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In this issue

PERCUSSION INSTRUMENTS AND PERFORMANCE PRACTICES IN BEETHOVEN'S MUSIC

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Triangle, Cymbals, Side Drum, Bass Drum, & Ratchet

The triangle of Beethoven's day was what is known as a sistrum. This instrument, which was prevalent from the middle ages through Beethoven, was triangular in shape and had metal rings which were hung on the horizontal bar. The instrument was struck, with a metal rod, and shaken so as to make the triangle and the rings sound.

The triangle, as well as the bass drum, and cymbals, were used by the Turkish guards in their music, known as Turkish or Janissary music. This Turkish music was quite popular in Europe at the turn of the nineteenth century and Beethoven chose to use it in his *9th Symphony*. The triangle is also used in Wellington's Victory; the *Battle Symphony*.

Through the hard, industrious, work of Avedis Zildian in the early 1800's Beethoven came in contact with the finest cymbals in the world. Zildian travelled throughout the world displaying his cymbals, which were made in Turkey. Although Beethoven certainly was familiar with cymbals prior to any he would have seen at a Zildian display, it is still reasonable to believe that this wide spread public relations campaign gave Beethoven an opportunity to view and hear different cymbals that he might not have been able to see otherwise.

The cymbals of the day were played in the same manner as they are today, that is being held vertically and played by striking one against the other. Cymbals of that time did, however, have larger bells (the raised center of the cymbal) which gave the instruments more low overtones and a heavier sound than cymbals of today.

The cymbals were used by Beethoven as described above, usually only in martial music.

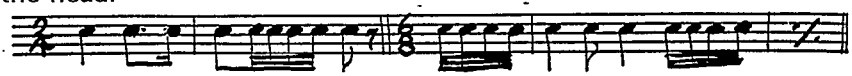
The bass drum of Beethoven's time was very similar to the one which we have presently except that it was smaller, evolving from the bass drums which were used in the armies and had to be carried by one player. These drums were rope tensioned and often were played by striking one side of the drum with a switch while at the same time striking the opposite side with the regular wood beater.

Beethoven uses the bass drum not only in the Turkish music of the ninth but also in the *Battle Symphony* as a canon; with the English canon being notated:  ,and the French:  .Accounts of the premiere

of the piece, in Vienna on December 8th, 1813 include the following, "In the orchestra were many eminent musicians with Spohr among the violins. Beethoven himself conducted, though he said, 'I would just as gladly have taken over the big drum as Herr Hummel.' Hummel it seems acted in the canonade, which was directed by Salieri (composer and conductor)."[1] Herr Hummel, it should be noted, was a concert pianist and Beethoven's rival in that area.

The snare drum, or side drum (so called because it hung from the side of the player), was played with wooden sticks. The drum itself was deeper than it was wide, almost exactly opposite to the thinner shelled drums of today. The side drums were rope tensioned with the heads being made of calf hide which had been smoothed and stretched then mounted on the drum. Two to six strands of gut or rawhide ran the length of the bottom head, coming in contact with the head and vibrating when the top head was struck.

As better drums and heads were made the technical demands on the players increased. The following parts from Wellington's Victory illustrate this point; these would not have been playable by the performer or defined enough by the listener without the proper tension on the head.



Beethoven used the ratchet only in the *Battle Symphony* to imitate the sound of rifle fire. The instrument was similar to the present day ratchet and was notated much like a trill in keyboard music.

Timpani

In order to better understand the way in which Beethoven wrote for timpani one must have some knowledge of the background of the instrument. Much of the way timpani were used depended on the capabilities of the drums.

Early timpani were little more than copper kettles with a hide covering. These kettles were played by a drummer while on horseback, with one drum on either side of the saddle. These primitive timpani were small, about 18 inches in diameter, and were played with wooden beaters. Nakers, a somewhat smaller drum, was popular in England but gave way to the larger kettles that were becoming popular on the continent.

Early usage of timpani was in military music, where the trumpet and timpani were closely associated, and in the orchestral music of the church.[2]

During Beethoven's time many developments in the timpani were made. The number of tuning keys was reduced from 16 to eight, enabling the player to tune and re-tune more quickly. T-handles gradually replaced the individual tuning keys in the early 19th century. Victor de Pontigny wrote of the key tuning: "Kettledrums are tuned by screws,

generally about 8 each, a key being applied successively to each screw. This takes time besides causing a slight metallic noise, quite audible if the orchestra is playing softly. Foreign drums have a fixed T-shaped key to each screw, which avoids this, and also saves time. . . ."[3] Sufficient time had to be left between movements for the timpanist to change pitches. Later, shortly after Beethoven's death, Kramer in Munich was able to design and build a pedal mechanism for quick and precise pitch changes.

Another development that was made in the early 1800's was an increase in size of the timpani, and the resulting increase in range of the drums. Timpani increased in size from 18 inches to from 24 to 25 and 28 inches. A 30 inch drum was also made, although Beethoven never used it in his writing. The increased ranges allowed composers to write for timpani in new ways, not only in fourths and fifths which had become so standard that parts for timpani were written as C and G and the player knew to transpose to the tonic and dominant of the key of the piece.

Like the side drum heads timpani heads also showed great improvement at the turn of the 19th century. Altenburg, in his 1795 treatise, advises against "soaking the heads in brandy prior to mounting or (as some had recommended) smearing them with garlic; the heads are best readied for mounting when soaked in water".[4]

So a musical spiral was developing; instrument manufacturers were building better drums, heads were being made more resonant and thinner, and composers were writing more demanding parts. Sticks, also, saw a reassessment. In the early classical era wood or ivory sticks provided the preferred, although harsh by current standards, sound. Berlioz, himself a timpanist, mentions his frustration with composers such as Beethoven who didn't specify what type of sticks to use. In *A Treatise on Modern Instrumentation and Orchestration* Berlioz tells of experimenting with cork, wool, rubber, sponge, mushroom, leather and felt covered sticks.

