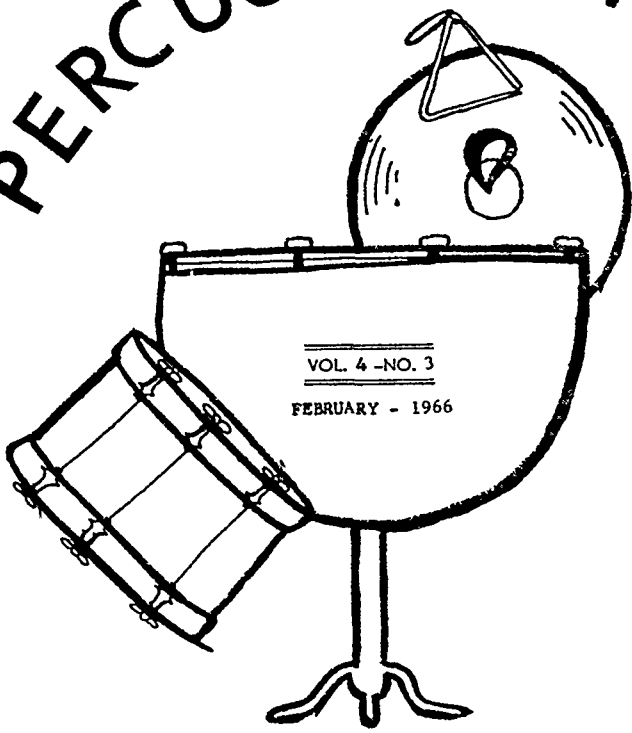
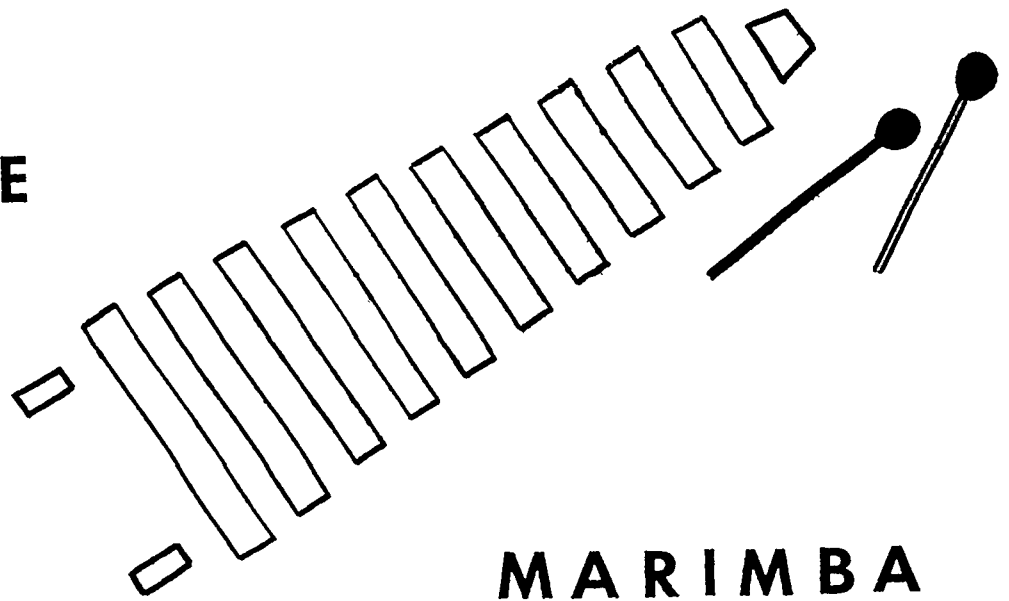


PERCUSSIVE NOTES



THE MYSTICISM

OF THE



MARIMBA



Percussive Notes
5085 Henderson Hts.
Columbus, Ohio 43221

THIS ISSUE

FEB 21 1977

PERCUSSIVE NOTES IS PUBLISHED FOUR TIMES DURING EACH SCHOOL YEAR (September, December, February, May). MATERIAL FOR PUBLICATION SHOULD REACH THE EDITOR BY THE 1st. OF THE MONTH PRIOR TO PUBLICATION. OPINIONS EXPRESSED IN BY-LINE ARTICLES ARE THOSE OF THE WRITERS.

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The list of other authors whose material has appeared in P.N. reads like a "Who's Who of Percussion". Some of them are:

- James D. Salmon, University of Michigan
- George Carroll, Musick Master- Williamsburg, Va.
- Vida Chenoweth, Marimba Artist
- James Dutton, Marimbist and Teacher- Chicago
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- Roy Longyear, University of Kentucky

P. N. needs new material for publication. As much of the material received as possible will be used in future issues. Whether you feel you are a "name" in the percussion field or not, we want to hear from you. Articles, programs, pictures, comments, and all are welcome and should be sent to the General Editor.

SEE INFORMATION ON NEW AND RENEWAL SUBSCRIPTIONS ON THE BACK PAGE OF THIS ISSUE.

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THE MYSTICISM OF THE MARIMBA 1
by James L. Moore

James L. Moore, editor of PERCUSSIVE NOTES, has written a detailed study of the marimba, making available for the first time accurate information on the acoustics and tuning problems of this most musical of percussion instruments.

His study in the area of musical acoustics and related fields toward the PhD degree at Ohio State University have led him to extensive information about the instrument, and well qualify him to write on this important and neglected aspect of percussion.

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Due to the importance of the material contained in the article The Mysticism of the Marimba, additional copies are available through: MÜSSER MARIMBAS, INC., at their new address- 505 E. Shawmut Avenue, La Grange, Ill. 60525.

Assistance in the publication of PERCUSSIVE NOTES for the 1965-66 year has been given by the companies listed below. The contributions from these companies, for which they receive no direct return, are greatly appreciated. Our hats off to:

AVEDIS ZILDJIAN CYMBAL COMPANY 39 Fayette Street, North Quincy 7, Mass.	EVANS DRUM HEAD COMPANY Box 58 Dodge City, Kansas.
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PERCUSSION DISCUSSION

AMETRIC NOTATION

Owen Clark

I am writing this article in hopes of finding a number of musicians who will take the time to write to me and give me their views on this subject.

Ametric notation is music with no bar lines and no meter signature. The only percussion book I have seen so far that touches ametric notation is one by Joel Rothman. I, personally, have never run across a composition using this notation. This certainly does not mean that they do not exist.

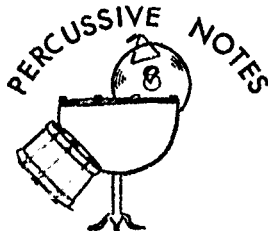
Now, what purpose does this system serve? Except to give the feeling of a very long phrase what does it do? I think that it serves an excellent purpose in the reading training of a young student. When the students have reached the point where they should stop counting and start singing the rhythmic notation of their parts then this system becomes very useful. It will also help to show a student that you don't stop the flow of rhythm at every bar line.

These two points are rather small however when weighed against the standard method which has been used for so long. Students should be made aware that this system does exist and that they may run across it. I don't feel that it is insignificant enough to be avoided completely.

I hope that many readers will take the time to write to me and air their views on this subject.

Let me hear from you.

Owen Clark
763 Sherburn St.
Winnipeg 10, Manitoba
Canada,



Some thoughts in regard to:

MULTIPLE BOUNCE ROLL NOTATION

William J. Schinstine
Pottstown, Pa.

There is already an effective notational marking in use to indicate a multiple bounce stroke: It was devised by Maurice D. Taylor for use in his new series Band Fundamentals in Easy Steps. The notation was also used in the Schinstine-Hoey Intermediate Drum Method and the Schinstine Adventures in Solo Drumming.

While this satisfies the need for an indication for a single multiple bounce stroke, it does not fulfill the general need of regular roll notation to indicate the difference between a rudimental roll and the multiple bounce roll. However, the multiple bounce itself can be of varying amounts of taps per hand. This difference I like to call the relative saturation of the roll. A little experimentation will show you what I mean. It seems that this saturation (2, 3, 4, etc. bounces per hand motion) is entirely at the discretion of the performer, and is largely the result of different speeds and different needs.

Actually the multiple bounce roll was first used in the Schinstine-Hoey Basic Method for Drums as a different approach in the learning process. It's use greatly speeds up the development of a useable roll for young students. This is important. After they have played in their schools for a year or two, they are much better equipped to cope with the other types of controlled rolls. Also, because the multiple bounce roll is taught using the basic hand motions, the students immediately develop a rhythmic understanding of rolls.

Perhaps at the advanced level there is a need for a notation to indicate what type roll the composer intends. It should be devised to take into consideration that there are many ways to saturate the roll.

We are all benefiting greatly from the high standards set by Percussive Notes.

Wm. "Bill" Schinstine

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PERCUSSIVE NOTES

THE MYSTICISM OF THE MARIMBA.

A DETAILED ACOUSTICAL AND CULTURAL STUDY

JAMES L. MOORE

The marimba? Vida Chenoweth (*Marimbas of Guatemala*, 1964), who has finally become one of the first to clear away some of the doubts and misunderstandings about the marimba, aptly states:

As a youngster setting out to write my first term paper I choose the topic 'marimba' because it was the instrument I was learning to play, and I wanted to know about it. I discovered a disenchanted gap between 'marigold and marine'... What is more, no two references ever seemed to agree; and in one a 'marimba' might be a few rough slabs thrown over a pit and beat upon by savages, while in another it would be a fad of the jazz era.

What is a marimba? First a workable and acceptable definition is needed. If one will accept the general to specific definition given in the next few pages, we will hopefully arrive at a still clearer understanding of what is between 'marigold and marine.'

