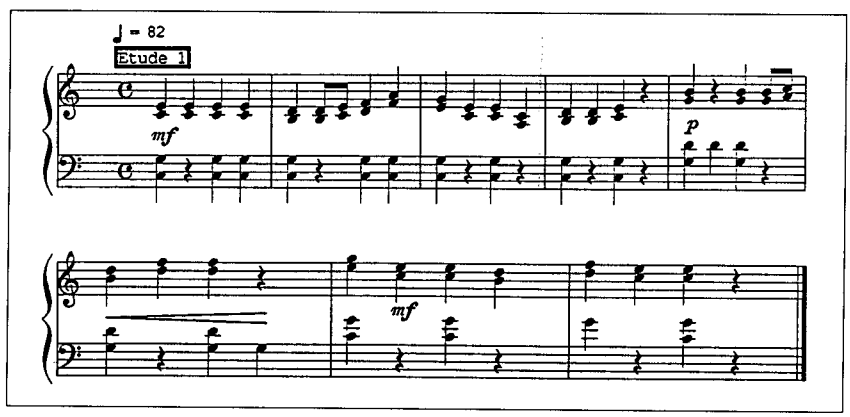
After the basic chord types have been studied in both open and closed position, the student is prepared to examine interval changes. Since there is very little literature available for block chords which does not involve interval changes, it is the opinion of the author that this set of exercises be included at this point. The exercises present interval changes from a simple scalar motion to one involving more difficult skips. Since all changes involved in scalar exercises follow a step-by-step sequence, it is less difficult for the student to move the mallet from one chord to the next. Less distance between two adjacent notes also allows the student to focus on the correct hand position and stroke motion rather than the eye-hand coordination associated with large skips. The result is a sequence of exercises that logically develops technique according to the amount of cognitive skills required for their performance.

The etudes that conclude this section are simple musical examples combining the techniques studied to this point, (Example 2). They are presented in a logical progression of difficulty in relation to technical considerations and musical complexity. Since the purpose of an etude is to focus on one or more specific techniques in a musical setting, the exercises presented in the first section of this course of study serve as the basis for the materials presented in the etudes.

Developmental literature using only double vertical strokes is limited. Several published works suggested by the author include: Sonata for Xylophone[9] as well as selected compositions in The Solo Marimbist[10] and Southern Special Marimba Solos[11] which are listed in Appendix 1 of this article. Selected compositions transcribed by the author are recommended for further study at the conclusion of each section. Each piece presents the student with a reasonable application of the stroke in a musical setting.

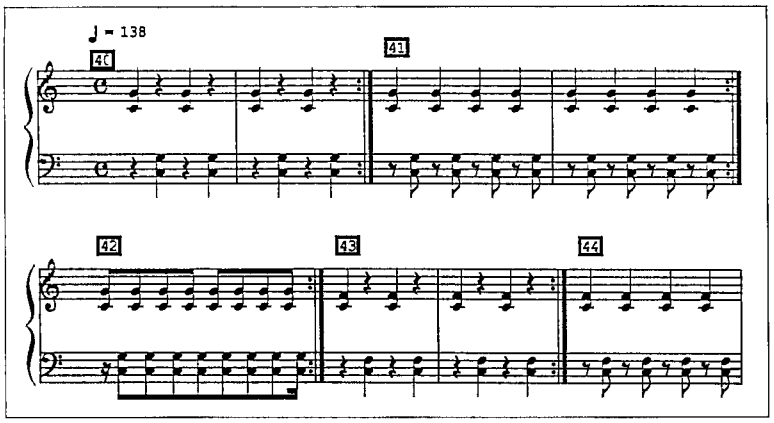
Double Vertical Rolls

Upon examination of literature for marimba, two basic sounds are required for performance on the instrument: the short non-sustained sound, and the long sustained sound. With the exception of the pipe organ, no other single acoustic instrument is capable of producing sustained chords without interruption for an extended length of time without restriking or attacking. As with all other percussion instruments, uninterrupted sustained sounds are referred to as rolls.



Example 2

When the basic double vertical technique is further



Example 3

developed, the student will be able to perform alternating rolls between both hands This type of roll is often referred to as the "traditional" or "cross-hammer" roll The exercises in this section (Example 3) are intended as elementary roll exercises which will enable the student to perform simple four-voice chorales and related literature utilizing the roll.

The presentation of exercises retraces the order of intervals presented in the previous section This presents the student with a new technique without changing the basic musical information. Each new interval is introduced first with alternating quarter notes between both hands, followed by alternating eighth notes, and finally alternating sixteenth notes By allowing the student to concentrate slowly on the double vertical stroke motion, the relationship between the stroke and the roll becomes obvious. Since the basic technique used to produce the roll is the double vertical stroke, this section could be viewed as an extension of the double vertical technique rather than a different technique However, the purpose of the exercises in this section is to develop the student's ability to produce sustained rolls, not single non-sustained chords. Virtually no change in technique is required, rather a simple increase in the speed of the left-right hand alternations.

The tempo indication of 138 beats per minute should be considered as the maximum speed for these exercises A much slower tempo of eighty beats per minute is suggested at the start of this section. Exercises from this point forward are written in the key of C major but should be practiced in all keys. Since the technique used is the double vertical stroke, students must be cautioned to employ only wrist motion for the stroke, using the arms to move only for position changes and lateral movement of the hand.

Further development of the double vertical roll includes exercises designed to sustain a sequence of chromatic major or minor chords in both open and closed positions. The block chord examples used in the previous section provide the student with some appropriate exercises involving position changes in both hands.

At this point, the student has become familiar with a number of uses for the double vertical technique, and once comfortable with sustaining a roll for some length of time, a number of standard compositions for marimba as well as transcriptions are available for study. These works are listed in Appendix 1 of this article.

Since there is little relation between the double vertical roll and the single alternating stroke, no additional skills are necessary to progress to the next section.

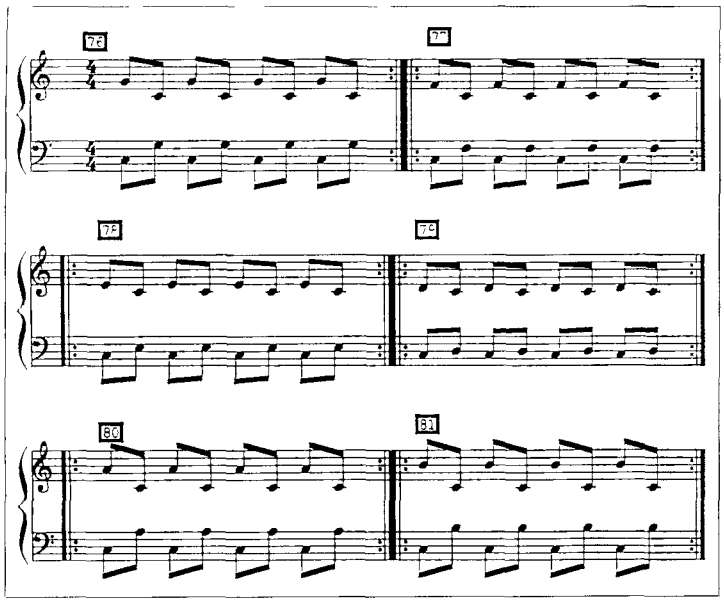
Single Alternating Strokes

Three single techniques remain to be examined: single alternating strokes, sequential rolls, and independent strokes. Of these, the single alternating stroke and sequential roll are the only two which are related technically. It has already been established that the double vertical stroke serves as a prerequisite technique for the double vertical roll. Similarly, the technique that produces the single alternating stroke must be introduced prior to the sequential roll

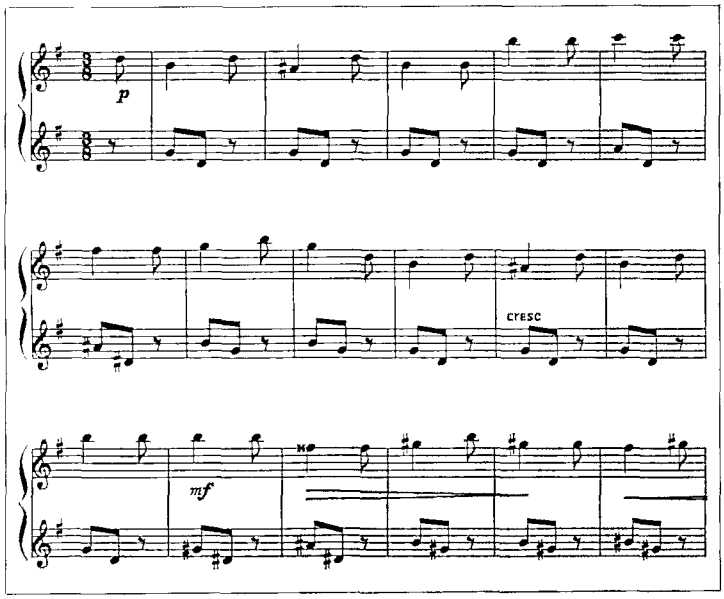
The single alternating stroke is an alternation of two pitches within one hand accomplished by rotating the wrist This enables the player to perform rapid arpeggiated (and Alberti-type) figures. Both of these techniques are very difficult to execute with two mallet technique (one mallet in each hand). Using the interval order presented in the double vertical section, these exercises form the basis for developing the single alternating stroke.

By turning the wrist left, then right, the inside and outside mallets of each hand alternate the two pitches in succession. The exercises in this section present basic applications of the technique. As is true with most exercises, an infinite number of permutations exist. For the purposes of this study, only permutations within the technical capabilities of a beginning four-mallet marimba student are cited These exercises focus on applications of the single alternating stroke found in beginning to intermediate level literature as well as others of a beginning to intermediate nature.

Other applications of this technique include chromatic movement through all keys within one exercise Exercises seventy-six through eighty-one (Example 4) develop the single alternating stroke in its simplest



Example 4



Example 5

form, repeated alternations at one interval. One variation of this exercise begins with the inside mallets of each hand rotating to the outside mallets, in essence, playing the exercise backwards.

Waltz (Example 5) uses the single alternating stroke almost exclusively.[12] Each hand should be practiced separately, as in the case of double verticals, by playing each grouping of two notes simultaneously. This will enable the student to visualize position changes on black and white key combinations. Once this technique has been applied, the example should be performed as written, with emphasis on correct mallet placement on the bar for position changes needed to achieve an even sound from all four mallets.

The single alternating stroke is perhaps the most widely used technique in marimba literature. Its use ranges from simple alternations of fifths in Mitchell Peter's Yellow After the Rain[13] to the creative and advanced innovations found in Stout's Two Mexican Dances[14] and Astral Dance.[15]

Sequential Rolls

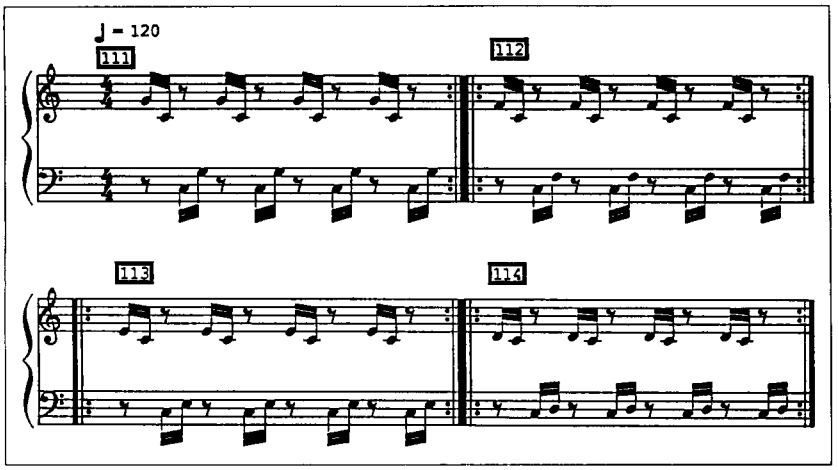
The single alternating stroke has been identified as a technique for performing rapid arpeggiated passages. Although technically related to the sequential roll (rapid alternations of two pitches in each hand), the objective of the sequential roll is to produce a sustained roll among all four mallets A sequential roll is then a method of applying the single alternating stroke technique in a variety of permutations, thereby producing a sustained roll

Marimbists that use the Musser roll are actually sustaining a four-voiced chord by allowing the individual mallets to alternate in what can be described as a flop technique. The resulting sound differs from the "traditional" double vertical roll in which both mallets in each hand strike simultaneously. The sequential pattern produced in the Musser roll would be numbered 1-2-4-3 or 4-3-1-2, depending on which hand begins the roll

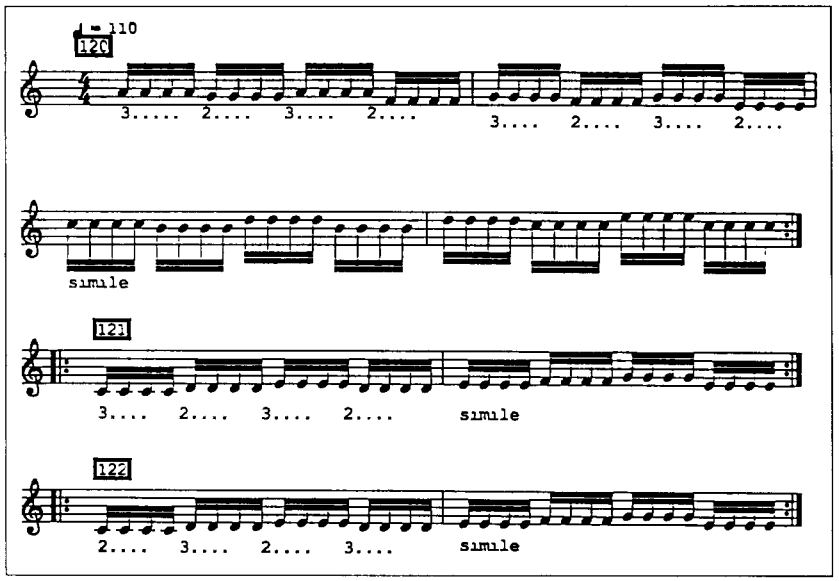
The exercises presented in this section (Example 6) use the same sequential alternations as the Musser roll, 4-3-1-2, the difference being the motion produced is by rotation of the wrist rather than the loose flopping technique of the Musser roll. Some other useful sequences to apply to this roll would be: 1-2-3-4 and 4-3-2-1.

Single Independent Strokes

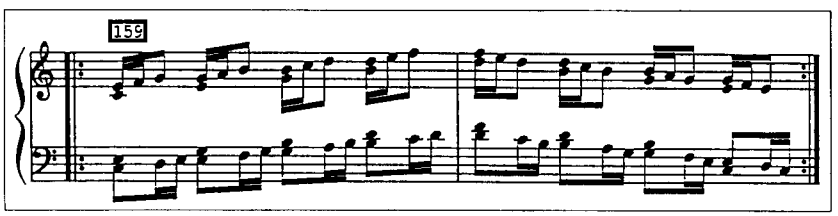
An obvious strength of the Stevens grip is the independent control possible with each mallet. Since control of the mallet is centered in the fingers, a multitude of technical possibilities are open to the player Independent mallet control can be viewed as the ability to play repeated notes with one mallet without moving the other mallet held in the same hand This technique requires a pivot of the mallet in a motion around the



Example 6



Example 7



Example 8

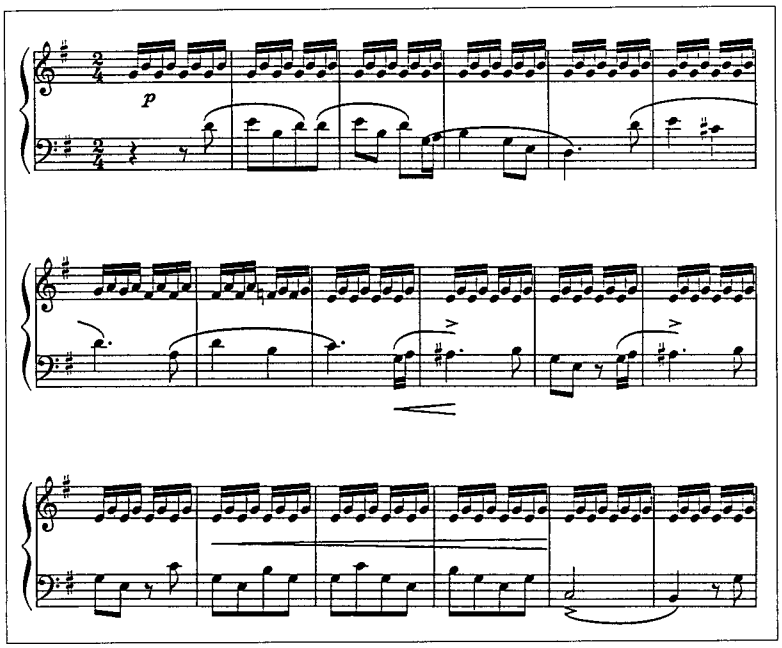
unused mallet. Therefore, if the inside mallet in the hand is playing a series of continuous notes, the outside mallet acts as the pivot point, rotating clockwise when the inside mallet is up for a preparation, and counterclockwise when the inside mallet is moving down to strike the bar. It is important to realize that even though the pivoting mallet is rotating, no lateral or vertical motion is evident. Stevens credits Gary Burton as his inspiration in developing this stroke type. "The whole idea of the pivot stroke . . . without Gary Burton . . . there is no way I could have dreamed up the idea of the single independent stroke . . . pivoting one mallet around the other at all different intervals in order to keep one mallet still."[16] In practice, each individual mallet serves one of two functions, either that of the mallet in motion, playing a series of notes without interruption, or that of the idle mallet used only as the pivot point for the mallet used in striking. A logical sequence in developing this technique begins with the inside mallets playing single line rolls and scales with the outside mallets in each hand remaining still.

The first set of exercises uses only mallets two and three, each playing repetitions of four sixteenth notes (Example 7). During the exercise, the outside mallets remain still, being used only as pivot points for the inside mallets. Other developmental exercises include performing single line melodies and sustained two-mallet rolls with the inside mallets while keeping the outside mallets still.

Combination Strokes

The final section of exercises in this sequence of study explores performing a combination of techniques. The exercises presented at the conclusion of this section reflect those techniques required in much of the modern marimba literature. It is imperative at this stage in the student's development to utilize all previous four-mallet techniques in various combinations.

The criteria for determining the best beginning techniques are based on the individual difficulty of each single technique as well as its practical application when combined with other stroke types. Double vertical strokes, being the easiest, are the best choice with which to begin when combining stroke types. After examining beginning-to-intermediate level four-mallet marimba literature, one finds certain combinations of strokes used more often than others. For example, double vertical strokes are most often combined with single independent or single alternating



Example 9

strokes whereas combining the sequential roll with independent strokes is less applicable to the beginning four-mallet marimba student.

Exercise 159 combines the double vertical and independent strokes (Example 8). Each successive octave (double vertical) is followed by a single independent stroke. Since all motion is scalar, the octave interval between the outside and inside mallets can be maintained throughout.

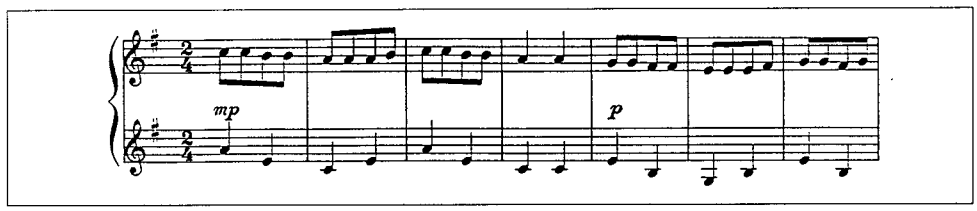
Skips of a third are then introduced in exercises combining double verticals with single alternating strokes. Later exercises combine double vertical strokes with single independent strokes. However, unlike the previous examples, the independent stroke alternates from outside to inside mallets on each successive beat. This requires a much higher level of individual mallet control than the other exercises in this section.

Five transcriptions complete the section on combination strokes. Each presents different combinations of stroke types within a musical setting. The pieces selected represent developmental literature that challenges the student technically, but requires a relatively low level of cognitive skills.

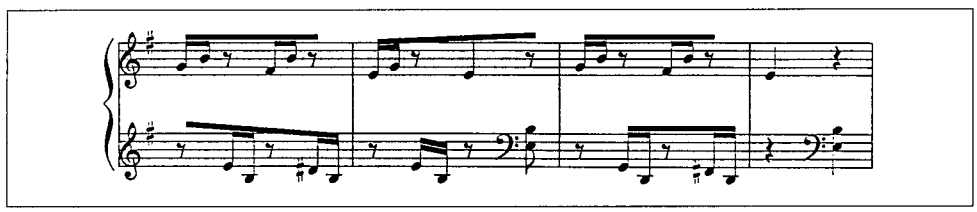
A Quiet Moment (Example 9) combines single alternating and single independent strokes.[17] Since the ostinato continues without interruption from beginning to end, the right hand assumes the form of a single alternating exercise. The repetition of phrases in the left hand enables the student to concentrate on hand-to-hand coordination without the burdens of complicated melodic lines. All half-notes in the left hand are to be played without rolls.

The final example, Theme and Variations (Example 10) combines all previous non-roll techniques.[18] The theme combines single independent strokes in the right hand and single alternating strokes in the left hand. The AAB phrase structure presents material that is easily memorized. The first variation applies single alternating strokes in arpeggiated patterns, and the phrase structure lends itself to quick memorization while developing the

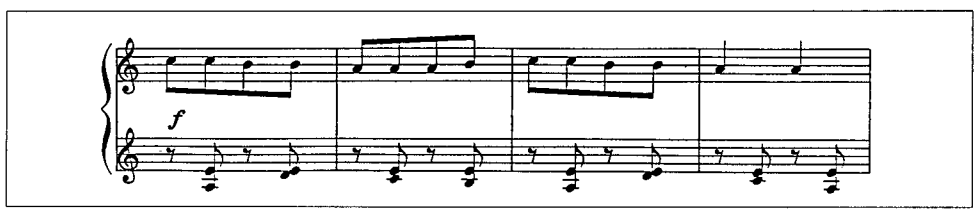
Example 10



Theme



Variation 1



Variation 2

student's technique through a number of recurring position changes. The second variation combines all non-roll stroke types and expands the range of both hands. Although position changes appear less frequently than in the previous variation, difficulty lies in the skips and constant interval changes in the left hand. The final variation recalls the original theme in the right hand combined with a series of double vertical strokes in the left hand. The pattern of interval change in the left hand, (fifth, second, third, fourth, etc.) repeats throughout.

Upon completion of this course of study, the student will have explored all of the basic skill sets needed for the majority of the marimba literature. Further technical exploration of the instrument can be found in Method of Movement for Marimba by Leigh Howard Stevens.[19]

Recommended Literature for the Beginning Four-mallet Marimba Student

Double Vertical Strokes

Bartok, Bela "Hungarian Folk Tune" in The Solo Marimbist, Vol I Columbus, OH Permus Publications, 1976

Musser, Clair Omar. Etude Op 6, No 9 Northridge, CA Studio 4 Productions, 1976

Musser, Clair Omar Etude in C Major Op 6, No 10 New York Warner Bros, 1948

Pimental, Linda and James Moore "Lovely Lady" in The Solo Marimbist, Vol I Columbus, CA Permus Publications, 1976

Pimental, Linda and James Moore "The Gift to be Simple" in The Solo Marimbist, Vol I Columbus, CA Permus Publications, 1976

Pimental, Linda and James Moore "Winter Walk" in The Solo Marimbist, Vol I Columbus, CA Permus Publications, 1976

Schinstine,William "Tres Blues" in Southern Special Marimba Solos San Antonio Southern Music Co , 1984

Rolls

Bach, Johann Sebastian "O Sacred Head" in The Solo Marimbist, Vol II Columbus, CA Permus Publications, 1976

Beethoven, Ludwig Van 'Ode to Joy" in The Solo Marimbist, Vol I Columbus, CA Permus Publications, 1976

Beethoven, Ludwig Van "Morning Song" in The Solo Marimbist, Vol I Columbus, CA Permus Publications, 1976

Gipson, Richard "Prayer " San Antonio Southern Music Co , 1975

Humperdink, Englebert "Evening Prayer" in The Solo Marimbist, Vol II Columbus, CA Permus Publications, 1976

Khachaturian, Aram. "Melody" in The Solo Marimbist, Vol. I Columbus, OH Permus Publications, 1976

Nicolai, Otto "Wachet Auf" in The Solo Marimbist, Vol I Columbus, OH. Permus Publications, 1976

Peters, Mitchell. Sea Refractions Los Angeles Mitchell Peters, 1971

Pimental, Linda, and James Moore "Greensleeves" in The Solo Marimbist, Vol II Columbus, OH Permus Publications,1976

Schinstine,William "Morning Mist" in Southern Special Marimba Solos San Antonio· Southern Music Co , 1984.

Schumann, Robert "Choral" in The Solo Marimbist, Vol I Columbus, OH· Permus Publications,1976

Schutz, Heinrich "Sing to the Lord" in The Solo Marimbist, Vol I Columbus, OH· Permus Publications,1976

Sibelius, Jean "Finlandia" in The Solo Marimbist, Vol I Columbus, OH Permus Publications,1976

Stout, Gordon "Elegy " Northridge, CA Studio 4 Productions, 1978

Stout, Gordon "Reverie " Northridge, CA Studio 4 Productions, 1978

Walker, Gerald "Lament" in First Suite from 12 Light Dances San Antonio· Southern Music Co , 1980

Single Alternating

Couperin, Francois "The Cuckoos" in The Solo Marimbist, Vol I Columbus, CA Permus Publications, 1976

Ervin, Karen "Toccata" in Contemporary Solos for 3 and 4 Mallets New York Award Music Co , 1977

Irvin, Lorraine "Octave Etude " Northridge, CA Studio 4 Productions, 1982

Musser, Clair Omar "Etude Op 11, No 4 " Northridge, CA Studio 4 Productions, 1976

Schinstine, William "Twist a Wrist" in Southern Special Marimba Solos San Antonio Southern Music Co , 1984

Combination Strokes

Delancey, Charles "Rosewood Blues " Los Angeles Mitchell Peters, 1972

Delancey, Charles "Ninety Minute Wonders " Los Angeles Mitchell Peters, 1976

Diemer, Emma Lou "Toccata for Marimba " New York Music for Percussion Inc , 1957

Ervin, Karen "Contemporary Etudes for 3 and 4 Mallets " New York Award Music Co , 1977

Ervin, Karen "Contemporary Solos for 3 and 4 Mallets " New York Award Music Co , 1977

Frock, George "Mexican Variations " San Antonio Southern Music Co , 1985

Gomez, Alice. "Etude in D Minor." San Antonio: Southern Music Co., 1985.

Houliff, Murray. "Two Pieces." San Antonio: Southern Music Co., 1979.

Jager, Robert. "Diverse Movements" #2. Kansas City: Wingert Jones Music Co., nd.

Laburda, Jiri. "Sonata for Solo Marimba." Bryn Mawr, PA: Theodore Presser Co., 1983.

Larson, Keith. "Suite Mexicana." San Antonio: Southern Music Co., 1983.

Musser, Clair Omar. "Etude Op. 6, No. 8." Northridge CA: Studio 4 Productions, 1976.

Musser, Clair Omar. "Prelude Op. 11, No.7." Northridge, CA: Studio 4 Productions, 1976.

Peters, Mitchell. "Waves for Marimba." Los Angeles: Mitchell Peters, 1975.

Peters, Mitchell. "Yellow After the Rain." Los Angeles: Mitchell Peters, 1971.

Pimental, Linda and James Moore. "The Solo Marimbist, Vol. I." Columbus, OH: Permus Publications,1976.

Pimental, Linda and James Moore. "The Solo Marimbist, Vol. II." Columbus, OH: Permus Publications,1976.

Pitfield, Thomas. "Sonata." New York: C.F. Peters Corp., 1967.

Schinstine, William. "Southern Special Marimba Solos." San Antonio: Southern Music Co., 1984.

Spears, Jared. "Soliloquies and Celebrations." Oskaloosa, Iowa: C.L. Barnhouse Co., 1980.

"True Lovers Farewell." arrangement by Steve Gwinn. San Antonio: Southern Music Co., [1985].

Ukena, Todd. "Lauren's Lullaby." San Antonio: Southern Music Co., 1987.

Walker, Gerald. "First Suite from 12 Light Dances." San Antonio: Southern Music Co., 1980.

FOOTNOTES

1 Leigh Howard Stevens, Method of Movement for Marimba(New York: Marimba Productions, 1979).

[2]Karen Ervin, Contemporary Etudes for 3 and 4 Mallets (New York: Award Music Co., 1977).

[3]Stout, Five Etudes for Marimba Book 1 (New York: Music for Percussion, 1975); Etudes for Marimba Book 2 (New York: Music for Percussion, 1983) Etudes for Marimba Book 3 (Northridge, CA: Studio 4 Productions, 1989).

[4]Ervin, Contemporary Etudes for 3 and 4 Mallets.

[5]Paul Smadbeck, Etude No. 1 for Marimba (Northridge, CA: Studio 4 Productions, 1980); Etude No. 2 for Marimba (Northridge, CA: Studio 4 Productions, 1980); Etude No. 3 for Marimba (Northridge, CA: Studio 4 Productions, 1980).

[6]Stout, interview by author, tape recording, Ithaca, NY, 26 May 1989.

[7]Stout, interview by author, tape recording, Asbury Park, NJ, 27 May 1989.

[8]Stevens, interview by author.

[9]Thomas Pitfield, Sonata for Xylophone (New York: CF Peters Corp., 1967).

[10]Linda Pimental and James Moore, The Solo Marimbist Vol. I (Columbus, OH: Permus Publications, 1976).

[11]William Schinstine, Southern Special Marimba Solos (San Antonio: Southern Music Co., 1984).

[12]Dimitri Kabalevsky, Waltz, ed. Ylda Novik (Miami: Studio 224, 1979).

[13]Mitchell Peters, Yellow After the Rain (Los Angeles: Mitchell Peters, 1971).

[14]Stout, Two Mexican Dances

[15]Stout, Astral Dance.

[16]Stevens, interview by author.

[17]Alexander Goedicke, A Quiet Moment, ed. by Poldi Zeithin (New York: Consolidated, 1963).

[18]I. Berkovich, Theme and Variations (Ontario: Frederick Harris, 1970).

[19]Stevens, Method of Movement for Marimba.

The author expresses appreciation for the kind permission to use the following musical examples:

James Moyer recently received his Doctorate of Musical Arts degree from The University of Oklahoma. Currently he is Professor of Percussion at Millikin University in Decatur, Illinois.■

FEATURE

Percussion Research

A Visual Window to Tone Production

Norman Weinberg

Norman Weinberg presented the following article on November 9, 1990 in Philadelphia, Pennsylvania as part of the PASIC '90 Scholarly Paper Presentations.

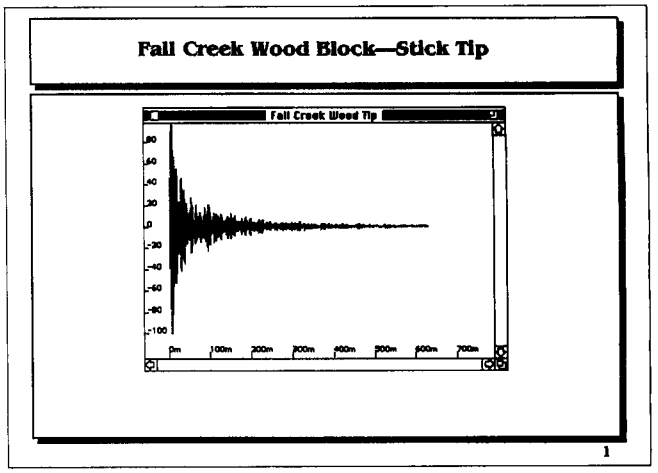
The following experiments in timbre/visual analysis were designed to help student performers explore the application of digital sample editing software to the area of tone production on acoustic percussion instruments. This technology gives the percussionist a visual representation of the physical aspects that determine tonal quality. Differences between tonal qualities of instruments, beaters, techniques, and performers can now be compared and contrasted easily—not only aurally, but visually.