As all these improvements were being made on the equipment a serious need for instructional materials arose. Until 1735 virtually nothing was written about timpani playing; Renaissance musician's guilds required that timpanist swear an oath not to tell any of the dark secrets of timpani to anyone. Instructional methods of the time called for the large drum to be placed on the right, a practice opposite to today's arrangement of timpani. Altenburg, again in his treatise on trumpet and timpani playing, suggests that timpanists need less musical training than other musicians; a timpanist need only know enough solfege to tune, "moreover it is not injurious if the timpanist knows only a little about the history of music. A trained timpanist must know how to keep his instrument in usable condition, how to mount the heads, and how to set the screws so that the heads will retain their resonance."[5]

As timpanists were gaining, or losing, respect, as the case may have been, parts for timpani were being included in most orchestral com-

positions. Though no parts exist it is certain that Monteverdi used kettledrums in *"Orfeo"* (1607). One of the earliest timpani parts comes from the score of Lully's *"Thesee"*, composed around 1675. After 1700 all composers wrote for timpani; i.e. Handel and Bach. By the late 1700's a characteristic style of timpani writing was well established. This was all to change, as a young composer named Beethoven began to make his mark on the history of music.

Before looking into specific instances of innovative timpani scoring on the part of Beethoven, I feel it would be best to outline some general ideas which were new at the time Beethoven first used them.

Beethoven made use of the increasing ranges of the drums almost as soon as the instruments were constructed. In *Fidelio* the fourth is expanded to a diminished fifth, A to Eb; in the eighth symphony the range is again expanded to a minor sixth, A to F, and by the time of the ninth symphony an octave, F to F, was available.

A major departure from the previous style of always putting the trumpets with the timpani was made in the 8th, when the timpani were scored with the woodwinds, a break of a long but unnecessary association that prepared the way for solo usage of the timpani, for example in the *Emperor's Piano Concerto.*

Programmatic use of timpani was made in the 6th Symphony as the timpani imitate the sound of thunder during the rain storm and at the end of the *Leonore Overture,* though early in Beethoven's writing, where the timpani are called upon to produce an intense roll with punctuation by the orchestra at the end of the coda (a device used by many composers later).

Because one of the major contributions of Beethoven was his approach to rhythm, it is interesting to study his use of the timpani, whose function had previously been to reinforce the harmonic structure of the piece. While Beethoven did not do away with the harmonic implications of the drums, he did capitalize on their abilities to execute complex rhythms cleanly, and with less technical problems than that of other instruments. Truly as much of an innovator Beethoven was for the entire Orchestra, he was even more an originator of a new style for percussion writing.

Beethoven was most likely the first to use the timpani as a solo voice for an extended length of time. The 25 measure roll which opens the Violin Concerto and the octave F's opening the scherzo of the Ninth Symphony are examples of this. The heart-beat like transition from the third to the fourth movement of the Fifth is another.

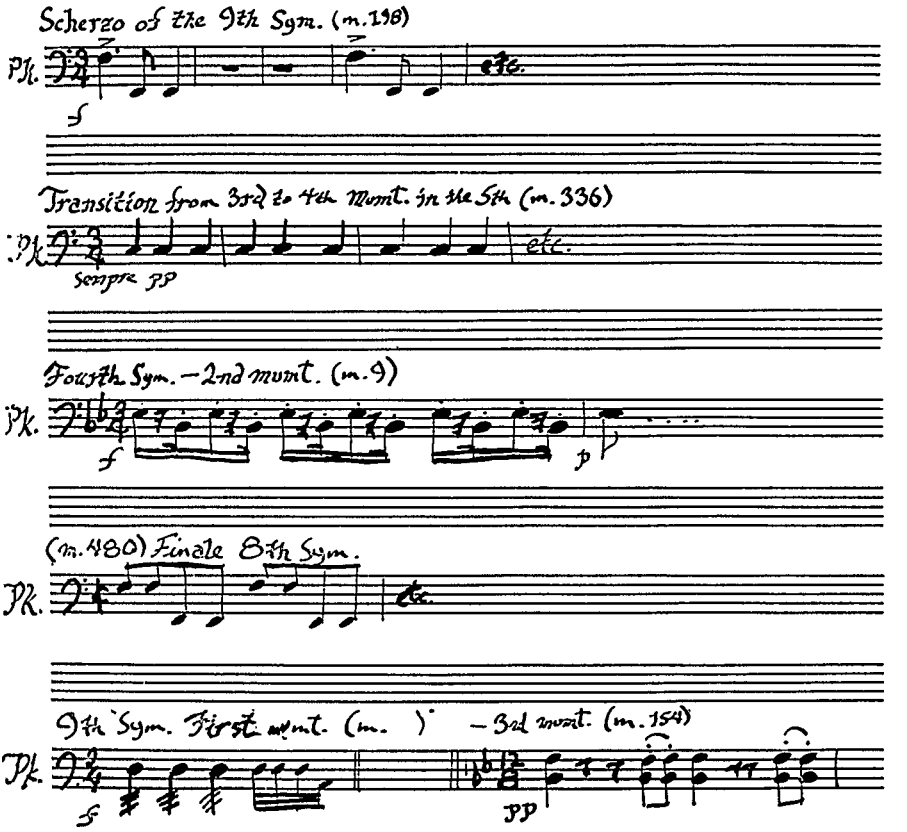
Beethoven also used the timpani as a melodic instrument, for example in the Fourth Symphony where the drums, tuned to Eb and Bb, play not only the rhythmic motive but also the melodic one as well in the Adagio Movement.

Technical difficulties in Beethoven's timpani parts were not unheard of, though most could be readily solved by hours of practice.

The opening of the first movement of the Ninth requires the utmost care in playing the thirty-seconds cleanly, and moving from the D to the A at the precise time it is notated for. In the finale of the 8th Symphony Beethoven writes for double sticking (referred to double tongueing in Beethoven's day), another technique which must be mastered for proper performance.

A further innovation of Beethoven, though he was not really the first to do so, was the use of the timpani to play "chords", today referred to as "double stops." In the third movement of the Ninth Beethoven's use of the Bb and F, struck simultaneously, combine the rhythmic, harmonic, and melodic aspects of music, in a timpani part which even today stands up as one of the most challenging ever written.

MUSICAL EXAMPLES



Beethoven, both the man and his music, is often thought of as an innovator because of the way the music is built. I have attempted to examine part of his inventiveness by taking a close look into one aspect of the total output of Beethoven. Indeed it is evident to me that not only did Beethoven initiate new activities in the percussion section but, since his work is so consistent, that he must have taken as much care, thought as much about, and composed as diligently for all the other sections and the overall ensemble as well. This is the main thing I have learned about performing his music. For a truly authentic performance of his work one must understand the way Beethoven composed; the thought that went into writing the music, and the innovations that enabled it to occur, must be rediscovered in order to present the music as Beethoven heard it when he wrote it.