Differences between the Marimba and the Xylophone

The word xylophone upon examination is composed of two Greek words, xyl(o)s meaning wood and phono(e) meaning sound. The xylophone and the marimba both have wooden keyboards. The marimba is always resonated, the xylophone may or may not be resonated. Chenoweth (1961) clearly defines the use of resonators on the marimba:

Below each marimba key there is a hollow chamber that sustains and amplifies the tone once the key has been struck. Whether the hollow chamber is a tube, a gourd, a wooden box, etc., the function of the chamber is that of a resonator.

Any hollow object is capable of producing a tone, but to function as a resonator it must produce the same frequency as the key above it to truly function as a resonator. While a certain amount of resonance will occur in an incorrectly lengthed resonator without noticeable pitch change, maximum resonance is obtained when the resonator is coupled correctly with the frequency of the key (bar) above it.

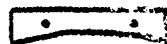
Marimbas manufactured in our country (and in Europe) use tubular resonators, formerly of steel or brass, today of aluminum. Primitive marimbas of Africa and some Central American countries use gourds as resonators. The Guatemalan marimba uses wooden box resonators. It is quite possible then to say that the marimba is a sub-classification of the general xylophone family.

Some ambiguity still remains due to the fact that xylophones, particularly in our own country, do often use resonators. We must examine and clarify further the characteristic usages and acoustical properties of marimbas as opposed to xylophones in order to arrive at a clear definition.

The least understood and most basic difference between marimbas and xylophones is in the proportions and tuning of the bars. The thickness of the bar in relation to its length determines to a great extent the relative strength of the various overtones of the pitch. A xylophone bar is thick in relation to its length, this an advantage as it must tolerate heavy

beating. The predominant overtone of a xylophone bar is the note at the interval of a 12th above the fundamental. (3rd partial, 2nd overtone)

Xylopho. Bar



(side view)

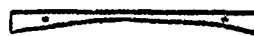
predominant overtone



fundamental

The marimba bar is relatively thin in relation to its length, particularly at the center (an anti-nodal point) where the best tone quality is obtained. The predominant overtone is two octaves above the fundamental. (4th partial, 3rd overtone)

Marimba Bar



(side view)

predominant overtone



fundamental

This important distinction is clarified further by Richardson (p. 90), who gives this illustration of the xylophone bar and its mode of vibration. The 3rd partial shown would be heard and would approximate the musical interval of a 12th above the fundamental.



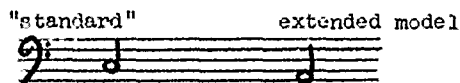
In tuning the bars of marimbas and xylophones, these predominant overtones must be tuned.

A simple experimental process that may be used to check the predominant overtone is to mute the center (anti-nodal point) of the bar lightly with a mallet head or finger and strike the bar firmly over the nodal point with a mallet. The predominant overtone will be heard clearly and will establish whether the bar is xylophone or marimba tuned. Unfortunately, some of the instruments manufactured in this country in the early part of this century were often misnamed or given confusing names such as "marimba-xylophones." And while many of the instruments of this "vintage" are valuable because of the excellent wood in the bars, they have tuning problems that will be dealt with further in the discussion of tuning.

Of much practical concern, particularly to the performer, composer, and arranger, are several important facets of the differences between marimbas and xylophones. As with nearly all musical instruments, we identify them by their characteristic sound. The characteristic sound of the marimba is produced by soft yarn covered or rubber tipped mallets. This sound has been described as: mellow, smooth, organ-like, blending, and rich. The characteristic xylophone sound is obtained with hard tipped plastic, wood, or rubber mallets. This sound has been described as: harsh, brittle, glass-like, descriptive of "skoletons" (*Dance Macabre*, first orchestral use), and soloistic, non-blending tone.

Any attempt at present to state the pitch ranges of so called "standard" marimbas and xylophones is a waste of time and effort. Within one culture such as ours there is no agreement (nor should there necessarily be) as to the range of the instruments, much less any common agreement as to range from one culture to another. Various size models are available in this country and contain ranges of from 2 1/2 to 4 1/2 (actually 4 1/3) octaves. The needs in a particular situation and the fact that tone production is not a difficulty (as is difficulties of tone production on extremely high and low wind instrument tones) means that overall range is adaptable to the situation. Our largest marimba is small compared to the "family size" models of Guatemala!

A marimba is, however, built lower in pitch than a xylophone (usually upwards of one octave or more low notes) and extends downward to:



Most orchestral xylophone parts occur in a range of the keyboard roughly from middle C (sounding pitch) up. Many of the notes when written at sounding pitch are high above the treble staff. This is not conducive to the best reading by orchestral percussionists (often considerably skilled on drums and less so on mallets). A workable and practical addition to our definition would be: marimbas are at least one octave lower in pitch than xylophones; marimbas are written at sounding pitch, xylophones (author's opinion) should sound one octave higher than written.

The foregoing discussion and the chart below should clearly define the marimba-xylophone relationship:

<u>MARIMBA</u>	<u>XYLOPHONE</u>
Bars must be resonated	Resonators are optional
Bars are thin in relation to length (predominant overtone is 2 octaves above fundamental)	Bars are thick in relation to length (predominant overtone interval of 12th above the fundamental)
Played with soft mallets	Played with hard mallets
Has a low range including some notes that are most conveniently notated in the bass clef.	Has a high range encompassing roughly the upper half of the piano keyboard
Notes sound as written	Notes sound one octave higher than written

Historical Background

The marimba, one of the oldest instruments known to man, originated in ages past as man first obeyed his impulses to strike objects of wood that produced musical tones. Not only wood, also stone and later metal keyed instruments were found in varying forms in the cultures of Asia, Africa, and Latin-America. All of these are in some sense forerunners of the modern marimbas.

The first crude beginnings of this instrument were nothing more than three to five slabs of wood placed on sticks set over a hole in the ground. This "pit" under the bars was the first resonating chamber. Later the marimba was fashioned of slabs of wood suspended over large resonating gourds, producing a haunting and mystic sound to the ears of the native tribes. They often felt that this instrument of "singing wood" had supernatural powers that influenced their very lives. To be chosen a marimba player in the tribal chief's band was a great honor to the tribesman and this became his principal vocation in the tribe for his lifetime.

Others differ on the area in which the marimba originated. Grove's incomplete description includes a brief statement to the effect that, "Africa was the original home of the marimba, but in a more primitive

form using gourds instead of wooden boxes for resonators." This is disputed by Lamb. "The marimba, so far as is known, originated in the highlands of Guatemala. The Marimba is the national instrument of this country and no fiesta or party is complete without its music."

The strange phenomenon of sympathetic resonance is of importance. This is the "strange" power which causes a roaring sound to be heard when one places a seashell to one's ear. (This theory is disputed today by some as being not sympathetic resonance from without, but rather the "coursing of the blood" through ones veins.) To many primitive peoples, however, this was the "voice of the gods" speaking to them.

Described by White (1960) pp. 42-43, The Priest Drums of the South Seas represents a high development of the slit-drum. Resonance and sympathetic resonance gave these fantastic instruments their good tonal qualities and their imagined supernatural powers. Long to be remembered are the black nights resounding with the ominous voices of the enchanted logs, drumming out the message that foretells the sacrifice of a new victim... but then on other nights the drums vibrate victory and joy... there are occasions when these same monsters are transformed by some magic spell into the complex character of the native wireless. They beat out a code that is caught up and repeated to the farthest corners of the Island. The voice of the priest drums was thought to be that of the supernatural. For that reason only the priests of the tribe were allowed to play them. To the savages who created the priest drums, to the drummers who played them, the drums were gods; for did not the drums speak to them when they put their ears to the longitudinal slit in the drums' hollow bodies?

To native peoples this "voice of the gods" was neither the vibration of amplified frequencies nor blood coursing through their heads. That communication with his gods by the use of resonant woods could be a two way affair in described by White as he tells of the use of the wooden Fish Drum of Tibet:

p. 52. In Tibet the priest may be seen with a large fish-drum suspended from his neck, or with one placed before him in a basket. During his prayers he continually hits the drum, for its sound is intended to call his god's attention to his prayers and to make certain that an answer will be given.

Sympathetic resonance is an important aspect of acoustical study today. In Waves and the Ear the authors discuss the principle and early use by Helmholtz.

pp. 57-58 the air in an acoustic resonator is easily set strongly in motion by a sound wave whose frequency is the same as, or nearly the same, one of its resonant frequencies. For instance, should we hold our ear very near the mouth of the open pipe of Fig. 3.8, we should hear strongly reinforced any sounds that are near its resonant frequency. This we observe when we hold a conch shell, a bottle, or any open vessel to our ear.

In the early days of acoustics this was the only way for sorting out sounds of different frequencies.... Helmholtz held to his ear, one after another, a series of globe-shaped resonators which responded to different frequencies, and noted which ones strongly reinforced the sound.

The importance of properly lengthed resonators is explained and illustrated by Culver (p. 77) in regard to the experiment using a tuning fork and glass tube filled partially with water until maximum resonance is obtained. On the marimba, the importance of the resonator can easily be demonstrated by simply laying a piece of paper or thin cardboard over the mouth of the resonator and noticing the considerable decrease in sound intensity.

Recent research by Chenoweth (1964) seems to provide considerable evidence that the resonated marimba is of African origin, with the word malimba or one of its many variations being a Bantu term referring to an idiophone with gourd resonators. The origin and first appearance of the marimba in the Western Hemisphere is subject to speculation, and anthropologist David Vela feels that this never will be definitely known."