Technical Specifications—These experiments were conducted in Del Mar College's Wolfe Recital Hall. This is an intimate 300-seat auditorium with wood paneling along the front, back, and sides. Each instrument was sampled using a Shure *SM91* microphone located ten feet away from the source instrument at a height of six feet. The signal from the microphone was routed to an E-Mu System's *E-Max* Sampler (with 12-bit linear resolution) and sampled at 41,000 samples per second. After sampling, the sounds were analyzed on an Apple *Macintosh SE* computer using Digidesign's *Sound Designer* and Passport's *Alchemy* visual editing programs.

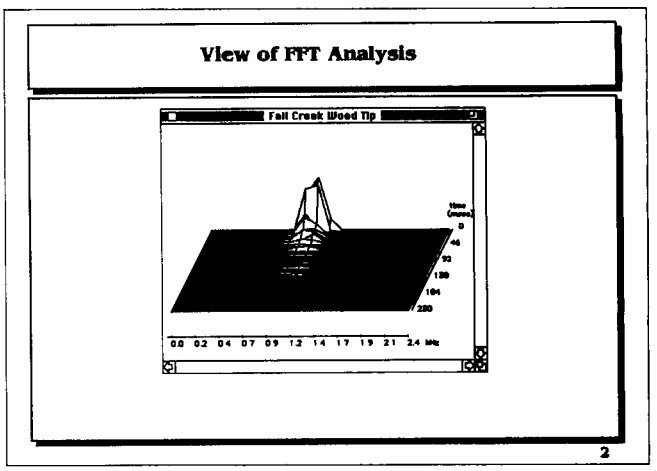
Visual Information—Example No. 1 and Example No. 2 show the two most common forms of visual feedback. In the first example, the overall view of the woodblock's amplitude "envelope" is shown. An envelope is a graphic representation of an aural aspect of the sound over a period of time. In this view, the amplitude is measured vertically as a percentage of full value, while the elapsed time is shown horizontally (in this case, the scale is calibrated in milliseconds).

The second example is an FFT (fast Fourier transform) analysis in three dimensional form. The editing program divides the sound into several separate frequency bands. The result is an accurate representation of the sound's frequency content, as well as changes, over a certain time span. Height indicates amplitude, time is measured from back to front, and frequency is horizontal.

Woodblocks—In this experiment, a Fall Creek woodblock was compared with a Ludwig woodblock using a variety of beaters. Example No. 3 shows that the



Example 1



Example 2

Ludwig block is higher in pitch (the strongest energy is grouped between 1.2 and 1.5 kHz) than the Fall Creek (approximately .9 to 1.1 kHz). This example also points out that the Fall Creek block has a slightly faster decay when struck with the tip of a wooden stick.

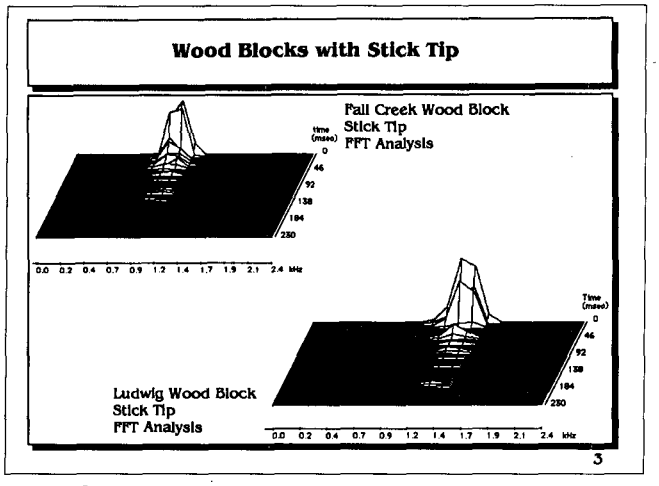
In Example No. 4, the stick's shank is used to initiate the sound. When comparing this example to the previous one, we can see that the Fall Creek block exhibits a more focused pitch at the time of attack along with a smoother decay. Example No. 5 is an overall view of the same strokes. Notice how the Ludwig block now decays more quickly, even though both instruments start at the same volume.

The mallet used in Example No. 6 was a Musser model M4. Depending on the musical situation, this example indicates this mallet might be viewed as the "stick of choice". Both blocks have a sharp attack with a smooth decay, and a tightly focused pitch center.

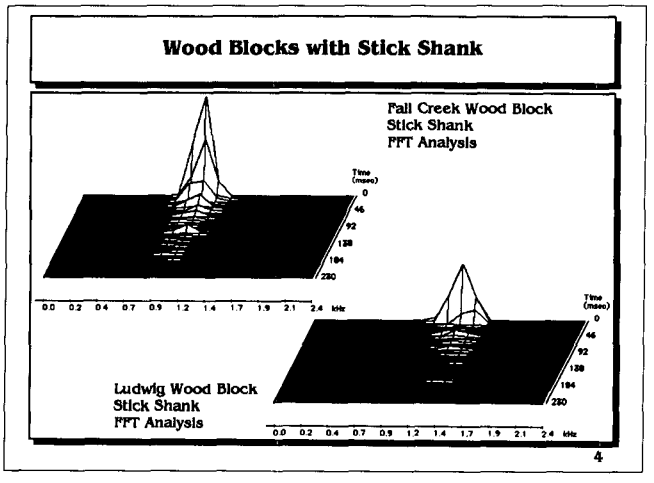
Triangles—The next experiment dealt with triangles. Here, a Grover triangle was compared with a vintage Ludwig instrument. In Example No. 7, the Grover is struck on the side and the base with an aluminum beater. Notice how both strokes contain a strong amount of energy at about 12.4 kHz. Another significant aspect of this example is the increase in the number of overtones when the triangle is struck on the base. When the same triangle is played with a Stoessel beater in Example No. 8, many of the overtones are much stronger, yet the frequencies around 12.4 kHz are extremely weak.

Examples No. 9 and No. 10 represent a different type of FFT analysis. These views display the exact harmonic spectrum in terms of the actual frequency and relative strength. Notice how the Stoessel beater produces a more complex network of frequencies.

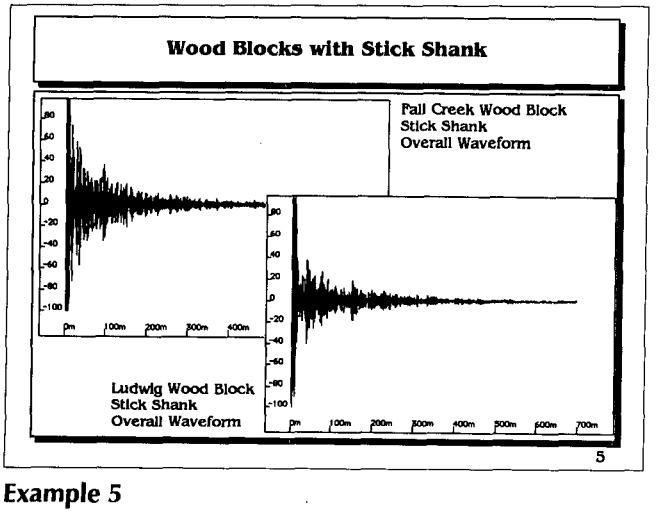
Example No. 11 compares the timbres of the Ludwig



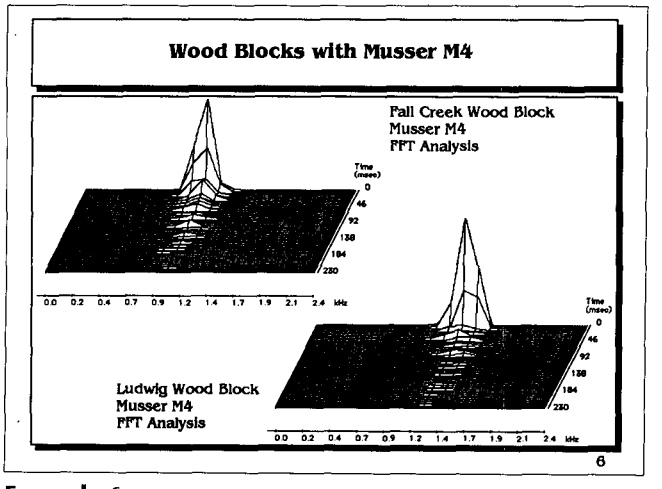
Example 3



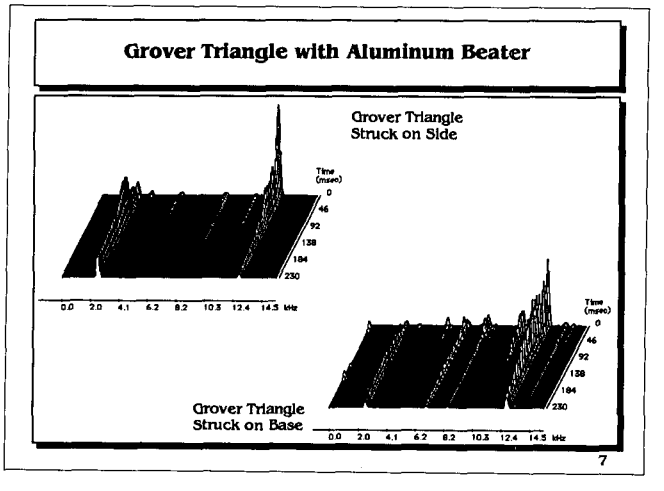
Example 4



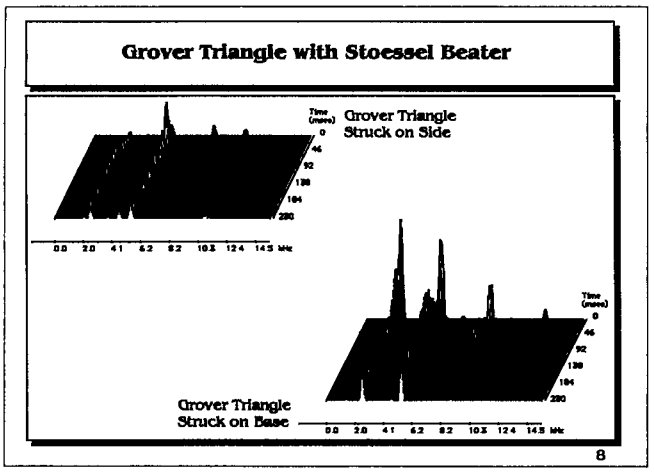
Example 5



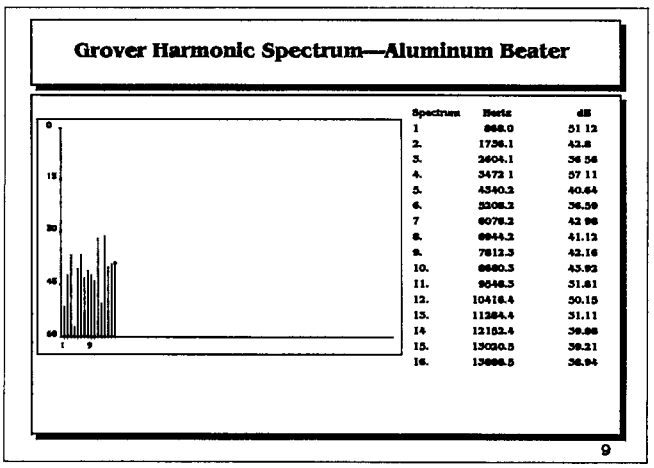
Example 6



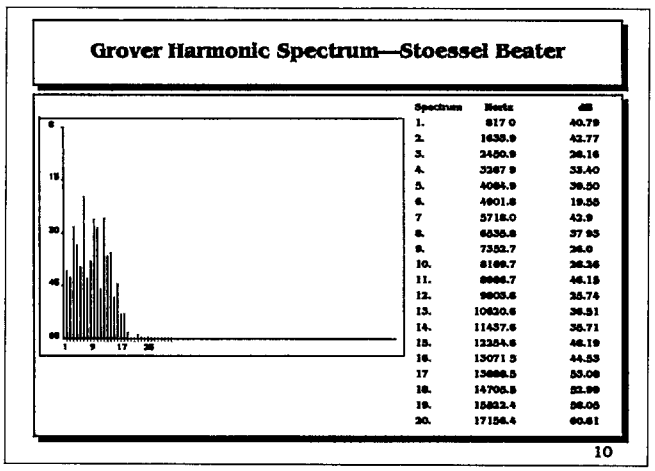
Example 7



Example 8

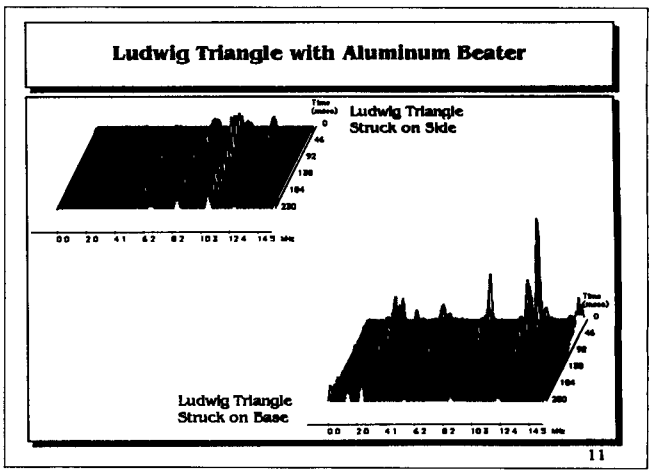


Example 9

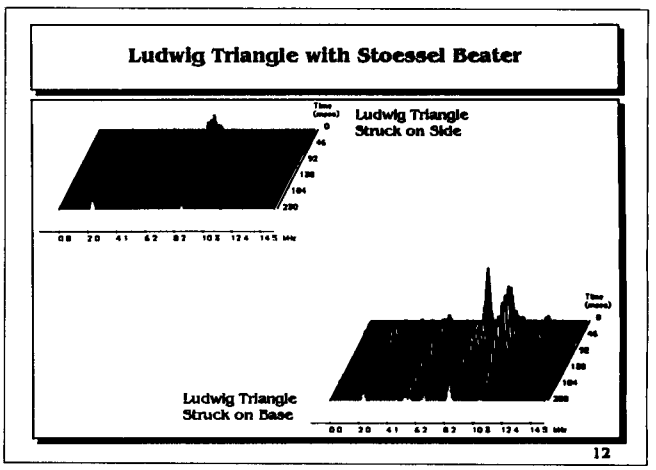


Example 10

triangle when played with the aluminum beater on the side and the base. As with the Grover triangle, both strokes contain a great deal of information near 12.4 kHz. Is it possible that this portion of the sound is



Example 11

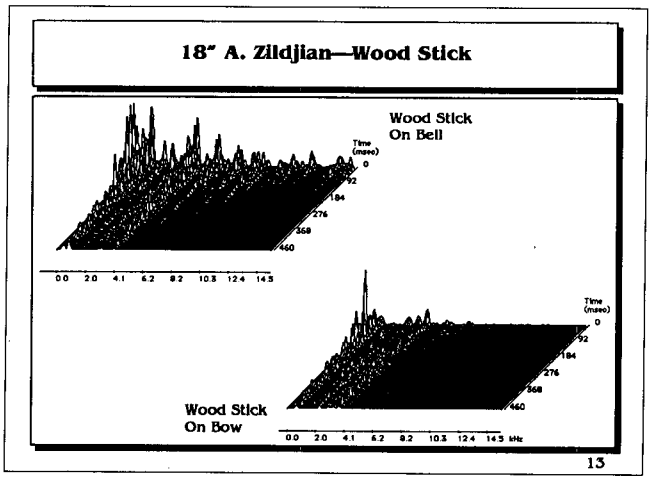


Example 12

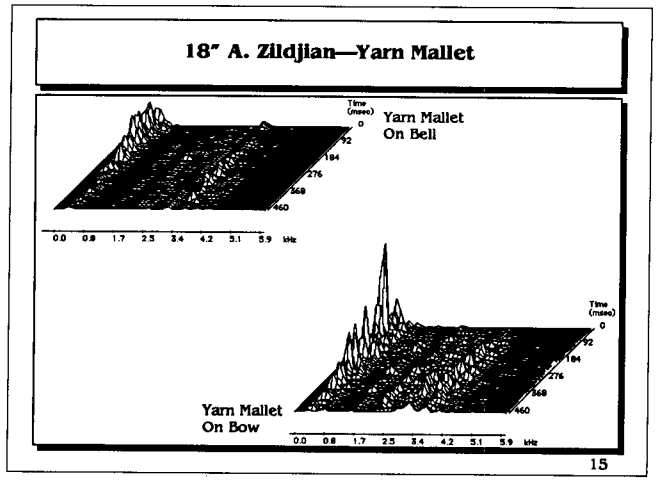
created not by the triangle, but by the beater? Example No. 12 confirms our suspicion, for when the Ludwig triangle is played with the Stoessel beater, this particular frequency is all but missing.

Many percussionists feel that the "best" triangle tone is one that contains a great number of overtones. The high and low frequencies blend together to create the instrument's characteristic sparkle and shimmer. By comparing these visual representations of triangles, students can draw certain conclusions concerning playing technique and mallet choice. We've shown that triangles have more overtones when played on the base than they do when played on the side. We've also seen that an aluminum beater creates an additional "false" tone that is not a part of the triangle's natural timbre.

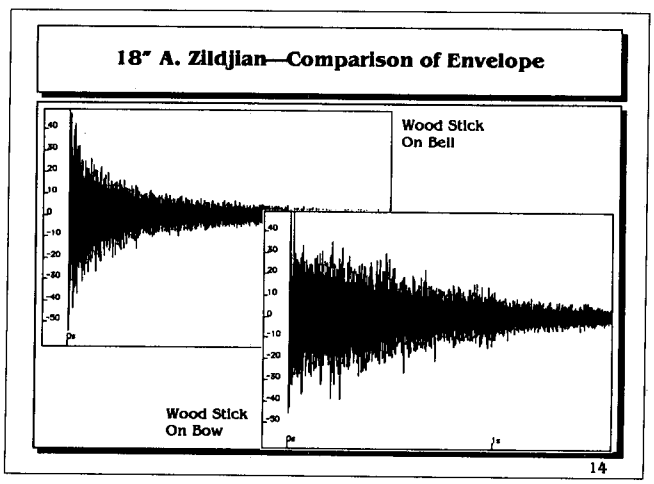
Cymbals—As might be expected, Example No 13 shows that a suspended cymbal struck on the bell contains much more high frequency information than the same cymbal struck on the bow. But notice now the stroke on the bell of the cymbal changes timbre dra-



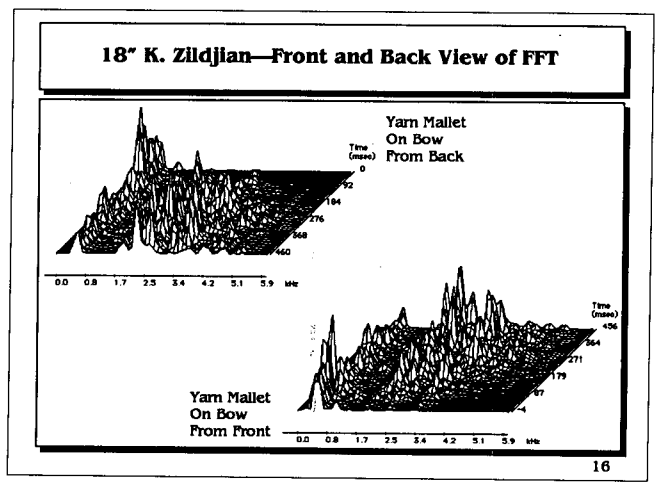
Example 13



Example 15



Example 14



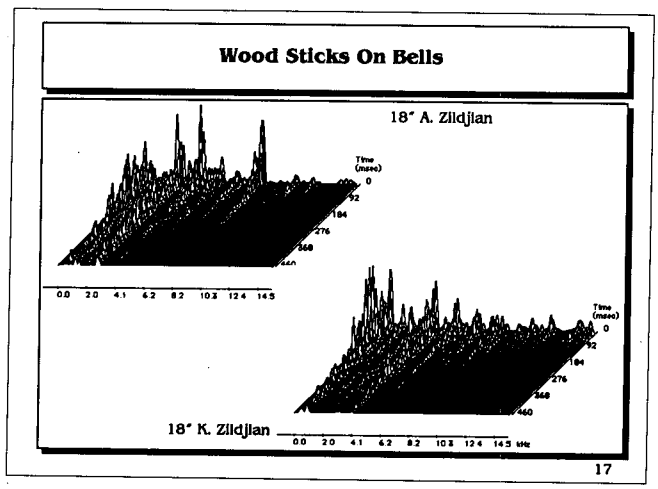
Example 16

matically over a short span of time. Within one half-second, most of the higher frequencies have faded out and only the lower frequencies remain. When struck on the bow, the cymbal's timbre remains more constant.

In addition to the differences in frequency and timbre, Example No. 14 shows the variations in decay between the two strokes. When stuck on the bell, the cymbal exhibits a logarithmic decay (perhaps an effect of the quickly fading high frequencies). When struck on the bow, the decay is more even and linear.

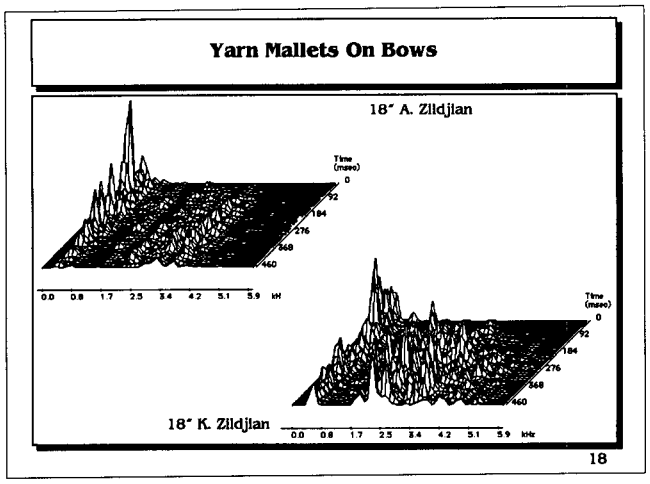
The effect of using a yarn mallet can be seen in Example No. 15. In this example (a more narrow FFT analysis), it is apparent there is no significant aural information above 6 kHz when using a yarn mallet. Notice how the stroke on the bow contains a more even distribution of high and low frequencies. In addition, the higher frequencies increase in amplitude as time progresses.

A similar "surge" in upper frequencies can be seen in Example No. 16. Even when using a different cymbal,

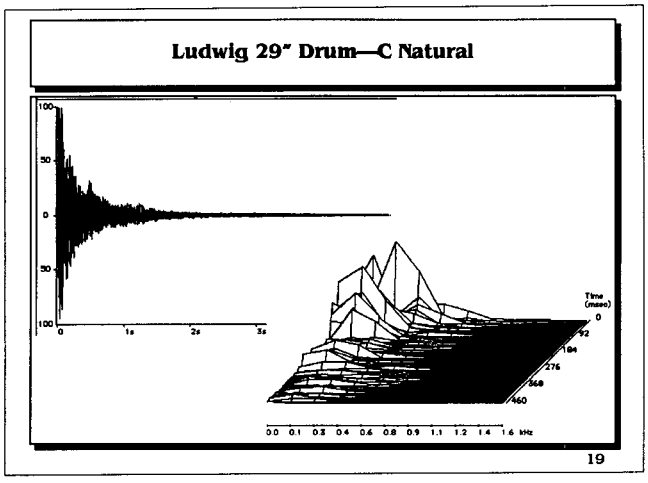


Example 17

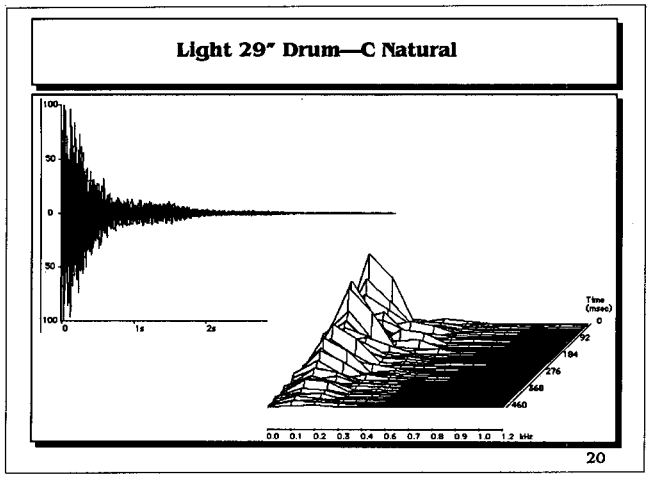
the same playing techniques produce similar timbral characteristics. This view exposes the fact that the lower frequencies fade out as the higher frequencies fade in. Examples No. 17 and 18 compare and contrast the



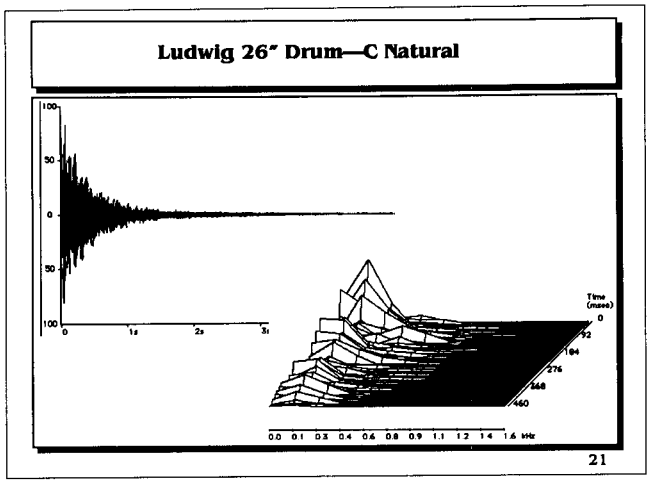
Example 18



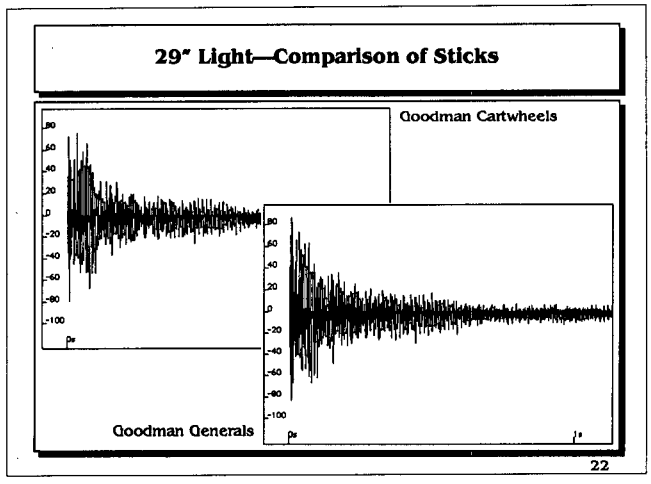
Example 19



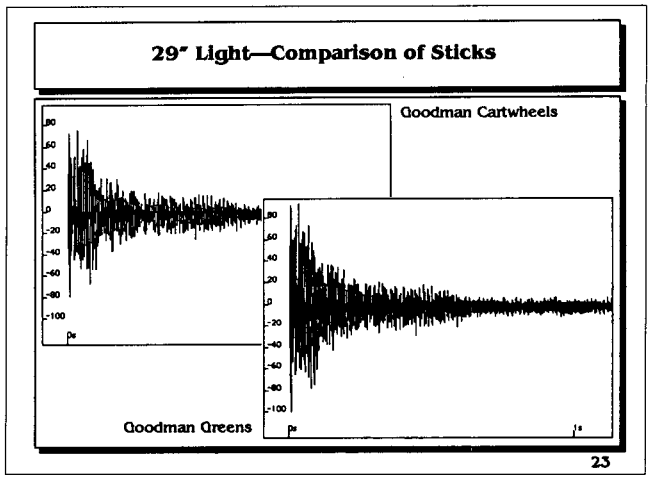
Example 20



Example 21



Example 22

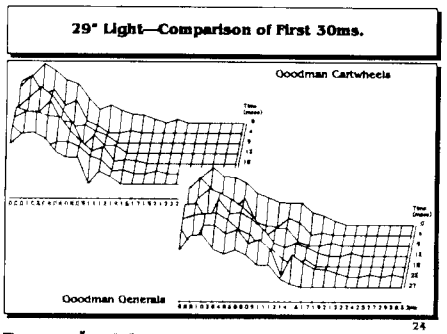


Example 23

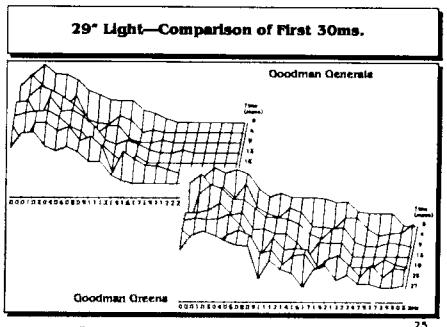
sound of both cymbals side-by-side.

Timpani—Examples 19, 20, and 21 display the tonal "finger prints" of three different timpani tuned to the same pitch (C=130.81 cycles per second). All three examples show a slight drifting in pitch (although the Light drum is a bit more stable), and point out the differences in decay characteristics.

Examples 22, and 23 show the overall envelope of



Example 24



Example 25

the Light drum when played with three different sticks As far as amplitude envelopes are concerned, these visual graphs are not that different Differences abound, however, when comparing the frequencies that make up the timbre of each stroke

Using this technology, students can compare the tonal qualities of instruments, mallets, and playing styles on any number of instruments.

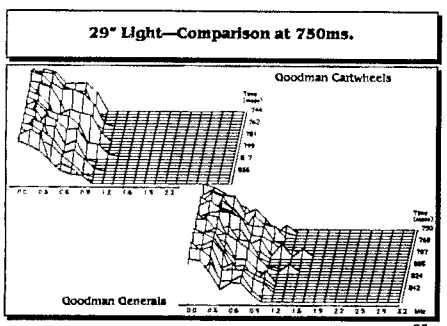
Example 24 compares the sound during first thirty milliseconds of a stroke using Goodman cartwheels to one using Goodman generals. The tone of the general sticks exhibits more high frequency information at the time of attack Example No 25 performs the same comparison with Goodman generals and Goodman staccato sticks. Notice how the staccato sticks produce even more high frequency information than the generals

Examples No. 26 and 27 show that, even after 750 milliseconds, harder sticks produce timpani timbres that contain higher frequencies and more overtones. Could it be that our standard terminology of soft, medium, and hard mallets is misleading?

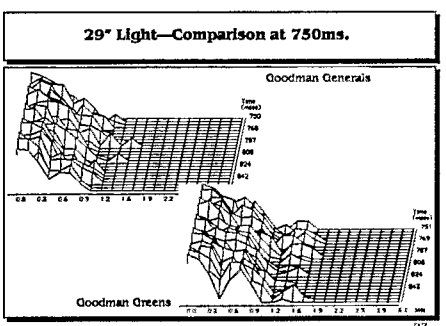
Conclusions—Using this technology, students can compare the tonal qualities of instruments, mallets, and playing styles on any number of instruments Does this marimba have an evenly balanced keyboard? Which mallet will help this instrument blend with the woodwinds? What playing techniques can I use to make this instrument sound brighter? Am I getting the musical effect I'm looking for? Answers to these questions may be found, not only by listening but by looking Perhaps it's time to use the newly available technology to help us hear with our eyes and see with our ears

Norman Weinberg is an Associate Professor of Music at Del Mar College in Corpus Christi, and serves as Principal Timpanist with the Corpus Christi Symphony Orchestra He has taught at the Ruben Academy of Music in Jerusalem, The University of Missouri at Kansas City, and Indiana University

His last book, ***The Complete Electronic Drummer****, has recently been published by Modern Drummer Publications, and* ***The Last MIDI Book****, was published by Alexander Publications in March, 1988. Weinberg has published articles in several journals including* ***Modern Drummer****,* ***Percussive Notes****,* ***Percussive Notes Research Edition****,* ***The Instrumentalist*** *and* ***Rhythm****. He has compositions published by Southern Music Company. Also, he was a guest clinician at the 1988 Percussive Arts Society International Convention in San Antonio, Texas.* ■



Example 26



Example 27

FEATURE

Percussion Research

Pumping Mallets: A Preliminary Investigation into Musicians' Performance–Related Injuries, Injury Prevention and Performance Enhancement

Glenn Steele

Glenn Steele presented the following articles on November 9, 1989 in Nashville, Tennessee as part of the PASIC '89 Scholarly Paper Presentations.