FOOTNOTES

[1]James Blades, *Percussion Instruments and Their History.* (London: Praeger Co., 1970), p. 267.

[2]R.M. Longyear, Altenburg's Observations (1795) on the Timpani. "The Percussionist" Vol. VII No. 3. (Terre Haute, Ind.: The Percussive Arts Society, 1969), p. 91.

[3]James Blades. p. 276.

[4]R. M. Longyear, p. 92

[5]Ibid, p. 93

MUSICAL EXAMPLES

[1]Snare Drum Parts (denoting English and French "Camps") from Wellingtons' Victory.

[2]Timpani Excerpts from the Beethoven Symphonies.

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A DESCRIPTION OF THREE PERCUSSION KEYBOARD TECHNIQUES RELATIVE TO THE USE OF FOUR MALLETS

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With the increase of contemporary composition for band, orchestra, and miscellaneous ensembles, there has been a correspondingly greater use of percussion. Compare, for instance, the scores of Beethoven to those of Colgrass, Sousa's to Persichetti's. Since Edgar Varese's *"Ionization,"* even the percussion ensemble itself has attracted more and more attention from composers and performers.

With the increased use of percussion, greater demands have been placed on soloistic percussion techniques and skills. The percussion student who wishes to master his craft totally must become familiar with over two hundred instruments found in contemporary repertoire.

One of the most ancient percussion instrument groups, and one only recently incorporated into pieces for the concert hall, is the family of percussion keyboards: marimba, vibes, xylophone, and orchestra bells. The xylophone and the bells have been used for special effect in orchestra and band scores since the Romantic period (e.g., Mussorgsky's *"Night on Bald Mountain")* as well as in numerous circus and show tunes. The marimba has been included as a solo instrument by such composers as Darius Milhaud *("Concerto for Marimba, Vibes and Orchestra")*, Paul Creston *("Concertino for Marimba and Orchestra")*, and Robert Kurka *("Concerto for Marimba and Orchestra, Op. 34")*. The vibes have worked their way into the jazz repertoire as part of the rhythm section as well as soloistically by performers like Gary Burton, Lionel Hampton , and Milt Jackson.

Thus there exists a need for understanding the techniques used for the mallet instruments as they are utilized in new works. Many directors and private teachers have not themselves mastered those techniques requiring the use of two, three, and four mallets.

This paper will address those problems involving the use of three and four mallets.[1] A survey of the most frequently performed works involving solo and ensemble percussion reveals that the greatest demands are for percussion keyboard instruments.[2] Although most of the works cited utilize only two mallets, at least half do incorporate four mallets in at least one movement. A listing compiled by Neal Fluegel and his students at Indiana State University further divides the works into advanced and medium levels.[3] Of the fifteen solos classified as advanced, thirteen require the use of four mallets. Of the eighteen identified as of medium difficulty, fourteen require three or four mallets.

This article will not discuss those techniques involved in the use of two mallets only. These skills are easily transferred from those used for the snare drum. In addition, method books and reading exercises ad-

dressing those problems are readily available. Until recently, most of the performing repertoire has required only two mallets and it is to be expected that the serious percussionist has learned to handle them adequately. On the other hand, although there are method books and even four-mallet solos available for study, the percussion student is rarely introduced to them in the context of percussion techniques classes. Even in those cases in which such literature is contacted, far too little time is allowed for full exposure to the techniques required for successful performance.

Since most band, orchestra, and percussion ensemble literature has called for only two mallets, directors as well as teachers have not been required to come to serious grips with four-mallet techniques. However, some recent important scores call for just such skills on xylophone, vibes, or bells. Among them are Robert Linn's *"Propagula"*, Carl Orff's *"Carmina Burana"*, Michael Cunningham's *"Polyphonies"*, and Jan Bach's *"Woodworks."*

This discussion, then, will deal through description and illustration with the three basic four-mallet techniques and derivations of those. As a kind of summation, there will be an analysis of Mitchell Peter's *"Yellow After the Rain"*, in which many of the techniques are required.[4]

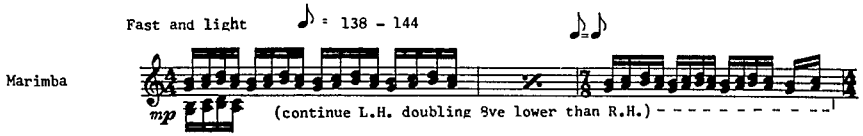
TECHNIQUES

Non-sustained

This is probably the easiest technique to learn and understand. It is to be used when the composer requests staccato, or when the tempo does not allow for the use of a roll, the usual sustaining device for percussion. The non-sustained approach includes three different aspects: chordal, hand-to-hand, and melody-harmony.

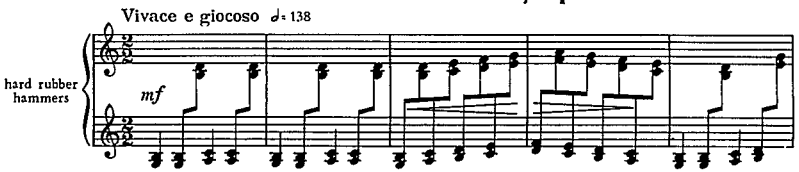
Example 1a is an illustration of chordal style in which all four mallets are struck simultaneously to form a four-note chord.

EXAMPLE 1a
Watson's "Marimba Suite" - Movement III



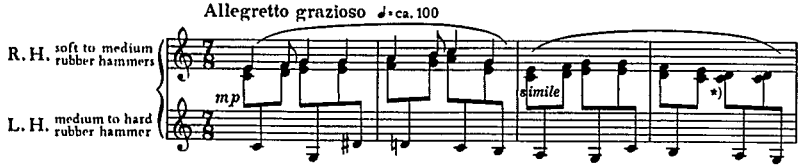
The hand-to-hand style is a direct alternation between hands which produces stops with each set of mallets. Example 1b illustrates this device.