The Central American peoples call marimbas "wood that sings," and rightly they should for in the rugged areas of Central America the marimba is king. Marimba orchestras are as numerous and popular in the south of Mexico and in neighboring Guatemala as are "combos" in this country. Native craftsmen take months to find and process the proper wood from the forests, and then slowly they fashion the slabs of wood into amazingly two-toned musical instruments. Since the marimba is today completely integrated into the Mayan culture and has been since the seventeenth century, the average Guatemalan does not question the origin of so basic a part of his culture.

Chenoweth describes its importance thusly:

(pp. 65-66) He has read in his schoolbooks that marimbas are of Mayan origin; he was honored on his birthday anniversaries with pinata parties and marimba music; he heard the marimba in the public parks on weekends; he danced to its music when he courted and married; and not only does the marimba help the Guatemalan to recall the special occasions of his life, but it symbolizes the country's independence.

Yet, despite the importance place of the marimba in Guatemalan life--a place more important than that which it held in Africa, its country of origin--the historical evidence does not substantiate any claim for its being indigenous there.

A rather "romantic" possibility has been advanced that the marimba was introduced in this hemisphere by an imported Congolese chief or notable, since the marimba there was reserved for the use of "aristocrats" and only ones of that stature would likely be familiar with its construction.

Although the marimba and many other instruments of the percussion family are among the oldest musical instruments known to man, they probably have been the most neglected and least utilized instruments in music of our Western culture. Classical music of the great masters (Mozart, Beethoven, ...) used a very limited number of percussion instruments (mostly tympani, bass drum, cymbals and triangle). Only in the present century have composers made use of the multitude of sounds available from the vast group of instruments coming under the heading of percussion. No longer are percussion instruments given only the role of beating time; many instruments are given important solo passages, and entire numbers have been written for soloists or full sections of percussion instruments.

In the United States, the marimbas and xylophones gained perhaps their greatest prominence in that great age of entertainment called, "vaudeville." One of the new stopping acts would be a chorus of a hit tune of the day such as Nole with a "soft-shoe" dance! As the construction of the marimba improved and the technical ability of players increased, solos using four mallets became popular. In the 1930's and 1940's Clair O. Messer organized marimba ensembles of large numbers and excellent quality in the Chicago area. Many of his arrangements and compositions are performed by marimbists today.

Until very recently, the marimba repertory consisted mainly of transcriptions of classical works, folk material, and popular songs. Today, at least two prominent composers, Paul Creston and Robert Kurka have written concertos for solo marimba and orchestra and the French composer Darius Milhaud has written a concerto for solo marimba and vibraphone with orchestra.

Farnsworth (1958) feels that, "music history is in large part the story of the handling of innovations, of

the gradual acceptance of what was once musically unacceptable." The vaudeville stigmas of the marimba are not left behind suddenly. Much of the struggle for recognition of the marimba as a classical instrument today stems from its beginnings as an ill-tuned prop for vaudeville entertainers. Farnsworth states that, "the teaching of taste is essentially a process of indoctrination, and the material to be learned differs somewhat from one culture to another and from period to period."

The marimba, certainly one of the most "musical" instruments of the percussion family can, with high quality construction and artistic performance, become an important means of musical expression in our culture. One might speculate that had the modern marimba been available to composers of the Baroque period that its delicate keyboard nuances might very possibly draw the attention of composers such as Bach and Handel. Some of their works have been transcribed very effectively for marimba ensemble.

The African Marimba

Both the symbolic and functional uses of marimbas are greater in the African and Guatemalan cultures than in ours. The instrument is integrated into the culture, it fulfills a need in the lives of the people in these countries. Perhaps it is the rhythmic aspect of this instrument that makes it so vital to these peoples. According to Farnsworth, "the most obvious gift rhythm brings to music is its invitation to motor activity." This is certainly evident even in the responses of young children to music of a rhythmic nature. This invitation to motor activity is probably stimulated more by percussion instruments than by any other family of instruments. The marimba, as a member of the percussion family, can be treated as a percussion instrument. The repetitious chant-like melodies of the Venda and Tshopi tribes of South Africa show this rhythmic aspect vividly. A hypothesis that states that, the less advanced or developed (primitive) a culture, the more important will be the functional and symbolic use of music, would seem to be quite valid.

The players of the marimba have, in the African culture, been given a position of honor in the tribe. Kirby has collected accounts from as early as 1586 that describe the players:

The chief makes use of musicians, who have no other office than to sit in the last room of the palace, at the outer door, and round his dwelling playing instruments. . . . the best and most musical of them is called ambira (marimba).

The importance of the marimba to the culture is noted in that Venda Players systematically teach their descendants to play. Usually men, although some girls are taught. The instrument is still used for entertaining the chief and his friends at most principal kraals. The waring aspects of the instrument are not exploited as in times past.

Kirby (pp. 55-56) In olden times the mbila was played before a war, and served as an accompaniment to the fierce songs which were formerly sung to hearten the warriors for battle. At Takalani's kraal I heard an old man play a battlesong. An expert performer, in spite of his age he played with an astonishing verve, using all manner of ornamental devices, rather like a cavalry kettle-drummer, yet preserving the powerful rhythm of the music. As he became worked up, the men joined in with their voices, but, realizing the incongruity of the situation, they unfortunately did not continue, and broke off amidst uproarious laughter. This battle-song consisted of two opposed rhythms of triple and duple measure.

The ritual of the manufacture of a Tshopi marimba consists of rubbing a mixture of the ashes of a lions larynx and a small songbird mixed with fat upon the instrument. This practice of "sympathetic magic" in reality serves a useful function according to Kirby, that of stopping up all air leaks and securing all

loose parts, thus preventing rattling. The Venda marimba consists of slabs of wood and resonators of calabash gourds. The gourds are carefully chosen and cut to produce the proper frequency of the bar. The ornamental carving at the ends of the bars is thought to be of no particular significance, and is purely decorative. Range of the instruments varies. Instruments examined by Kirby had the following ranges:



The African instruments do not contain complete chromatic scales and much of the tuning only approximates our half step and whole step arrangement. The natives of this area show relatively little ability for fine or constant tuning, particularly in the sounds of low pitch. The accuracy of the octaves, fourths, and fifths is reported to be more accurate than the other intervals. Fortunately in an ensemble performance the individual imperfections tend to disappear.

Tshopi marimba bands are found among the mine workers at the various compounds. Materials found on location are used in the construction of the instruments. Thus, "progress" in the form of, what appears to be, tin can resonators are found on instruments. At each mining compound one man is generally put in charge of repairing the marimbas, often numbering twenty or more.

It is thought that the pitch discrimination of the native is poor particular outside of his vocal range. Another factor possibly accounts for poor intonation of the instruments is the fact that the slabs of rather soft wood used in making the instruments tend to rise in pitch as the wood dries out. This can be, of course, remedied by shaving the underside of the arch and this quite possibly occupies some of the time of the compound repairman.

In performance the instruments and players are arranged in three rows. Occasionally a single-headed drum is beat in time to the ensemble. Competitions between mining compound bands often, in the past, brought about serious fighting. Today, interested natives and Europeans enjoy the music of these groups.

The Guatemalan Marimba

The marimba is found to a greater extent in Guatemala than in any other Central or South American country. It is truly at home here in a country where each marimba is manufactured entirely by hand, by special order, and the finished product is judged not only by its tone, but also by its carving and inlay work. Tradition dictates that no metal parts be used in the Guatemalan marimba, this partly to point up hand craftsmanship and partly because of their belief that metal will detract from the "mellowness" of the sound.

The word marimba as used by the Guatemalans can mean the singular or the collective group of instruments and/or players. Seven players, usually men are distributed behind two large chromatic instruments that approximate the range of a piano keyboard. Even when an occasional percussion, string bass, or wind instrument is added to the ensemble, the name marimba is still used to designate the entire ensemble.

The description of the importance of the marimba in Guatemala in Chenoweth's study brings out the feeling of the native there for his most famous musical instrument:

Wherever the marimba is found, the playing of it and the construction of it are highly specialized occupations that require an unstinting dedication, and the Guatemalan is exemplar. He is a distinctive artisan not only because of the instrument he produces but because all aspects of their construction fall to him. Such a gross task is necessarily motivated by genuine devotion to both the instrument and the fabrication of it. After an instrument is finished, some colorful name is given to it, such as "Wood of My Land," "Captive

Soul," or "Highland Star," in further illustration of the devotion and poetic attitude toward that implement of music for which Guatemala is famous--the marimba.

The all important keys for the instrument are fashioned from hormigo or granadillo rojo woods. This differs from the North American preference for Honduras rosewood. Much folklore surrounds the choice of wood. Marimba makers believe that only wood from a "female" tree is suitable. Some craftsmen do admit that really the main consideration is to use older, darker wood, free of knotholes.

An initial pitch from a tuning fork is used to tune the first note (usually an F). The rest of the keys are tempered relative to it. It is not standard procedure to tune octaves and a tuner is likely to stray from the original pitch by the time he reaches the extremities of the keyboard. It is altogether possible that the Guatemalan tuner is doing by instinct what we now do with some degree of understanding in this country.

This deviation from true octaves involves a systematic amount of sharpening of upper notes and flattening of lower notes is done in marimba tuning in this country today (as is done in piano tuning). Tuners here often use a stroboconn setting with progressively sharper upper notes and flatter lower notes. An excellent discussion of octave stretching is found in How to Use the Stroboconn in Piano Tuning available from the Conn Instrument Company, Elkhart, Indiana.