This article is the first in a series concerning arts-medicine, musicians' (particularly percussionists) injuries, injury prevention and performance enhancement. The following is a survey of the relevant literature and a recommendation for further study.

It is only within the last decade that the investigation into musicians' performance behaviors has re-emerged. Prior theories of human motion have existed and have been applied to musicians' skill development with questionable success. According to George Kochevitsky in his The Art of Piano Playing, the various pedagogies that developed in the late nineteenth and early twentieth centuries which centered on the actions of the muscles or strictly on the mental aspects of performance were misguided.[1] The developments of the last twenty-five years (1965-1990) may justify a re-assessment of Kochevitsky's position.

Musicians perform primarily in a non-locomotor (stationary) position; whereas most athletes exhibit locomotor behaviors, i.e. move their entire bodies.

With the advent of new technologies such as discrete electrical monitoring and measuring devices, computer analysis, compilation and simulation devices, high speed cameras, and the emergence of sub-specialities (e g kinematics) and cross-disciplines (e. g. biomechanics), we have a "new ball game" when it comes to analyzing and understanding motion behaviors.

Research indicates that musician's performance behaviors are comparable (and perhaps more advanced) than those of skilled athletes.[2]

1. Musicians perform primarily in a non-locomotor (stationary) position; whereas most athletes exhibit locomotor behaviors, i.e. move their entire bodies.

2. Musicians use primarily "fine-motor" (small muscle) coordination as compared with the "gross motor" (large muscle) coordination of athletes.

For those who abhor the thought of musicians being compared to athletes, I would point out that no comparison is made here with regard to primary motivations, pedagogies, or "aesthetic" goals. The basic issue is the comparison of observable physical behaviors.

The investigation into musicians' performance related injuries (P.R.I.), injury prevention and performance enhancement involves research into many disciplines such as medicine, kinesiology, physics, and rapidly emerging sub-and cross-disciplines such as biophysics, and biomechanics.[3] Attempts at finding the causes of P.R.I., and conversely, at seeking ways to enhance performance will always revert to an analysis of musical activities. A more appropriate term for this is "our musical motion behavior" or "psychomotor behavior."[4]

The awareness of the prevalence of performance related injuries has been documented by numerous researchers.[5] These studies surveyed primarily instrumental musicians. The criteria were numerous, but included: types of playing mediums (e.g. orchestra), instrument, gender, age, type of symptoms (locations), treatments sought, etc. The overall prevalence of PRI among symphony orchestra musicians is in excess of 50% (Dr Hunter Fry), or 76% musculo-skeletal or neuro-muscular domains

In a study of PRI at Australian Music Schools, Dr. Hunter Fry reports a gross prevalence of 9.3%. Dr. Hunter Fry's reports were the only ones from which specific information about percussionists could be found. In his Symphony Orchestra study, prevalence of PRI among percussionists was 6% (he describes painful lesions of the neck and scapula, muscles of the hand and joint ligaments). In his music school study, PRI represented 9% of the prevalence. Not having the specific data from each of the PRI studies, it is difficult to determine whether or not there is more information specific to percussion. Lacking are:

1. Specific sets of criteria for different types of percussion instruments, e.g. solo marimba, multi-percussion, drum-set, hand drumming, and drum-corps instruments.

2. Data concerning music where the percussionist is performing, for long periods of time, technically demanding music (solo, or contemporary chamber music), or physically demanding music ("power rock" and drum-corps, e.g.)

In the symphony orchestra surveys, the highest incidence of injury was among those players who play "on-task" and intensely for long periods of time (strings, woodwinds).

It is interesting to note that most of the researchers reported what Fry calls " a closet disorder." Historically, musicians have been reluctant to admit to themselves or to others that they have a performance related injury. Some of the reasons cited (et. al.) have been:

1. It's only temporary—it'll go away.
2. "No pain—No gain."
3. My technique is faulty.
4. It's a psychosomatic problem (stress, hysteria, etc.).
5. I'm not practicing enough. (or to add my own)
6. Males—"I'm a man, this doesn't hurt."
7. Females—"I'm in a man's world, if I complain they'll think . . . ".
8. Orchestra Management, contractors, music schools don't want damaged goods.
9. My injury is not "Life-threatening" it'll go away. (It could interfere with or stop a career, though!).

There is a proliferation of medical pathological terminology pervading the performing arts world at the moment. Musicians are advised to be cautious about such terminology. Dr. Fry cautions that most of the terms (carpal tunnel syndrome, tendonitis, focal dystonia) may be misleading. He prefers (and his research supports) the use of the term "overuse (injury) syndrome." Dr. Bejjani cautions that "overuse syndrome" may disguise "dis-use syndrome." Dr. Alice Brandfonbrener suggests that the symptoms may result from "mis-use" syndrome. An excellent description of the pertinent medical terminology can be found in Dr. Kella's article in the July 1988 International Musician).

Much of the research in PRI includes cautions. For instrumentalists in general they are:

1. Maintain a good physical condition; meaning strength, flexibility and cardiovascular. This will help develop the prominal muscles which assist the small muscles.[6]

2. Monitor the length and intensity of practice sessions.

3. Become aware of the performance related injuries specific to musicians by attending seminars or workshops.

4. Become aware of the "static-loading" stresses of your particular instrument. (This means holding an instrument, or holding your arm in one position for a long time).

5. Perform physical warm-up/flexibility exercises before and after playing.

6. Dr. Fry recommends that performing sessions consist of 20-30 minutes "on task" and five minutes rest.

For Percussionists (My recommendations)

1. Be cautious of "static" or "static loading" positions. (Holding an instrument, or sitting or standing for long periods of time).

2. Be cautious when lifting heavy objects or many objects. (hands/back).

3. Be careful when playing in a flexed (bent over) position.

4. Be careful when reaching.

5. Be careful of heavy or stiff mallets.

6. Be cautious of hard playing surfaces.

7. Adjust all instruments when possible to the most comfortable and efficient playing positions.

8. Be cautious of quick moves (particularly from a "static" position) requiring a wide range of motion.

9. Be cautious of "spastic" motions.

10. Be cautious of excessive tension in playing.

For general conditioning, I recommend swimming, walking, and low-impact aerobics.

Awareness of PRI has brought about studies of the causes and prevention of such maladies and research into the biomechanical behavior of performing artists. A leading researcher in this field (in addition to Dr. Fry and others) is Dr. Fadi Bejjani. Dr. Bejjani (orthopedic surgeon and Biomechanics specialist) is pursuing the kind of discrete and scientific research necessary to form solid conclusions at his Human Performance Analysis Laboratory at New York University. The Laboratory is equipped with advanced monitoring and measuring equipment capable of collecting 3D visual data, sound data, force data, 16 channel E. M. G. (muscle activity) data and processing via an Ariel Performance Analysis System.

His research has advanced the study of artists' performance behaviors in many ways, among them:

1 Establishing research design models which can be duplicated, verified, and used for further study.

2. His research dispels a number of the "myths" which we musicians hold dear (see "Comparison of Three Piano Techniques," "The Bio-Mechanical Profile," "Hand Temperature Changes and Effect of Mood.")

3 Establishing "bio-mechanical normalcy ranges" for movement behaviors.

Bejjani reminds us, as other bio-mechanic researchers in sports have,[7] that what we view as simple everyday motions are comprised of very complex bio-mechanical interactions. In order to begin to understand these phenomena we must reduce them to their simplest basic "Sub-tasks."[8]

My research has concerned itself mainly with the neuro-psychomotor and musculo-skeletal systems It does not address the aural or visual dimensions of performing, nor the mental dimensions of performing. Obviously, the inter-relationships of all these systems must be considered before any approximation of an understanding of musical psychomotor behaviors can be achieved. My preliminary research involved searching primarily the medical, arts-medicine, and bio-mechanical literature. I have yet to investigate many disciplines which I expect will yield much relevant material. Among them are: robotics, prosthesiology, occupational therapy, exercise physiology, bio-engineering, materials science, and sports medicine.

The initial focus of this project had to do with the relevance of the findings to percussion performance. However, I now realize that because percussion performance encompasses the widest range of motion of all the musical instruments, it may be that an understanding of percussion psychomotor behaviors may serve as the model for all instrumental behaviors.

Future investigations will be guided by the following challenges:

1. What is the prevalence of performance-related injury among percussionists?

2. What relationship and what significance is there between research on other (non-percussion) instruments and percussion?

3. What impact (no pun intended!) do our current instrument designs have on:
   1. our anatomy
   2. our efficiency in playing?

4. Conducting a bio-mechanical analysis of percussion motions, the results of which would lead to "bio-mechanical ranges of normalcy" specific to percussion. (Bejjani)

5 A survey of the entire spectrum of percussion psychomotor behaviors to determine:
   A. If there is a common set of movements for all percussion playing.
   B. If there is a primary set of movements, it may be possible to determine their level of difficulty and prioritize them into a movement taxonomy.

6. How does our mental-cognitive-spiritual being affect and interact with our physiological being. (Does this dichotomy exist?)

7. To what extent can we develop effective teaching modalities that incorporate the results from the research? And, can we develop the appropriate measuring instruments to evaluate and validate these modalities?

Dr. Fawzi Habboushe, Thoracic and General Surgeon of Graduate Hospital, conductor and Arts Medicine research has pointed out that we need to study professional musicians' "trained deformities," i. e. the physical accommodations musicians' bodies have made to their instruments!

It is obvious from the available research that we are merely beginning to understand the workings, causes and meanings of our musical psychomotor behaviors. The tasks which will lead to a comprehensive understanding of these behaviors will require many years of shared efforts from many disciplines.

CODA

The symptoms, diagnoses, treatment, and causes of P.R.I. (Performance Related Injuries) are often subtle and multifaceted. The medical community is gradually becoming aware of these special problems. The best comprehensive overviews of musicians' medical problems can be found in Dr. Alice Brandfonbrener's article "The Medical Problems of Musicians" (AMT. Apr./M. '88), and Dr. Hunter Fry's article "Overuse Syndrome in Musicians: Prevention and Management."

The following is a list of clinics throughout the United States, that specialize in the treatment of musicians' ailments (listing from Senza Sordino-Aug. 87-and my entry "Thomas Jefferson Hospital"):

Music Medicine Clinics

(ICSOM by no means endorses any of these, nor is the list necessarily exhaustive).

Boston
Music Medicine Foundation
Fredrik, Wanger, Consultant
617-965-2305

San Francisco
UCSF Health Care Program for
Performing Artists
Peter Ostwald, MD
415-476-7373

Denver
University of Colorado
Health Sciences Center
Stuart A. Schneck, M. D.
303-394-7517

Chicago
Medical Program for
Performing Artists
Alice G. Brandfonbrener, M. D.
312-908-2787

Cleveland
Cleveland Clinic Foundation
Richard J. Lederman, M. D.,
Ph. D.
216-444-5545

Hamilton, Ontario
McMasters Music Medicine Clinic
Marie Peebles
416-549-5946
Louisville
University of Louisville
Jonathan Newmark, M. D.
502-588-7981

New York
Kathryn and Gilbert Miller
Health Care Institute for Performing Artists
425 W. 59th Street
New York, NY 10019
Emil Pascarelli, M. D.
212-523-4000

Philadelphia
Performing Arts Medicine Clinic
Thomas Jefferson University
Robert Sataloof, M. D., D. M. A.
215-928-6300

I owe much gratitude for the generous help I have received. Dr. Cheryl Maranto, Professor of Music Therapy at Temple University, made her library available to me, kept me on course, and provided much needed encouragement. Also, Dr. Fawzi Habboushe, Joseph Scheideler, Lawrence Wagner, Alan Abel, Neming Xu, Dr. James Hay, Dr. Zebulon Kendrick, John Shaw, and Fannie Graham.

NOTES

[1]Kochevitsky, George. The Art of Piano Playing: A Scientific Approach, p. 18.

[2]See Lippin in the International Arts-Medicine Association Newsletter (Aug. '89) pp. 4-5; and, Wilson in *Mind Muscle and Music*, Teachcraft Bulletin No. 4, Selmer, Co., p. 5.

[3].See Hinson, Kinesiology (1981) and, Simonian, Fundamentals of Sports Biomechanics (1981).

[4]Harrow, Anita. A Taxonomy of the Psychomotor Domain, 1972.

[5]See ICSOM Questionaire (1988); Fry (1986) (1987), Bejjani, Brandfonbrener (1989), Lederman (1989).

[6]Fry, Hunter J. H., *Overuse Syndrome in Musicians: Prevention and Management*; Pacelli, Lauren C., *Musicians can benefit from a physical tune-up.*

[7]See Plagenhot, S. Patterns of Human Motion, p. 1.

[8]Bejjani, Fadi J., *The Biomechanical Profile: It's Use in Performing Arts Medicine.* (unpublished paper), New York University.

Pre-Task Warm-Ups for Musicians by Glenn Steele

Background

There has been a considerable increase in the awareness of the medical disabilities of performing musicians during the past decade (1979-89). Of specific concern have been those injuries resulting from the playing of musical instruments.

My interest in this area developed from: 1) having to deal with personal performance related injuries and, 2) an increase in performance related injuries among some percussion students at Temple University.

A more detailed explanation of my concerns and ensuing research into this area can be found in a separate paper entitled *Pumping Mallets: A Preliminary Investigation into Performance-Related Injuries, Prevention and Performance Enhancement.*

Investigations into this field yield information having to do with two broad areas of study: 1) The Psychological Domain (Anxiety, Stress, Behavior Modification, Neuro-Linguistic Programming, etc.) and, 2) The Neurological-Musculo-Skeletal (sometimes called Sensory-Motor) Domain The Psychological-Physical domains, in reality, function holistically[1], i e a true understanding of the Psycho-Bio System cannot be attained without considering both domains, interacting, as one symbiotic, integrated unit. for the sake of research time, and considering the breadth and complexity of such an endeavor, I have chosen to research the Physiological aspects of percussion motor behavior.

A good general physical conditioning is essential for maintaining long-term musical skills.

Preliminary research indicated that it would be many years before I would be able to scientifically justify any solution to the immediate physical problems of the percussion students in our program at Temple University Needless to say, something had to be done.

I have consistently been involved with and have had an interest in sports (judo, karate-5 yrs.), physical conditioning (weight training-14 yrs.), and kinesiology. A credible resource available to me was Joseph Scheideler, who is Director of Physical Therapy at the Frankford Hospitals in Philadelphia.

Recent investigations into the medical problems of performing artists indicates that:

1 Musicians' psychomotor behaviors closely parallel those of athletes.

2. Most musicians' injuries are preventable.

3. A good general physical conditioning is essential for maintaining long-term musical skills.

4. Specific types of conditioning, particular to an instrument, can assist in preventing injury.

It is a well-accepted fact that proper warming-up before and after any vigorous activity will help in preventing injuries. Based on these principles, I began to analyze percussion motions and develop a set of warm-up exercises (called Pre-Task Warm-ups so as not to be confused with specific instrumental warm-up exercises, e.g. scales, arpeggios, stick control exercises, etc.) which my students could immediately use. The students began using the exercises in the Fall of 1987. To date, only one has experienced any performance related difficulties.[5]

Research

When I realized that the warm-ups appeared to be helping my students, I decided to get professional assistance. In December of 1988 I discussed with Joe Scheideler the idea of having an evaluation of the Pre-Task Warm-Ups done by a physical therapist. My interest was whether or not the warm-ups, in fact, were effective for a wide range of percussion motor behaviors, i. e., did the warm-ups correlate to the necessary musculo-skeletal segments used by percussionists?

Considering time and resources, an empirical-descriptive research design was conceived. We decided that a video taping of actual playing followed by a demonstration of the Pre-Task Warm-Ups should be done. The tape included the following (Frontal and Lateral View).

Performing-Glenn Steele
Camera Man-Joseph Scheideler
Date-4/4/89
Instruments-Snare Drum and Marimba

Performance Included.

Snare Drum-sitting position

1 3 Types of Strokes at three heights (12", 6", 1")
- A. Return Stroke
- B. Down Stroke
- C. Up Stroke

2. Single Stroke Roll (Slow to Fast)

3. Double Stroke Roll (Slow to Fast)

4. Multiple Bounce Roll (Slow to Fast and *p-f*)

5. Single Paradiddle (Slow to Fast and *p-f*)

6. Alternating Flams (Slow to Fast)

7. Solo-*Downfall of Paris*

Marimba

1. Two Mallet
   A. Scale-D Major-2 oct. & 3rd (Slow to Fast)

   B. D Maj.-Arpeggio in 3rds-1 oct.

   C. D Maj. Scale-in octaves

   D. D Maj.-Sustained with rolls

   E. D Maj.-in triplets (LLR ascending, RLL descending)

   F. D Maj.-Arpeggio-in triplets (LLR)

   G. C Maj.-Arpeggio-rapid triplets (like trumpet triple tongue)—One hand fixed on *C*, other hand moves to next note.

   H. Solo-*Concertino for Marimba*-Paul Creston (1st page)

   I. Solo-*Etude in A-flat*-Clair Omar Musser (1st 8 bars)

2. Four Mallet

   A. 4-Mallet Grip-Leigh Stevens Type-Panoramic View

   B. Separate Hands-A minor scale-double stops-one mallet fixed, other mallet moves.
   (Leigh Stevens[6]-"Double Vertical Stroke")

C. Independent Mallet-Each hand-Alternating in fifths-increasing speed into a roll
(Leigh Stevens-"Single Alternating Strokes")

D. Double Stop Roll
(Leigh Stevens-"Double Vertical Stroke")

E. D Maj. Arpeggio-Quadruple Stops-2 oct.
(Leigh Stevens-"Double Vertical Stroke")

F. A. Solos/Etudes-*Estralite*-Manuel dePonce/Owen (Sustain Roll)

G. Solos/Etudes-*The Clown*-Dmitri Kabalevsky (Independent Mallet)

H. Solos/Etudes-*Yellow After the Rain*-Mitchell Peters (Independent Mallet)

The next segment of the tape included the Pre-Task Warm-Ups. They consisted of the following:

16 Exercises

1. Shoulder Stretch (Up and Down)

2. Shoulder Shrugs (forward and back)

3. Shoulder Rotation (External and Internal)

4. Shoulder-Arm-Windmills (Lateral)

5. Neck Limbering-(Forward-Back, Side to Side, Rotation)

6. Elbow Curl (Palm Up and Down)

7. Elbow Windmill

8. Shoulder Lift

9. Shoulder Diagonal Rotation (Stomach and Pat)

10. Forearm Twist (Medial-Lateral)

11. Wrist Stretch (Up and Down-Assisted)

12. Finger Stretch (Up and Down-Assisted)

13. Hand Massage (one hand of the other)

14. Finger Wiggle

15. Hand Shake

16. Arm Shake

Joe and I also discussed a "reality" based problem which I had inferred from the initial warm-up trial . . . i.e., music students either 1) don't like to exercise, 2) have limited and precious time restraints, or 3) practice

rooms are small. From this I concluded that any warm-ups we finally decide upon have to be limited in time (5 minutes or less) and be able to be performed in a limited space (6 ft. x 8 ft.).

Joe Scheideler had his two staffs of certified physical therapists from each campus of the Frankford Hospital (Torresdale Campus-six therapists, and Frankford Campus-five therapists) review the tape. They were asked to evaluate the tape, which included both actual instrumental performance and the Pre-Task Warm-Ups, according to the following criteria:

1. What musculo-skeletal segments were being used?

2. Are the warm-ups appropriate?

3. Are any of the exercises duplicative?

4. Are any of the exercises harmful?

5. Should there be any additional exercises?

Joe reported back to me on 6/3/89. His report is summarized as follows:

1. Most of the exercises were "good." They were appropriate for the types of percussion motor behavior demonstrated. The segments involved were the trunk, upper extremities, and head.

2. Exercises #1 and #8 could be combined into a new exercise.

3. Exercise #3 could be problematic for someone with"rotator-cuff" injuries. The exercises should be separated into External and Internal components.

4. Exercise #5 should also include full 360-degree rotation.

5. Exercise #6 should include a "Thumbs-Up" component.

6. Exercise #7 should be done slowly.

7. Exercise #10 should include a "hold and stretch" component in each position (pronation-supination).

8. Exercise #11 should be done passively at first, then assisted with the other hand. (Do with caution!)

9. Exercise #12 should be done passively at first, then assisted with the other hand. (Do with caution!)

It was, to say the least, encouraging to have my "Pre-Task Warm-Ups" verified by experts in the Physical Therapy field.

The initial scope of the research was limited intentionally. However, because of the impending "essence of the moment," i. e. having an opportunity to present my work at the PASIC '89 Convention, I decided to include exercises which covered those body segments used by drum-set players, timpanists, and multi-percussionists. On October 5, 1989, Joe Schiedeler came to the College of Music at Temple University and observed me playing all three instrumental groups (drum-set, timpani, and multiple percussion (xylophone, 3 tom-toms, temple blocks, suspended cymbal, bass drum)). Unlike the first set of warm-ups, here the physical therapist observed the motor behavior and then recommended appropriate exercises (again considering the time and space constraints). His observations and recommendations are summarized as follows:

1. Upper extremity motor behavior is the same as previously demonstrated. The same "Pre-Task Warm-Ups" can be used.

2. He didn't feel that the ankle or knee segments required any special warm-ups.

3. He expressed great concern with:

   A. Sitting positions (knee below hips)

   B. Flexed knee positions (standing, hamstring flexion, forward)

   C. Slight Shoulder-Neck Flexion

   D. Lower Back Position (stabilized for too long in one position)

   E. Rapid motion away from a stabilized position

4. Between sitting and standing with knees flexed, the hamstring muscles are apt to shorten. This can portend lower back problems.

5. Stabilizing the back (extension) to remain sitting upright (on a stool) for long periods of time can lead to back problems.

6. Constant forward flexion of the head, neck, and shoulders can lead to back problems.

He recommended three exercises that will aid in keeping the back flexible and will aid in stretching the hamstring muscles. They are:

1. Back Flexion (Forward)

2. Back Extension

3. Trunk Rotation

It is important to remember that any form of exercise can be potentially harmful. Caution is recommended if a person has (or has had):

1. Any prior or current symptom of a performance related injury such as pain, soreness, lack of control, etc.

2. Any prior musculo-skeletal injury, such as a hyper-extension, broken or dislocated bones, etc.

3. Any respiratory or cardiovascular illness or illnesses which can affect these systems.

4. Any physical handicaps.

If the person has experienced any of the above, a physician should be consulted before attempting the exercises.

Performing the Warm-Ups

The Pre-Task Warm-Up Exercises should be done slowly and smoothly (i. e. more "yoga-like" than "calisthenics.") For those people who are not used to exercising, the beginning steps should involve fewer repetitions and/or should include only a few of the exercises during each session (adding more of the exercises at subsequent sessions). It is interesting to keep in mind that in one of the Coaches Training Manuals it was pointed out that on several occasions football teams were incurring more injuries as a result of the "warm-ups" than during the game. The factors that play into this are:

1) Are the warm-ups appropriate for the task?, and 2) How are the warm-ups being done?

The Pre-Task Warm-Ups are to be done ideally before, perhaps during, and after a performing session. Dr. Hunter Fry suggests that practice sessions be no more than 20-30 minutes in length (on task) and should be followed by a 5-minute rest period, after which another practice period (on task) may resume. Numbers of practice segments can be extended but not without following the 20-minute-on, 5-minute break sequence.

Dr. Fry proposes that not only should the 20-30/5 sequence be followed but that the musician should be aware of the "intensity" of the playing in ratio to the amount of time playing. This means that a virtuosic piece involving a lot of energy and rapid/wide ranges of motion should not be performed for as long a period of time as an easier less demanding piece (levels of skill abilities and individual traits are to be factored).[7]

The initial focus of my research concerned percussion performance. Since percussionists exhibit the widest range of instrumental psychomotor behaviors, developments resulting from an understanding of these behaviors may be applicable to all instrumental performance behaviors.

In conclusion, I extend my gratitude to Joseph Scheideler and the physical therapy staffs at the Frankford Hospital. I am indebted to Dr. Cheryl Maranto, Professor of Music Therapy at Temple University, for her generous time and assistance.

Addendum (7/90)

I have prepared a 28 minute (color-VHS) video tape entitled *The Musician's Body Warm-Up Program*, which is available through the Arley Services Company. The tape has three parts: 1. An introduction, 2. A demonstration of the individual exercises, and 3. An 8 minute demonstration of the exercises in sequence. For more information call or write to:

Arley Services
2329 Marshall Road
Lansdowne, PA 19050
Phone: (215) 622-6977

NOTES

[1]See Arthur Jennings, *Toward a Holistic Paradigm of Performance and Teaching.*

[2]See Lippin in the International Arts-Medicine Association Newsletter (Aug. '89) pp. 4-5; and, Wilson in *Mind Muscle and Music*, Teachcraft Bulletin No. 4, Selmer, Co., p. 5.

[3]Fry, Hunter J. H., *Overuse Syndrome in Musicians: Prevention and Management*, The Lancet, September '86.

[4]Ibid., also see Richard Norris, *Non-Surgical Treatment of Upper Extremity Disorders in Instrumentalists.*

[5]This student was older (in his 30's). During preparation for a recital, he decided to change mallet grips without consulting me and without doing the warm-ups.

[6]For Stroke References, see Method of Movement for Marimba by Leigh Howard Stevens, Marimba Productions, Asbury Park, New Jersey, 1979.

[7]Fry, Hunter J. H., *What's in a Name?*, Medical Problems of Performing Artists, March '86, p. 38.

BIBLIOGRAPHY*

Bejjani, Fadi J , *The Biomechanical Profile Its Use in Performing Arts Medicine*, (unpublished paper) Human Performance Laboratory, New York University, New York, New York

Bejjani, F J , Ferrara, L , Yu, Naiming, Tomaino, C M , Paulidis, L , Wu, Junli, Dommerholt, J , *Comparison of Three Piano Techniques as an Implementation of a Proposed Experimental Design*, Medical Problems of Performing Artists, Hanly and Belfus, Inc , Philadelphia, Pennsylvania, September, 1989

Bejjani, F J , Clothier, P , Schwartz, M , Snow, B , *Hand Temperature Changes and Effect of Mood Profile in Musicians During Performance*, Trends in Ergonomics, Human Factor Volumes, Elsevier Science Publishing, B V., New York, New York, 1986, pp 397-404

Brandfonbrener, Alice G , *The Medical Problems of Musicians*, American Music Teacher, April/May, 1988

Brandfonbrener, Alice G , and Elias, Robert J , *Survey of Music Teachers Regarding Injuries of Musicians*, The Seventh Annual Symposium on Medical Problems of Musicians and Dancers, Snowmass, Colorado, Aug 1989

Fishbein, Martin and Middlestadt, Susan, *The I C S O M Medical Questionaire*, Senza Sordino, Aug 1987

Fry, Hunter, J H , *Overuse Syndrome in Musicians Prevention and Management* The Lancet, Sept , 1986

Incidence of Overuse Syndrome in the Symphony Orchestra, Medical Problems of Performing Artists, June, 1986

Prevalence of Overuse (Injury) Syndrome in Australian Music Schools, British Journal of Industrial Medicine, vol 44, 1987

Harrow Anita A Taxonomy of the Psychomotor Domain, David Mckay Company, Inc , New York, New York, 1972

Hinson, Marilyn M Kinesiology, W C Brown, 1981

Kochevitsky, George The Art of Piano Playing, Summy-Birchard, Evanston, Illinois, 1967

Kella, John J , *Musculoskeletal, Neurological and Dermal Ailments of Musicians*, International Musician, July, 1988

Lederman, Richard J , *Diagnostic Evaluation in the Instrumentalist*, The Seventh Annual Symposium on Medical Problems of Musicians and Dancers, Colorado, Aug , 1989

Lippin, Richard A , *Music has Charms (but strains the muscles)*, International Arts Medicine Association Newsletter, Aug , 1989

Paccelli, Lauren C , *Musicians can Benefit from a Physical Tune-up*, The Physician and Sports Medicine, vol 17, no 7, July, 1989

Plagenhoff, Stanley Patterns of Human Motion, Prentice Hall, Englewood, New Jersey, 1971

Simonian, Charles Fundamentals of Sports Biomechanics, Englewood, New Jersey, 1981

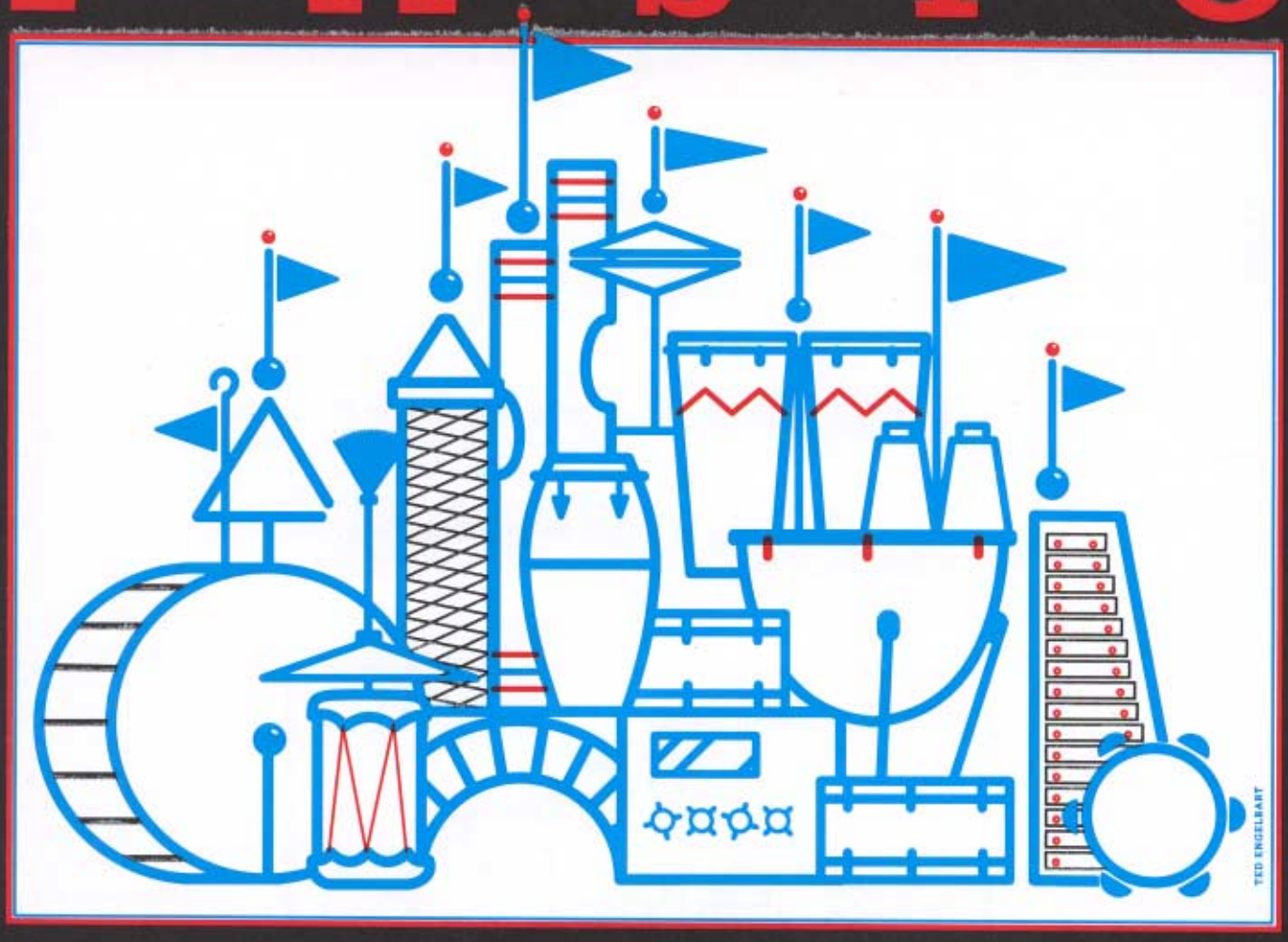
Wilson, Frank R , *Mind Muscle and Music*, Teachercraft Bulletin No 4, Selmer Co , 1981

Teaching Hands, Treating Hands, Piano Quarterly, Spring, 1988

*(Bibliography for both articles)

Glenn Steele is a Professor of Percussion at the Esther Boyer College of Music, Temple University He has been a professional musician since 1966 and has distinguished himself as a timpanist and percussionist with symphony orchestras and chamber ensembles including the West Point Band, the Philadelphia Orchestra, The Penn Contemporary Players, and the Philly Pops His areas of expertise are with timpani and 20th century percussion performance practice, particularly the music of George Crumb with whom Glenn has a long affiliation Glenn's current areas of research involve the percussion curriculum in higher education, electronic percussion, the development of a percussion Theory of Movement, and the application of Music Learning Theory to percussion ■

P · A · S · I · C



November 20 - 23, 1991 at the Disneyland Hotel · Anaheim, California

Percussive Arts Society International Convention

1991

Host: Dave Black

- Concerts
- Exhibits
- Clinics
- Seminars

For complete details contact:
PAS · Box 697 · Urbana, Illinois 61801
217 · 367 · 4098

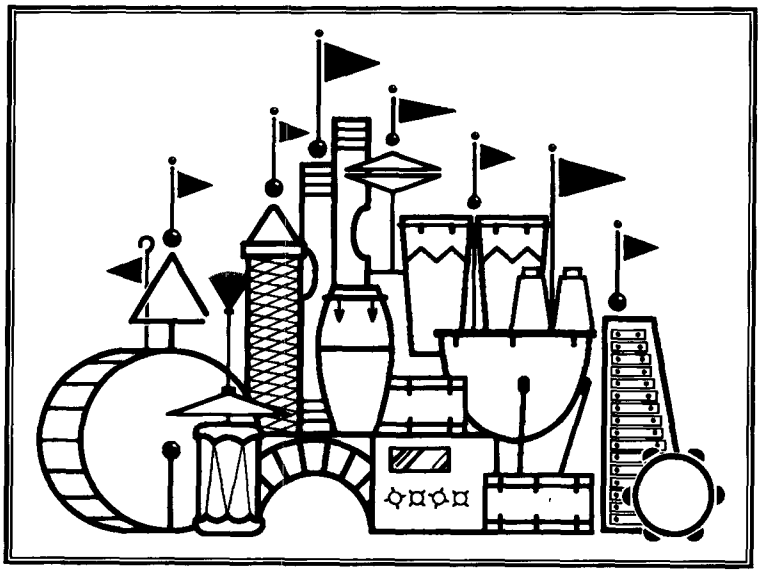
PASIC '91 International Convention

Dave Black, Host

Make your plans to join us for PASIC '91, November 20-23, 1991 at the Disneyland Hotel in Anaheim, California.