EXAMPLE 1b
Thomas Pitfield's "Sonata for Xylophone"



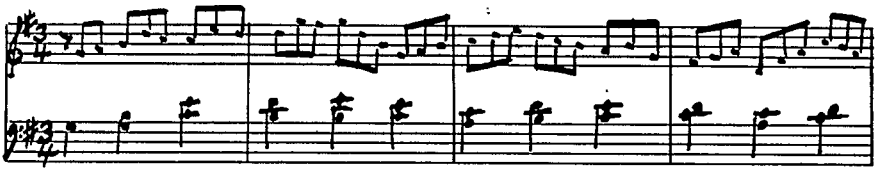
Example 1c illustrates the use of three mallets in hand-to-hand style.

EXAMPLE 1c
"Introduction" from the Pitfield Sonata



The third non-sustained style is that producing both melody and harmony. This incorporates the use of one hand (either right or left) in an accompaniment pattern to the other. Example 1d is an illustration of this.

EXAMPLE 1d
"Jesu Joy of Man's Desiring," arr. James Moore



Because of their ease, the non-sustained techniques should be the first presented to the student. They allow not only for a quick development in stretching for intervals but also for considerable control of the mallets. Without having mastered these basic skills, the student will find it difficult to work toward the more demanding controls called for in advanced styles.

Sustained

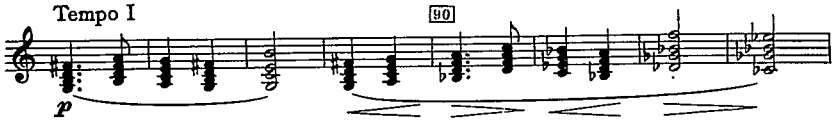
This technique (also referred to as the "roll") is utilized when the composer requests legato, or when the musical line demands connection. This approach includes two aspects: hand-to-hand and ripple.

The hand-to-hand roll is the simplest to understand and develop. It correlates strongly to the hand-to-hand staccato style discussed above, but it incorporates alternate strokes in a sustained context as, for instance, in a single stroke snare drum roll. The hands are alternated rapidly and without a suggestion of definable meter.

The ripple roll is one of the most difficult of the percussion styles. It involves striking the keyboard in such a way that each mallet is independent of the others. It is perhaps best compaired to performing a flam or grace note using two mallets in one hand. The problem is to create a smooth, even sound that is often lacking in the relatively disjointed hand-to-hand style.

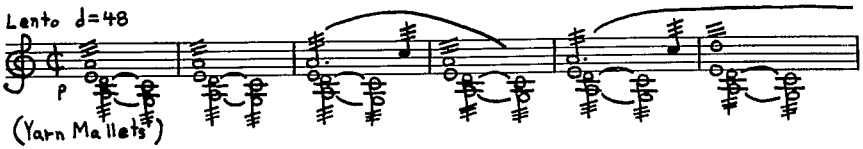
Although Example 2a is not notated as rolled chords, it should be performed in a legato style. Either hand-to-hand or ripple can be used.

EXAMPLE 2a
Creston's "Concertino" - Movement II



Example 2b illustrates the notation used when a sustained sound is required.

EXAMPLE 2b
Peters' "Sea Refractions"



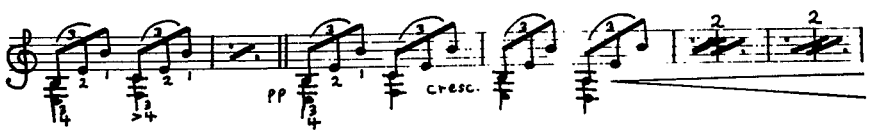
The effect of an even roll, especially the ripple, is one of the most pleasing of those possible on a percussion instrument. When well blended, the sound is much like that of an organ.

Independent mallet technique

This is the most difficult of the mallet skills. Each mallet is used in a manner roughly similar to the fingers of a pianist. The mallets may be utilized for chordal harmony, in parallel linear relationships, or as independent contrapuntal lines. The mallets are numbered from either right-to-left or left-to-right, but with the outside mallets identified as 1. The three styles used in independent mallet techniques are: two-and-two (two mallets used chordally and two used linearly or independently), movement in a direct line, and contrapuntal (independent) style.

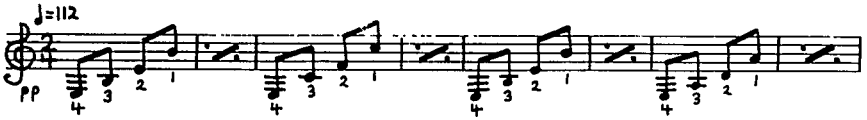
Example 3a illustrates the two-and-two approach. The mallets in the left hand (numbered 3 and 4) are used chordally, those in the right hand (numbered 1 and 2) are used independently. This relationship, incidentally, is reversed later in the composition.

EXAMPLE 3a
Peters' "Sea Refractions"



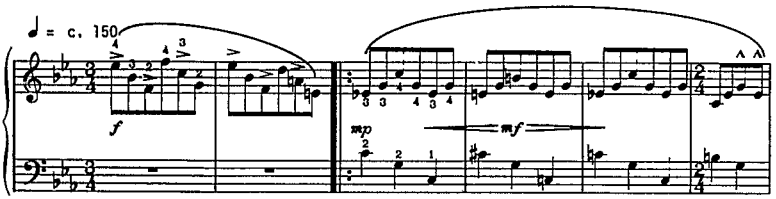
In the same composition is found an example of the direct line style, in which the mallets are used independently but linearly. See Example 3b.

EXAMPLE 3b
Peters' "Sea Refractions"



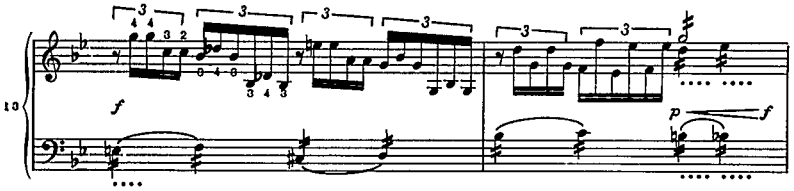
The contrapuntal or independent style involves linear movement in both hands, often in contrary motion. This demands complete independence of both hands and mallets and is the style that most closely correlates to the finger action of pianists. Example 3c, taken from a very recent addition to percussion repertoire, is an illustration.