Your writer prior to being exposed to octave stretching principles tuned his marimba keyboard "perfectly" with a constant stroboconn setting. Very unsatisfactory results were heard in the extremes of the keyboard--"it sounded out of tune."

Although fluctuating a few notes with various makers the ranges of the large and small Guatemalan marimbas are:



The resonators of the Guatemalan marimba are of an "ungainly beauty." Chenoweth describes them as:

a somewhat ungainly appearance, for near the base end of the instrument the resonators become so crowded that they can no longer hang straight down and the last one sticks out approximately 20 degrees from the vertical. The resonators are constructed by gluing strips of wood--native cedar or cypress or occasionally mahogany--at right angles to form an elongated box open at the top.

The buzzing of the charleo, or membrane is an important part of the tone of the Guatemalan marimba (also of many African marimbas).

This sound is produced by a delicate membrane, taken from the intestine of a pig, that covers a small aperture located near the bottom of each resonator. The membrane is attached to the resonator with a circle of beeswax, black in color and very pliable; it is the same wax used by the Indians at times to form mallet heads. Here again superstition of the marimba, for one must use the intestine of a "female" pig because it will be more delicate and sensitive; a belief for which there appears to be no real basis. To the Guatemalan the charleo, or sympathetic vibration, is an extension of the marimba's tone and is viewed as an integral part of its tonal quality.

Marimbas (ensembles) are traditionally all male in Guatemala. A few girl's ensembles exist, but no ensembles include both men and women. Marimba playing is a family tradition with the older members of the family teaching the younger ones. Most music is learned by ear, and the players have little or no formal training in music. Transcriptions of classical music are done,

as described first hand, do not measure up to their folk music:

(Chenoweth, p. 21) Classical music means to many marimberos little more than 'foreign music not for dancing,' and their classical repertoire may include Italian opera overtures, Viennese waltzes, and American marches. The Guatemalan marimbaro is at his best playing the music of his own country. Usually lilting and frequently exciting, the popular music is suited to dancing and is infectious in both rhythmic and melodic appeal.

Older more primitive prototypes of the African gourd marimbas are found in the hill countries of Guatemala. They are diatonic rather than chromatic and are generally more portable. While found in the less accessible areas of the country, these instruments are never the less used for many social engagements.

Julian Buch's group of San Jorge is described by Vida Chenoweth:

On one occasion after a day's work in the fields, Julian and his group, without taking time to eat, walked about five miles in a downpour of rain to play at Penajachel, a neighboring village. One of the men carried the marimba on his back--the customary way the Indians transport their instruments--protecting it from the rain with a long strip of cloth.

The Indian folk music of areas such as San Jorge is said by some to consist of "monotonous repetition." It is very easy to put this label on much of the unfamiliar that we hear. I feel that Chenoweth's discussion of this aspect of musical judgment is of sufficient worth to quote it in its entirety.

(pp. 50-51) Actually there is very little melodic repetition; a melodic line is sometimes repeated within a cycle of thirty or more variations, but it is hardly likely to be detected upon a first hearing. Some say it is the rhythm which is repetitive; the rhythm is metric, like the European tradition, with the added advantage of accent changes within the 6/8 meter which allow either duple or triple rhythm to be effected without a meter change. It is probably the harmonic limitations of the Indian music that impress the foreign listener as repetitive or monotonous, though he may not be consciously aware of them. In music within the European tradition there is extensive harmonic treatment, whereas in the Indian tradition the harmonic vocabulary is confined to only three basic chords. And, too, the Indian music maintains one dynamic level and therefore does not offer the contrasts afforded by nuance.

In the field of ethnic music one is better rewarded if he approaches the unfamiliar without any predispositions in musical standards. Appreciation of the Indian music comes from a concentration upon its unique characteristics, not upon its limitations according to the standards of another culture, for characteristics that are defects in one style may expose ingenuity in another. For instance, the elasticity of tempo admired in Balinese music would not be permitted in the Indian style of San Jorge, nor would the rigid tempo of the Indians be welcome to the Balinese. One of the most intriguing facets of ethnic music is meeting the unexpected.

The American Marimba

Much of the development of artistic marimba playing in this country is the result of Clair O. Mussers' influence. Musser, who is also an acoustical scientist and founder of a Chicago firm that manufactures marimbas, was very active in the Chicago area during the 1930's and early 1940's as performer and teacher of the marimba. He organized marimba orchestras that numbered 100 or more players for performances at Soldier's Field in Chicago, he took a marimba orchestra of students to England to play for the coronation of King George, and

he composed and arranged a wealth of music for mallet percussion instruments. He was influential in improving the design and construction of the marimba, and while not active today in music, he has contributed much of his life to further the artistic use of these instruments.

According to James D. Salmon (now Professor of Percussion at the University of Michigan) who was a student of Mussers':

He always insisted that we refer to our ensemble as Marimba Orchestra, and not Marimba Band. He knew too well the sound of the average marimba band south of the border, and he would have none of this at all.

He wrote 5-way voicing in all of our arrangements. Melody, counter-melody, harmony part sustained, harmony part rhythmical, and bass part. When he invented (?) the counter-bass marimba we had 6 way voicing. We used vites and electrically operated chimes. His idea was to include timpani and other percussion at a later time, but he never lasted that long. Money ran out, and there were no new sponsors available. . . he was 25 years ahead of his time in the music field.

Dutton states,

The original Musser contra-bass marimba is a unique instrument, with a physical register of 1 1/2 octaves and a musical register of 2 1/2 octaves through compound octave tuning and resonance. This is used as a real bass instrument and is equivalent in volume to several string basses.

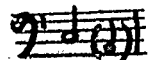
A bass marimba was recently built especially for the U.S. Navy Percussion Ensemble in Washington, D.C. The instrument is over five feet tall, and a special platform was built to accommodate the player. The resonators are four inches in diameter; the lowest bar measures three and one-half inches in width, one inch thick, and twenty-four inches long. The range is an octave and one-half lower than any production marimba on the market today.¹

Most Marimba ensemble activities in this country have usually been of either strictly educational or a vaudeville nature. The objectives of the Eastman School of Music Marimba Masters, as expressed by their director Gordon Peters (now principal percussionist, Chicago Symphony Orchestra), were:

1. To provide the percussionist with an ensemble experience analogous to that of other instrumentalists
2. To provide an incentive and outlet for the percussionist to play more than just "the drums"
3. To provide the percussionist with an opportunity for a higher musical development
4. To bring music to people via a new medium
5. To serve as a laboratory: for getting acquainted with chamber music such as string quartets, trios; for discovering and discussing new techniques; and for improving one's sight-reading ability.

Marimba ensembles today also augment the basic sonority of the marimbas with the other keyboards (xylophone, vites, orchestra bells, and chimes) and percussions. The possibilities for arrangements and compositions in the medium are extensive.

¹Contra-bass marimbas are rarely found today and the cost of custom-made instruments such as described above are nearly prohibitive. The standard marimba range extends downward only to:



Since the additional octave of the contra-bass is missing in most ensembles, a string bass is often added to supply the lower notes.

In the "educational" music area mallet instruments are now being used more frequently in bands and orchestras. Arrangers are writing more for the entire family of mallet percussion instruments. Melody bells and xylophones are used in elementary schools to develop basic music skills. Some teachers are starting their young percussion students on mallet percussions and then later teaching them the snare drum.

Acoustical Problems

Marimbas built in this country in the early part of this century contain excellent quality rosewood bars. It is generally agreed by performers that this wood is of superior quality to that used in most new instruments. And due to the popularity of marimbas in those years, a number of fine keyboards are stored unused in many an attic. These are valuable instruments to the present-day percussionist. Yet the common reaction upon playing many of these instruments in that they are badly out of tune, particularly in the low register.

Yet, they are "in tune," for the fundamental pitch will register correctly on a stroboscanner. What is often the case is that these instruments were built prior to the advent of octave tuning. This "out of tuneness" is caused by the incorrect tuning (or rather lack of tuning) of the predominant overtone. A bar that sounds out of tune will register a correct fundamental on the stroboscanner, but will show a double octave above the fundamental that is often a whole step or more sharp.

We know from statements found in all acoustical textbooks that the overtones (partials) of transversely vibrating bars are inharmonics of the fundamental. The position of the supports in relation to the nodes, the use of a resonator coupled with the frequency of the fundamental, the striking spot, and the use of a soft tipped mallet all tend to discourage these inharmonic overtones of the marimba bar.

Fifty years ago, in still a crude form, the marimba with these "dissonant" overtones was considered good enough, for really it was still a novelty instrument or one relegated to the performance of only folk music. As progress is made in all fields of endeavor, accepted beliefs and tools of a past age are no longer acceptable to today's craftsman or artist. This is true of musical instruments, particularly percussion instruments. Percussionists today strive to perform musically on high quality, well constructed, "well tuned" instruments. The need for more accurately tuned marimbas brought about the practice of "octave tuning".

To understand what exists in regard to overtones of free, transversely vibrating bars, the chart given by Olson (p. 77) is one of the most definitive on this subject. It should be born in mind that these ratios are for a free bar of uniform cross section, which is not the case for marimba bars, particularly those in the lower register of the instrument. The arch of the marimba bar will have considerable effect on these ratios.