One of the many reasons which make the Los Angeles/Anaheim area an attractive site for PASIC '91 is the incredibly diverse musical community which is found there. The PASIC '91 Planning Committee and I are putting together a program which not only displays the diversity of the world's percussion community, but also the variety of talent found in the host city as well.

As we approach PASIC '91, this article will focus on the first day (Wednesday, November 20th) of the convention. I have asked Dr. Larry Snider, chairman of the Research/New Music Committee, to talk about this important first event.



In a relatively recent interview by interviewer Bill Moyer, theatrical director Peter Sellers said, "The point about opera is that song is the one thing that connects all human beings. Words, again and again, divide us. Song, again and again, brings us together." While a thought provoking statement, equating song with all types of music, Sellers fails in this statement to develop his premise as to the reason why this occurs - worldwide communication through connecting cultures. Cultural exposition into music is much more basic to bringing music to global sophistication of the arts in communication than what Sellers might have implied in his thoughts concerning song. Cultural multiplicity in musical expression not only can be complicated but can also be fascinating and simplistic.

It is no longer in fashion to call America "the melting pot" of culture. Much contemporary rhetoric concerning education, social-economic ideas and philosophies encourage us to bring out cultures in pride rather than to mold all cultures into one. With this, cultural contributions have always been recognized in music more than other disciplines throughout history in the importance of musicology, ethnomusicology and composition.

The time is ripe to bring contemporary world culture thought and reactions to interplay with new music ideas, looking back and to the future. What better way than to look at percussion, the basic form of music, as the vehicle. What better way than to use California, one of this world's most contemporary world multi-cultural centers, as the testing ground for such creativity, thought and experimentation.

The 1991 Percussive Arts Society International Convention New Music/Research Day on Wednesday, November 20th, will be the site of bringing percussion composers, performers and thought provokers to the most ideal cultural nurturing part of the world, California, for the celebration of the world's percussion music's past, present and future. *Percussion in the Glo-*

lage: Connecting World Cultures Through Contemporary Music is destined to make an impact on future contemporary music thought and performance, as well as reflecting upon our long tradition of nurturing cultural diversity through the common link of percussion.

Mock Auditions: Mock timpani and orchestral percussion auditions will be one of the events featured at PASIC '91 in Anaheim, California. The auditions will be conducted using current professional audition procedures and literature, and will be judged by a panel of professional percussionists.

Everyone interested in pursuing a career in symphonic percussion is encouraged to participate in this event. We hope teachers will encourage their students to take part in this educational experience.

Eligibility: Any full-time college (undergraduate or graduate) student who is an active member of PAS.

Format: There will be two divisions - orchestral percussion and timpani. Applicants may apply to only one division.

Application: A letter of application on school letterhead should be sent by the student's major professor stating that the applicant is enrolled as a full-time student. If more applicants apply than can be accomodated in the time available, a drawing will be held to determine the participants.

Details on the Mock Auditions and other PASIC '91 events will be published in the PASIC Preview issue of ***Percussive Notes***.

All applications should include a self-addressed postcard. Correspondence regarding the event should be directed to:

Raynor Carroll
1815 La Cresta Drive
Pasadena, CA 91103

PLAN NOW TO ATTEND PASIC '91 IN ANAHEIM - NOVEMBER 20-23.

Developing Effective Musical Learning in Practice and Performance

Sherman Hong

Because of the many activities available to students, young musicians must learn to make the best use of available practice time. Teachers and students have observed that while some can accomplish a great deal in a little amount of practice time, others accomplish much less with a maximum amount of practice time Although some of these differences can be attributed to talent levels, I believe that they can also be attributed to the student's knowledge of how to maximize musical learning in each practice session or performance Studies have shown that the results are influenced not only by the amount of practice, but also by the quality of available practice time

It is unfortunate that teachers place an over-emphasis on the amount of practice time students utilize Time would be better spent if teachers discuss with students how to practice and perform There seems to be a tendency for many students to emphasize technical (physical) drill and concepts, rather than musical learning Effective teaching and music learning should concentrate on developing and understanding musical concepts, development of mental and aural skills, and developing evaluative expertise In reality, practices and performance too often center on physical learning at the expense of acquiring and using musical concepts

It is unfortunate that teachers place an over-emphasis on the amount of practice time students utilize.

Leonard and House (1959) believed the most efficient steps in musical learning and practice are

A Establish an aural concept of what is to be achieved
B Perform the music
C Reflect the correctness of performance
D Decide what changes should be made

Those four steps lead directly into a process of analysis and correction

A Recognize that a problem exists
B Isolate and correct problems
C Insert corrected passage into musical context
D. Perform and evaluate again

Note that the process requires active mental and aural skills, rather than only coordinative skills.

Motor Schema Theory

LeBerg (1981) and Owen (1988) stress the use of motor schema theory during practice to enhance musical learning and performances. According to these researchers, the mind must be in command of practice or performance sessions. They believe the brain utilizes small sets of generalized stored movements (schema) from which larger, more specific sets of coordinative movements (learned motor skills) can be drawn. Stored within schema are abstract representations of movements, rather than specific and detailed instructions for every motor movement LeBerg suggests these schema stimulate certain physically stored motor movements. In simple terms, motor schema theory means muscle movements (coordinative) are programmed or learned through physical practice, movements are stored and given general names (schema) by the brain; required coordinative movements can then be activated by using schema names. This process is similar to programming a computer and then giving a code name to it When the code name is called up by the computer user, the program is ready to run.

For example, when one learns to play a scale, he does so one note at a time until the entire sequence of physical movements are learned and programmed. Once the notes have been programmed through learned coordinative movements, the name of the scale (code) is stored in the brain When this particular scale is required to be performed, the motor schema (name of the scale) is called up by the brain which, in turn, stimulates the learned coordinative movements Thus, a general command results in calling up specific information and physical movements

Visualization

Teachers frequently tell students to "play lighter," "play with a dark sound," or "taper the phrase." These requested changes deal with sound and emotion - the

purpose of music. Too frequently students are taught to use only physical alterations to produce desired sounds or phrases. What frequently results is a technically proficient but emotionless performance.

Through technical and physical modifications one can produce a variety of timbres. For example, wind players, by changing the tonguing syllable from "tu" to "du" would produce a smoother and more legato sound than the first articulation. Jazz musicians use various syllables to produce the correct rhythm and style; e.g., (example 1) can be correctly performed by using the syllables "du-dot-dit." Percussionists can also use a syllabification system to produce varied timbres without a great deal of explanation on how to change muscular control. It has been this writer's experience that percussionists can more easily produce varied touches and colors by mentally singing different syllables. Percussionists can easily use the following system:

A. Legato, full valued notes - sing du = (ex. 2)
B. Long, accented note - sing ta = (ex. 3)
C. Regular quarter, slight space between notes - sing da = (ex. 4)
D. Short note - sing di = (ex. 5)
E. Short note with accent - sing dit = (ex. 6)
F. Long, heavily accented note - sing dot = (ex. 7)

A simple application of the syllabification system allows percussionists to play with more color and nuance.

A simple application of the syllabification system allows percussionists to play with more color and nuance.

A valuable source in making students aware of producing different musical colorations and emotion is through use of visualization (imagery). Green and Gallewey (1986) wrote a book that popularizes use of visualizations in performance; however such practice has been used by musicians for ages. Composers use terms such as "dolce, morosely, scherzo, and maestoso" so that performers can perform the emotional intent of their music. Commonly used musical terms indicate tempi, styles, articulations, and emotional intent - things that are controlled or perceived by the mind and then produced by coordinative movements. It would thus seem imperative for teachers, students, and all musicians to discuss what sound and emotions should be visualized when performing music. What should be imagined when playing "dolce," "agitato," "scherzo," or any of the commonly used descriptive terms composers apply? It is unfortunate that musicians believe those terms refer only to tempi.

All musicians should actively seek visualizations that can help performers produce the correct intent of music, but without having to go through a great deal of verbalization or technical explanation. For example, a typical melodic device is to build intensity and resolve emotional intensity, especially at cadence points. In emotional terms this translates into a building of tension followed by a release of that tension (relaxation). In-

stead of using words such as "taper to the resolved note," this writer has found it easier for students to understand if I use words associated with emotion - "produce a musical sigh!" Such a statement can be easily imagined, both musically and physically, and without technical explanation.

Talent

Success in practice and performances is too summarily ascribed to individual talent. But just what is musical talent? Seashore and Schoen believed it was inborn, Mussell felt talent depended on a combination of mental processes. Rainbow discussed the influences of such variables as interest, home environment, socioeconomic background, and musical training Others such as Scheinfeld believed genetics influenced musical talent, and other studies indicate that mental and physical maturation play a great part in musical success Although cases have been made for and against all of the above, it seems that success in music is the result of acquired skills that are influenced by all the mentioned variables. Lunden (1967) succinctly argued that ". . No great composer or performer ever achieved his goal without long hours of apprenticeship and struggle. Musical accomplishment is not the mere result of inherited inspiration but also the product of hard work " (p 222)

Summary

Success in practicing and performance are based on developed talent, learned and technical expertise, and mental perceptions It is the mental preparation that needs greater development. Use of analysis and visualization should go hand in hand with physical training. The following chart illustrates the interdependence of factors that lead to success in music.

Based on concepts discussed, success in practice and performance can be more readily achieved. The ensuing guidelines are organized to make practicing

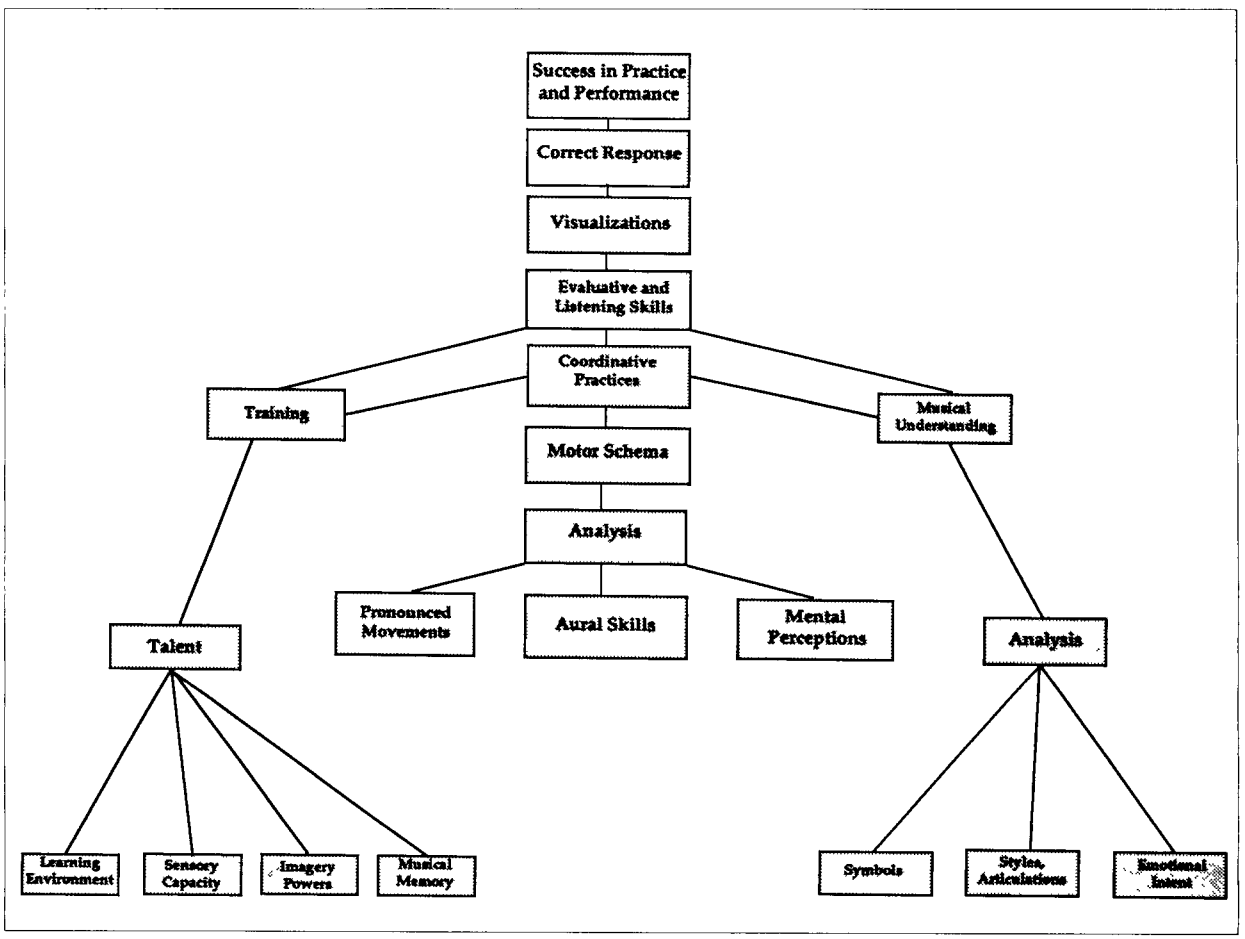


Chart 1

and performing more meaningful.

Effective Practices

I. Warm-up: requires active use of mental, aural, and physical skills
A. Perform what one already knows - long tones, scales, etc.
B. Be mentally and aurally aware of sounds you produce - listen to the tone, intonation, and how you articulate
C. Analyze your warm-up performance
D. Correct any mistakes and reinsert into musical/ warm-up context, evaluate again

II. Inspection (sight-reading): requires mental and visual perusal of music, practice in recognizing codes, and practice of schema and physical coordination. A secondary purpose is to perform music that might interest you later.
A. Before playing, **scan** the music for information such as keys, tempo, styles, articulations, form, and phrase patterns. This enables your mind to know what schema will be required.
B. Visualize yourself playing the music flawlessly
C. Perform the entire composition by copying your visualized performance
D. Mentally note any errors or problems
E. Analyze reasons for any errors
F. Isolate problems, correct them
G. Insert corrected problems in phrases or larger context of music and re-evaluate

III. Perform assigned music
A. Mentally and visually go through music **before** you play; the idea is to call up your proper motor schema
B. Visualize yourself performing without errors and in correct style
C. Imitate your visual performance
D. Analyze any mistakes and correct; decide if mistakes are caused by coordinative or schema errors
1. Coordinative - were errors caused by mis-programming of physical movements?
a. Isolate physical errors and practice slowly; never play faster than you can play with 100% accuracy. Overlooked errors made while practicing will be programmed into motor schema
b. Play corrected passage gradually faster, but never sacrifice accuracy for speed; use a metronome
c. Insert corrected passages into musical context and perform again
d. Evaluate corrected performances and correct any errors
2. Motor Schema errors - were schema errors caused by failure to perceive musical indicators?
a. Isolate schema errors and ask yourself questions:
1) Did I perceive correct style, tempi, phrases, and articulation markings?
2) Did I perceive patterns, phrases, form, or other markings?
3) Did I perceive the emotional intent of the music?
4) Did I properly visualize intent of the music?
b. After determination of correct schema, enter them into the mind

IV. Closing performance: End each practice session by performing music you can already play well. Such a positive ending will serve to motivate you for future practice sessions

Performance in Lessons and Recitals

Students frequently approach lessons and recitals with a lack of confidence. Regardless of how well-prepared the performer is in practice sessions, students often do a poor job in lessons and recitals. How many times have students said "I could play it perfectly in the practice room!"? The crux of this problem seems to be psychological in nature. It is normal for young musicians in teacher-student or performer-audience environments to encounter stressful intimidation. Although there is much research on stress and performance anxieties, there seems to be one constant - negative fear. To help students overcome detrimental stress, teachers must discuss psychology and performance. The following procedures have been useful in minimizing stress and fear in performances.

Effective Performances

A. Do not try to analyze your performance as you play

B. Visualize teachers and audience as being good friends who wish for your success

C. Before playing, one should take a deep breath and close the eyes for several seconds. This helps to relax the body and clear the mind

D. Scan the music and/or visualize performing the music flawlessly

E. Remember to visualize the total performance and not trouble spots - remember the whole is greater than the sum of its parts

F. Take a deep breath and then perform the music

by imitating your visualized performance

Summary

Successfully executed practices, performances in lessons, and meaningful recitals are necessities for serious musicians. This article has stressed that an individual's ability to perceive musical indicators, visualizations, and correctly programmed coordinative movements are paramount to becoming successful. Proper training includes use of mental, visual, aural, physical, and evaluative skills in both practice and performance situations. These five factors should be used in warm-ups, sight-reading, analysis, corrections, and perceiving emotional intent in music. Success in practice leads to success in performance.

Dr. Sherman Hong is a professor of music and percussion at the University of Southern Mississippi. In addition to teaching percussion, he teaches both graduate and undergraduate music education courses and conducts a concert band.

He is an active adjudicator for Drum Corp International, Drum Corps Midwest, and for numerous band competitions.

Hong has over 50 published articles and is active in PAS, MENC, and serves as research chairman for the Mississippi Music Educators Association.

Selected Bibliography

Ables, Harold F, Charles R Hoffer, and Robert H Klotman *Foundations of Music Education* New York Schirmer Books, 1984

Fiske, H "Musical Performance Evaluation Ability Toward a Model of Specificity" *Bulletin of the Council for Research in Music Education*, 59, 27-31, 1979

Galtas, Ruth *A Summary of Techniques in Imagery Training for the Treatment of Performance Anxiety* Unpublished Dissertation, University of Miami, 1989

Green, Barry and W Timothy Gallwey *The Inner Game of Music* New York Anchor Press/Doubleday, 1986

Haman, D "An Assessment of Anxiety in Instrumental and Vocal Performances" *Journal of Research Music Education*, 30, 77-90, 1982

LeBerg, D "Perceptual and Motor Schema in the Performance of Music Pitch,"in *Improving Instrumental Practice Techniques Through Use of a Motor Schema Theory of Learning* by John E Owen, unpublished dissertation, Ohio State University, 1988

Leonard, Charles and Robert W House *Foundations and Principles of Music Education* New York McGraw-Hill, 1959

Lundin, Robert W *An Objective Psychology of Music* New York John Wiley and Sons, 1967

Owen, John E *Improving Instrumental Practice Techniques Through the Use of a Motor Schema Theory of Learning.* Unpublished dissertation, Ohio State University, 1988.

Ross, S "The Effectiveness of Mental Practice in Improving the Performance of College Trombonists" *Journal of Research in Music Education*, 33, 221- 231, 1985

Tait, Malcolm and Paul Haack. *Principles and Process of Music Education New Perspectives* New York Teachers College Press, Columbia University, 1984

Wolfe, George. "Improving Sight-Reading Skills" *The Instrumentalist* 44, No 5 76-77.

Woodbury, Arthur "Making the Most of Your Practice Time." *The Instrumentalist* 44, No 6 74-77 ■

Dancing to the Byte of a Different Drummer - Mixing the Old With the New

Phil Bloch

To begin with, the idea of mixing drums (one of the oldest instruments) with computers (one of the newest technologies) is intriguing. The current state-of-the-art being what it is, there are some very interesting possibilities and even advantages in mixing the odd couple.

One of the most useful applications of digital technology to music is the computer sequencer. Basically just a "digit" recorder, it has some unique properties for drummers and percussionists. Being as concerned with timing as we are, the sequencer offers us an opportunity to check our timing against a fixed reference. It offers us an opportunity to check our timing against ourselves. It offers us the opportunity to check ourselves against someone else's timing in ways previously impossible, or at least very difficult, to accomplish. It gives us the digital equivalent of some very expensive test equipment, with which we can measure exactly how our timing is varying from our given standard.

A well written program shouldn't go to bits even if you bend its rules a byte or two.

I'm going to continue based on a few suspicions about you, mostly that you're familiar with MIDI and interfacing yourself musically with your computer. For reference, I have an Apple Macintosh computer and my sequencer of choice is Mark of the Unicorn's *Performer.* Some of the techniques I mention may not be available in your particular sequencer, or there may be an alternative method available to achieve the same results. Examine your sequencer's manual and if a particular item is not available, look for ways to trick the program into doing what you want. Sometimes a feature designed to perform a different task entirely can be recruited for the task at hand. Because of the sheer number of interrelated pieces of code that make up any program, there are usually many more manipulations available than even the manual indicates. Don't be afraid to experiment with your sequencer - a well written program shouldn't go to bits even if you bend its rules a byte or two.

Timing is Everything

Checking our timing against a fixed reference is the simplest of all - there's a metronome built into your sequencer (the metronome may be reassignable to a MIDI click). Whether you use the internal click or map it through MIDI to an external tone generator, you should be able to record a track of drumming to your sequencer. Record a fairly simple track to begin with, and then play it back along with the click. This alone will give you some idea of how you are doing. If you'd like, sequence a pattern to use instead of the metronome. Be sure to use the sequencer's ability to correct (or quantize) your playing for now, so that you maintain a reference standard. Having a more or less complete rhythmic statement to play with makes playing along infinitely more interesting. You can also record a pattern for a specific purpose. Say you'd like to practice playing in 13/8 . . . record a basic pattern to play against and have at it.

Let's see how accurate we are when duplicating our own feel. Record a pattern to your sequencer and don't quantize it. Now record a second track while playing along with the first take. Listen back to them one at a time. Sound pretty close? Listen back to them both simultaneously; maybe not as close as they seemed. Now listen once again to your first track only. Record the same thing again to a second track and this time don't listen to the first take as you record. Then play them back both simultaneously. You can use the various editing views of your sequencer to examine the two versions and determine where the discrepancies lie. With my sequencer I can simultaneously view my playing as a list of MIDI information, a piano-roll style, graphic representation and real notes. This gives me a great overview of my playing and allows me, if I choose, to get very picky about my placement of notes.

Try playing again against your first track and purposely lay the time feel back behind the beat a little. Check the results with the editing capabilities of the computer. Repeat this procedure for putting the second track a little on top of the beat and check those results. You can even try moving the feel around within the same piece - the possibilities are many.

If you have the appropriate books, or already know the parts, the sequencer can also be the other half of a duet. You might input both parts of the duet, checking your timing against yourself after inputting the second part. Then you can selectively disable one part or the other and record a new track each time, checking your timing against the reference part. If your sequencer has it, use the clock shifting feature to move the piece slightly ahead of the beat See if you can compensate correctly with the second part so that the piece feels right. Shift in the other direction, so that the piece now rests slightly behind the beat Use the metronome in your sequencer to raise and lower the speed of the piece, recording yourself with each change and checking to see how you dealt with the new tempo I'll be discussing more about the relative amounts of time shift later in the article.

These techniques will also work if you and a friend would like to compare playing Try duplicating something you played together, seeing if you can recreate the feeling you got playing off each other, in addition to the technical performance Make sure you pick the right friend; this can either be a great learning or a very trying experience

Computer Analysis

By playing into the computer, you can give yourself a view of your playing that previously was difficult or impossible to achieve Your sequencer gives each quarter note a certain amount of resolution The degree of resolution determines how closely you can examine your playing, the finer the resolution, the more closely you'll be able to examine your playing and the smaller the increments with which you'll be able to move notes around if you're adjusting the timings Great - all we have to do then is get a sequencer with a fine degree of resolution and we're set, right? This sounds like the right idea except that most of us can't relate tangibly to 1/96th of a quarter note How long a period is that? Can I play a flam that quickly? Is it the amount of time between two hits of a double stroke roll?

So in order to assist in the comfortable interfacing of musician and computer, I'm including a table that relates the

sequencer's resolution to real time, as we know it. By using the chart, you'll be able to see how much time one clock pulse is in milliseconds (thousandths of a second) at a given tempo between 40 and 240 bpm. While this may not be completely within easy grasp, it does put things in a useable format. When something sounds right on the money to you, check the values in your sequencer's editing window. You'll begin to see what your personal tolerance for timing is - exactly how far off things can get before you object.

You can see clearly on the chart exactly what you're gaining by having that extra resolution. If you want to move a track ahead or back in time, the finer the resolution you've got, the more control you'll have over the feel of the music. With *Performer*, I've got a resolution of 480 pulses per quarter note. This means that at a tempo of 120 bpm, every move of one clock pulse is equivalent to 1.04 milliseconds in time. I can be pretty precise about the feel of my tracks with that kind of control. I can also analyze my playing to a fine degree.

When something sounds right on the money to you, check the values in your sequencer's editing window.

Triggering from Acoustic Instruments

Another use that I've found for this information is with regard to the triggering of electronic sounds with acoustic instruments. One of the critical points in triggering is that the electronic sounds must trigger within a certain window of time in order for them to be acceptable as part of my acoustic presentation. In other words, if they feel and sound too late, I can't justify including them as an integrated part of my acoustic setup. They'll still, of course, be perfectly valid on their own. Now there are a lot of factors involved in the triggering process, but here's how this information can help me determine where I stand.

First, I pick a tempo, set the click and record my acoustic instrument to tape (which has been striped with SMPTE) and have it trigger electronics simultaneously. The triggers go into a trigger conversion box (I use the Yamaha DTS 70) which sends MIDI information to *Performer* running on my Macintosh. *Performer* allows the signal to go through and maps it according to my sound sources. Once I've completed one pass of recording, I go back to the top and slave *Performer* to the live recording using the SMPTE time code. Now I have the tape play back and have it run *Performer* simultaneously, which triggers my tone generation. By clock pulse shifting the tracks in *Performer* ahead, I can line everything up perfectly. By comparing my final shifted position of the tracks to the starting point and then checking the Sequencer Time Table chart, I can determine exactly how late things are triggering and if there's a problem or not. My ears will no doubt have already let me know, but this way I know exactly what I'm dealing with, if I can live with it, fix it, or want to go learn basket weaving!

As I said, there are many variables in this equation, but the end result is either useable or not, and I think the sequencer helps me make that determination. Remember a while back I mentioned that you can sometimes fool your sequencer into doing something in spite of itself? One way to fool your sequencer into increasing your available resolution is to double your tempo. Now all of your eighth notes have become quarter-notes, but you've doubled your effective resolution.

And what about dynamics? Think about some ways to use the sequencer to assist you in improving your dynamics. A useful tool for drummers, these computers.

Conclusion

I hope this article has given you some useful ideas. There isn't a digital beast alive that can do what a drum can, and there are some tricks that the digital stuff can do that not only enhance our drumming, but contribute a

new voice of their own. The creative juices can flow in many directions and I hope some of you are choosing to include bits and bytes in that flow. ■

(abbreviated) Sequencer Time Table

by Phil Bloch

Tempo in BPM ↓	Resolution in pulses per quarter note						
	24	**96**	**192**	**240**	**384**	**480**	**768**
40	62.50	15.63	7.81	6.25	3.91	3.13	1 95
45	55.56	13 89	6 94	5.56	3.47	2.78	1.74
50	50.00	12.50	6.25	5.00	3.13	2.50	1.56
55	45 45	11.36	5.68	4.55	2.84	2.27	1.42
60	41.67	10.42	5.21	4.17	2.60	2.08	1.30
65	38.46	9.62	4.81	3.85	2.40	1.92	1.20
70	35 71	8 93	4.46	3.57	2.23	1.79	1 12
75	33.33	8.33	4.17	3 33	2 08	1 67	1.04
80	31.25	7.81	3.91	3.13	1.95	1.56	0.98
85	29 41	7.35	3 68	2.94	1.84	1.47	0.92
90	27.78	6.94	3 47	2.78	1.74	1.39	0 87
95	26.32	6.58	3.29	2 63	1.64	1.32	0 82
100	25.00	6 25	3.13	2.50	1.56	1.25	0.78
105	23 81	5.95	2 98	2.38	1.49	1.19	0.74
110	22.73	5.68	2.84	2 27	1.42	1.14	0 71
115	21.74	5.43	2.72	2.17	1.36	1 09	0.68
120	20.83	5 21	2.60	2.08	1.30	1.04	0.65
125	20 00	5 00	2.50	2.00	1 25	1.00	0.63
130	19.23	4.81	2 40	1.92	1 20	0.96	0.60
135	18 52	4 63	2.31	1.85	1.16	0 93	0.58
140	17 86	4 46	2 23	1.79	1.12	0.89	0 56
145	17.24	4 31	2.16	1.72	1.08	0.86	0 54
150	16 67	4 17	2.08	1.67	1.04	0.83	0.52
155	16 13	4.03	2 02	1.61	1.01	0.81	0 50
160	15 63	3.91	1 95	1.56	0 98	0.78	0 49
165	15.15	3 79	1.89	1.52	0.95	0.76	0.47
170	14.71	3.68	1 84	1.47	0.92	0.74	0.46
175	14 29	3.57	1.79	1.43	0.89	0.71	0.45
180	13 89	3.47	1 74	1.39	0 87	0.69	0 43
185	13 51	3.38	1 69	1.35	0 84	0 68	0.42
190	13.16	3.29	1 64	1.32	0 82	0.66	0.41
195	12.82	3 21	1 60	1 28	0.80	0.64	0.40
200	12 50	3 13	1.56	1 25	0 78	0.63	0 39
205	12.20	3.05	1.52	1 22	0 76	0.61	0 38
210	11.90	2 98	1.49	1.19	0.74	0.60	0 37
215	11.63	2.91	1 45	1.16	0.73	0.58	0.36
220	11.36	2 84	1.42	1.14	0.71	0.57	0.36
225	11 11	2 78	1 39	1.11	0.69	0 56	0.35
230	10 87	2 72	1.36	1 09	0.68	0.54	0.34
235	10.64	2 66	1 33	1.06	0.66	0.53	0 33
240	10 42	2 60	1 30	1.04	0.65	0.52	0.33

Time ..... in milliseconds per clock pulse

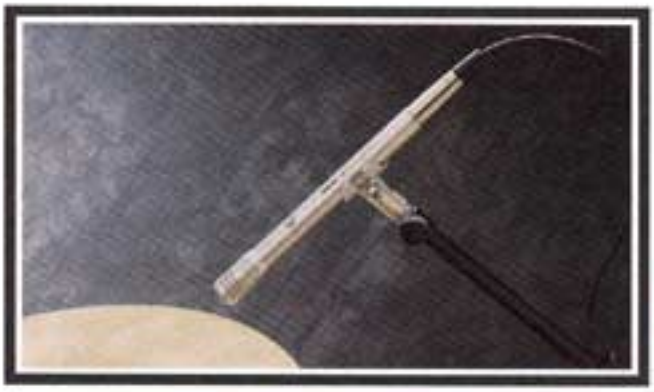
SHURE

DRUM KIT MICROPHONES

The Standard of Versatility and Performance

SNARE: BETA 57

OVERHEAD: SM81



KICK: SM91

TOMS: SM98

HI-HAT: SM94

OVERALL: SM57

There are many reasons why Shure microphones are the first choice for percussion sound reinforcement and recording, but it all comes down to performance. You can always rely on Shure microphones to give your drum sound the extra drive you need to get to the top. The Beta 57 will deliver your snare drum tone with maximum punch and impact while isolating the "bleed" from adjacent drums and cymbals, and its steel grille will survive the worst abuses of the road. The SM81's ruler-flat frequency response will capture every nuance of your cymbals and the natural ambience of your entire kit, with a reliability and durability found in few condensers. The SM98 is a natural for toms—small, unobtrusive and easy to set up. Its polar pattern can be modified to supercardioid with the optional A98SPM. The SM91 will provide power, definition, crispness and isolation in the kick drum position, and it's easily positioned without the use of a stand. The SM94 will help the natural sparkle and personality of your hi-hat and individual cymbals cut through the mix. And the world standard SM57 may be used in any position, as it has been in defining live and studio drum sounds for over 20 years. For more information on Shure drum kit microphones, call 1-800-25 SHURE.