EXAMPLE 3c
Sifler's "Marimba Suite" - Scherzetto



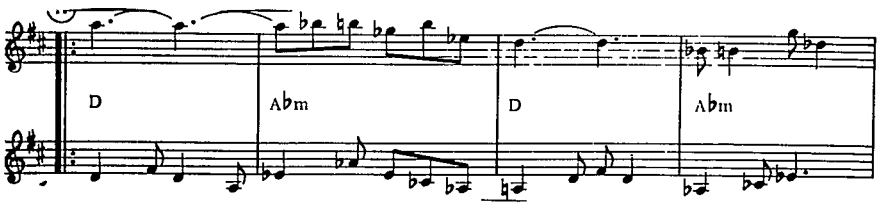
Example 3d shows one of the most difficult passages in the literature for keyboard percussion. It is not only contrapuntal but polyrhythmic as well.

EXAMPLE 3d
Sifler's "Marimba Suite" - Carillon



Example 3e illustrates an almost pianistic approach to the vibes.

EXAMPLE 3e
Gary Burton's "Singing Song"



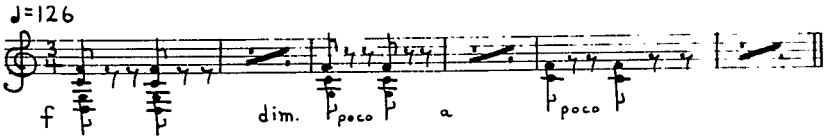
Considerable time is required to develop the techniques described and illustrated above, and this may be disheartening to some percussionists. On the other hand, mastery of them will lead to greater mallet control and independence and this will improve performance on all percussion instruments.

Application of Techniques Within a Single Composition

The following section of this study analyzes a four-mallet marimba solo that utilizes many of the techniques and styles discussed above. The composition is Mitchell Peter's *"Yellow After the Rain,"* published by Mitchell Peters, Los Angeles, 1971. The work incorporates the use of four mallets in non-sustained, sustained, and independent mallet styles. It is in multi-meter, using 3/4, 4/4, and 5/4. The tempo is given as ♩ = 126. The form is ternary (A B A) with an introduction, transitions between sections, and a coda.

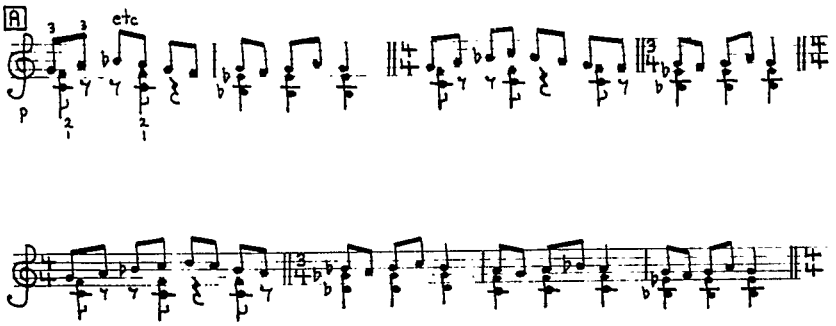
The introduction is six measure long and utilizes the non-sustained chordal style. Since all mallets are working simultaneously, this is the easiest of the techniques to master, as noted in the discussion above. See Example 4a.

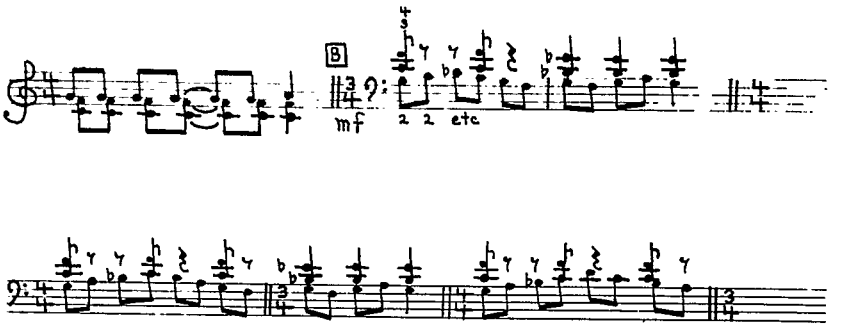
EXAMPLE 4a
Introduction



From rehearsal A to rehearsal C,[5] the style employed should be non-sustained, melody-harmony. In this case, the left hand provides accompaniment while the right hand has a melodic role. At rehearsal B, however, the left and right hand responsibilities are reversed. See Example 4b.

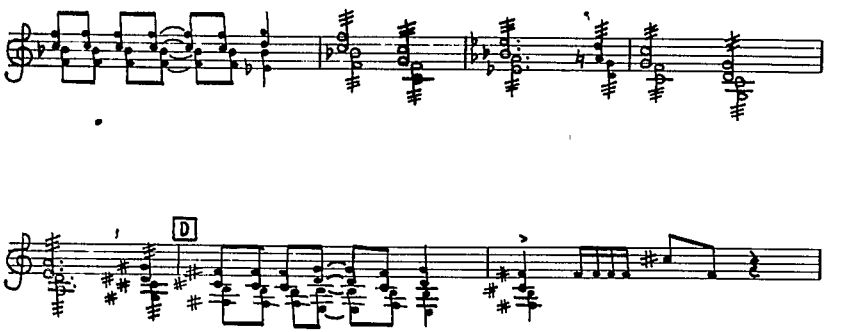
EXAMPLE 4b





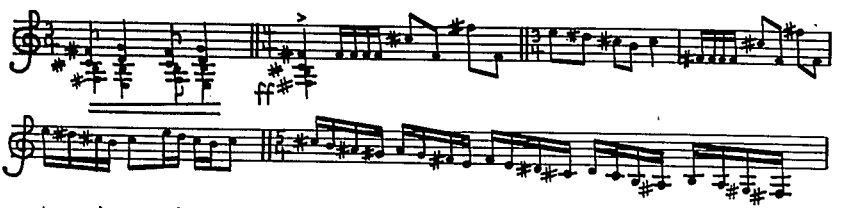
At rehearsal C, the style changes to the non-sustained chordal approach used in the Introduction but changes four measures before rehearsal D to sustained roll. Because of tempo as well as technical problems with the roll itself, the hand-to-hand technique should be used at this point. See Example 4c.