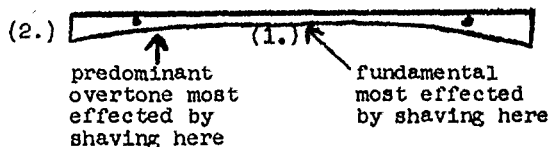
Table 4.2 The Position of the Nodes and the Frequencies of a Bar Free at Both Ends

No. of Tone (mode)	No. of Nodes	Distance of nodes from one end in terms of the length of the bar	Frequencies as a ratio of the fundamental
1	2	0.2242, 0.7758	f_1
2	3	0.1321, 0.50, 0.8679	$2.756f_1$
3	4	0.0944, 0.3558, 0.6442, 0.9056	$5.404f_1$
4	5	0.0734, 0.277, 0.5, 0.723, 0.9266	$8.933f_1$

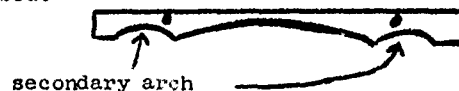
The aural sensation of the sharp double octave tendency is born out by the ratio given for the 4th partial (8.933), which corresponds to about a step above an octave musically.

It is possible to change the pitch of this predominant overtone by cutting a secondary arch. The fact that first of all the marimba intonation may be adjusted and secondly that the overtone structure may be tuned is a fact not understood by a number of musicians. It is important to understand the general principles of bar tuning:

1. Shaving (sanding) the underside of the bar lowers the pitch (a critical adjustment area)
2. Cutting (sanding) the end of the bar raises the pitch (less critical adjustment areas, requires more cutting to effect a change in pitch)



To remedy as much as possible the out of tune predominant partial of the older bars, the secondary arch principle is used:



While not totally satisfactory, this technique brings the overtone of the bar much nearer "in tune."

For particularly accurate tuning, some tuners now use a "three dimensional tuning" consisting of the fundamental, the double octave, and a third. This concern for accurate tuning of the overtones indicates that progress is being made and that the generally accepted beliefs about some percussion instruments stated by Helmholtz, Bartholomew and others are not entirely valid today:

Nearest to musical tones without any upper partials are those with secondary tones which are inharmonic to the prime, and such tones therefore, in strictness, should not be reckoned as musical tones at all (Helmholtz).

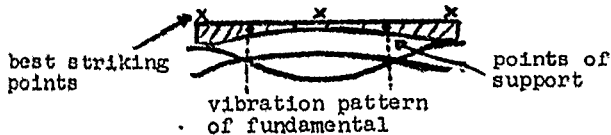
It is easy to understand why percussion instruments have only a limited use musically, when we remember that frequently not a single strong overtone may be consonant with the fundamental, while in other instruments the fundamental and the first five overtones lie in a major chord, while many higher overtones duplicate the tones of this chord (Bartholomew).

Helmholtz does present some explanation of the more "musically pleasant" tone that we associate with the wooden keyboards as contrasted with metallic keyboards:

In wood the mass is small, the internal structure comparatively rough, being full of countless interstices, and the elasticity also comparatively imperfect, so that the proper tones (overtones), especially the high ones, rapidly die away. And for this reason the strawfiddle (xylophone) is perhaps more satisfactory to a musical ear, than harmonicons formed of steel or glass rods or plates, with their piercing inharmonic upper partial tones.

That this double octave overtone so strongly effects what we hear as being "in tune" indicates that much care must be taken in this tuning process. The marimbist must also be aware of the control he exercises over tone quality in the manner and place that he strikes the bar, and in the implement that he uses for this purpose. If the points of support of the bar have been properly selected at the nodal points and the point of striking is at the loop, the best tone should be obtained.

The suspended bar does not vibrate as a complete unit like a stretched string, rather it vibrates with two nodal points at approximately 1/6 of the distance from each end of the bar. These points should be the points of support or drilling for the cord, so that they least interfere with free vibration of the bar.



The best striking points illustrated above are in the center or at either end, so as to elicit the fundamental tone to the maximum extent.

Needed Improvements

A great deal can be done to improve the quality of the mallet instruments. In particular there should be experimentation with the suspension of the vibrating elements, and with the use of new marmade materials to replace rosewood for the bars of marimbas and xylophones. A controlled analysis of the tonal characteristics of various woods and synthetic mixtures might lead to an entirely new material for the all-important vibrating elements (bars). It is very possible that this might in time prove to be a man-made material.

Studies should be undertaken to attempt to better define the impact quality as opposed to the resultant tone, the overtone structure, and the rate of decay of the overtones. This is particularly a problem on all percussion instruments in that the striking tone, which of necessity contains disturbing impact quality, is not the same as the resultant tone (after ring). It was Helmholtz's belief that all partials of a complex tone commenced with the same comparative strength, swelled uniformly, and died away in a like manner. Whether this actually occurs in percussion is quite questionable, and a better analysis of this phenomenon would be of considerable value.

This percussion-like impact quality is mentioned in Waves and the Ear in describing the piano tone:

(p. 63) A bass note of the piano alters somewhat in quality after it is struck, being initially more clangorous and becoming more mellow as it dies away.

Culver (p. 107) discusses this aspect of the change in timbre of a musical sound after the vibrating element has been excited:

The timbre of a musical sound may undergo a decided change within a small fraction of a second after the vibrating element of the instrument has been excited. This is particularly true in those cases where the sound is initiated by a percussive stroke, as in the case of the piano, kettledrum, and the xylophone. ...Immediately after the stroke, the upper partials in general are found to be relatively strong. ... these partials tend to decrease rapidly in amplitude, the most pronounced change occurring in less than 1/10 of a second after the initiation of the sound... As a result of the fading out of these high-frequency partials, the character of the sound undergoes an appreciable change.

Changes and modifications in the design of the marimba should be considered both in terms of musical quality and design. The marimba is an expensive instrument, particularly for the percussionist who also wishes to own drums, timpani, and other percussion instruments. Costs of full size marimbas (4 octave) in this country today range from \$600. to \$1200. It is important that the instrument be constructed of the highest quality materials, and that exact, accurate tuning procedures are used.

If done, this mystical, musical percussion instrument will assume a place as an instrument of beauty and distinction in musical performance.

Summary

Much work remains to be done in the area of acoustics of percussion instruments. Most textbooks examined either treat the subject very scantily or solve the problem by avoiding the subject completely. It is hoped by the author that the material presented here will be of some value in clarifying the acoustics of the marimba and in awakening further interest in the study, from an acoustical standpoint, of the percussion instruments. Your comments and questions are welcome. Write to: James L. Moore, c/o PERCUSSIVE NOTES, 5085 Henderson Hts., Columbus, Ohio 43221.

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PLEASE !

I'D RATHER DO IT MYSELF!!! (or How to Be a Percussionist)

So you say an orchestral percussionist's life is simple, even dull. Oh, yeah!

If you mean by dull trying to maintain your sanity while playing the same two measure rhythm over and over continuously without ceasing for some fifteen minutes in a performance of Ravel's Bolero. And the anguish of not owning your own kettledrum factory for use in performing most of Mahler's symphonies that require two kettledrummers, each with a complete set; for the Berlioz Fantastic Symphony with its four man kettledrum chords, and lastly for the all hands call sent out to all neighboring villages, hamlets, and dales for eight able-bodied kettledrummers for a performance of the same composers gigantic Requiem.

While these are "reasonable" demands, an uninformed percussionist might rush down to take out a membership in the local machinist's union when confronted with a marching machine part in the works of Morton Gould, a wind machine in Daphnis and Chloe by Ravel, or the thunder machine called for in Richard Strauss' score to his Alpine Symphony.

And the percussionist is, of course, expected to be a nature lover and bird call expert too, for how else would he know the whereabouts of strings of butterfly cocoons and deer hooves for a performance of a symphony by Carlos Chavez? Not to mention the proper bird whistle for Madame Butterfly by Puccini, or the correct warble of a trained nightingale for Respighi's Pines of Rome, that is unless he wants to take the easy way out and trust that he sets the needle down on the correct recording groove and doesn't hit the locomotive or steamboat groove by mistake!

However the literary minded percussionist apprehensively approaches a month long tour of Brahms' 4th Symphony hoping that the 40 minutes out of the 45 minutes that he spends on stage "counting rest" behind the bass drum, will not completely exhaust his pocket-novel supply.

Or take the case of the trembling percussionist who heads for the local sporting goods store to procure his hunting licence, for the ever helpful stage manager has suggested that "a darn good way" to get that cannon sound in Tchaikowsky's Overture 1812 is to fire some 12 gauge blanks into a big steel barrel off-stage! Or the radio operators permit possibly needed to operate the two-way walkie-talkie-- this to give the cue to the carillonist in the campus bell tower for that "Krem-linistic, climactic" moment in the same work. But possibly it is worth it all for the swing minded symphonic percussionist is allowed to bring in the whole drum set and swing out "ala 1920" in Darius Milhaud's jazz oriented Creation of the World.

Well, I guess you are right it's pretty dull back there in the percussion section, I'd rather play second trombone any day!