SHURE®

THE SOUND OF THE PROFESSIONALS®...WORLDWIDE

Proper Care and Use of Marching Drums

David Via

Percussion instruments today are a sizeable investment for most band programs. The following is information that will get the maximum performance levels from your marching percussion instruments, as well as ensuring the longest life expectancy possible for your equipment

Tuning

Marching percussion instruments today are being put under greater stress and tension than ever before. Remember that every decision which you make should be based on musical results *you* hope to achieve Always examine your methods of tuning and make sure that they accomplish *your* intentions

Teach your percussionists how to tune their instruments During a busy marching band season this will enable you to teach music and create an exciting drill rather than to spend your time as a drum technician However, before you can teach your students how to tune the drums, you must understand basic tuning principles

Marching percussion instruments today are being put under greater stress and tension than ever before.

Snare Drums

The top head should be tuned a minor third higher than the bottom head. When tightening the heads make sure you do so in a criss-cross manner and that the tension rod is being brought down evenly In order to check how even the tension is, run a straight-edge ruler along the bearing edge and measure the height of the hoop's profile 360° around the drum More heads are broken due to improper tension than any other factor The tighter the tension on the heads, the more articulate the drum becomes, but the less resonant it becomes. A tighter head will also provide slightly less volume This may not be advantageous for all groups. If you have a young drum line with few snare drummers, the increased articulation will expose the drum line's inaccuracies when trying to play in unison Slightly looser heads will help to camouflage some of the inaccuracies and create a little bit more volume.

Next, each snare should be tuned to the same pitch. The snare unit should then be adjusted by using the vertical adjustments found on the butt side of the snare strainer These adjustments will raise the snare assembly unit up into the snare bed. Do not overuse these adjustments Only bring the unit up to a point so that when you turn the drum upside down and tap the snares you do not hear them slap the bottom head. Too much tension will cause the snare to bow away from the center of the bottom head. Lastly, use the horizontal knob to fine tune the snare drum. Imagine you are tuning a radio to your favorite station. Turn the knob until you have the desired sound. Now go just a little bit further At the point where the sound starts to become choked and undesirable, release the tension slowly until the desired sound is achieved

Tenor Drums

Marching tenors should be tuned a minor third apart If a higher sound is desired, use smaller drums (i e 8", 10", 12", 13") If a lower, more resonant sound is preferred use larger drums (i e 10", 12", 13", 14") Never force a drum beyond the pitch it was designed for Again, when putting on the heads, be sure and bring the tension down evenly Otherwise your heads will not remain in tune and they will need to be replaced more often

Bass Drums

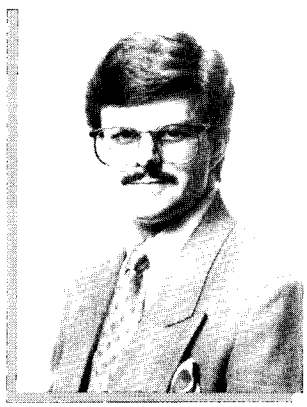
The most important thing to remember with marching bass drums is to maintain even tension on the heads Uneven tension will cause hoop fatigue at the point of the tightest tension rod and will crack the bass drum hoop Each head should be tuned to the same pitch, and the drums should be tuned a minor third apart for each increased size of 2" in the drum's diameter As for muffling of marching bass drums, the purpose is to eliminate the higher overtones found around the edge of the head and isolate the fundamental.

Muffling strips are available commercially.

General Comments

It is important that you realize that marching percussion equipment experiences abuse like no other instruments. It is necessary to achieve the desired sound; however, a little common sense will go a long way. If you do experience a problem, no matter how little, bring it to the attention of your dealer. It is much easier to solve several little problems than to solve one catastrophic problem. Many problems can be fixed easily and can be prevented from happening again if you receive the proper information.

Lastly, with the demands being placed on the equipment today, budget money for percussion maintenance. Periodically replacing lug casings will ensure the life of your drum shells. Once a year dip the tips of the tension rods in petroleum jelly to avoid friction in the lug nuts. Be sure to educate your percussionists. Teach them to get the maximum performance capabilities from the equipment without causing unnecessary stress and strain on the instruments.



David Via

David Via is a graduate of Millikin University and Northwestern University. Previously he was administrative manager for the Percussive Arts Society and percussion instructor at Millikin University. David is currently the percussion market development manager for Yamaha Corporation of America, Band & Orchestral Division.■

FOCUS ON EDUCATION

Forum

Mark Ford

So what's your opinion? Now you have the opportunity to share your ideas on topics covered in ***Percussive Notes***. With each issue PN will offer a question on a specific topic and readers will then be asked to respond with their opinion, either positive or negative. Your thoughts are important and this sharing of ideas will help the percussive arts grow.

Here is this issue's question

Does drum and bugle corps experience offer any benefit to the college percussion major? Are there disadvantages to marching in a corps?

Ok, let's hear it Put a pen to paper and take a stand! We need to hear from you! Send responses to·

Mark Ford
Focus on Education Forum
School of Music
East Carolina University
Greenville, NC 27858

All responses will become the property of ***Percussive Notes***. Readers may also write letters to the above address concerning other issues in PN articles.

Inspiration for Motivation

Dear Editor,

Motivating students is, in my estimation, the most important part of private teaching So many students that seem to lack talent only lack the drive to practice and, therefore, never show their talents I have found several effective means of motivating my students and I enjoy the lessons far more than when they were unprepared The following suggestions are based on my own experience in teaching percussion to elementary through high school students for the last five years

1 To begin with, try to give the student some choices For example, I require all my students to learn snare first When their technique and reading are adequate, they get to choose whether to add timpani, mallets or drumset. Students also appreciate making small daily decisions, such as what to do first in the lesson or which solo to play from a selection of appropriate options.

2. Get rid of the fear many students have of playing anything but snare as soon as possible I often let a new student experiment with the various "toys" and marimba and drumset at the first lesson Though we always keep a focus on one or two instruments (snare, set, mallets, timpani), by the end of about nine months, each student can read both clefs, play a respectable roll on snare, timpani, marimba, tune timpani to perfect fourths and fifths, play a few basic rock combinations on set, play with four mallets in block chords, and perform various basics. They won't be ready for the New York Phil or Def Leppard, but at least we will have calmed the fear that many young percussionists have of non-snare percussion instruments.

3 Introduce students to new situations We try to take monthly trips to clinics, concerts, or the drum shop where the kids can see percussion in action. It is always inspiring to see better players, especially in clinic situations where you can ask questions or get autographs. (The trips also give the kids a chance to make friends with other drummers and to "talk shop" with someone besides me) In addition to taking students, I try to keep them posted on various musical activities around town, especially when I or other studio members play. Most of my students enjoy borrowing videos, cassettes, and old copies of percussion and drum magazines. When they return these things, we usually discuss what they liked or didn't like.

4 The most effective motivator I have found is to hold three or four recitals each year These are not like piano recitals where everyone memorizes a year's worth of music and has to play for everyone Instead, each student plays whatever he wants In some cases, this will be a written solo, but sometimes it might be a drumset solo or some set exercises, rudiments or scales - whatever we've been working on in lessons. There is also always the option, right up to the day of the recital, not to play anything. This really seems to lower the nerves (Incidentally, I only had one student who chose not to play. .)

5 Let the kids play together Starting about six weeks before the recital, we have weekly percussion ensemble rehearsals: one piece for elementary and jun-

ior high, one piece for high school, and one piece for everyone. Every percussionist has experienced counting thousands of measures of rest to play one cymbal crash, and while this may be a great thrill in Wagner, in sixth grade band, its not too thrilling. My students have really enjoyed playing in an ensemble where they know their part is integral and they don't have to use their toes to count. Though you may have to look hard or even write/arrange to find appropriate ensemble pieces, they are out there.

6. Finally, always bear in mind that private lessons - and music classes - are usually taken by choice. A kid who feels his lesson is just an extended part of school probably won't feel very inspired. Try to keep the lesson mood light and joke around a bit. Take a minute or two at each lesson to find out something about your student. Obviously in the beginning, you will hear the basics - favorite and least favorite subjects in school, family structure, hobbies, girlfriend/boyfriend, and other exciting news; however it won't take long before you can learn information that can help you in teaching, such as learning style or current skills and deficiencies. In addition, showing an interest in your students will let them know you enjoy teaching. (If you don't enjoy teaching, McDonald's is always hiring friendly people like you. . .) Also tell them a little about yourself - maybe a movie you saw, or the recent death of your favorite goldfish.

I have a small studio (eight students right now). I am also single, so I have more time than someone with a family. Because I am a university teacher I have access to space and instruments that not every teacher has. These are certainly advantages, but even with time, space, and instrument limitations, it is very possible to motivate your students As I mentioned before, motivated students practice more and prepared students are more fun to teach. For me, it is worth the extra time and effort to make what I do more enjoyable.

Sincerely,

Mari Wilson
"Wilson Studio of percussion and other bangable items"
Willamette University graduate student ■

Saul Goodman's Percussion Experiences in Japan

as interviewed by Jim Lambert

Editor's Note: *Saul Goodman was engaged as principal Timpanist of the New York Philharmonic in 1926 at the age of 19. At that time he was the youngest principal player to be engaged by the orchestra. In 1972, when he retired from the orchestra, he had completed 46 years of uninterrupted service and had played a staggering 6,163 concerts besides innumerable recording sessions, radio broadcasts and TV performances. He played during the era of virtuoso conductors which included Willem Mengelberg, Arturo Toscanini, Bruno Walter, Fritz Reiner, Wilhelm Furtwangler and Leonard Bernstein to mention a few of the great. When playing under the venerable Leopold Stokowski, the maestro asked him where he studied. His reply was, "The great conductors I had the great fortune to play under."*

Saul Goodman was chairman of the percussion department of the Juilliard School in New York City for 41 years. His former students occupy principal positions in practically every major orchestra in the U.S. These include the New York Philharmonic, Boston Symphony, Philadelphia Orchestra, and many other orchestras too numerous to mention. Many orchestras in Europe, South America, the near and far east have Goodman students also. Saul Goodman is the author of "Modern Method for Timpani", a text in world-wide use. He has composed works for solo percussion and percussion ensemble (Belwin-Mills).

Saul Goodman,timpanist, with The New York Philharmonic in Carnegie Hall, Leonard Bernstein Conducting.

Mr. Goodman, you recently toured Japan as a lecturer/clinician and conductor. Can you tell us how this tour originated?

I was invited to come to Japan by a former student of mine — a Japanese student I had at Juilliard some years ago. He seemed to indicate that this was the beginning of a Japanese Percussive Arts Society, and he asked me if I would be willing to come over and give a few demonstrations and give a few talks about Japanese percussion instruments, which I very readily agreed to do. So I went for a week. It was a very enjoyable and rewarding experience.

Did you find the Japanese percussion students interested in your performance experiences? If so,what subject(s) interested them?

To be perfectly honest and frank with you, I wasn't able to get that close to the individual percussion player. I've been known in Japan for some years because the first time I visited Japan was in 1961, and I met quite a few of my old friends. It was very rewarding to meet these people again. Even though they were much older, as I am, they were very interested in the organization, which really imitated the Percussive Arts Society here in the United States.

The Japanese students were very interested in my percussion background, because, after all, I was principal timpanist with the New York Philharmonic for 46 years. In fact, I have a record of having played 6,168 concerts during that period, if not more, if I include all of the extra concerts I did and the recordings that I did in addition to many other types of concerts that I played.

How did you find the Percussive Arts Society involved in Japanese percussion education?

I think that they very much wanted to imitate our Percussive Arts Society, because this was practically a beginning for Japan. They were very much interested in what our Percussive Arts Society has been doing and has done in the past. They saw the growth of the

organization and that encouraged them to try a similar movement in Japan I'm sure that's why they got me

What were the typical solos that these Japanese students were performing?

It s very funny for me to say this, but they were performing several of my solo compositions for percussion In fact, at one place — I gave talks at different places — where I spoke was at the city hall just outside

Saul Goodman at the Percussive Arts Convention

of Tokyo. As I was getting ready to leave, I was saying good bye to one of my hosts at this meeting and I said "I'm going to leave now" and he said "Oh, you can't leave now, you have to conduct " I said " Conduct? No one told me anything about conducting." He said, "Well, we've prepared a percussion group and they're all ready for you to come back out. They've been well rehearsed " They didn't tell me what they wanted me to conduct. I walked out and walked over to the podium and on it, what do you think was there? My *Canon for Percussion* That's what they had been rehearsing. They played it unusually well I've never had it played as well as they played it, which proves one thing: that they are very much involved in percussion They knew what they were doing and they certainly showed it in their performance.

Can you make a subjective comparison regarding the educational preparation that the Japanese have versus the average American preparation?

That s a very difficult thing for me to do unless I judge by what I heard at the performances of the students that I had dealings with It seemed that they were very well trained. I can't say that they came up to the level of the American trained percussionist, but they were really, in my opinion, quite good I was very impressed with the way they played

What about Japanese Orchestral percussion? How are these performers trained?

They are trained very well as far as I could see. The president of the Percussive Arts Society in Japan is a man named Mr Ajiro He's a retired performer of the Japanese Philharmonic I remember hearing him play 30 years ago I was very impressed with his technique and the way he played Again I must say that the training that they indulged in had no comparison to the American training. I'm very prejudice in that respect. I think we have the best teachers in this country, and the most gifted students.

What kind of audition process does the Japanese professional symphony orchestra expect for percussion or timpani?

I couldn't get into this situation because I wasn't close enough to where this takes place, or the people who are involved in it. The average Japanese player seems to be young — middle 20's — and all of the "old timers" that I know, most of them are retired. So it was kind of difficult to find out just what goes on

What was your favorite non-musical experience while you were in Japan?

My favorite experience was when I visited Osaka. Just getting to Osaka was an experience in itself It was a very thrilling experience riding on the "bullet" train. That train goes close to 150 mph. It's very smooth. You seem to be riding on ball bearings during the entire journey. We went 450 miles in 3 hours.

While we (my wife and I) were in Osaka, they provided a car and a guide They showed us around and took us to the famous castle where the King and Queen lived many years ago Of course Tokyo is the house of the Royal family today, but way back in the old days they lived at this famous castle While we were there, there were hundreds of school children visiting there. Nevertheless, it was quite a thrilling experience to be there and see the inside of the castle, and the gorgeous grounds on which the castle was built.■

DAVE SAMUELS
LIVING PERCUSSION

Dave Samuels with his live setup including the YM 2300 Acoustalon™ Marimba, YV 3400 Vibes and Deagan™ 1590A Orchestra Bells

The music of Dave Samuels doesn't stand still. It grows with the times, makes use of everything technology has to offer.

He plays Yamaha because we create instruments with the same fierce passion for continuing growth and excellence.

With Spyro Gyra, the Yamaha Acoustalon™ Marimba gives him the rich, natural sound of an acoustic instrument — consistently, indoors or out. Yamaha Vibes work smoothly and quietly and project a bright, sparkling tone.

Dave is an active member of the Yamaha percussion family because he knows that superior sound and design only comes from a company totally dedicated to the ongoing life of mallet instruments.

We listen and learn from Dave Samuels and other leading artists so we can create instruments that anticipate the changing needs of tomorrow's music.

Hear the sound of Yamaha on Dave's solo MCA LP "Living Colors" and Spyro Gyra's new MCA album, "Rites of Summer."

Yamaha Music Corporation, USA, Musical Instrument Division, 3050 Breton Rd. SE. P.O. Box 7271, Grand Rapid, MI 49510. Yamaha Canada Music Ltd., 135 Milner Ave., Scarborough, Ontario M1S 3R1.

YAMAHA

FOCUS ON PERFORMANCE

Terms Used in Percussion

Michael Rosen

Ballet Mécanique

I have had a few responses to the article I wrote about Ballet Mécanique which appeared in the Vol 28, No 1 (Fall) issue of ***Percussive Notes*** I suggest that readers refer to this issue for a detailed description of the composition Among the respondents was George Gaber, emeritus Professor of Percussion at Indiana University Mr Gaber pointed out that I neglected to mention the instrumentation This article, then, will serve to discuss more about the specific aspects of the instrumentation of the composition.

It is very curious to note that timpani is omitted from the instrumentation page of the score (Templeton Publishing Co) Mr Gaber pointed this fact out to me and I must admit I hadn't noticed I am sure it was an editorial blunder and nothing more As a matter of fact, the timpani part is quite extensive and calls for a great deal of tuning, rather rapid cross-sticking and difficult articulation Gaber also noted that the military drum is no more than an "ordinary snare drum" and not a deep field drum as might be expected He played timpani on the recording with Carlos Surinach conducting (see below). Mr Gaber continues ."While I cannot recall all personnel who recorded the work for Columbia with Carlos Surinach, I'll try to remember some of the players

Brad Spinney was on snare drum, Elayne Jones was on firebell, Christian Katska was one of the mallet players, Tom Suji played the airplane recording and I played the timpani part Incidentally, I did this work with Antheil and collaborated with him for his 1954 revision and the first performance of the revision at Alice Ditson's concert at Columbia University back in the early 1950's I don't remember who the pianists were but I do remember Antheil and his wife Boski being at both the concert and recording "

The score calls for two electric bells, one large and one small Mr Gaber mentioned in his letter that the part of the large electric bell was played on a "firebell or a ringside bell which was struck manually with a metal beater" This seems like a first-rate solution for the problem of fast eighth notes played by the large bell And since Antheil himself was in attendance at the recording we can assume he was pleased with the choice When I conducted Ballet Mécanique with the Oberlin Percussion Group we used two different sized bells and I was never quite satisfied. It is interesting to note that on all the recordings I have found two electric bells are used Unfortunately the Surinach recording is long out of print and I was unable to find a copy. The other instruments include glockenspiel, small and large airplane propeller sound, gong (I use a tam tam), cymbal (suspended), woodblock, triangle, military drum (snare drum), tambourine, small and large electric bells, tenor drum, bass drum, 2 xylophones and 4 pianos. Here are some of the recordings which still may be available at libraries:

1. Georges Antheil Phillips #6514254; Netherlands Wind Ensemble, Reinbert DeLeeuw, conductor. This was recorded at the 1976 Holland Festival and is very well done The tempi are very fast The performance is tremendously exciting and driving Because of this I find that some of the less interesting sections tend to go by faster thereby making the performance that much more enjoyable The tempo is so fast that it becomes impossible to play the 16th note pattern at the fifth measure after rehearsal number 3 The percussionists play it with alternating sixteenth notes and it sounds terrific! This is the performance I most highly recommend.

2. Ballet Mécanique Telefunken-Decca LC#0366-6 42196AW. This is a release of the above performance with the very same performers and conductor I mention them both in case you cannot find the above record

3. Antheil Ballet Mécanique Urania #134, The Los Angeles Contemporary Music Ensemble, Robert Craft, conductor For some unexplained reason the conductor chose to begin this piece at rehearsal number 7 with the timpani solo (played very well!). The tempi are slower than the Netherlands Wind Ensemble recording I noticed that the snare drum part was different from that which is written This recording is distinguished by the great sound of the airplane propeller sounds. The sound is of an airplane buzzing just overhead and is very exciting! When I perform this piece again I intend to use this sound instead of the rather uninteresting (but loud) sound of airplane engines

4. Ballet Mécanique Columbia ML4956. Carlos Surinach, conductor. This is the recording on which Mr Gaber played timpani I have never heard it but will continue searching. ■

The Timbral Topography of the Noble Snare

Daniel Adams

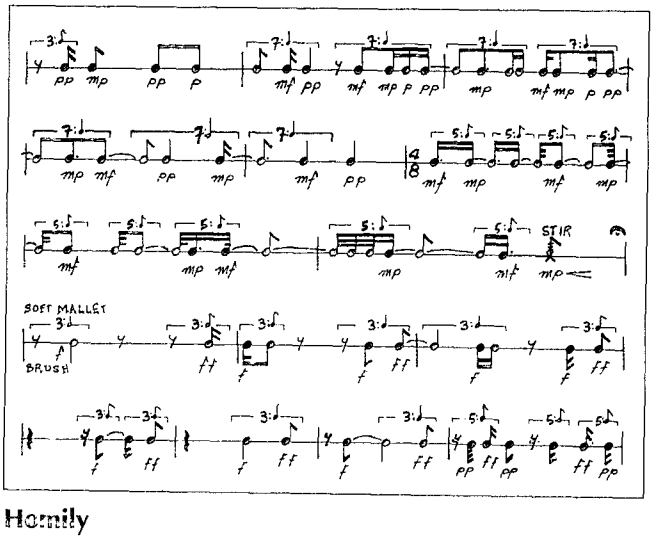
The Noble Snare is a four volume collection of unaccompanied snare drum solos published in 1988-90 by Smith Publications. It is the first compilation of its type and some of North America's most distinguished composers and composer/percussionists are represented on its pages. The solos in this collection were compiled and edited by composer/percussionist Stuart Saunders Smith. Smith, an avid snare drum enthusiast since the age of six, was recently given a hand-made wooden snare drum by the Noble & Cooley Drum Company for his endorsement. He subsequently asked numerous composers to write solos to play on his new drum; thus the genesis of *The Noble Snare.*

The rim and shell of the drum also possess distinctive timbral characteristics that have been widely explored by composers and performers alike.

The composers who contributed to *The Noble Snare* utilize nearly every imaginable compositional resource available for the drum. I have chosen to focus my attention on three works in which timbral contrasts are linked inextricably with rhythmic motives, sectionalization, counterpoint, dynamics, and articulation. These works are *Homily* (Volume One) by Milton Babbitt, *Just Seven for Drum* (Volume Two) by Herbert Brün, and *What The Snare Drum Tells Me* (Volume Two) by Allen Otte.

The exploration of timbre is the composer's most valuable resource when writing for snare drum. While the design of the drum limits its sonic resources in some respects, the combined variables of striking areas and beaters provide a wide gamut of timbral resources to explore when composing for snare drum. The rim and shell of the drum also possess distinctive timbral characteristics that have been widely explored by composers and performers alike. Another very simple means of changing the drum's timbre is to engage or disengage the snare mechanism. "Snare on" and "snare off" are the terms most frequently used to describe respectively the engaged or disengaged positions of the snare. The snare drum is normally struck in its most resonant area, slightly off the heads center. The dead center of the drum head produces little or no resonance. Moving concentrically to the areas near the rim of the drum causes higher overtones to become audible. A variety of beaters, surface areas, and other effects are used convincingly in the following three works.

Homily, Milton Babbitt's contribution to *The Noble Snare*, is a three minute multi-timbral piece. Snare drum sticks, brushes, mallets, and the alternating use of snares on and off are the timbral resources used to delineate the work's nine brief sections. Motivic materials consist of short, syncopated rhythmic figures transformed by changes of subdivisions within the pulse.



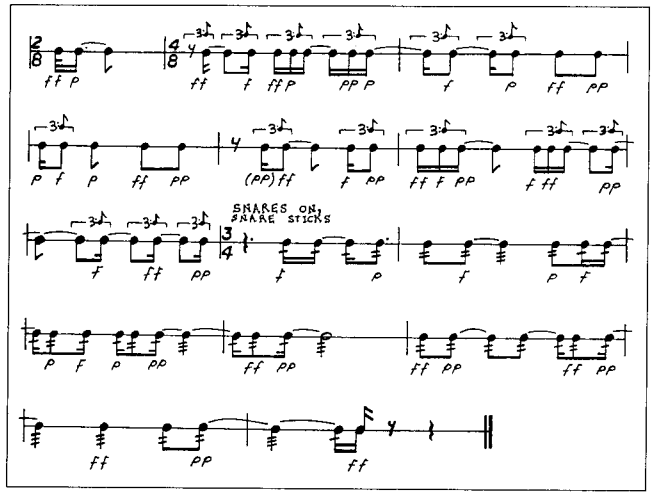
Homily

Throughout *Homily*, similar combinations of note values recur in different subdivisions; duple, triple, quintuple, and septuple. Duple divisions often occur at the beginning or conclusion of sections delineated by a change of beaters. Dynamic markings are pointalistic, changing on almost every attack and ranging from pp to ff. Independent dynamics sometimes appear when a

different kind of beater is held in each hand. The tempo is quarter note = 90 throughout. Although meter changes are numerous, the piece begins and ends with duple subdivisions in three-quarter time.

The first section (measures 1-15) is played using yarn mallets. The snares are in the off position. Rhythmic figures alternate in subdivisions of duplets, triplets, and quintuplets. Measures 16-32 are played with a snare drum stick in one hand and a yarn mallet in the other. This section consists almost entirely of triplets and quintuplets. In measures 33-45, both hands switch to snare drum sticks. Except for a two measure passage of septuplets, this section consists entirely of duple figures. The snares are turned on for the first time in measures 46-62, played with brushes. Subdivisions alternate every three to four measures in this section.

Syncopated triplet figures predominate in measures 63-81, played with a soft mallet in one hand and a brush in the other . Measures 82-101 are played with snare drum sticks. This section begins with quintuplets and continues with the alternation of triplet and duple figures. Measures 102-120 are also played using the snare drum sticks but the snares are turned off. This section contains three separate passages of quintuplets, septuplets, and triplets respectively. The snares remain off for measures 121-135 which are played using yarn mallets. Triple and duple figures alternate, separated by one measure of quintuplets. Measures 136 to the end consist entirely of duple figures played with snare drum sticks, snares on.

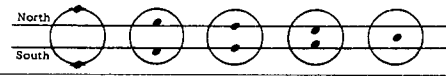


Homily

The last three sections of *Homily* are characterized by longer passages of one subdivision in contrast to the more rapid alternation of subdivisions in the preceding sections. Changes of subdivisions frequently overlap with meter changes and only occasionally do they coincide. These combined rhythmic processes are effective means of maintaining fluidity throughout the numerous timbrally delineated passages. Although fermatas set apart several sections, the brief rests separating others do not allow the performer time to change beaters, especially when the change involves both hands. Rapid dynamic changes, alternating subdivisions, and quick beater changes are both the greatest performance challenges and the most effective means of sonic contrast in *Homily.*

Herbert Brün's percussion music has addressed extensively the technical and interpretive challenges inherent in the medium. *Just Seven for Drum* is no exception. Brün has listened carefully to the variety of timbres available from the snare drum and has made this observation: "I noticed that the 'dead' center of the drum head gives a less ringing, rather dry response while an inch north, south, east or west of center the full response can be expected."[1] He has divided the topography of the snare drum head as shown in Example Three

2. The notation assumes 9 hit-regions: north rim; near north rim; midway between north rim and center; north of center; dead center; south of center; midway between south rim and center; near south rim; south rim.



The term **topography** has been defined as "the detailed mapping or description of the features of a relatively small area" and "the surface configuration of an area."[2] Brün took both definitions into consideration as he mapped out the configuration of the snare drum according to its acoustical properties. *Just Seven for Drum* was, in part, inspired by Brün's affinity for steel drum bands. He compares the snare drum's head to "a steel drum of nine pitchfields"[3] and requests that the drum be placed at an angle with one side facing the audience. The snare drum's topographical resemblance to a steel drum is, however, limited. The steel drum head contains a non-scalar collection of definite pitches, each clearly separated from one another. The snare drum on the other hand, has a less clearly defined region of indefinite pitch. Brün acknowledges that some timbral contrasts may be negligibly perceptible on certain drums, but he considers the visual element of topographical motion to nevertheless be essential to the piece.

While rhythmic patterns of *Just Seven for Drum* are fairly simple, mostly combinations of quarter notes,

eighth notes and sixteenth-notes, considerable rhythmic precision is necessary to accurately follow the surface area designations Metronome markings range from eighth-note = 192 in Movement Six to quarter-note = 176 in movements Two and Five Meter and barlines are absent, thus the performer is required to maintain an undivided pulse throughout each movement.

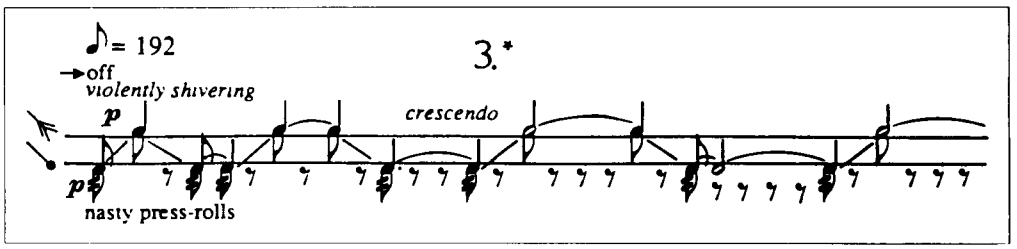
Although the piece was initially conceived as seven individual movements, Brün states that the numbers need not be observed and that the piece may be played as one uninterrupted entity. It was originally divided into seven movements as a means of separately emphasizing various rhythmic and technical idiosyncrasies Such divisions will be clearly perceptible in most of the movements, even if played attacca subito, due to contrasts in tempo, beaters, mood, gestures, and the range of surface motion Although the duration of each movement does not increase proportionally, the longer movements generally occur in the latter part of the piece

The first movement, which is very brief, is played using conventional snare drum sticks The movement opens with two glissandi in which the performer moves from the "near south rim" to the "near north rim' Brun wastes no time in introducing the listener to the timbral continuum that traverses the drum head As the movement continues, principal rhythmic motives are played in the center while the peripheral extremities are employed mostly for short accented notes All notes played on the "north rim" for example, are accented at a dynamic level of forte In contrast, the center of the drum is reserved almost exclusively for notes played at lower dynamic levels. A notable exception is the last note, an accented forte attack played in the center of the drum, and the only note in this movement played with the snares off

The second movement is also based on contrasts of timbre and dynamics Two dynamic markings appear, ppp and fff marked "tease" and "command" respectively Dynamic contrast is an obvious performance challenge in this movement The ppp notes are played on the peripheral regions of the drum head and the fff notes are almost always played in the center The verbal indications, combined with the contrasts of timbre and dynamics, suggest a call and response pattern, a cat and mouse game between two musical ideas. The snares are always off for the notes played near the rim and with one exception, always in the on position for the notes played in the center. This procedure further differentiates the timbre of the two ideas. A short fff passage played on the north and south rims concludes the movement.