EXAMPLE 4c



The section from rehearsal D to rehearsal E is a transition into the B part of the tripartite A B A form. Here the non-chordal style is called for, and there is a short section that requires only two mallets (numbers 2 and 3). See Example 4d.

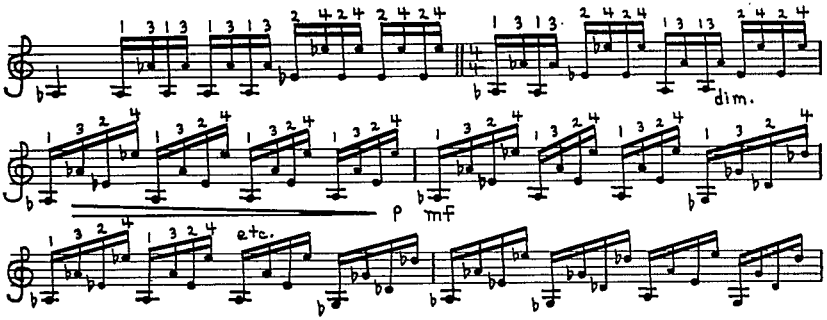
EXAMPLE 4d



At rehearsal E, where the B part begins, the use of independent mallets in linear style is required. This differs from Example 4d quoted above in that the mallets move in alternation (1 to 3, 2 to 4) rather than consecutively (4 3 2 1, 1 2 3 4). It is also worth noting that Peters has numbered the mallets from left to right, thus furnishing understandable

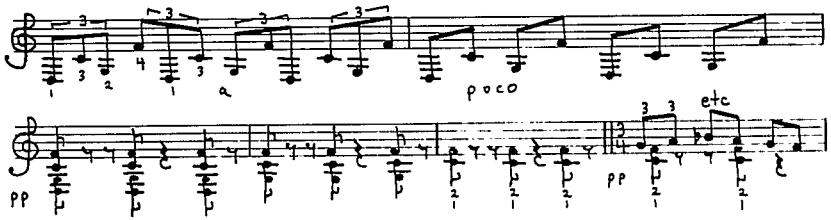
performance directions. Without such directions, many performers might mistakenly attempt the section with only two mallets, a difficult as well as tiring approach. See Example 4e.

EXAMPLE 4e



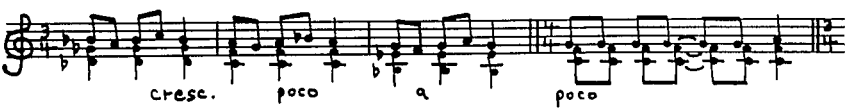
This linear style is continued to rehearsal F, the Introduction preparing for the return of part A. The two measures immediately before rehearsal F present a rhythmic problem in the change from sixteenth-notes to triplets and then to even eighth-notes. Although the same performance techniques are called for as in part B, the rhythmic manipulation poses problems in keeping the mallet formula secure. See Example 4f.

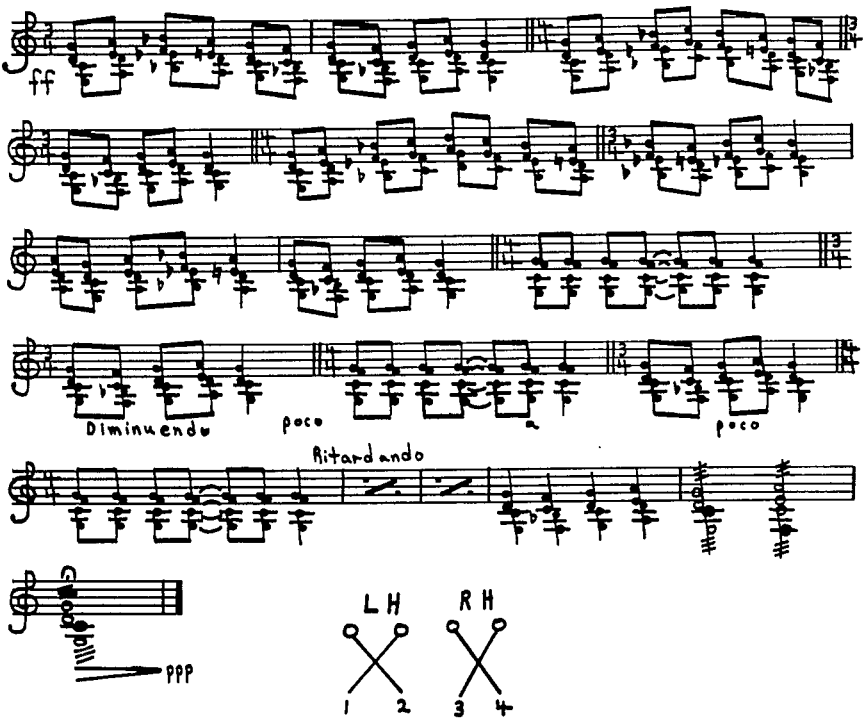
EXAMPLE 4f



The section between rehearsal F and rehearsal G requires the same techniques as those employed in the first statement of part A. At rehearsal G however, the beginning of the coda, a chordal approach is demanded. One difficulty here is the movement of all mallets in parallel motion and at a rapid tempo. The final two measures, prepared for by a *ritardando* shortly before, utilize the sustained roll technique. Here either the ripple or the hand-to-hand approach may be employed. See Example 4g.

EXAMPLE 4g





This article has attempted to describe and illustrate some of the increasing technical demands placed upon teachers and performers in coming to grips with new compositions involving keyboard percussion instruments. Three techniques and their stylistic derivatives have been discussed, and only those related to the use of four mallets. These techniques - non-sustained, sustained, and independent - are called upon more and more and it is hoped that even this short discussion will lead to greater efficiency in percussion skills. In the end, however, experience is the best teacher and reading about styles of performance can never substitute for actual practice. Because mastery of the techniques is no easy matter, it is suggested that study and practice should proceed from non-sustained through sustained to independent. In such a graduated approach, the student will encounter the least problematical techniques first and will gain some sense of improvement and resulting satisfaction as he progresses toward the more difficult exercises.