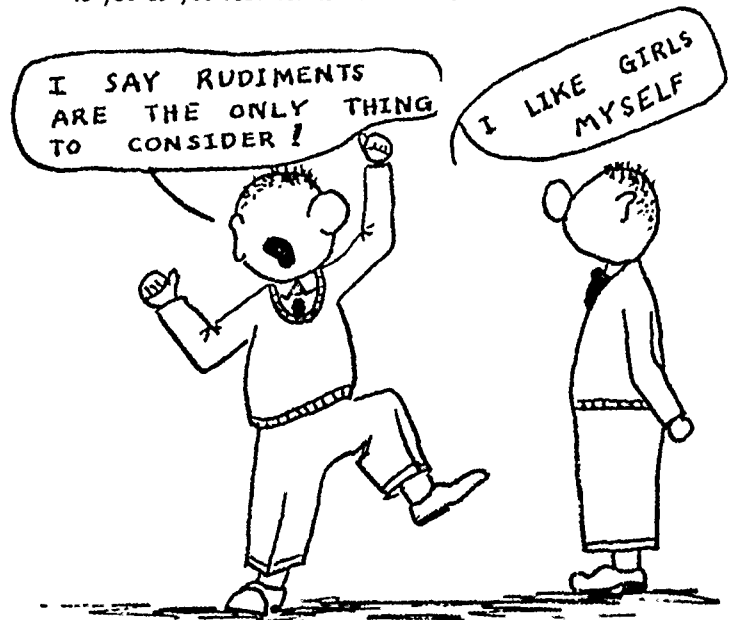
THE RUDIMENTS — PRO AND CON

There are 26 official exercises called the RUDIMENTS of drumming. There are hundreds of non-official exercises, such as the triplet (without flams), that might also be called rudiments. Many students and band directors are quite confused about the rudiments. Some individuals consider them all important. Others say they are a complete waste of time. In fact, in previous years, this argument has become sort of a national pastime among drummers.

It is the opinion of this writer that the 26 official rudiments are best used as hand exercises. For balancing the hands, gaining speed and control, they are marvelous. Drum and bugle corps use the rudiments almost exclusively and these drummers usually have a wonderful technique. The speed and clarity with which they can execute the fancy drum cadences is certainly a delight to the ears.

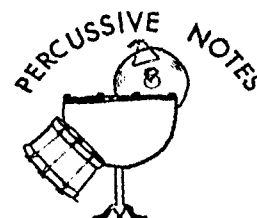
However, from the point of view of the symphony orchestra, the dance and jazz band, or the concert (school) band, we use only a few of the rudiments, and often "modified" version at that. We use the long roll, single stroke roll, flam and ruff. The rest of the rudiments are best used to get our hands in shape. However, a jazz soloist on the trap set may work the rudiments into some truly startling solo passages. Too, during the marching season we often use other rudiments when on the march as the alternating accents fall with the feet and give a certain "swing" to the marchers (see chapter on marching).

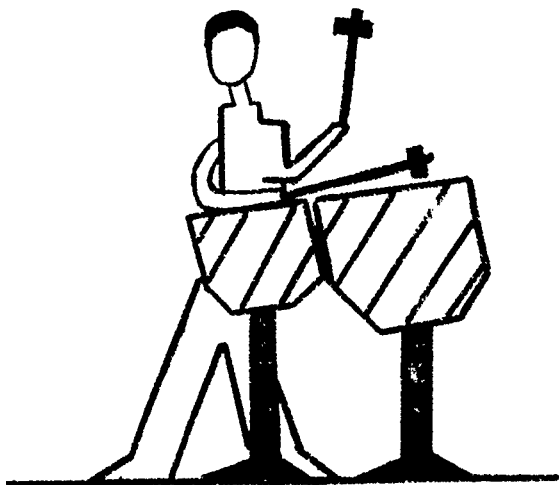
As was mentioned earlier, do not fit the music to the rule (do not fit the music to fit a certain rudiment). Bend the rule (change the rudiment) to fit the music. This will become clear to you as you read further in this book.



from- HANDBOOK FOR THE SCHOOL DRUMMER, Jerry Kent

WHEN ORDERING PRODUCTS AND MUSIC--- MENTION





TIMP • TALKS

THOMAS AKINS

PROPER INTONATION!

The problem of good intonation and how to achieve it is one that has faced every prospective timpanist. The question "How do you tune?" is the most asked by players I meet in clinics and on tour. After talking with them, I have found that they lack a method or system of learning how to tune, and that they have become engulfed by the problem. The first step in reaching a logical solution is to think out the whole process.

Pitch Source

One must first obtain a source of pitch and learn to match pitches. If your source is the piano, strike the note once, hold it for one second, release the note, and then sing it yourself. When you sing the note, sing it using the syllable "Yah" and open the mouth as wide as possible. Don't be timid! The most important part of learning to tune is the ability to sing a given pitch. Do not attempt to sing while the piano is sounding. If your source of pitch is the pitch pipe, place the pipe against the lips with the silver side up and blow lightly into the desired opening. Your grip should be on the center of the pipe so that it may be easily rotated for several notes. If you place the thumb on the black side and the middle finger on the silver side, you will have good visibility of the selection of notes at all times and therefore will not be as likely to make a mistake. Blow your note on the pipe, hold it for one second, and then sing it on "Yah". Whatever source of pitch is used, an important rule is to only sound the given pitch once. Pick up that pitch and don't peck around needlessly. When singing the pitch, eliminate the nasal sounds that can creep into your voice. Open your mouth wide!

Tuning the Timpani

If you have developed your ability to match pitches accurately, you are now ready to attempt to tune. First make certain that the heads are

equally tensioned at each rod and that the pedal is at the lowest position. Use the following steps: 1) blow the note, 2) sing it, 3) tap the drum once in the proper beating spot using one stick, 4) move the pedal up until the pitch in the drum sounds like the pitch you sang. Do not do not tap more than once, do not sing while moving the pedal, and do not move the pedal down to find a note. If you move the pedal farther than you should, don't attempt to back up to the note. Bring the pedal all the way back and start over again. By doing this, you will save time because the head may stick to the rim in slight downward adjustments, and your pitch will be inaccurate. Use the stick, not the finger, to strike the drum. Tap only once, don't peck around.

Since there is sometimes a change in pitch when the drum is struck loudly, tuning should be done as loudly as the situation allows. If you are practicing alone, a forte level should be maintained. Naturally when you are in a group, loud tuning can not be permitted and you must tune as quietly as is necessary. When more than one drum must be tuned, use the same method as above, and begin with the lowest note. Then move to the next highest and repeat the procedure as often as is necessary.

When you sing directly into the drum and the pedal is moved into the area of the correct note, there often occurs a resonance which gives the impression of being the exact pitch. This is only an indication of being close, and the student should not accept it as final. However, the resonance is useful in finding an approximate area quickly.

Intervals

The method to this point has been based on obtaining each pitch from the original source. This will serve the beginning player, but is far too slow for the intermediate and advanced play-

(next page)

(TIMP TALKS)

ers. In order to learn to tune rapidly, it will be necessary to learn to sing intervals. The piano is the best source for hearing these intervals. The student should realize that, on the piano keyboard, the distance from one note to its nearest neighbor is one-half step. The combination of these half-steps give us our various intervals. For example: find middle c. Its nearest neighbor to the high (right) side is c# (black key). That is one-half step. Its nearest neighbor to the low (left) side is b (white key). The timpani student should certainly know the names of all the notes and how to say them chromatically. Then, by using the following chart, he should be able to determine the names of all the intervals:

Minor 2nd- $\frac{1}{2}$ step	Perfect 5th- $3\frac{1}{2}$ steps
Major 2nd- 1 step	Minor 6th- 4 steps
Minor 3rd- $1\frac{1}{2}$ steps	Major 6th- $4\frac{1}{2}$ steps
Major 3rd- 2 steps	Minor 7th- 5 steps
Perfect 4th- $2\frac{1}{2}$ steps	Major 7th- $5\frac{1}{2}$ steps
Augmented 4th- 3 steps	Octave- 6 steps

Now the student should be able to determine this problem. What is the interval c up to g? First, count the number of half-steps (c-c#, c#-d, d-d#, d#-e, e-f, f-f#, f#-g). Since two half-steps equal a whole step, we have $3\frac{1}{2}$ steps in all. How refer to the chart. $3\frac{1}{2}$ steps is a perfect 5th. Memorize the chart!

Singing Intervals

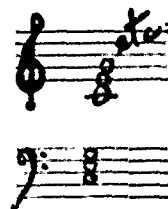
Next, the student must learn to sing the intervals correctly. Using the same method described earlier, match each pitch accurately. Then play only the first pitch, but try to sing them both. Once again, sing the low one first. The student must familiarize himself with the sound of each interval so that he can sing any interval from one given pitch. Many methods of tonal memorization have been developed, but the "crutch" that aided me most was the linking of well-known songs to various intervals.

Song Intervals*

Minor 2nd- <u>White Christmas</u> (1st 2 notes)
Major 2nd- <u>Are You Sleeping</u> (" " ")
Minor 3rd- <u>Brahms Lullaby</u> (1st 3 notes)
Major 3rd- <u>Marines Hymn</u> (1st 2 notes)
Perfect 4th- <u>Here Comes the Bride</u>
Augmented 4th- <u>Maria</u> , from West Side Story
Perfect 5th- <u>Blue Skies</u>
Minor 6th- <u>Hearts and Flowers</u>
Major 6th- <u>N. B. C. Chimes</u>
Minor 7th- sing octave and down 1 step
Major 7th- sing octave and down $\frac{1}{2}$ step
Octave- <u>Somewhere Over the Rainbow</u>

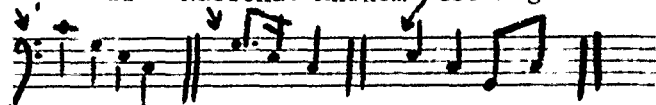
* Memorization of this chart will greatly aid the student.

Another important aid to singing will be the ability to sing a complete triad on any note. For example, the triad for C is:



This triad contains the root C, the major 3rd to E, the perfect 5th to G, and the octave to C. Also it contains the minor 6th (E-c), the minor 3rd (E-G), the perfect 4th (G-c), and the major 6th (G-e). Learn to sing the triad in the following ways:

Tower Bells National Anthem Goodnight Ladies



as well as the two note intervals listed above. These exercises should be repeated on every note.