Movement Three, played without snares, requires the performer to hold a brush in one hand (notated with stems up) and a stick in the other (notated with stems down) The surface motion consists entirely of glissandi between the "near north" and "near south" regions of the drum head. Brün asks for a "violently shivering" effect from the hand holding the brush and for "nasty press rolls" from the hand with the stick. According to an editor's note, the latter description refers to "staccato, one-handed press rolls "[4]

The task of playing different techniques with two different beaters simultaneously will be familiar to jazz

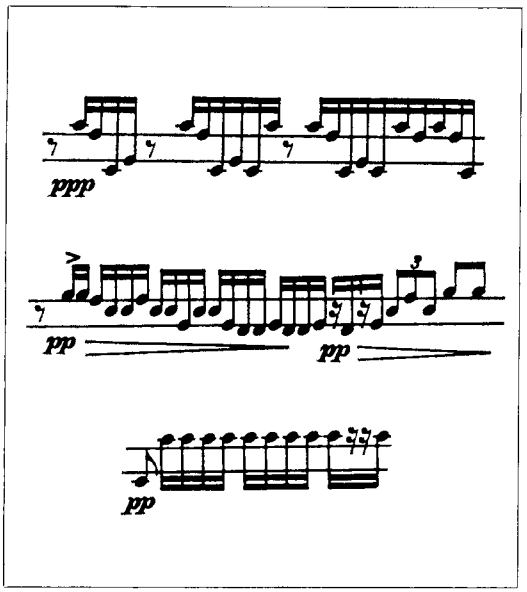


drumset players who frequently hold a stick in one hand and a brush in the other The most difficult aspect of this movement however, is to keep the glissandi within the designated time span while bringing out the dynamic contour, a gradual crescendo from piano to fff followed by a diminuendo back to piano

The performer returns to a pair of sticks for Movement Four, played with snares on Considerable motion occurs between the seven surface regions used in this movement It is based on an alternation of gradual and abrupt surface motion, making it the most melodic and visually exciting movement of the piece One important structural element is the recurrence of multi-timbral sixteenth-note passages alternating between the two diametrical extremities of the head

The rapid subito dynamic changes require serious attention from the performer, especially when moving briskly across the drum's surface

Movement Five is also played with the snares on throughout The performer has to change beaters one at a time and sections are delineated in this manner Again, jazz drumming comes to mind as drum set players often

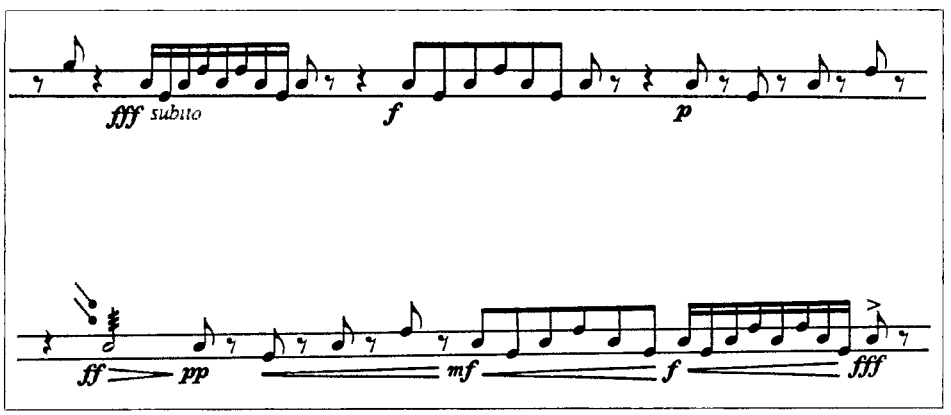


have to keep time with one hand while picking up a stick or a beater with the other The movement begins with an interplay of eighth-note figures played between the "near north rim" and the "near south rim" at a dynamic level of ppp. The pattern is interrupted by a fff sixteenth-note figure played across three central regions of the head. Brushes are used in both hands for this passage. By this point, the listener should be aware that dynamic contrast is a consistent structural component of this piece A variant of the opening figure follows. The striking regions "north and south of center" are struck using a stick and a brush respectively The movement ends with a variant of the second idea, this time expanded through rhythmic diminution and played with sticks in both hands

With a little imagination, the outer sections of Movement Six could be heard as a melody with accompaniment. Composed in a modified ternary form, this movement is played with sticks throughout. The snares are off except for the very last note in contrast to Movement One, in which the last note is the only one played without the snares on. Movement Six begins with an accompaniment pattern consisting of continuous quarter-notes played in the center of the drum While the accompaniment is played by the left hand, the right hand plays a melodic figure on the "north" peripheral surface regions. Without a pause, the accompaniment shifts to the right hand while the left hand plays a similar melodic figure near the "south" rim. The accompaniment is marked "dead", implying that it should be muffled so that the melody will predominate The middle section of Movement Six begins with a cessation of the accompaniment pattern. Rolls and glissandi are introduced in this section. The return of the accompaniment signals the beginning of the A-prime section in which the melodic ideas from the opening section return with inverted surface designations.

(See example on next page)

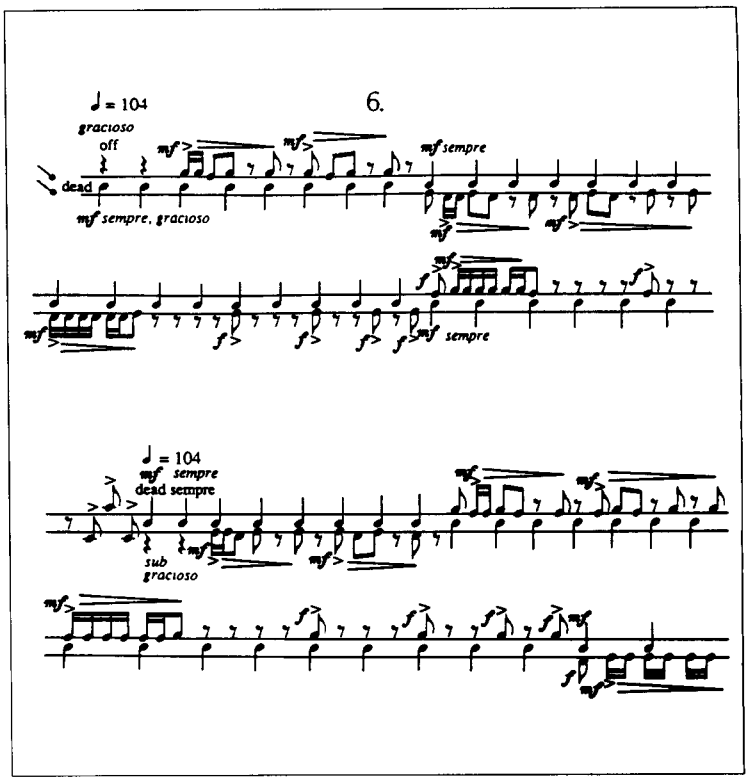
The final movement of *Just Seven for Drum* is also played with sticks and the snares remain on throughout A sense of closure emerges as Brün returns to a more economical distribution of surface motion. Rolls appear most abundantly in this movement and they are always marked with a crescendo or decrescendo. In the opening passage only the center and "near north rim" are used. Toward the middle of the movement the "near south rim" is added. In the last passage the "south rim" is used for a stick-on-stick rim shot at a level of fff, an appropriate ending to an intensely dramatic piece.



Just Seven for Drum proves that musical vitality does not require definite pitch surfaces Motivic development, dynamic contrast, and other means of sonic variety are effectively displayed in this piece An organic process of structural integrity unfolds in *Just Seven for Drum* Surface area changes and rhythmic activity generally build over time, giving way to a sense of repose in the last movement Brün originally intended for all individual movements to be concluded by an eighth movement, "all seven pieces played . . . as one brilliant demonstration of instrumen-

tal skill, swift and sudden changes, and playfully incessant drive."[5] In the hands of a gifted performer, these three requests will be granted several times over.

Herbert Brun's imaginative and challenging approach to percussion served as an inspiration to Allen Otte, a composer/percussionist who has performed several of Brün's works. Otte composed *What the Snare Drum Tells Me* in honor of Brün on his seventieth birthday. Like Brün's percussion music, Otte's piece emphasizes the idiosyncratic demands of the medium. Otte borrows techniques from melodic keyboard percussion and timpani performance. The player holds simultaneously four beaters two snare drum sticks on the inner part of each hand and two timpani mallets on the outside of each hand Otte directs the performer to hold the beaters using the Musser grip, a technique borrowed from four-mallet keyboard percussion performance The Musser grip enables the performer to independently control each beater; a prerequisite for the accurate performance of this piece



Otte divides the drum into three timbral regions· the normal playing area, the rim, and the area near the rim. Sticks are used on the two former areas and timpani mallets are used near the rim Otte also distinguishes between open (o), closed (c), and single-stroke rolls These specifications are used as a means of variety for consecutive rolls.

The performer of *What the Drum Tells Me* does not have to change beaters Nevertheless, the performer does face the challenge of maintaining an even roll with the snare drum sticks while simultaneously playing single-strokes with the timpani mallets. If played effectively, the resulting timbral contrasts will reveal a polyphonic effect The timani mallets, positioned near the edges of the drum head, will bring out the higher part of the drum's pitch spectrum, depending on their degree of hardness. Furthermore, the performer has to master the unconventional method of playing bounced rolls with the timpani mallets, a task occasionally compounded by the necessity of matching the bounce pattern of the mallets with that of the sticks.

What the Snare Drum Tells Me is composed in two sections, separated by a tempo change from quarter-note = 108 to quarter-note = 126 and by a fermata followed by a four second multiple-stroke roll. The opening rhythmic idea of the first section consists of quintuplet and triplet figures alternating between the rim and normal striking area of the drum. Right and left hand designations are provided to attain slight timbral

snare drum: normal — rim; click with stick (near bead) to produce high pitch, left and right sounding slightly different — medium hard timpani stick, played (mostly) near the edge of the head.

L R (hold the sticks "Musser grip," as parallel as possible; they should be loose and somewhat independent.

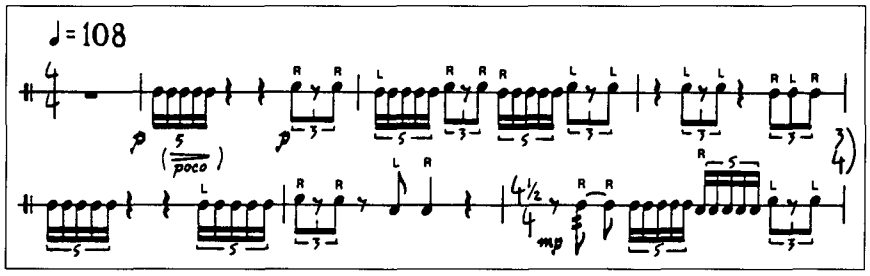
L/R a single, simultaneous crush stroke from each hand.

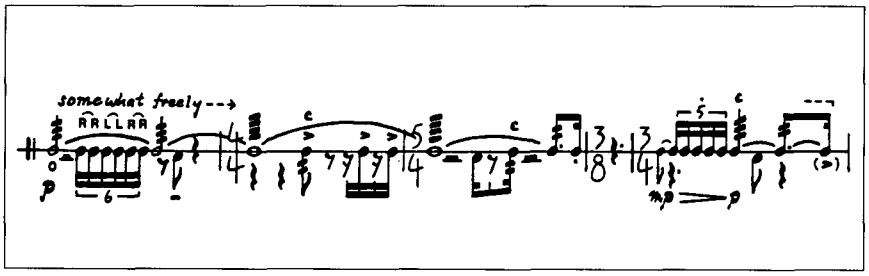
o open roll, i.e. clean double bounce (@ 32nd note rate).

c closed roll, i.e. orchestral multiple bounce.

SS single stroke (⟶ : transition from timpani sticks to snare drum sticks).

differences between the notes played on opposite rims. The second half of the first section consists largely of measured and unmeasured rolls. Occasionally the performer has to accent single strokes with the timpani mallets while playing a roll with the snare drum sticks.





The second section is shorter than the first, and its gestures are more condensed and varied. A greater degree of independence is required and changes of subdivisions become more frequent. Both sections conclude with four measured passages played exclusively with timpani mallets. *What the Snare Drum Tells Me* shows me that the snare drum can function well as a single-surface multiple percussion through the combined abilities of imaginative composers and skillful performers.

The Babbitt, Brün and Otte pieces differ considerably in their notational and compositional materials. Nevertheless, some significant similarities exist. Babbitt and Otte used the single-line staff. Otte used all three positions available on the single line staff (through the line, above the line, and below the line) while Babbitt notated only through the line. All three composers used stems-up, stems-down notation to separate passages played by different hands. Otte is the only composer to include explicit right and left hand designations.

Brün's piece is the most uniquely notated, as he constructed a form of tablature to represent striking regions. Brün also provided the most detailed description of the drum's acoustical properties, and he is the only composer of the three to express interest in the visual and choreographic aspects of snare drum performance. Brün's piece features the most extensive combined changes of beaters and surface areas and the most thorough topographical exploration of the instrument. Only Babbitt's *Homily* contains no surface area specifications. Otte's *What the Snare Drum Tells Me* is the only piece that requires the performer to hold the same beaters throughout its duration. Otte's piece is also unique as the performer must hold two different pairs of beaters simultaneously.

The Babbitt and Brün pieces are sectionalized by changes of beaters. All three works contain contrapuntal figures separated by timbre. The combined rapid changes of dynamics, rhythmic divisions and meter changes probably render the Babbitt piece the most tedious of the three pieces. Otte's *What the Snare Drum Tells Me* contains the most abundant variety and detail in the specification of rolls.

All three works are well organized and reveal previously untapped musical resources. Consequently it is unnecessary to make a value judgement regarding their relative worth. Hopefully, the musicality of these works will inspire the virtuosic percussionist to stand before the audience with only a snare drum, a music stand, and a variety of beaters.

End Notes

[1]Herbert Brün, "Just Seven for Drum", *The Noble Snare*, ed. Stuart Saunders Smith Vol. 2,(Baltimore: Smith Publications, 1988), P.3.

[2]*The American Heritage Dictionary*, ed. Peter Davies (New Dell Edition, Boston: Houghton-Miffin, 1982), p. 729.

[3]Brün, op. cit., p. 3.

[4]Idem.

[5]Idem.

Dr. Daniel Adams *is a professor of Music at Texas Southern University, Houston, Texas.*■

Concepts of the Timpani Masters: Brought to You Side by Side

Compilation, editing, and project organization/formulation by Michael Bayard

Introduction and Project Explanation

This article is the first, in a hopefully ongoing series of communications, between ***Percussive Notes*** and four timpani artists: Cloyd Duff, Vic Firth, Saul Goodman, and Fred Hinger. My goal in initiating this unique project, was to offer the readers a truly innovative and fascinating opportunity to examine the concepts and styles of the timpani masters. For me, this project has proven to be one of the most intellectually-intense and thought-provoking academic projects of which I have ever been a part Here's how the project evolved.

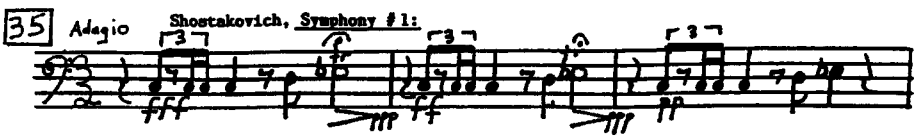
I thought it would be wise, for the purposes of simplicity and focus, to select one isolated timpani passage at a time for the masters to comment on The solo passage that I would select, would be one of a very **musical** nature, one that could elicit a variety of intriguing responses from various schools of timpani thought - hence, the solo from Shostakovich's Symphony No. 1, a solo of great dynamics, great drama. a solo not only requiring much technical skill to perform (i.e precise tuning etc), but also requiring special musicianship to **shape**, to **mold**, and to **phrase the notes** into a coherent, emotionally-riveting musical statement.

After selecting the solo passage, I prepared four correspondences (each containing the excerpt and a personal note), and mailed them to the four timpanists, asking for their responses, both technically and musically, to performing the solo passage. I also asked for "any additional anecdotes, concepts, performance experiences (i.e. requests from conductors regarding this passage) etc. . ."; this information, would be to me, the most captivating

Finally, while formulating this project, I felt the concept of juxtaposing their responses, side by side, to present an absolutely unprecedented **visual reference**, to aid in the conceptual and stylistic assimilation of their thoughts.

The responses that I received, and that I now offer to you, are each brilliant in their own way, and by careful examination, one can immerse themselves in the most objectively-gratifying timpani study imaginable.

The Masters' Responses (alphabetically):



Reference A

Cloyd Duff's Response:

"First of all, the demands on the timpanist for this solo are: Excellent and authoritative technique, **perfect intonation**, excellent instruments in **top** condition, and the ability to have an outstanding musical sound, of great sonority - **all the time, every time**. By intonation, I mean that you must have the ability and knowledge of being able to **clear** the head on each drum to perfection, so there is **no falseness**. If the head has the slightest falseness, it will show up. Because the solo is totally exposed, the head must be totally clear or you cannot play in tune The falseness will make you sound out of tune.

If the head has the slightest falseness, it will show up.

I prefer to play the cadenza **freely**, without the aid of a conductor. I play the dynamics as follows: Bar #1 -ff, Bar #2-f, and Bar #3 -p. This is all the contrast needed. If bar #1 is played as written (fff), one can **overplay** the head at that volume, knocking it out of tune and subsequently ruining the intonation of the passage. Bar #2 I play at a straight -f for better control. Lastly, I feel that the pp dynamic in Bar #3 is too **soft**, as it cannot be clearly heard in the hall by the audience; hence p will do nicely. Play the rolls **long** out and over;

do not diminuendo too soon This gives a more solid and grand sound to your rolls, and better shows your control.

Interpretation should be dramatic and grand, and do not be in a hurry - take all the time you want to make it authoritative. Let everything ring - do not muffle anything except in bar #3 muffle the D-natural eighth note when the E-flat is struck The sizes of drums should be 26, 26, 29 German setting, or 29, 26, 26 American As for touch, draw the sound out of the head by lifting off; **do not pound into** the head with pressure or tension, since the head will respond exactly as you play it

Here, in these three bars, **you** are the **soloist** - this is your big chance, so don't just play the notes - **do** something about it musically!"

Vic Firth's Response.

"It is difficult to respond in writing to something that is only alive and vital when being performed. Writing down musical anecdotes does little for the ear. The technical prowess of a solo passage is easy. It is the sound, the coloring and shading of the sound, and the subtleties of dynamic input, that make it breathe, that make it generate and arouse some emotional satisfaction However, I will try in the following way

Don't get nervous. It's all in a day's work.

1 **Dynamics** -

There are only three bars of music. The dynamics are fff-ff-pp I prefer to do fff-f-pp. That seems to inject a little more variation. This is opposed to the theme being played 'very loud' twice, and then 'very soft' once!

2. **Tempo -**

Adagio on the metronome is indicated around 58 to the beat. If the meter is 3/2, that implies half-note = 58. That is far too fast I perform the first two bars at quarter = 58. The third bar I play at quarter = 48, with a slight Allargando on the last D and E-flat Remember, metronomic markings are only suggestions, and there should be freedom (artistic license) within the 'suggestions.'

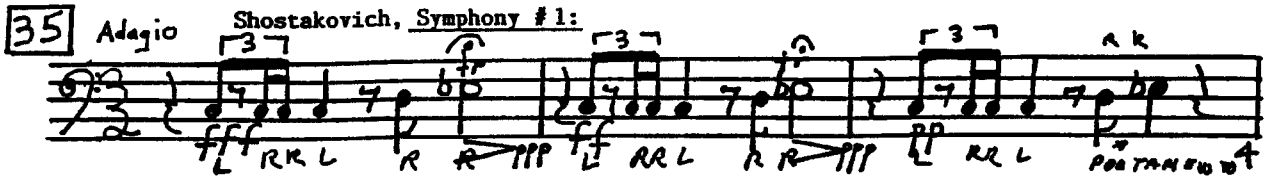
3. **Muffling and Timing -**

In the first two bars, muffle the quarter note C **just as you play** the D-natural Hold the E-flat roll for approximately four beats This need not be metronomically 'accurate,' but it does give you some sense of proportion, as well as maintaining some continuity and forward motion. Be sure the attack on the E-flat is bold and dynamic; and the diminuendo 'silken' and dramatically graduated. On the third bar, now that you have slowed the tempo slightly, muffle the quarter note C just as you play the D - and muffle again the eighth note D just as you play the E-flat. This clarifies all the pitches, eliminating the interfering overtones. Of course, drums must be impeccably in tune relative to each other, as well as impeccably tuned within each individual drum That is, the pitches must be identical at each tuning rod As to sticks, I would use a large, round-headed, seamless-ball stick that gives the fullness of sound and richness of pitch clarity. The *pp* bar must project a beautiful shimmering sound. It is a most dramatic moment in this last movement as well as a most dramatic moment for the timpanist. Above all, take the necessary time to say what you want to express. Don't be rushed, look for a beautiful dark sound, and think in a musically poetic way

P.S Don't get nervous It's all in a day's work "

Saul Goodman's Response

"I believe that I played the first performance of this symphony under Arturo Toscanini with the New York Philharmonic. I remember that he conducted during the above cadenza. This was very helpful to me because I immediately absorbed the marvelous dynamic power that the Maestro wanted me to project. He made one change: i.e. the last *pp* bar, he wanted a roll on the E-flat.[1]



Reference B

The great problem with this cadenza, is the possibility that the intonation could easily be beaten out of tune by playing the first two bars at their indicated dynamics. Then the big problem is to know which of the three notes have to be re-tuned . This, of course, takes lightning speed.

Although I have recorded this symphony, I feel that the best result I have heard, intonation-wise, is a recording by the London Symphony Orchestra. I am of the opinion that this cadenza was done apart from the orchestra, when the player had the opportunity to make any intonation adjustment at his leisure."

[1] **Editor's Note:** Maestro Toscanini's request (of Saul Goodman) to play a roll on the final E-flat quarter note, may also have included a "morendo" from pp to nothing - MB

Fred Hinger's Response:

"When I first played this passage, I performed it on three drums, however, [since] it is difficult to select three calf heads (I have always used calf, even to this day in my teaching, although I have retired from performing) that have compatible timbres. . .[2] I also use the stickings indicated above.

You may be curious as to why I use this sticking, so I have enclosed a reprint of an article that I wrote for *Modern Drummer* explaining my reason.[3] When I recorded this passage with the Philadelphia Orchestra (with Shostakovich in attendance), Mr. Ormandy actually conducted it, however, when other conductors would program this piece, I would ask them to let me play with no direction. I would also quickly change mallets on each succeeding measure from hard to soft."

[2] **Editors Note:** From the information quoted in this opening sentence, I feel we can safely assume that Mr. Hinger generally performs this cadenza on **two** drums with compatible calf heads. This would dictate the peddling of the D-natural to E-flat in each of the three bars

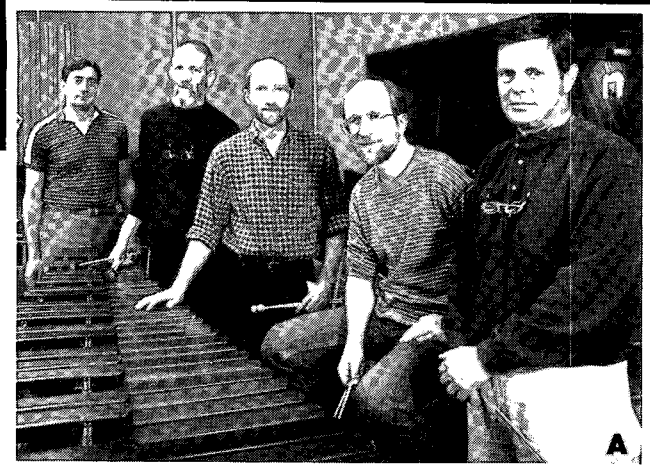
[3] **Editor's Note:** Some of Mr. Hinger's fascinating methods of sticking and phrasing are outlined in an article entitled "Doublings," which appeared in the June 1987 issue of *Modern Drummer.*

[4] **Editor's Note:** Mr. Hinger's use of "portamento," executed on the D-natural to E-flat of the last bar, is truly unique, and for me, intellectually arresting. The *Harvard Dictionary of Music* (c. 1944) defines "Portamento" as: 'A special manner of singing, with the voice gliding gradually from one tone to the next through all the intermediate pitches etc. . .'

Final Statement:

On behalf of ***Percussive Notes*** and the entire percussion community, I want to thank Mr. Duff, Mr. Firth, Mr. Goodman, and Mr. Hinger for their brilliant and invaluable contributions to this project. ■

Michael Bayard



Ask Them!

Keyboard percussion experts across North America will tell you that they play & recommend Kori Percussion.

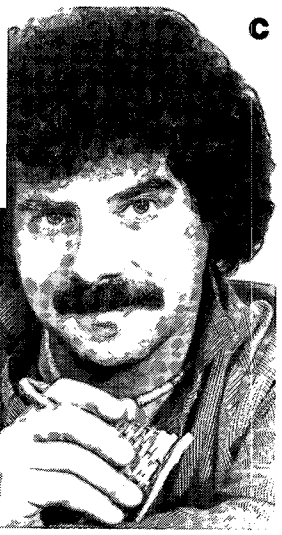
NEXUS: The Master Percussionists of North America
Left to Right: William Cahn, John Wyre, Bob Becker, Russell Hartenberger, Robin Engelman

KORI PERCUSSION

KORI Quality Means:
Enhanced resonance, rattle-free frames, the highest quality premium rosewood, and play testing/custom bar selection by an artist professional.

A

QUALITY YOU CAN HEAR
NAMES YOU CAN TRUST



C

D

E

F

G

I

A. NEXUS: The Master Percussionists of North America

B. Julie Spencer
Independant Artist-Indianapolis

C. Gordon Gottlieb
Yale University
Regular Guest: New York Philharmonic
New York Studio/Chamber Musician

D. Jonathan Haas
Peabody Conservatory
Aspen Music Festival

E. Laurence Kaptain
Stephen F. Austin University
KORI Percussion National Artist-Clinician/Consultant

F. Michael Rosen
Oberlin Conservatory
1988 International Tours to China, Hong Kong, and Finland

G. Beverly Johnston
Independant Artist-Toronto
Featured Artist PASIC 1988

H. Michael Bookspan
Philadelphia Orchestra, Principal Percussionist Curtis Institute

I. Tony Miranda
SUNY-Buffalo
Studio Musician

KORI PERCUSSION

YOU KNOW US BY
THE COMPANY WE KEEP

Quality Rosewood Xylophones & Marimbas

Consultation and Service by an Artist Professional

1414 South Main Street • Royal Oak, MI 48067
(313) 546-4135 • Cable Address "CUSTOMUSIC" • FAX No. 313-546-8296

Toll Free (800) 521-6380

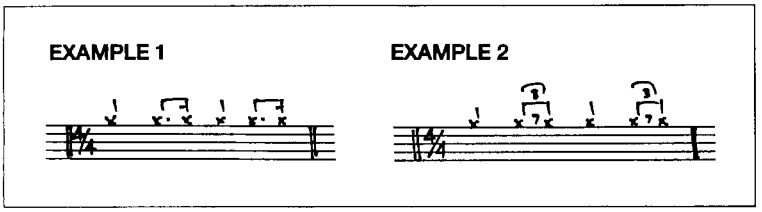
FOCUS ON DRUMSET/STUDIO PERCUSSION

Fundamental Exercises for Ride Pattern Consistency

Ed Soph

What is a ride pattern? It is a sound, not a rhythm. It is a sound which rings, which sustains. How a ride pattern is rhythmically constructed, whether it is repetitive or non-repetitive, syncopated or non-syncopated, may be determined by the style of the music as well as by the improvisational and coordinational skills of the drummer.

There are as many ride patterns/sounds as there are stylists, some of whom are listed at the end of this article The standard, book-perpetuated ride pattern is (ex.1), or (ex.2). To limit one's knowledge and, hence, musical/rhythmic vocabulary to these patterns is, of course, ridiculous. Yet, from the standpoint of an individual's physical and stylistical development on the drum set, we ought to be able to play them and play them CONSISTENTLY.



What is a consistent ride pattern? It could mean a pattern played repetitively. But there are aspects other than rhythmic to be considered. A ride pattern is consistent if it does not become softer, or weak, when another appendage plays something independent of the pattern. So, there is a dynamic consistency. There is also metric consistency: playing the pattern in time A consistent ride pattern, then, requires a consistent technique. This means playing consistent motions known as strokes at varied tempos and dynamic levels.

For our purposes here the ride pattern will consist of what many musicians consider to be the foundation of time, the quarter note. We shall play four quarter notes per bar and we shall play them with three common stroke types

A. Fully rebounded strokes begin with the stick in 'up' position, the bead pointed upwards. Upon striking the cymbal the stick rebounds/bounces back to the position where the stroke began. This type of stroke occurs most successfully when French grip with an open, or neutral, fulcrum and lots of finger interaction with the stick is used.

B. Controlled, or 1/2 rebounded strokes begin in the 'up' position. Upon hitting, the stick rebounds slightly and stays above the cymbal half-way or less between the cymbal and the initial 'up' position. The wrist then lifts the stick to its initial height for the next downstroke. Think of having two upstrokes for each downstroke.

C. Snapped downstrokes are played by snapping the stick downwards with the fingers and/or wrist so as to feel the pattern played by the butt of the stick in the palm. This stroke starts fairly close to the cymbal and stays close. Some players call this "tipping". A more closed fulcrum in either French or German grip works with this technique as there is virtually no rebound involved.

Each of these stroke types imparts a different "feel" to the time because each stroke has a different upstroke. The fully rebounded stroke produces a behind-the-beat feel. The 1/2 rebound feels on-the-beat. And the snapped stroke produces an "on-top-of-the-beat" sensation.

Be sure to practice with a metronome and tape your playing. Muffling the cymbal at first will help you hear the differences between the strokes. Experiment with grips. Different stroke types, tempos, and dynamic levels require altered grips and fulcrums.

You should also practice these stroke types with your other hand on the snare drum. When that is comfortable combine the techniques in the following manner. This is the first step toward independent consistency First, play stroke technique A on the ride cymbal (quarter notes) while playing technique B and C on the snare. And last, stroke C on the cymbal while playing strokes A and B on the snare. Play slowly (MM = 50) and thoughtfully. Watch your strokes as well as listen to them

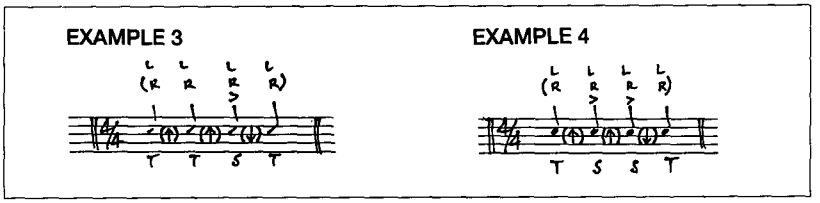
Another way that this sort of stroke independence/ consistency may be practiced is to play dynamic con-

tours with the snare hand while playing each of the stroke techniques on the cymbal. The ride strokes should remain consistent while the other hand's strokes change to produce the desired dynamic result. Be sure to practice the dynamic patterns alone at first and concentrate on the gradual changes in stroke length necessary to produce the dynamic contour.

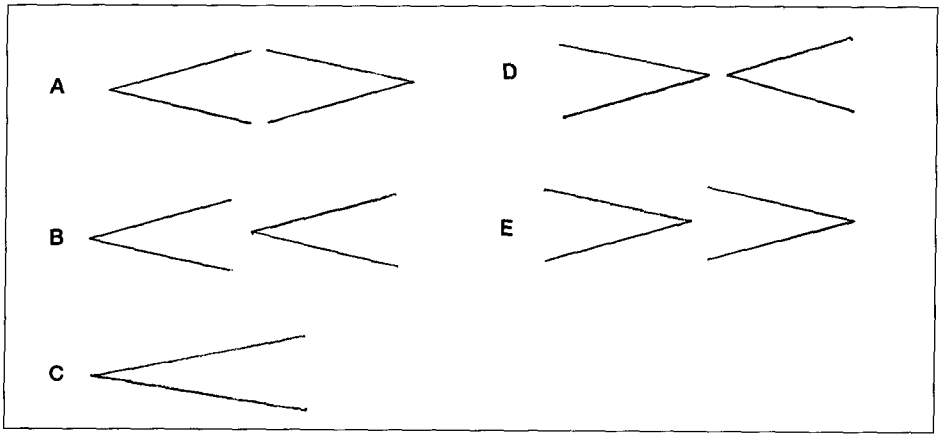
You should have these exercises in some sort of framework. For example, play two or four measures for the first half of the pattern; the same for the second half.

it to bounce ever so slightly and to fall back towards the head rather than tightening the arm and choking the stick so that it comes to a rigid and harsh halt as soon as it strikes the head.

Here is an example of consecutive accents played with one hand using the Level System (ex. 4).



Dynamic Patterns:



Now we're ready to talk about ACCENTS. Accents are musical inconsistencies produced by using two different yet consistent stroke heights. An accented note is played with a larger, not a harder stroke than is an unaccented note. The accented notes in our exercises must be all the same; i.e., played with the same stroke length. Likewise, the unaccented notes are played with the same smaller stroke length.