Percussion has moved rapidly beyond bass drum - snare drum idioms. In an attempt to stay abreast of developments, many high school and college groups have enlarged their percussion sections. At the same time, methods of instruction in the newer techniques have been too little utilized or perhaps even too little known. The instruments themselves as well as performance approaches to them have often been viewed as principally in the area of special effects. It is time

to recognize them as soloistic, placing demands on the performer that are comparable to those for pianists or performers on any of the other "standard" instruments. Until music educators as well as students accept the fact that there is time as well as effort required in the development of good performance techniques, these instruments may easily remain in use for sound effects only rather than for their value in serious performance.

[1]It should be understood that the use of three mallets and the techniques required are closely related to those of four mallets. Thus the techniques described for four mallets can also be performed and taught for three.

[2]Merrill Brown, "Percussion Solos and Ensembles Most Often Performed in College Student Recitals," *Percussionist*, XII (Fall, 1974), 31.

[3]This information was compiled from listings of solo and ensemble percussion performances given in "Percussive Notes," a periodical issued quarterly by the Percussive Arts Society.

[4]No mention will be made of four-mallet grips (holding of mallets), since this would require a complete paper in itself. The reader is referred to the Spring, 1974, publication of *Percussionist*, issued by the Percussive Arts Society. In this bulletin may be found an article by Lynn Glassock titled "Four Mallet Grip".

[5]Rehearsal letters as given in the score should not be confused with letters used to identify individual parts of the over-all ternary structure.

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THE USE OF PERCUSSION IN SYMPHONY NO. 6 (SYMPHONY FOR BAND) BY VINCENT PERSICHETTI: A FUNCTIONAL ANALYSIS

Irving G. Jacob

About the Author:

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Mr. Jacob performed as a percussionist with the Ventura Symphony Orchestra of Ventura, CA. for two seasons (1972-1974); percussionist with the West Los Angeles Symphony Orchestra (Mount Community Orchestra) since 1972; percussionist with the Santa Monica Symphony Orchestra since 1974; assistant conductor of the Santa Monica Youth Orchestra for two seasons (1973-1975).

Preface

Ever since the days of French composer Hector Berlioz (1803-1869) percussion has enjoyed more and more the occupation of a larger position in the symphony orchestra. Before Berlioz (with few exceptions) percussion was barely more than incidental to a musical work, the timpani being the usual instrument employed. The snare drum was seldom used, except for military purposes.

Berlioz contributed much to the development of percussion as a batterie in the symphony orchestra as well as in the wind ensemble *(Grande Symphonie Funebre et Triomphale* serving as an example of his works for the latter medium). This trend has continued through the present time. Today we have much music for the independent percussion ensemble (example: Edgar Varese's *Ionisation)* and the percussion section enjoys very busy activity in the symphony orchestra as well as in the wind ensemble.

This article will discuss the use of percussion in an American work for the wind ensemble. The work is *Symphony No. 6 (Symphony For Band)* by Vincent Persichetti.[1]

Persichetti's *Symphony For Band* is in four movements and employs three percussionists each who use their own group of instruments. Player I performs on three timpani and a suspended cymbal. Player II uses three snare drums (soprano, alto, and tenor); a suspended cymbal; tambourine (on a felt-covered table); tom-tom drum; and a triangle. Player III employs a bass drum; tenor drum; suspended sizzle cymbal; and a xylophone.

In the first movement the three players enter at the beginning with the three-note horn call. The dynamic markings are piano and mezzo

piano, but become louder as the movement thickens in texture.

In measure #16 the trumpets, horns, bariton, trombones, and tubas play a quarter note passage with a crescendo to fortissimo. This passage stops with an eighth note in the beginning of measure #17, leading the percussion section to a forte solo passage. It is the percussion section which closes the introduction to the first movement.

In the beginning of the "Allegro" section (measure #21) the xylophone enters and serves to introduce the main theme in the clarinets. This rhythmic passage of the xylophone also is played by three snare drummers (snares off), except with a slight variation at the end.

The percussion section employs much of its own "counterpoint", but "chordal" passages also exist. Also, the composer strives for color contrasts by changing the instrumental combinations at various soft and loud points in the movement. The percussion instruments do not always sound together. For example, the first player will play while the second player is performing, but then will perform together with the third player while the second player rests. The tambourine, played together with the suspended sizzle cymbal, serves as a coloration to the movement. Another type of color is added when the triangle accompanies the tuba from measures #141 through #156. Such alternations of color, thickness, and thinness of texture give a greater sound of freshness, for in most of Persichetti's scores "he varies thickness constantly and it becomes inextricably bound to color, as well as to musical content."[2]

At the end of the movement the percussion instruments make good counterpoint with the rest of the wind ensemble because they are busy with activity while the other instruments of the wind ensemble hold their single notes from measure #276 until the end (measure #292).

The complex rhythms and moderately fast tempo (♩= 138 in 2/4 meter) of the movement make the percussion parts technically demanding. In addition, the quick movement from one instrument to another makes the part technically difficult.

The second movement is a slow movement (♩= 58 in 3/2 meter), the timpani being employed more often than the other percussion instruments. Although the percussion texture in this movement is thinner than in the previous one, there exists some interesting counterpoint among the timpani, tenor drum, and bass drum from the second through eighth measures.

In this movement the percussion instruments serve mainly to accompany the other instruments of the wind ensemble and do not appear to have the independent life from the other instruments as in the previous movement. The only technically demanding item in this movement is the pitch change in the timpani in measure #9 (G-D-F to G-B-E) and measure #29 (G-B-E to G-D-F). At the close of the movement the timpani is the only percussion instrument playing.

The third movement, a variation of the second, experiences the change of meter from 6/8 to 2/4, although the percussion instruments play in 2/4. However, in this movement the percussion section appears to regain the independent life which it had lost in the previous movement, the section appearing to be more than a mere accompaniment.

The percussion section enters on measure #27 when the meter changes from 6/8 to 2/4. From measures #27 through #39 an interesting counterpoint is exhibited with but a single rhythmic pattern. A color contrast also is achieved in this counterpoint of the timpani playing against the tambourine, tenor drum, and bass drum, with the addition of the suspended cymbal.

Throughout the movement the percussion instruments, together with the rest of the wind ensemble, are dominated by the rhythmic pattern ♪♬♪ (one and-ah two). The technically demanding device while playing is to stay on rhythm; for the timpani, tenor drum, and bass drum must change to different instruments during the dominating rhythmic pattern.