Tuning Fork

After the student has gained skill in the use of intervals, he should purchase an accurate A-440 tuning fork and memorize the pitch A. The method of using the fork should be: 1) strike against rubber heel or knee, 2) place open end outside ear or closed end in cavity just above jaw hinge, 3) listen carefully to the A, 4) sing it, 5) sing desired interval, 6) tap drum, and 7) tune. This is the most accurate and rapid method for the tuning of four or more drums. It is still wise to start with the lowest note and work up as long as the situation allows. Eventually the student will have the A memorized and will no longer need any device.

Ensemble Tuning

The idea that must be kept uppermost in mind is that the player should be in tune with the group. Therefore, the conscientious player will check his intonation to make certain that his pitches coincide with those of the group. Unfortunately, some groups play at pitches other than A-440 and the skillful timpanist must adjust accordingly. If the situation is unbearable, speak to the conductor privately. Don't make an issue of it in rehearsal.

The student should be careful when approaching a new piece. A detailed study should be made of all notes and all tuning changes should be clearly marked and observed. Remember that in some symphonies of Mozart and other composers a

Russell A. Pizer

Editor's Note- Developing an understanding of, and an enjoyment for, the music of percussion instruments is important in the overall music education program. This article, the first of a series on this topic, will be of value and interest to many teaching at the elementary school or studio level.

Good public relations are something we all try to cultivate. Some years ago I hit upon a type of program that is simple, yet created excellent response, and a great deal of good will for the school's music department.

It consists merely of teaching children to make Latin-American percussion instruments out of various bits of material they have around the house. Then a program is presented at which time the children play the instruments they have made. The band director provides a group of musicians to supply the musical background. It is perhaps most effective to use a stage band for the actual performance, but any small combination of instruments will do.

The program can be done with any type of organized group. I have done it with Sunday School classes, the 4th grade general music class, the pre-band (tonette) classes, Cub Scouts, and recently with the Brownie Scouts.

Procedure

Accumulate the materials listed below and after contacting an individual in charge of one of these groups (this last time it was my wife!) show the leaders how to construct the instruments, and leave a mimeographed sheet of instructions describing each instrument and the materials used for their construction.

At the time of the program all the children are told to bring their instruments. First the band plays through a number like La Cucaracha, Estrellita, Blue Mist, Girl in Satin, or Chap-necas with the band's percussionists out in front showing how the real instruments look and sound. Next ask all the children who have made claves to stand. The band's clave player then demonstrates the claves, showing how to hold them and how to strike them. The director can then walk among the children helping them. Now the band should play a dozen bars of the piece with the children playing along. The children can be given a particular rhythmic figure to play, but merely playing on the beat may be all that can be expected. The usual clave beat should be shown, but not expected. Next the maracas can be added using the same procedure of demonstrating and playing a few bars with the band. Proceed in like manner until all the instruments enter. It may also be done by start-

ing with one instrument and adding another every few bars. For the final number the composition Si Trocadero is good to use because it has a grunt in it and allows everyone to "get into the act".

A few other things that can add to the interest of the program is to have the band wear Mexican hats. For the final number a few of the children may be selected to come up in front and stand with the band to play their instruments. If the program is being done with a Cub Scout troupe, select the ones that have uniforms on. Some of them could be given real instruments at this time like a conga drum, the timbales, or whatever else the band has, including the bass drum, to play. A real small girl playing the bass drum with a big Mexican hat on makes for an interesting end to the program! One child may even be selected to be the band conductor for the last number. This can be dressed up again by selecting a very small child (maybe a little girl with a real frilly dress on), giving her a big baton and the largest Mexican hat available.

Instruments and Materials

MARACAS- two shakers, two small containers with a small amount of dried peas, beans, rice, small washers, small nails, screws, carpet tacks, thumb tacks, etc. inside. Small plastic soap containers work very well. Maracas may be made by covering two light bulbs with papier-mache. When the papier-mache is dry, crack the bulbs and the glass makes the rattlers inside.

CHOCALLO- metal cylindrical shaker, use two small cans like frozen fruit juice. Place a small amount of dried peas, beans, etc. inside and attach the open ends together at the center with adhesive tape. If three cans are used, the middle can should have both the top and bottom removed. They may also be soldered together.

CLAVES- two wooded sticks, cut two 8" sticks from a broom handle and sand off the rough ends.

CABAZA- large shaker with beads on the outside, use two balloons, one larger than the other. Cover with papier-mache. The large balloon should be covered only about 3/4 of the way down. When dry, break the larger balloon, glue the smaller one into the opening. Cover with several layers of papier-mache and fit a handle to the bottom. The handle can be just a roll of paper covered with papier-mache or a wooden stick forced into the smaller balloon and glued securely.

GUIRO- (pronounced wee-ro) scratcher, a plastic bottle with ridges. A thin stick like a paint brush handle from a paint set is used for the scratcher.

CENCERRO- a cowbell without the clacker. A small stick is used for the beater.

(TIMP TALKS)

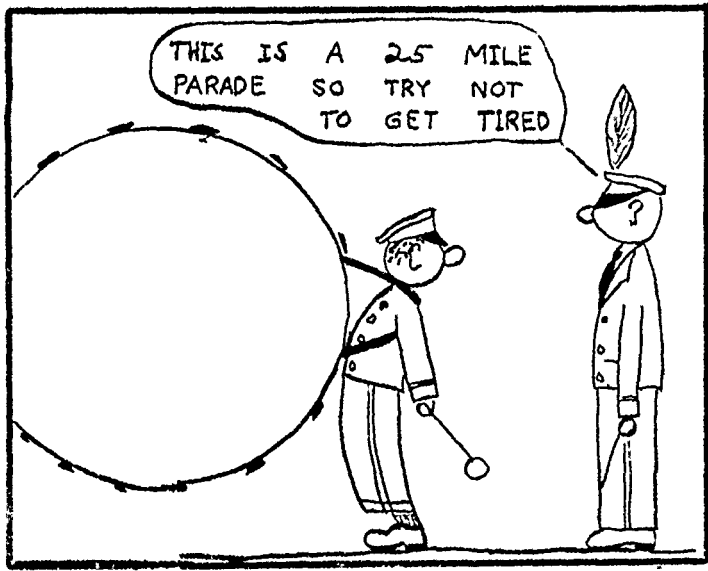
that period, the proper tuning was listed at the top of the page, even though the written notes indicated something else. When setting tunings for a piece, attempt, if possible, to play the notes for each drum in the middle of the range.

Intonation is a difficult phase of timpani playing, but the student can readily see its importance. After a method of learning to tune has been established, persistent practice will yield results. The student should take every advantage to participate in other musical activities that will develop his ear. Some of the commonly available ones are piano study, mallet study, chorus, church choirs, and classes in theory and ear-training. The conscientious student will endeavor to improve all phases of his playing.

The Author

Thomas Akins is timpanist with the Indianapolis Symphony Orchestra. He is a graduate of the College-Conservatory of Music of Cincinnati, where he studied with Edward B. Wuebold. He has also studied with Fred Begun of the National Symphony Orchestra. In addition to his activities as an orchestral player, he has appeared as soloist in recitals and concerts. His published articles have appeared in various magazines, including the most recent issue of the Ludwig Drummer.

We welcome Mr. Akins as a regular contributing editor to P. N. His articles will appear regularly in "Timp Talks". Written questions are welcome, and will be discussed in coming issues. Write to: Thomas Akins, 3709 North Pennsylvania Street, Indianapolis, Indiana - 46205.

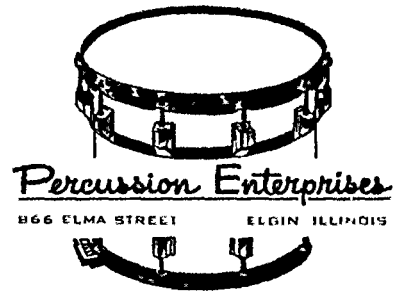


J. Kent

BONGO DRUMS- two small drums attached together, two plastic containers of different sizes; two plastic containers of the same size, one cut shorter than the other; two oatmeal containers, one cut shorter than the other; two cardboard milk containers, one cut shorter than the other, or one a quart size and the other a half-gallon size. A set of canisters (plastic) make excellent bongo drums. Two small cardboard boxes of different sizes will also work. They may be attached together by glueing, stapling, or merely tying them together. All of these instruments should be painted bright colors. Perhaps some discussion about the Mexican Indians could be in order, so that the children could use some of the symbols of the Aztec or Inca, etc.

The Author

Russell A. Pizer is director of bands at Heidelberg College, Tiffin, Ohio. A graduate of the University of Michigan School of Music, he has had extensive public school teaching experience prior to assuming his present position at Heidelberg College.