There are quite a few accent techniques. For the purpose of this article we will use the Level System. This technique uses two levels, or stroke heights: a larger one for the accented notes; a smaller one for the unaccented notes. Here is an example of a single accented pattern:

T = tap = unaccented note

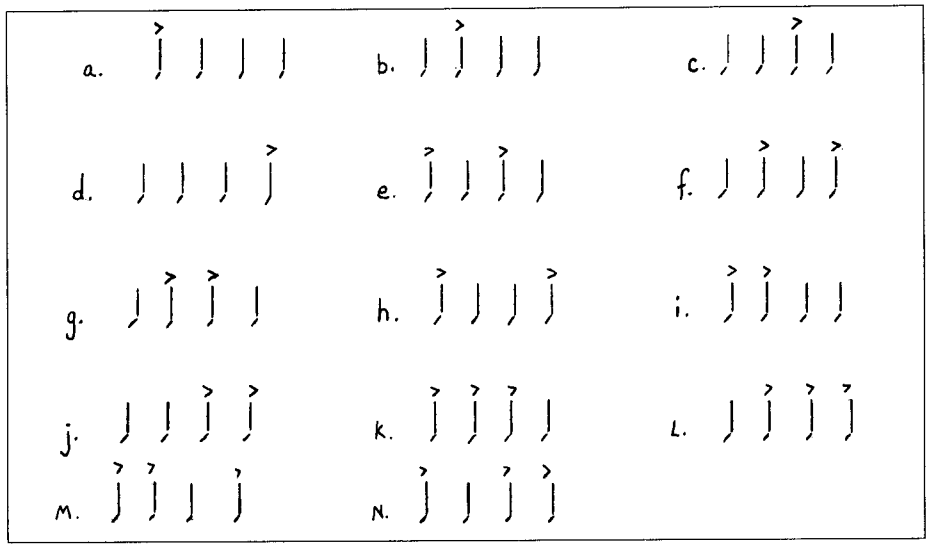
Ex. 3: T(↑)= as soon as the stick plays the tap it is raised to the higher level to play the S = stroke = accented note; (↓) means that upon striking the drum the stick stays close to the head so as to be in place for the following tap. It's best to stop the stick by allowing

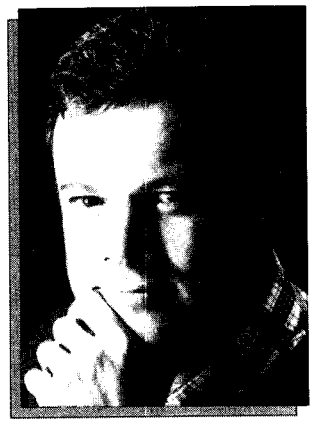
You notice that after the first S the stick is allowed to rebound so as to be in position for the following S. Then the stick stays down after playing the second S so as to be in position for the tap.

When we play the three stroke types on the ride cymbal while playing the accented patterns on the snare we are again developing independent consistency. We are also developing our sense of dynamic balance. The dynamic level of the snare's

unaccented notes are softer than the ride quarter notes. Play the hi-hat on two and four and match it dynamically with the ride cymbal. LISTEN!

Here are the accent patterns. Once you have them in your head do not read them. Just play them. Improvise with them.





Ed Soph

Further development of accent and dynamic independence in conjunction with ride pattern consistency is possible by playing accent and dynamic patterns on the bass drum. Stroke mechanics are similar to those used by the hands when playing accents and dynamic contours. Short strokes, or taps, for unaccented/softer notes should be played off the head. Don't press the beater against the head. Likewise the same rebound considerations apply to consecutive accents on the bass drum as to those on the snare. Be sure to use each of the three ride stroke types when accompanying the bass accent and dynamic patterns. And play the hi-hat consistently on 2 and 4.

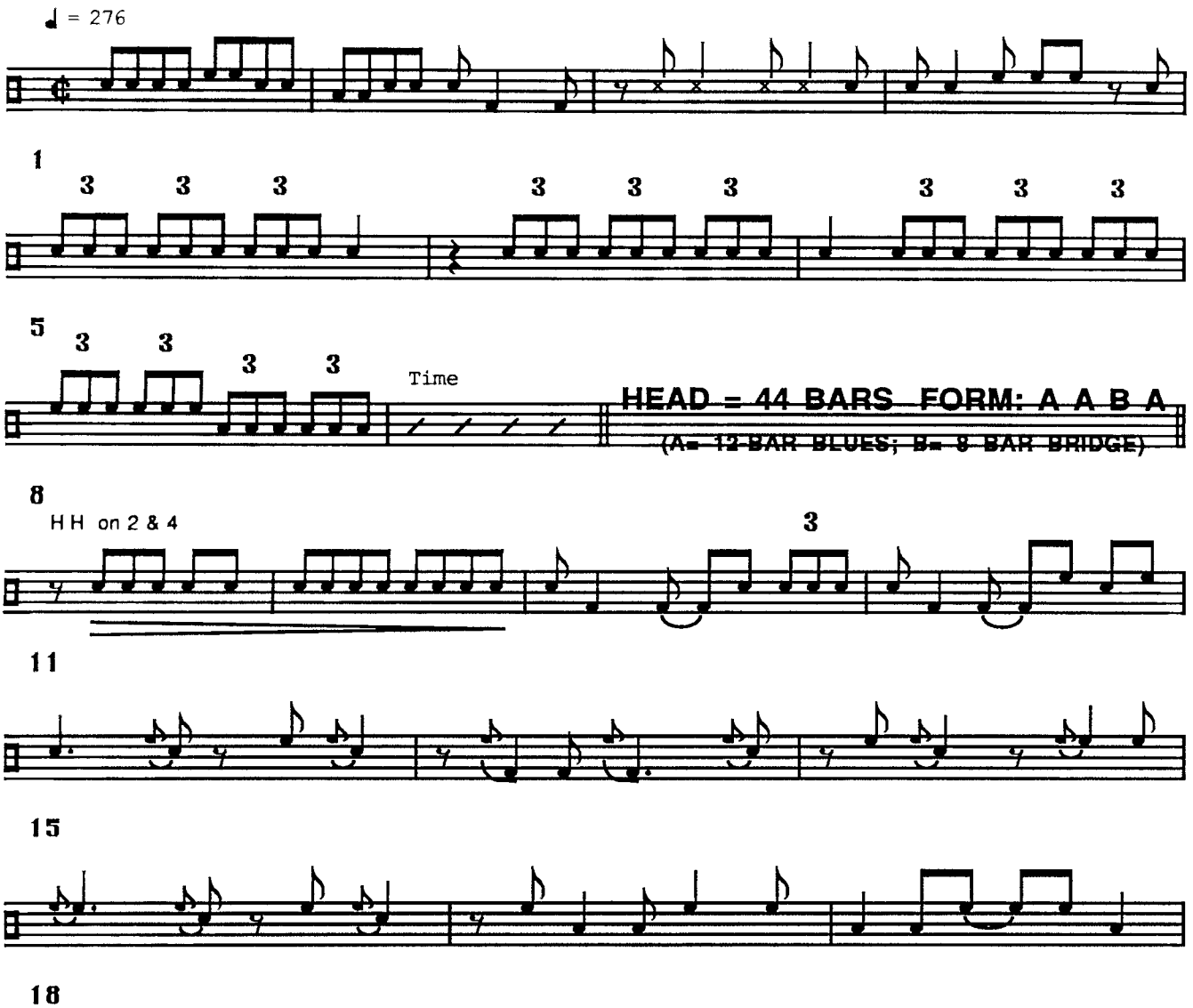
As I said in the beginning of this article, the reasons for the ride pattern are in the music and the players. Follow the ride styles through the playing of Jo Jones, Gene Krupa, Dave Tough, Don Lamond, Buddy Rich, Louis Bellson, Kenny Clarke, Max Roach, Art Blakey, Philly Joe Jones, Jimmy Cobb, Vernel Fournier, Billy Higgins, Shelly Manne, Louis Hayes, Ben Riley, Mel Lewis, Elvin Jones, Tony Williams, Roy Haynes, Bob Moses, and Jack DeJohnette. Be aware of all the wonderful possibilities.

Ed Soph is an internationally- acclaimed performer, author and instructor. He is a full-time member of the faculty of The University of North Texas and presents clinics world-wide. Ed is the author of Essential Techniques for the Drum Set (Meredith) and also, along with Horacee Arnold, produced a video entitled The Drum Set: A Musical Approach (DCI). Ed is also an artist/endorsee for Yamaha drums and Zildjian cymbals.■

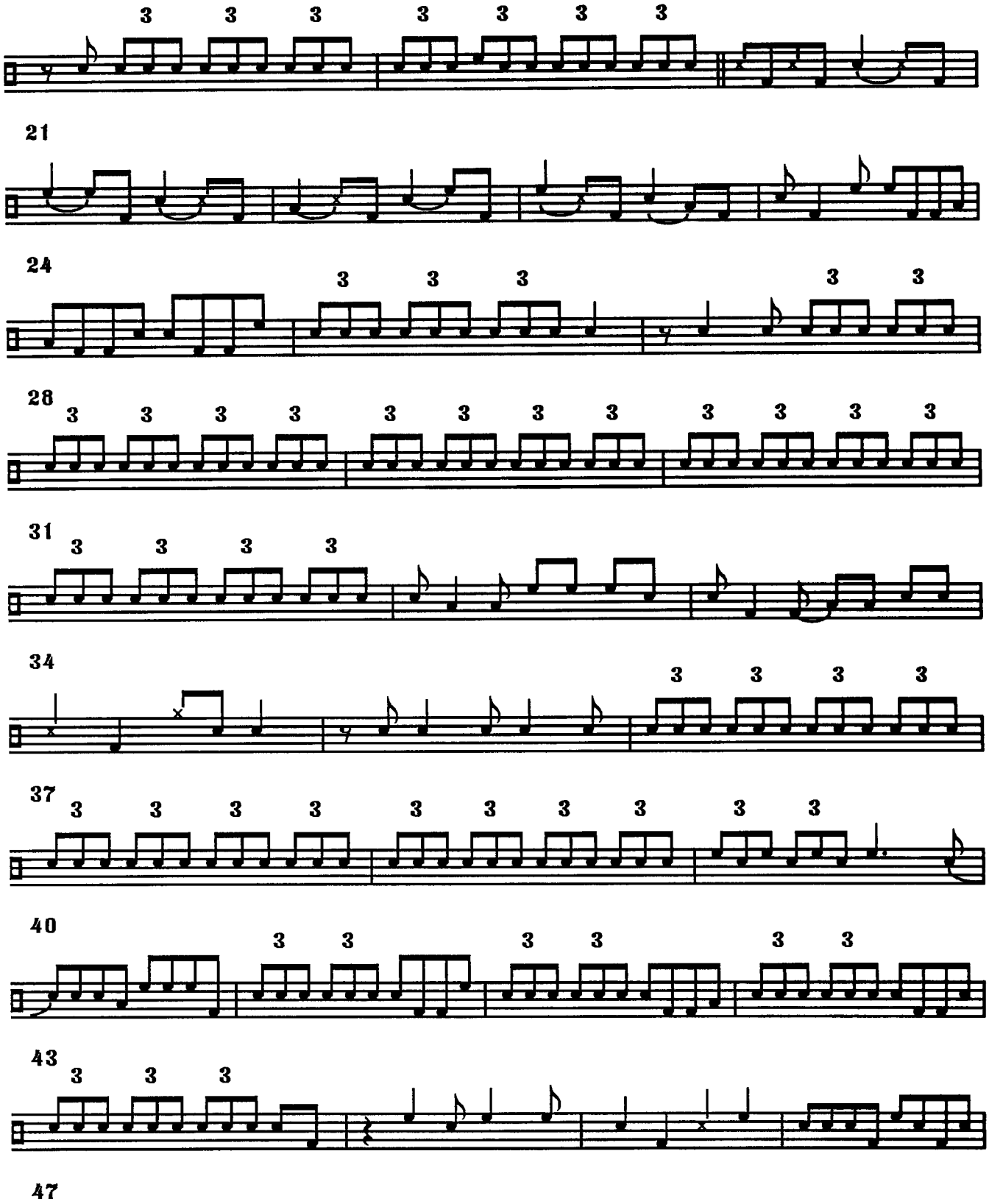
Locomotion - Transcription - drums: "Philly" Joe Jones

Dale Yager

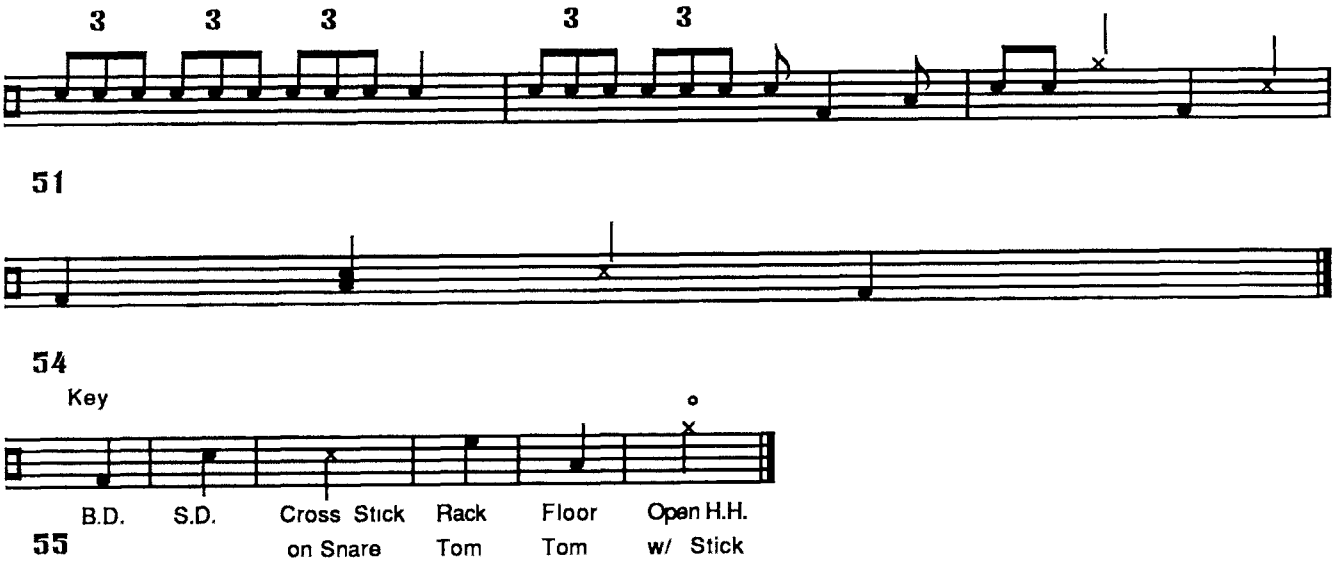
Editor's Note: *"Locomotion" features Philly Joe Jones from Blue Train by John Coltrane (Blue Note BST-81577) Philly Joe Jones playing on 'Locomotion' is a prime example of the inventive style which set him apart from his contemporaries of the mid-to late-50's Max Roach and Art Blakey Jones' use of the bass drum as an independent voice, along with his unconventional use of superior technique makes his playing a favorite to emulate and transcribe to this day "Locomotion" is taken from a classic John Coltrane album titled Blue Train (Blue Note BST81577), which also features Lee Morgan on trumpet, Curtis Fuller on trombone, Kenny Drew on piano, and Paul Chambers, bass. Chambers and Jones were a classic rhythm section team of this period, and Chambers continued to perform with Coltrane well into the 60's - Bob Breithaupt*



Locomotion



Locomotion


3
3
3
3
3
51
54
Key
B.D.
S.D.
Cross Stick on Snare
Rack Tom
Floor Tom
Open H.H. w/ Stick
55

FOCUS ON DRUMSET/STUDIO PERCUSSION

A Commentary

William S. Bruford

I refer to the excellent article by Norman Weinberg on Electronic Percussion: *The Artist or the Medium?* (Percussive Notes, October 1990) which had to do, among other things, with the relative control of the percussionist over his tools. He posits the case of the artist with real-time control of a suspended cymbal and the enormous variety of sound that is instantly available to him. Mr Weinberg then describes at considerable length, and with laudable accuracy, a comparable electronic equivalent which he maintains does not yet exist.

I disagree. The description he offers of a mythical electronic instrument with as many or more instantly controllable parameters as the suspended cymbal is in fact a word-perfect description of the instrument I have been playing live and on record for the last three years Designed by a British manufacturer, it is called the Simmons SDX drum system.

It is complex, it is reliable, it may be expensive, it is definitely ahead of its time, but it does exist. A sophisticated 16 voice sampler with 16-bit sample resolution, the SDX can store up to 88 seconds of drum and cymbal samples at full frequency bandwidths, and that's a long

It is complex, it is reliable, it may be expensive, it is definitely ahead of its time, but it does exist.

time in drums. That is coupled with pads that can read vertical and positional information, allowing complete real-time control of dozens of parameters right under the sticks.

The broader issue, however, is more important. With such technology, to correct Mr. Weinberg, available on the market, why has electronic drumming which seemed so promising a decade ago, apparently delivered so little? Had I been asked about the future of electronic percussion in early 1980 when I started, I would have thought that a large portion of the drumming fraternity would by 1991, be bending, shaping, and controlling their own percussion sounds on something similar to an SDX, only the unit would be one tenth of its current price thanks to mass sales.

Instead, electronic percussion has widely been used for automated ersatz beat production, generally by producers and programmers more interested in a nauseating kind of antiseptic accuracy than anything with a little wit or imagination. Understandably, the instrument is now in the creative doldrums largely because creative drummers at large failed to see what it was all about and let someone else do it.

But none of this is the fault of the instrument which even at this early stage in its development shows more imagination in its design than, so far, in its application. Yes, there has been some awful electronic drumming,

but no one blamed the violin for the aural syrup of the ghastly Mantovani Orchestra in London fifty years ago. It took the electric guitar about twenty years to become playable; without the pioneering work of Christian, Rheinhardt, Fener, et al., we wouldn't have had an instrument for Jimi Hendrix to be Jimi Hendrix on.

No doubt there are many reasons for the electronic drums' tardiness in making a creative mark, but fear of the unknown, on the part of percussionist, fellow musician, and listener, must be one of the most obvious. It has been a lousy time for making creative music recently anyway - most drummers who are lucky enough to have a job aren't going to raise eyebrows by suddenly appearing with a new vocabulary of sounds and an altogether different way of doing things. For it is this fresh, oblique, sideways way of going about things that is a primary reward for both the electronic drummer and listener, and that can in turn alter attitudes to the traditional instruments as well.

Perhaps it's time for some fresh thinking about electronic percussion, particularly in live performance. Referring finally to Mr. Weinberg's article, it is of course the artist, or performer, who is more important than the medium. And as such, the hitherto modest achievements of electronic percussion so far can be ascribed to the generally weak-kneed approach of these same performers, us lot. The medium is not guilty.

Bill Bruford has been a freelance drummer for the last 23 years and was a founding father of the British art-rock movement of the 1970's. In the 1980's he took up electronic percussion, touring extensively with "King Crimson". His current jazz group, "Earthworks" is entirely based around the SDX drum system. Mr. Bruford's book, When In Doubt, Roll!, has recently been published by Modern Drummer Publications. He was elected to the Modern Drummer Hall of Fame in 1990.■

CORRECTION

The article, "PASIC '90 Retrospect" in the April issue of Percussive Notes (page 47, paragraph three) mistakenly listed Paul Tassin as a University of North Texas student. Paul, who won the keyboard division of the individuals competition, is a student at McNeese State University in Lake Charles, LA.

Call for Nominees

The Percussive Arts Society has initiated a yearly award for the outstanding chapter president from its 70 domestic and international chapters. The Outstanding Chapter President Award will be presented each year during the organization's International Convention and will include an engraved plaque and an automatic $1,000 grant for the recipient's chapter.

The award will serve as a means of identifying and rewarding an individual who has contributed significant leadership and guidance to his or her chapter. This person will have increased chapter membership by providing percussion events, newsletters and experiences which are beneficial for the continued musical education of their chapter members. The award recipient will be a person who sets high professional standards in the performance and/or education fields while continuing to grow as a musician/educator.

Nominations should include supportive information and must be received by **August 1, 1991** (self nominations are welcome). Send to: **Percussive Arts Society, 123 West Main Street, Urbana, IL 61801.**

FOCUS ON DRUMSET/STUDIO PERCUSSION

Going "Online" Saves Time for the Busy Percussionist - Part One

Blair Helsing

During busy days, two things I wish for are more "time savers" and more communications tools. Any extra minute and any action I'm able to take sooner rather than later helps. I welcome new ways to keep in touch with people and ideas.

The answering machine is useful in this way. It allows communication even when two people can't talk together But if your urgent work includes literature searches, sending documents to colleagues, or reviewing the opinions of a group of your peers, answering machines fall short Today, an efficient way to keep in touch with people and ideas is a computer

Here are some "time management" and communications problems, and ways in which a computer can help solve or avoid them.

Problem 1: Between a meeting and a rehearsal, you think of several ideas you want to relay to a percussionist on another continent

Solution: A computer at your studio, campus, office, or home allows you to compose a detailed message to your friend You send it instantly, without awakening him in the middle of the night, probably for less money than the cost of postage on a letter. You've saved time and money, and avoided inconvenient or missed phone calls

Problem 2: It's 11 p m. and you need to research pieces for an upcoming concert After consulting the PAS Source Book of Concepts and Information, you find three pieces that intrigue you. Although they appear promising for adaptation to your ensemble, you'd like to check on the opinions of other ensemble leaders and arrangers.

Solution: By computer, you call up a "bulletin board" service and review a "conference" on ensemble pieces You're able to read, save, and then print the comments. You've gained a lot of valuable information in a very short time, when you needed it, and in a way convenient to you

Problem 3: You're writing a paper with someone in another state. The deadline for submission is tomorrow. You want to send your portion of the paper to your friend tonight, so she can add her part. You need to send a computer file, not a fax or overnight letter, so that she can type directly into the same file.

Solution: Transmit your file through your computer, to a larger computer, where your friend can retrieve the file and begin work on it within minutes.

In these examples, computers have facilitated the exchange of ideas, documents, and messages. They have allowed communication day and night, across time zones. They've given access to "libraries" of information using a screen and keyboard instead of a car and shoe leather.

The "bulletin board" (also known as "BBS") is at the heart of many computer communications services. There are several BBSs that serve the musical community. They include The Whole Earth 'Lectronic Link (The WELL), the Performing Artists' Network (PAN), and CompuServe (more on these later).

BBS services operate by providing one central computer facility to which "subscribers" or "users" are linked by telephone line and their own computers This is accomplished by the user typing on the computer's keyboard. Information appears on the screen, and instructions and other text move through telephone lines—back and forth—between the BBS and the user's computer Through this link, all kinds of information can be exchanged including messages, MIDI files, other computer programs, and the results of information searches.

BBS systems are all sizes. The largest, such as PAN and CompuServe, boast user communities spanning the globe. Because of their size, they're able to support many users at one time. In fact, if you're connected or "logged on" at the same time as someone you want to "talk with", you're able to exchange messages back and forth through your computers as if you were talking over the phone.

Size also dictates that information on the larger systems is divided into logical groups. After logging on,

you select the area you want to work with. For example, PAN is divided into three distinct networks. "System 1" at it's called, is designed for composers, performers, producers, engineers and other technicians. "System 2" serves the "show business" contingent including publishers, personal managers, promoters and booking agents. "System 3" provides several specialized fax services.

Using PAN, you view the Main Menu right after logging on. From there you can enter areas in the different systems, including Classified, Mail, the Member Directory, Special Interest Groups, or Conferences.

A conference consists of exchanges of opinions and information, much like a journal written by many people, recorded on the BBS sequentially. For example, imagine a conference called "20th Century Composers" (abbreviated "20th"). After logging on, you browse the list of conferences. Seeing "20th Century Composers", you type on your computer keyboard, "go 20th". Next, you're next able to see a list of "topics" within the conference. For example, a topic on John Cage might be listed as "5-John Cage". To view the topic you type "read 5".

On your screen, you're then presented with a series of statements of opinion and fact, typed in earlier by people with an interest in the topic. Be aware that "conversations" frequently revolve around *establishing* a given premise as opinion or fact. You can read all the entries, or only a few. It's fun to get involved.

Typically, these small bulletin boards are operated by a single person, with one incoming phone line...

If something you read sparks a question or comment, you then add to the thread of the topic by typing in an entry of your own. On your personal computer, you can "record" what you read and what you type, for later reference or printing.

If an entry of a particular person interests you, you can exit the conference and send a personal electronic mail ("email") message directly to that person. Email is another of the key features of BBS systems. Not only can you type and send a message as it occurs to you, but in more thoughtful moments you can type your message on your personal computer. Then you can edit it just as you want before logging on, transfering it to the BBS, and sending it to the recipient. The larger BBS systems charge you by the minute for the time you're logged on, so this tactic saves money.

On a smaller scale, hundreds of BBS systems have started up in recent years to serve specialized communities such as MIDI enthusiasts. Typically, these small bulletin boards are operated by a single person, with one incoming phone line (and therefore one user logged on at a time). Despite their size, they usually have some features of the larger services, including email, file transfer, and conferences. Often they're linked to other BBSs to support wide-area email. Virtually all BBSs offer software programs which you can transfer, or "download" to your personal computer. Some are in the public domain and offered at no cost. Others are "shareware", which means you can download the program, try it, and then send payment to the author if you find it useful.

Often the best way to find the services and phone numbers of small BBS systems in your area is to check the back pages of a computer-oriented newspaper such as Computer Currents.

A separate computer service is operated by university campuses throughout the world, which are linked through several networks that support the exchange of messages and files. If you work at (or are associated with) a university or college campus, this service may be available through the computer department at the school. Often, satellite computer terminals housed in many different departments are connected to a main system in the computer department. Although such a system allows you to send email to your colleagues on campus, secondary benefits arise through connections to other systems at other campuses.

Through networks such as UUCP and Usenet, people on campuses worldwide are able to keep connected much as if they all shared a BBS system. The UUCP and Usenet system networks are made even more useful by links between public systems such as The WELL, so that many different communities can keep in contact. In my case, living near San Francisco, I use The WELL to keep in touch with friends through the UUCP network connected to the University of California at Berkeley, only 30 miles away. It suits our schedules, which are filled with work, our musical pursuits, child rearing, and day-to-day life. The cost per message is much lower than a phone call across San Francisco Bay to convey the same information.

If you haven't spent much time with computers lately, you may be very surprised by the ways they have changed in the last ten years. Back then, a computer screen had the appearance of a TV set that needed repair. All of the screen would be blank except for one little spot where a green blip would flash on and off.

That green blip would be waiting for you to type a "command" the computer could recognize. These commands were not in English (or any other spoken language). And, once you knew the commands they didn't let you do much with the computer that would have value to performers, teachers, composers, and students.

It's a much different story today. Computer programs are designed to take you "by the hand" and lead you through colorful graphics, simple menus, and detailed instructions to the functions described in this article and many more. Excellent software is available to support composition, arranging, transcription, scheduling, expense tracking and access to BBS systems. If you're intrigued by the opportunities of connecting to the rest of the world through a computer but you don't have experience in "getting online", the second installment of this article will help you by describing all the steps that will take you there. ■

If you haven't spent much time with computers lately, you may be very surprised by the ways they have changed in the last ten years.

Manhattan School of Music

Peter C. Simon, President, in collaboration with

The Concertmaster and Principal Players of The New York Philharmonic

The Grand Teton Festival and the National Orchestral Association announce a new

Master of Music Degree Program in Orchestral Performance

The first degree curriculum in North America dedicated fully to the training of young instrumentalists for careers as orchestral musicians Pivotal elements of the program include:

- private lessons, coachings and sectional rehearsals with members of the New York Philharmonic
- extensive performing experience as key players in the Manhattan School of Music Symphony
- performances at Carnegie Hall as members of the National Orchestral Association Orchestra
- participation in the Grand Teton Festival (Wyoming) Orchestra Seminar and studies with leading musicians from major American orchestras
- classes covering non-music career related aspects of orchestral life
- graduation auditions before New York Philharmonic faculty and invited guests

Scholarship Assistance Available

Auditions in New York City in March and May, 1991

For more information about this and other programs at Manhattan School of Music (Bachelor of Music, Master of Music, Doctor of Musical Arts) in performance or composition, contact:

MANHATTAN SCHOOL OF MUSIC

James Gandre
Director of Admissions
Manhattan School of Music
120 Claremont Avenue
New York, NY 10027-4698
(212) 749-3025

FACULTY FROM THE NEW YORK PHILHARMONIC:

GLEN DICTEROW (VIOLIN)
CONCERTMASTER

JOSEPH ALESSI (TROMBONE)
PRINCIPAL

JEROME ASHBY (HORN)
ASSOCIATE PRINCIPAL

JEANNE BAXTRESSER (FLUTE)
PRINCIPAL

SARAH BULLEN (HARP)
PRINCIPAL

DAVID CARROLL (BASSOON)
ASSOCIATE PRINCIPAL

LEONARD DAVIS (VIOLA)
PRINCIPAL

JOHN DEAK (BASS)
ASSOCIATE PRINCIPAL

MICHAEL GILBERT (VIOLIN)

CHRISTOPHER LAMB (PERCUSSION)
PRINCIPAL

LORNE MUNROE (CELLO)
PRINCIPAL

ORIN O'BRIEN (BASS)

JOSEPH ROBINSON (OBOE)
PRINCIPAL

PETER SIMENAUER (CLARINET)
ASSOCIATE PRINCIPAL

PHILIP SMITH (TRUMPET)
PRINCIPAL

ALAN STEPANSKY (CELLO)
ASSOCIATE PRINCIPAL

NATHAN STUTCH (CELLO)

YOKO TAKABE (VIOLIN)

NEWS

Chapter News and Membership News

COLOMBIA

Professional Percussionists

The "Jeneusses Musicales" II Latin American Symphony Orchestra met November 6-26, 1990 in Bogotá, Columbia. The orchestra was conducted by Pedro Ignacio Calderón, Music Director of the Colón Theatre, Buenos Aires, Argentina. Covering the whole extension of Latin America, the young musicians, ages 14-30, were selected via tape and live auditions and represented 16 different countries of the Americas and Spain. The orchestra performed three concerts in Bogotá and in Ibagué, the "music" capital of Colombia.

The repertoire performed included Brahm's *Academic Festival Overture*, Pablo Sotuyo's *Juke Box* (world premiere), M. de Falla's *El Sombrero de Tres Picos*, Mahler's *First Symphony*, etc. The members of the percussion and timpani section included **Martin Diez** (Argentina), **Jesús Garzón** and **Hugo Varón** (Columbia), **Alvaro Ortiz** (Costa Rica), **Alexis Sagastume** (Honduras), **Osvaldo Sempris** (Panamá), **Ramón Torremilans** (Spain), **Enrique Cotelo** and **Ricardo Gomez** (Uruguay).

The Latin American Symphony Orchestra, organized by Jeneusses Musicales, met only once before, in Montevideo, Uruguay in 1985. The next meetings will be in Mexico City and Barcelona, Spain, in 1992 (celebrating the 500th anniversary of Columbus' odyssey) and in 1993 in Costa Rica.

NEW HAMPSHIRE

Chapter News

Gary Spellissey of Chelmsford, Massachusetts, joined the music faculty at Plymouth College this spring. He will serve as percussion instructor and direct the Percussion Ensemble. Gary earned a bachelor's degree in music from Lowell State College and a master's degree in applied percussion from Boston University. He has performed with the Boston "Pops," the Portland Symphony, the New Hampshire Philharmonic, and numerous other concert and jazz ensembles.

NEW JERSEY

Chapter News

Modern Drummer magazine hosted the fourth annual **Drum Festival** at Montclair State College last September. Each day-long presentation offered three of the world's greatest drum/percussion virtuosos in a clinic format , with a fourth artist in concert. A near-capacity crowd was on hand each day from 1.00 until 6:30 pm to view, listen to, and learn from a total of eight internationally-known players. **William Calhoun**, **Larrie Londin**, and **Tony Williams** were the artists/clinicians on Saturday, with **Joe Morello** performing with a jazz quintet on the closing concert. Sunday's performances/clinics featured **Ed Shaughnessy**, **Anton Fig**, and **Alex Acuña**. Completing the second day and rounding out the performances was **Johnathon Mover** with guitarist Gordon Gaines and bassist Alessandra Ciucci.