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PERCUSSION

AROUND THE WORLD

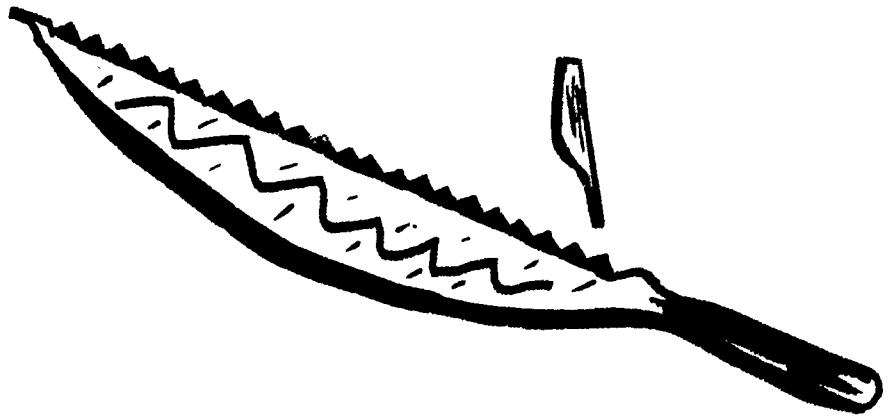
BIRCH BARK RATTLE - Chippewa (Wigwass she she kwun)

Material from:

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MORACHE - Chippewa (Naquey mo na tick) English (Rhythm Resonator)



Moraches are notched sticks along which another stick or bone is rubbed in rhythm with the drum beat. Usually they are rested on a gourd or other hollow object as a resonator to increase the volume. The shoulder blade of a deer is often used as a scraper. A later use was as an Original Indian wild duck call, in some cases it was known as "she sheep na tayway ch gon" or in English, duck call.

The Chippewa were forest or woodland people. Wood and bark were the material used in much of the craftwork. Birch bark has always played an important part in the material culture of the Chippewa, in fact, he is sometimes referred to as the "Birchbark" Indian.

The Birch Bark Rattle is used by dancers who shake them vigorously to rhythm, by drummers to accentuate the drumming and sometimes as a substitute for the drum itself.

SISTRUM



EARLY TRIANGLE



The sistrum was an ancient Egyptian rattle. It consisted of a metal frame with loose metal bars, with the frame attached to the handle.

Early triangle always had several metal rings hanging on the lower bar. This may have been an adaption of the earlier sistrum.

NEW PUBLICATIONS

MARCH FOR TWO PAIRS OF KETTLEDRUMS by Andre and Jacques Philidor, Pub. McGinnis and Marx.

The march for two pairs of kettledrums was first performed by the brothers Philidor in the presence of King Louis XIV at Versailles in 1683. It was first published in the Journal of the Galpin Society IX, June 1956 in an article by Caldwell Titcomb. The score containing both parts is two pages in length, no price is given.

Works of HALIM EL-DABH, Pub. by C. F. PETERS Corp., New York.

- HINDI-YAAF NO. 1 - Percussion Ensemble (\$3.00)
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- SONIC NO. 7 & NO. 10 - Derabucca or Multiple Drums (\$1.50)
- THE DERABUCCA: Hand Techniques in the Art of Drumming (\$1.50)

Halim El-Dabh is an Egyptian composer who is conveying Eastern ideals through Western media and instruments. These works would present considerable challenge to the American percussionist in that new, or at least extended techniques and instruments are required. The composers' scores and prefaces to these works give extensive instructions in regard to correct performance techniques. The Derabucca instruction book would seem to be a necessity for the percussionist who wished to perform any of the other works listed.

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Works of Matthew Hopkins (see Programs this issue)

Praeludium- 6 players, using vibes, sus. cym., tem. blks., bells, bongos, marim., wd. blk., b.d., gong, chimes, s.d., ten. dr., tria., and timps.

Sonatta- 4 players, using bongos, glass bottle, tom-toms, cast., cowbell, timps., and tria.

Cantona- 5 players, using s.d., ten. dr., tem. blks., sus. cym., b.d., xylo., vibes, and timps.

Duo- 2 players, using s.d., ten. dr., cym., bells, tamb., tom-toms, xylo., b.d., gong, timps., marim., and tria.

Prelude and Fugue in Miniature- 5 players, using s.d., ten. dr., b.d., tria., sus. cym., wd. blk., and timps.

Focata No. 1- 4 players, using s.d., tamb., b.d., cym., blks., xylo., wd. blk., tom-toms, and timps.

Work of Russell Hartenberger

Percussion suite based on Brazilian Folk Songs- 4 players, work is in 5 movements, and uses melodic and indefinite pitched instruments, including a part for steel drum ad lib.

* reproducing costs of the above ensembles average about \$3.00 per ensemble.

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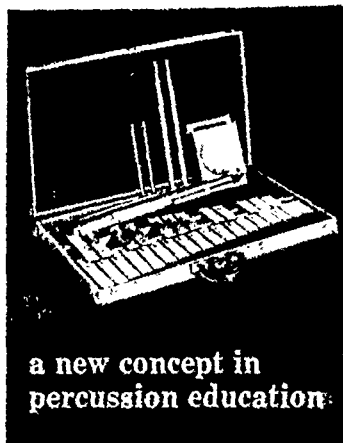
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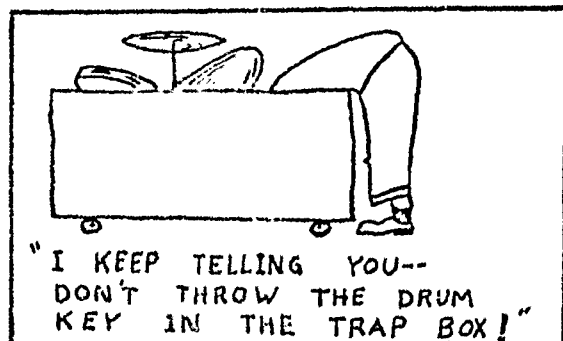
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Joseph Adato, percussion with the Cleveland Symphony Orchestra, is now making Trinidad Steel Drums. Ones interested in finding out more about these drums may write to Mr. Adato, c/o 2808 Noble Road, Cleveland Hts., Ohio - 44121.



PROGRAMS

North Texas State University
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The Brass Choir and Percussion Ensemble

Friday, December 19, 1965 8:15 p.m. Recital Hall

Intermission

- Prelude and Allegro *E. W. Vols*
Suite for Percussion *W. Kraft*
I Fanfare III Ostinato
II Andante IV Toccata
Introduction and Allegro *J. McKenzie*
Imitation (in memoriam) *Edgard Varèse*
(1883-1965)
Josephina de Granada *B. Christian*
University Percussion Ensemble
Ron Fink, Conductor
Cortege *M. A. Higginbotham*
Fanfare *A. Tcherépin*
Brass Choir and Percussion Ensemble

Maryland Bandmaster's Association
Music I Percussion Playing
A demonstration by John K. Galm
(Baltimore Symphony Orchestra)
October 15, 1965.

- March of the Antarctic Penguins Galm
books combining melodies with drum parts;
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Bruce & Em (t Drum Instructor
Keyboard Etudes and technique;
Firth- Exercises for Keyboard Percussion
Instruments (Carl Fischer)
McMillan- Percussion Keyboard Technique
(Pro-Ed)
Percussion periodicals;
Informative Notes The Percussionist
Allure from Violin Concerto Vivaldi
Op. 3, No. 6
advanced technique material;
Gardner- Modern Method for Bells, Xylophone, etc.
(Carl Fischer)
Göteborg- Modern School for Xylophone, etc.
(Chappell)
Payson- Studies in Double Stops
(Frank's Drum Shop, Chicago)

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Ray Morgenstern John Huebert
Paul Burns Richard Dobos
Jim Crossley Stanford Miller
Bruce Childs
Kenneth Bichel, pianist

Parade -Morton Gould

Night Music for Percussion -Robert Storer

Concerto for Percussion -Darius Milhaud
Ray Morgenstern, percussionist
Kenneth Bichel, pianist

October Mountain -Alan Hovhaness
in five movements

Music at the Museum
The Settlement Music School
Percussion Ensemble
Phila., Pa.
Alan Abel & Russell Hartenberger
conducting
February 20, 1965.

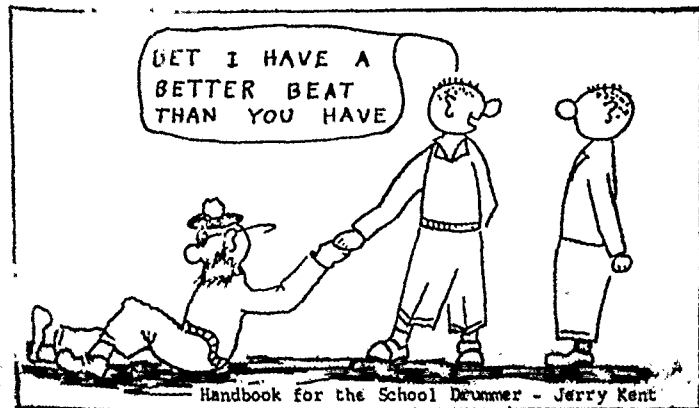
Introduction and Fugue
Suite for Percussion
Prelude and Fugue in Miniature
Kochipilli
Nonet
Two Miniatures
Prælium
excerpt from Magic America
Robert Buggert
William Kraft
Matthew Hopkins
Carlos Chavez
Jack McKenzie
Joshua Missal
Matthew Hopkins
Alberto Ginastera

North Texas State University
Percussion Seminar
October 27, 1965.

Variations for Percussion and Piano Lisa Barraine
2040's Sortit Alan Abel
Rondo for Marimba and Piano Ted Frazier
Snare Drum Solo No. 1 Jack Grosvenor
Allegro Agitato Belloli
Concerto in A Minor Vivaldi
Trips and Rings Claiborne
Czardas Monte

* This was the first of a series of informal studio recitals of percussion students of Ron Fink, instructor of percussion at NTSU. Experience in performance and helpful criticism of techniques are the objectives of these seminars;

M. L. Hynes, director of the Fairfax, Virginia High School Band, reports that 10 members of the percussion section of his band have subscribed to P. N. this year. By having all subscriptions sent to one address a considerable savings is obtained. See information on last page of this issue.....





ON THE TECHNICAL SIDE

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