PENNSYLVANIA

Chapter News

The School of Music at Duquesne University in Pittsburgh, Pennsylvania, sponsored a Classical Percussion/Timpani Symposium last January. The 4-day symposium focused on performing classical orchestral repertoire. The Pittsburgh Symphony's principal percussionist, **Gerard Unger**, led the symposium. At Duquesne students participated in sectional rehearsals and individual coaching sessions. On stage at Heinz Hall, home of the Pittsburgh Symphony Orchestra, students participated in a symposium sectional rehearsal and mock audition session. Pittsburgh Symphony's principal percussionist **John Soroka** and **Andrew Reamer** of the orchestra's percussion section assisted in the on-stage experience. Students attended an open rehearsal and a symphony concert. Because of the enthusiastic response to the symposium, plans are being made for future repertoire symposiums which will focus on assisting the performer/teacher with repertoire study in addition to the serious student percussionist/timpanist.

TEXAS

Chapter News

On September 26, 1990, **Marilyn Rife**, principal percussionist/assistant principal timpanist of the San Antonio Symphony, performed as percussion soloist with that orchestra. The special concert was by invitation to honor the contributors who support the San Antonio Symphony. Marilyn performed Milhaud's *Concerto for Percussion and Small Orchestra* Southern Music Publishing Co. has just released her *International Style Etudes, Volume II,* for timpani, co-authored with **Alice Gomez**, and will soon be releasing *Rhythmic Chants*, a timpani solo.■

Please send all Chapter News to:
Dr. John Baldwin
Boise State University
Music Department
1910 University Drive
Boise, Idaho 83725

SELECTED REVIEWS OF NEW PERCUSSION LITERATURE AND RECORDINGS

Edited by James Lambert

Publishers and composers are invited to submit materials to ***Percussive Notes*** *to be considered for review. Selection of reviewers and the editing of reviews are the sole responsibility of the Review Editor of* ***Percussive Notes.*** *Comments about the works do not necessarily reflect the opinions of the Percussive Arts Society. Send submissions to James Lambert, P.O. Box 16395, Cameron University, Lawton, Oklahoma, USA 73505*

Mixed Media

Theme and Variations for Tuba and Percussion
IV
Clarence E. Barber
$4.00
Music for Percussion
170 NE 33rd Street
Ft. Lauderdale, FL 33334

Theme and Variations calls for one tuba player and one percussionist playing wind gong, small tam tam (in water, at times), bongos, 3 bowls, ice bell, and 4 timpani. A recommended set-up is provided for the percussionist.

The "raw and forceful" theme, as described by the composer, is introduced in the first 16 measures by the tuba, with an underlying ostinato figure on timpani. Alternating between 4/4/ and 7/8 meter, Variation 1 is written in a playful (quarter note = 144-152) mood with the tuba carrying the greatest responsibility. During this variation, the percussionist plays intermittent figures that serve to fill space and create an extra dimension and color. The second variation is almost entirely by the tuba and is written in a free style. The tuba and percussionist are more equally involved at the outset of Variation III. The percussionist utilizes ice bell, tam tam, bowls, and bongo in this section. Barber describes the fourth and final variation as "Barbaric and Driving". A return to timpani and a more-or-less equal partnership in the musical dialogue marks the character of the final section.

Most of the tuba part is written in the mid-range, making the piece attractive to tuba players. The composer is careful in terms of providing mallet suggestions, tuning changes, and changes in instrumentation for the percussionist. Two full scores are provided in the published edition.

In the evolving world of duo literature, ***Theme and Variations for Tuba and Percussion*** is a most appropriate choice for a junior or senior recital, provided the tuba player is a fairly good player. Recommended.
- *Cort McClaren*

Pedals
III
Daniel Pinkham
price not given
C. F. Peters Edition
373 Park Ave. South
New York, NY 10016

This is a three movement composition for organ pedals and four timpani. It is primarily an organ show piece which is designated to be played on the pedals only. The author instructs the organists that, "if it is necessary to use the manuals, don't tell." This 10 minute piece opens with a Prelude which contains a set of glissandi, then moves to a quick movement with changing meters. There are only single notes, but with rapid dynamic changes. Movement II, *Plaint*, makes extensive use of the rhythmic motive of two quarter notes and a roll. Movement III, *Strut* is quite fast and has a solo passage for both the organist and the timpanist.

This composition can be performed by a timpanist with moderate experience. The print is very clear, and the opportunity to perform with other instrumentalists in a chamber setting is worthy of consideration on the student recital.
- *George Frock*

Spiral
VI+
Chinary Ung
price not given
C. F. Peters Edition

Spiral is a 14 minute composition for cello, piano and one multiple percussionist. The work is a commissioned by the excellent chamber group, Aequalis, and the percussion score requires a large set-up which includes marimba, vibraphone, 2 octave crotales, chimes, bell tree, 3 gongs or tam tams, 2 wind chimes, 5 cymbals, bass drum, 4 tom toms, and bongos. The editor or composer present a suggested diagram for set-up which is helpful in preparation time. There are numerous meter changes and intricate rhythms throughout the composition. The dialogue between the three parts requires very mature performers.

The print is very clear, although it is somewhat small for a large set-up. An outstanding composition and worthy of the advanced chamber music program or recital.
- *George Frock*

Keyboard Solo Literature

La Fille Aux Cheveux de Lin
arranged for solo vibraphone
IV
Claude Debussy arr. Wesley Bulla
no price given
Sadhana Music Publishing
2113 Elliot Ave. Suite B
Nashville, TN 37204
(615) 297-6939

Bulla's publication consists of a two-page discussion of the piece, the arrangement (which is 39 measures printed on five pages), and ten pages of helpful hints. The "helpful hints" section includes directions about how to hold three mallets in one hand, how to manipulate three mallets in one hand, damping suggestions, and technique exercises relating to the various figures and patterns in the piece.

There is a little difference between Debussy's original version and this arrangement. Bulla retained the dynamic and phrase indications of the original French edition. The piece is packaged in a vinyl folder, loose-leaf format with large musical print. According to the arranger. "this should facilitate viewing the music and exercises from across the instrument". Perhaps the most valuable aspect of this publication lies in its pedagogical impact. Bulla's thorough discussion of the piece in terms of its technical and musical implications, offers valuable information to the percussion community. Recommended.
- *Cort McClaren*

Triptych
V
Clarence E. Barber
$7.50
Music for Percussion, Inc.
170 NE 33rd Street
Fort Lauderdale, FL 33334

Triptych is a delightful work for solo marimba, xylophone, vibraphone and marimba. It is ideally suited for college-level recitals and chamber concerts. This work sparkles with creative inner-action between all four players. The solo marimba part is only slightly more difficult than the other parts and can be performed with two mallets. The xylophone, vibraphone and marimba parts are essentially single-line textures with only occasional three and four-voice chords.

Triptych is written in three distinct movements. The first movement, titled *Prelude*, incorporates various mixed meters in a spirited fashion. The second movement, titled *Arioso*, is an unaccompanied movement for the solo marimba which is free in tempo and simplistic nature. The third movement, titled *Finale*, provides a brisk conclusion to this piece with its running sixteenth-note figures at mm 144. The contemporary harmonies and creative dialogue contained in *Triptych* make it a wonderful addition to the repertoire of chamber works for keyboard percussion.
- *Doug Wolf*

Six Poems for Solo Vibraphone
VI+
Robert Stright
$12.95
Ludwig Music
557 East 140th St.
Cleveland, OH 44110-1999

Six Poems is an interesting set of six pieces for solo vibraphone. It was the 1st place winning composition in the 1990 PAS contest, and the result is an excellent addition to the serious literature for vibraphone. The solo opens with a slow, majestic theme which starts on A-flat and slowly expands throughout the movement. The second movement is light and free, and alternates between triple and duple meter. The 3rd movement is

very free and employs placing pennies on the nodes of specified bars. Movement 4, *Dancing Shape* is very rhythmical with syncopated rhythms between the hands. There are also references to the opening movement in the middle section of this movement. The 5th movement is very short, just three lines, and is slow and distant. The last movement is a summary of the earlier movements.

This solo in its entirety lasts about 10-12 minutes and is a great addition to our advanced and serious solo literature. The print is very clear, but there are several page turn problems, so memorization is a must. The solo requires 4 mallets throughout and is most highly recommended.
- *George Frock*

Percussion Ensemble Literature

Malacachête Pour 4 Percussionnistes
IV
Gérard Berlioz
price not given
Editions Musicales Alphonse Leduc
175, rue Saint-Honoré
75040 Paris cédex 01

Malacachête is a quartet calling for repinique (a small Brazilian drum with two heads), snare drum, 4 temple blocks, and tambourim (a very small tambourine without jingles played with a stick). Since this piece is inspired by the Brazilian "batucada" its rhythms reflect that particular style. In terms of formal organization, the piece alternates between tutti sections with repetitive ostinato figures and sections of longer duration emphasizing the solo characteristics of the various instruments Rhythmically, this piece will challenge the best of musicians Syncopated rhythms and isolated figures written in 4/4 are abundant. If properly played, i e. if the complex rhythms actually "line up", this will be an exciting piece to play and hear. Recommended.
- *Cort McClaren*

Kantêlé Pour 3 Percussionnistes
III
Gérard Berlioz
price not given
Editions Musicales Alphonse Leduc
175, rue Saint-Honoré
75040 Paris cédex 01

Kantêlé is a percussion trio for triangle, vibraphone, and 4 timpani. Throughout the 2 minute and 45 second work, the vibraphone and timpani interact on an equal basis while the triangle provides very interesting rhythmic support that at times takes on almost melodic-like character. The meter alternates between 4/4 and 3/4 at a moderate tempo. The 4 pitches (G, C, D, Eb) on the timpani remain constant throughout and the vibe part calls for three mallets. A full score, printed on two pages, and three separate parts, each printed on a single page are provided by the publisher.

Musically, *Kantêlé* is most attractive. The triangle part will help one develop a sophisticated muffling technique as well as control of a wide range of dynamics. Technically, the vibraphone part is relatively easy. Musically, it's a joy to play. When one has control of muffling technique, the timpani part stretches the musical senses of any percussionist. Highly recommended.
- Cort McClaren

Poebells (A Ritual Action)
VI
Edwin London
$20.00 Score
Performance material is available on rental
C F. Peters Corporation
373 Park Avenue South
New York, NY 10016

Poebells, written for Tom Siwe and the University of Illinois Percussion Ensemble, is scored for percussion ensemble (10-12 players), narrator, mezzo soprano and tenor soli The piece provides and atmospheric setting for Edgar Allen Poe's poem *The Bells*. The poem is to be recited in its entirety by the narrator with strict instructions for integrating the text with the musical score.

The composition portrays a twenty-four hour period of time in which one minute of playing time is equal to one hour of real time The performance time of *Poebells* is therefore 24 minutes. The conductor is required to conduct one beat per second while the score indicates with great detail and clarity each performer's entrances in time. Tubular chimes are played at one-minute intervals throughout he piece to depict the beginning of each hour.

A vast range of percussion instruments and various exotic bells are required to perform this work. The instrumentation is so extensive that it virtually necessitates rehearsing in a location where the setup can be left in tact. This is a very demanding work in which the composer has gone to great lengths to notate the

BILLY COBHAM ON MAPEX DRUMS

"I FIRST TRIED MAPEX BECAUSE OF WHAT'S BEHIND THE NAME — DRUM MAKERS DEDICATED TO LISTENING TO WHAT DRUMMERS AROUND THE WORLD REALLY WANT."

TRY MAPEX AS BILLY COBHAM DID, YOU'LL AGREE, MAPEX HAS THE WORLD BEAT.

MAPEX

MAPEX
THE WORLD BEAT

For more information write: Mapex P.O. Box 748, Effingham, IL 62401

sequential timing and integration of parts. For advanced players who are willing to devote the time to coordinate all the elements of this composition, *Poebells* will prove to be very effective in performance.
- *Doug Wolf*

Snare Solos/Methods

The Job Gets Done
II
Sand Blasting the Walls
II
Todd Ukena
$2 95 each
RBC Publications
P O Box 29128
San Antonio, TX 78229

The Job Gets Done is a snare solo *written* in sonata form Each of the major sections are labeled (exposition, development, recapitulation) Obviously written for its educational content, the piece features eighth-note rolls, accents, subito changes in dynamic, 4/4 meter, and rhythms ranging from continuous eighth notes to sequential patterns of eighth and two-sixteenths All of this occurs in 96 measures with a metronome marking of 120-132 Ukena offers warm-up suggestions in the front matter

Sand Blasting the Walls is similar to *The Job Gets Done* with only one significant difference *Sand Blasting the Walls* is a one-page, 48-measure solo in 3/4 time.

These solos are published separately While one might argue that we have little need for more snare drum solos, Ukena's educational as well as musical treatment of these pieces separates them from the rest of the pack Recommended
- *Cort McClaren*

Riveting, The Second Shift
I-II
Todd Ukena
$2 95
RBC Publications
P O Box 29128
San Antonio, TX 78229

This is a one page snare drum solo in common time. The entire solo is based on anapest and dactylic patterns mixed with accented eighth-notes and a few 5 stroke rolls. The only rudiments or techniques that are utilized are single strokes and five stroke rolls. The cover page has a suggested rhythm warm-up exercise and few performance tips There is reference to the dynamic changes in the performance tips, but there is not one dynamic indication in the solo. Since the reference to dynamics is included in the performance tips, it may be an oversight in editing

The print is very clear, and the measures are numbered in addition to rehearsal letters. This is a good solo for the young student
- *George Frock*

Machinery - The Second Shift
I
Todd A Ukena
$2 95
RBC Publications
P O Box 29128
San Antonio, TX 78229

Machinery - The Second Shift is part of the *Percussion Construction Series* written by Todd A. Ukena. *Machinery* is a short (48 measure), beginning level snare drum solo It is based on simple eighth-note and sixteenth-note rhythmic figures and utilizes 5-stroke and 9-stroke rolls *Machinery* is an excellent teaching aid to assist beginning percussion students with the development of their double stroke roll The composer has even included some very helpful warm-up exercises designed to teach the relationship between the sixteenth-note, single-stroke base and the thirty-second-note, double-stroke roll Various dynamics from *p* through *ff* are utilized throughout the solo and add musical contrast to each phrase This is an excellent snare drum solo which provides beginning students with an opportunity to develop their double-stroke roll in a musical context.
- *Doug Wolf*

Advanced Solos for Snare Drum
IV-V
John Beck
$6 50
Kendor Music, Inc.
Main and Grove Sts
P O. Box 278
Delevan, NY 14042

Advanced Solos for Snare Drum is a wonderful addition to the recital and contest repertoire for snare drum. John Beck has dedicated this collection to his son John R.

Beck. The book contains four different solos. Two of the solos are listed at grade-5 and two are listed at grade-6. It is my opinion that the difficulty of these solos is more accurately reflected with grade-4 and grade-5 listings.

Double-Timing is the first solo in the collection and features some very creative shifts in and out of double-time phrasing. The second solo, titled *Rudiwaltz*, utilizes an assortment of various rudimental figures to evoke a waltz phrasing in 3/8. Also contained in this solo is a well-written modulation into a contrasting middle section based in 3/4. *Two for Six* is slightly more difficult and features various contrasting rhythmic material which shifts between 2/4 and 6/8 throughout the solo. Since the pulse remains the same for the entire solo, the shift between meters sets up a nice play between duple and triple-based figures. The final solo in this collection, titled *J. R. Special*, is no doubt named after John's son. This solo begins and concludes in a very up-tempo 6/8 meter with a contrasting middle section based in 2/4. The 2/4 material adds nice variety to the solo with a series of 6-stroke and 15-stroke roll figures notated in thirty-second-note patterns.

A wide range of dynamics is specified for each solo. Accents and stickings are clearly indicated throughout and contribute to the musical phrasing of each solo. *Advanced Solos for Snare Drum* is a valuable educational resource. High-school and college students will enjoy performing these solos.
- *Doug Wolf*

Keiskleiriana 2
VI
Jacques Delecluse
price not given
Alphonse Leduc
Edition Musicales
175 Rue Saint Honore
75040 Paris Cedex 01

This a collection of 12 advanced snare drum etudes. The author states that the studies are derived from orchestral snare drum parts which have been developed to include technical and rhythmical difficulties. The studies include numerous meters, and each include challenging technical and rhythmical passages. There are suggested metronome markings, but the author suggests these are only suggestions and not required. Each study is presented in a setting that includes form, dynamic contrasts, and stylistic differences.

The print is very clear, and each page turn is preceded by rests to enable the turn. Highly recommended.
- *George Frock*

SUSTAINING MEMBERS

The Percussive Arts Society would like to express its appreciation to the following organizations who, through their contributions, help nurture and sustain the Society

It is with their support that PAS has become and will continue to be the ***World Organization For Percussion.***

Manufacturers/Patrons
Avedis Zildjian Co
Paiste America
Pearl International, Inc
Remo, Inc.
Ross Mallet Instruments, Inc
Sabian Ltd.
Selmer Company: Ludwig Drum Co /Musser Industries
Yamaha Corporation of America

Distributors/Wholesalers
Beyer Dynamic
Jupiter Band Instruments, Inc.
Kaman Percussion Products
Kori Percussion USA
Lang Percussion
Latin Percussion
MAPEX Percussion Tech / Midco International
Roland Corporation, U S.
Slingerland/H S S.
Sonor Percussion
Yamaha Canada Music Ltd

Product Specialists
Adams Percussion, San Antonio, TX
American Drum of Virginia, Roanoke, VA
American Drum Manufacturing Co , Denver, CO
Aquarian Accessories Corp , Anaheim, CA
Mike Balter Mallets, Northbrook, IL
J D Calato/Regal Tip, Niagara Falls, NY
Cappella Wood Ent , Hightown, NJ
Century Mallet Instrument Service, Chicago, IL
Clevelander Drum Company, Cleveland Hts., OH
Danmar Percussion Products, Van Nuys, CA
ddrum, Turnbull, CT
Drum Workshop, Inc., Newbury Park, CA
Encore Mallets, Coweta, OK
Evans Products, Inc , Dodge City, KS
Falicon Design, Clearwater, FL
Fall Creek Marimbas, Middlesex, NY
Vic Firth, Inc , Dedham, MA
GP Percussion Timpani Mfg. Bloomington, IN
Tom Gauger, Brookline, MA
Golden Bells, Monrovia, CA
David Gross Percussion Products, Grand Rapids, MI
Grover Enterprises, Cambridge, MA
H Q Percussion, St. Louis, MO
Humes & Berg Mfg. Co. East Chicago, IN
Interworld Music Associates, Brattleboro, VT
KAT, Longmeadow, MA
L A Caseworks, Wheeling, WV
Kevin Lepper Percussion, Hanover Park, IL
Marimba One, Arcata, CA
Marimba Productions/Malletech, Asbury Park, NJ
Noble & Cooley, Granville, MA
The Original Drum Screen, Grand Rapids, MI
Pan Caribe Tours, El Paso, TX
D Picking & Co , Bucyrus, OH
Pro-Mark Drum Sticks, Houston, TX
Purecussion, Minneapolis, MN
R.B. Percussion, Dallas, TX
Repaircussions/Stotz Cable Timpani, Rochester, NY
Rhythm Tech Inc , Mamaroneck, NY
Rythmes & Son, Illkirch-Graffenstaden, France
Shure Brothers Incorporated Evanston, IL
Silver Fox Percussion, Fort Myers, FL
Stingray Percussion, Inc. Rivera Beach, FL
Udu Drums, Freehold, NY
Vater Percussion, Holbrook, VA

Drum Shops, Teaching Studios, and Other Retailers
Cliff Alexis, Dekalb, IL
Sam Ash Music Stores, Hempstead, NY
Asian Sound, Cologne, Fed Rep Germany
Atlanta Pro Percussion, Inc., Smyrna, GA
Herbert Brandt-Notenversand, Karlsruhe, Fed Rep Germany
Chardan Percussion, Parsippany, NJ
Columbus Percussion, Columbus, OH
Coyle Music Centers, Inc., Columbus, OH
Dick DiCenso's Drum Shop, Quincy, MA
The Drum Cellar, Bethesda, MD
The Drum Shop, Dearborn Heights, MI
Drum Specialist, Glenview, IL
Drummers World, New York, NY
Drums Ltd /Franks Drum Shop, Chicago, IL
Frank Epstein, Boston, MA
Fredrico Percussion, Mechanicsburg, PA
Goldline Percussion Products, Spokane, WA
House of Musical Traditions, Takoma Park, MD
Huber & Breese, Frasier, MI
JAG Drums, Arlington, MA
JC's Drum Shop, Baltimore, MD
Just Drums, Shawnee, OK
Manny's Music, New York, NY
Paul Mueller Studios, Indianapolis, IN
Professional Music Center-Drum Shop, Las Vegas, NV
Pro-Rizers, Baltimore, MD
Pustjen Percussion Products, Amsterdam, Netherlands

SUSTAINING MEMBERS

(Continued)

Skyline Musical Products, Stanford, CT
Sofbags, Lewis, NY
Tommy's Drum Shop, Austin, TX
Trick Percussion Products, Schaumburg, IL
Todd A. Ukena, Weatherford, TX
Steve Weiss Music, Philadelphia, PA
The Woodwind & Brasswind, South Bend, IN

Publishers

Action-Reaction, USA, Inc.
Alfred Publishing Co., Inc.
A.M. Percussion Publications
Arley Services
Bands of America
Belle Press
C.L. Barnhouse Co.
CMP Records
CPP/Belwin, Inc.
Chinese Percussion Development Center
Bobby Christian Music and Mallets
Concorde Trio
Cortelu Music Publications
Cousin Sally Ann
Marv Dahlgren Publications
Deschler Percussion Center
Down Beat
Empire State Percussion Music
G and L Publishing
Harold Howland Music
Instrumentalist
International Association of Jazz Educators
J. B. Publications
J. R. Publications
Kemper-Peters Publications
Kendor Music
Alphonse Leduc & Cie
Neil A. Kjos Music Co.
Bruce H. Klauber
Hal Leonard Publishing Corp.
Stanley Leonard Percussion Music
Ludwig Publishing Co.
Mallet Unit
Marim Percussion
Mel Bay Publications
Meredith Music Publications
Modern Drummer Publications
Music Treasures Co.
Musikverlag Zimmermann
NACWPI
New Music Marimba
New Music West
Nexus
Nichols Music Publications
Panyard Publications, Inc.
Per Mus Publications
CF Peters
Pioneer Percussion
Joseph Porcaro
Theodore Presser Co.
Rhombus Publishing
Smith Publications
Southern Music Company
Talamala
Windsor Music Publications

Academic Institutions

American Conservatory of Music, Chicago, IL
Aspen Music Festival, New York, NY
Berklee College of Music, Boston, MA
Boston University, Boston, MA
Brooklyn College Conservatory of Music, New York, NY
California Institute of the Arts, Valencia, CA
Capitol University, Columbus, OH
Casper College Music Department, Casper, WY
Clarion University of Pennsylvania, Clarion, PA
The Cleveland Institute of Music, Cleveland, OH
Colorado State University, Fort Collins, CO
DePaul University, Chicago, IL
Drummers Collective, New York, NY
Duff, Livermore, CO
Duquesne University, Pittsburg, PA
Eastern Music Festival, Greensboro, NC
Eastman School of Music, Rochester, NY
The Grove School of Music, Van Nuys, CA
Indiana University, Bloomington, IN
Indiana University of Pennsylvania, Indiana,PA
Interlochen Arts Academy, Interlochen, MI
Wilfrid Laurier University, Waterloo, Ontario, Canada
Manhattan School of Music, New York, NY
Mannes College of Music, New York, NY
Musicians Institute (PIT), Hollywood, CA
New England Conservatory, Boston, MA
New Jersey School of Percussion, West Orange, NJ
New York University, New York, NY
North Carolina School of the Arts Winston-Salem, NC
Northwestern University, Evanston, IL
Oberlin Conservatory, Oberlin,OH
Peabody Institute, Baltimore, MD
San Francisco Conservatory of Music, San Francisco, CA
The Shepherd School of Music, Rice University, Houston, TX
Temple University, School of Music, Philadelphia, PA
United States Percussion Camp/ Eastern Illinois University, Charleston, IL
University of Cincinnati College, Cincinnati, OH
University of Oklahoma, Norman, OK
University of Wisconsin, Madison, WI
VPI & State University, Blacksburg, VA

DIRECTORY OF ADVERTISERS

DIRECTORY OF ADVERTISERS

(Continued)

PASIC '92 - NEW ORLEANS, NOV. 11-14, 1992

Jim Atwood

PASIC '92

The state of Louisiana is fortunate to have a wealth of natural resources. We're equally fortunate to have a wealth of resources in our musical heritage and the talents and energies of musicians and teachers throughout the state. With such a diverse pool of talent from which to draw, it has been easy to assemble an outstanding group of committee members. Herewith, I'm proud to be able to announce the members of the planning committee for PASIC '92:

Larry Anderson,
Northeast Louisiana State University

Leland Beach,
New Orleans Symphony

Charles Blancq,
University of New Orleans

Jeff Boudreaux,
New Orleans performer/clinician

Chris Devney,
New Orleans Symphony

Ray Dillard,
Percussionist and clinician

Joey Ferris,
Author and recording artist

Ray Fransen,
Owner, Ray Fransen's Drum Shop

Marty Hurley
Phantom Regiment, Brother Martin H S

Larry Kaptain,
Stephen F Austin University

David Lee,
University of New Orleans

John Joyce,
Tulane University

Michael Link,
Louisiana Tech University

Terry Mahady,
McNeese State College

Mike Mann,
University of Southwestern Louisiana

John Raush,
Louisiana State University

Robert Upton,
Northwestern State University

GUIDELINES FOR CONTRIBUTORS

1 ***Percussive Notes***, the international journal of the Percussive Arts Society, welcomes for consideration, contributions of interest to percussionists addressing any aspect of pedagogy, performance, new or existing repertory, history, and instrument construction or manufacture All contributions are refereed by member/editors of the Percussive Arts Society for their appropriateness in ***Percussive Notes*** Please send manuscripts and other communication to **James Lambert, Executive Editor, *Percussive Notes*, P.O. Box 16395, Cameron University, Lawton, OK 73505.**

2 Manuscripts must be typewritten or computer-produced *(preferably Microsoft Word 4.0)*, with double-spacing throughout *(including quotations)*, on high-quality 8 5 inches by 11 inch non-erasable paper, with margins of at least one inch. Footnotes, tables, and captions for illustrations must also be typewritten with double-spacing, and submitted on separate 8.5 inches by 11 inch sheets. ***Two*** copies of the whole manuscript should be submitted

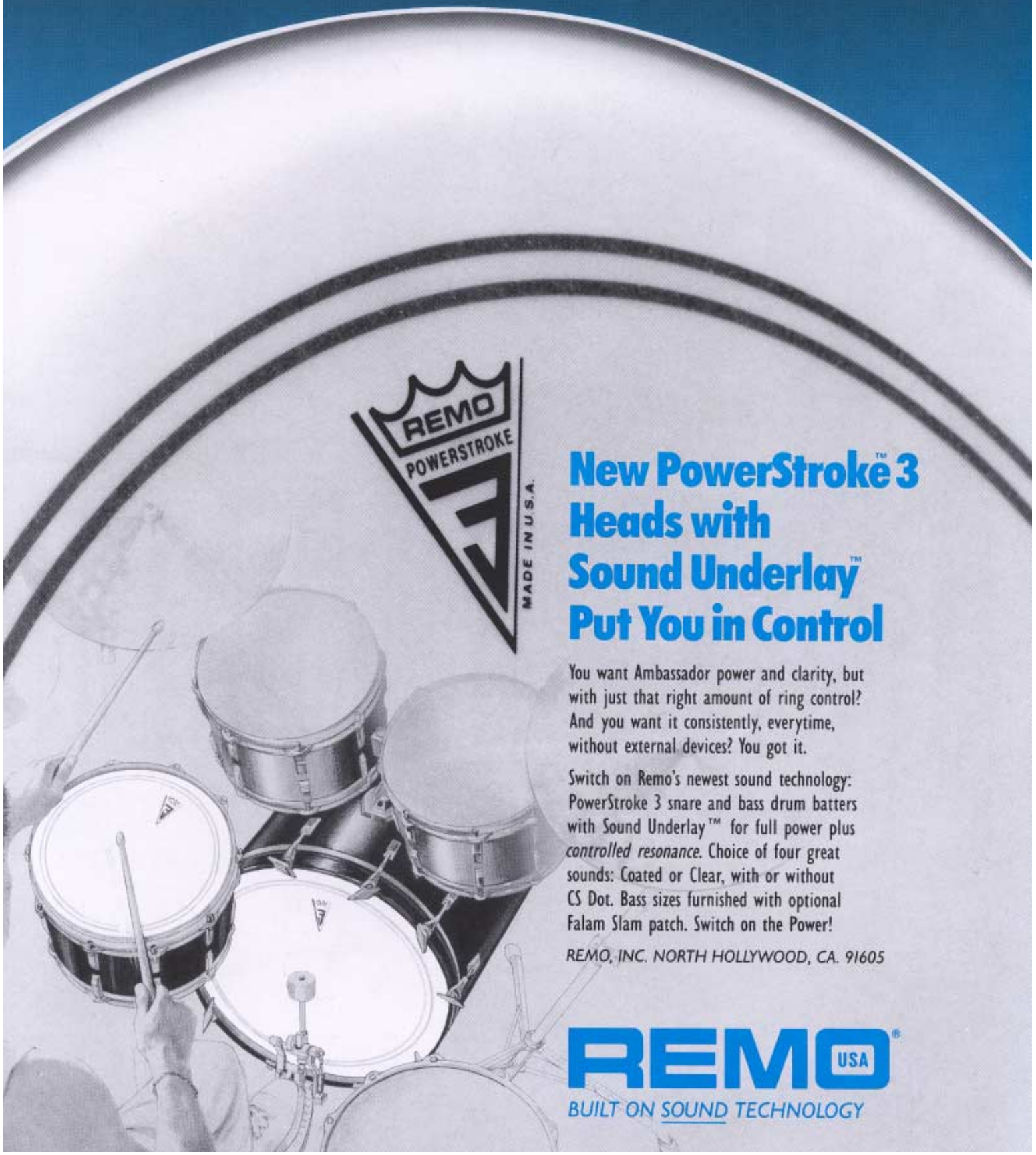
3 Musical examples should be short and limited in number Each musical example must be on an 8 5 inches by 11 inch sheet and numbered *("example 1," etc)*, with its approximate preferred location indicated in the margin of the typescript Generally speaking, examples cannot be reproduced as part of a sentence It is the author's responsibility to secure permission to quote from music or text under copyright, prior to the submission of the typescript. Written permission should accompany the typescript Authors should supply all musical examples in *camera-ready* status

4 All diagrams, drawings, charts and special figures must also be on separate 8 5 inches by 11 inch sheets and numbered *("figure 1," etc)* Authors should be prepared to supply this material also in *camera-ready* status.

5 Photographs submitted for illustrations should be glossy, positive prints, in focus, from 4 inches by 5 inches to 8 inches by 10 inches in size.

6. On matters of form and style, please consult a general handbook, such as *The Chicago Manual of Style*, 13th edition (Chicago· University of Chicago Press, 1982).

SWITCH ON THE POWER



New PowerStroke™ 3 Heads with Sound Underlay™ Put You in Control

You want Ambassador power and clarity, but with just that right amount of ring control? And you want it consistently, everytime, without external devices? You got it.

Switch on Remo's newest sound technology: PowerStroke 3 snare and bass drum batters with Sound Underlay™ for full power plus *controlled resonance*. Choice of four great sounds: Coated or Clear, with or without CS Dot. Bass sizes furnished with optional Falam Slam patch. Switch on the Power!

REMO, INC. NORTH HOLLYWOOD, CA. 91605

REMO® USA

BUILT ON SOUND TECHNOLOGY

GARY BURTON

A cooperative effort between Gary Burton and Musser, the Pro Traveler Vibe is a remarkable combination of superb musicality and easy portability. The Pro Traveler can be transported in a small car and set up quickly by one person. It's the perfect go-anytime, play-anywhere vibe.

For a poster of Gary Burton, send $3.00 to Ludwig Industries, Gary Burton Poster, P.O. Box 310, Elkhart, IN 46515.

Pro Traveler Vibe M-48

M U S S E R

A Selmer Company • P.O. Box 310 • Elkhart, IN 46515