The fourth and final movement is the most technically demanding movement for the percussion section. The reason for the difficulty is not due to the counterpoint, since the writing for the percussion section throughout this movement is predominantly on a vertical level, although a good amount of contrapuntal writing does exist. But the technical difficulty lies in the fact that the movement is in *alle breve* time and is fast (𝅗𝅥 = 144). The percussionists, therefore, must stay on rhythm. Also, much pitch change is involved in the timpani. In measure #39 the pitches change from F-E Flat-B Flat to F-C-G. In measure #86 they change from F-C-G to B Flat-F-A; and in measure #220 F is changed to E Flat.

Color contrast is achieved when the suspended cymbal is played simultaneously with the three snare drums and xylophone. Another color usage occurs when Player II is called upon to use wire brushes on the soprano snare drum and suspended cymbal from measures #17 through #26. Also, the timpanist (Player 1) is called upon to use wire brushes on the timpani from measures #161 through #166 and again from the end of measure #169 through #171.

In measures #192 through #212 counterpoint is experienced for the first time in the movement. The timpani, first suspended cymbal, snare drums, tom-toms, tenor drum, and the bass drum all are played against each other. More counterpoint occurs from measures #218 through #221.

Not much percussion activity occurs from measures #229 through #247, although the wind instruments are relatively busy. However, at measure #247 percussion activity begins once again and increases. The activity lasts until the end of the movement (measure #297).

The end of the final movement is treated in the same manner as the end of the first movement in the fact that percussion instruments make

a good counterpoint since they are busy with activity while the other instruments of the wind ensemble hold their single notes from measures #291 through #297.

In the work as a whole, the percussion part is written in such a way that it has almost a life of its own, thus being more than a mere accompanying section to the wind instruments. The work is one of the many examples showing the evolution of percussion as a batterie in both the symphony orchestra and wind ensemble and also as an independent entity.

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[1]See score of *Symphony No. 6* to achieve a better understanding of article.

[2]William Workinger, "The Band Sound of Vincent Persichetti," *The Instrumentalist*, (April, 1973), 46.

THE VIBRAPHONE: A SUMMARY OF HISTORICAL OBSERVATION WITH A CATALOG OF SELECTED SOLO AND SMALL ENSEMBLE LITERATURE

by Harold Howland

(Continued from p. 93, Volume XIV, Number 3, Summer 1977)

Random Observations: Deagan, 1927-41

Again, the Deagan 145 Vibra-Harp represents the vibraphone as it is known today. None of the essential features has changed; the only alterations to occur have been the improvement of the frame, pedal, and motor designs, the coming and going of appearance items, and so on. In the fundamental aspects, however--thick aluminum bars, revolving-disc pulsators, and pedal-operated damper--the vibraphone has not changed since 1927, and every model to appear since that time is a copy of the Deagan 145. (Significant developments have appeared very recently, but these are discussed in a later section.) For a chronological survey of Deagan, Premier, Ludwig, and Musser vibraphone models between 1927 and 1972, see Meyer, pages 11-34.

It should be understood that during the 1920s neither Leedy nor Deagan had any reason to believe that their new instruments were destined to become anything more than additions to their lines of vaudeville novelties. Despite the existence of solo recordings by Louis Frank Chiha and the brothers George and Joseph Green, most use of

the Vibraphone and Vibra-Harp during this early period was restricted to occasional fills, arpeggios, and novelty effects by dance band and pit drummers. The leading bar instrument was still the xylophone. Only after the early solo explorations of saxist-turned-vibist Adrian Rollini (early 1930s), Lionel Hampton (middle and late 1930s), Red Norvo (middle 1940s), Milt Jackson (the first true *vibraphonist,* as opposed to drummer or xylophonist playing vibraphones, middle and late 1940s), and Terry Gibbs (late 1940s) was the instrument firmly established and accepted as a permanent medium of expression.[44]

There are a number of small errors in the Meyer thesis regarding Deagan products of this period. Since Meyer is the only source wherein the reader may study much of this information, various statements are corrected below as they appear in that work. Most of these statements refer to appearance items.

Meyer reports on page 9 that the frame of the 145 was Duco finished in shaded Royal Buff; this should be explained as being Royal Buff (deep ivory) lacquer with light brown shading on the edges of the frame. The Lustro-Gold finish, still used on Deagan chimes, is a lacquered, polished brass plating. As Meyer states, it was applied to the brass resonators and the brass and steel rack parts of the original 145. The bars were bright-polished natural aluminum. Meyer does not mention a later optional finish: Lustro-Gold bars, resonators, and rack parts, with imitation mother-of-pearl, DuPont Pyralin, on the frame.[45]

There are many references throughout Meyer (pp. 6, 7, and 11, to name a few) and other sources to "tempered aluminum." Usually the term is used to describe tone bars; on page 11, Meyer uses it in reference to a folding vibe rack as well. Indeed the expression appears in early Deagan promotional literature. Trommer says that it needs qualification, since with pure aluminum, as opposed to aluminum alloys, there is neither heat treatment nor the addition of carbon for hardness and strength (as there is with steel glockenspiel bars). This term and the frequent comparisons of Lustro-Gold to fourteen- or twenty-four-karat gold are reflective of the dramatic and sometimes misleading advertising employed at this time by percussion instrument manufacturers.[46] Trommer clarifies the subject in his letter to the writer of 1 May 1976:

> The (aluminum) alloys which can be . . . (tempered) usually contain varying amounts of copper, manganese and magnesium, as do the tone bars on Deagan Vibra-harps. The purpose is to provide degrees of hardness in the aluminum for differnet applications--Deagan vibe bars are made from a particular alloy which undergoes a moderate tempering which involves a brine solution (and differs considerably from conventional heat treating as used on hard metals) . . . . Aluminum, . . . in the 1920's, was a somewhat suspect material in relation to the tried-and-true brass and other alloys; hence, the emphasis on "tempered" was . . . to ease the conversion from brass to aluminum, especially as regards resonators. (Curiously, brass

resonators and brass and steel floor rack parts were used for some years after that 1928-29 catalog introduction of tempered aluminum. Brass resonators, for instance, were still being used on the Model 55 Imperial Vibes and Marimbas up to 1941, but polished aluminum was also used.)[47]

(Today Deagan and Studio 49 are among the very few instrument firms whose catalogs offer important technical and aesthetic information.)

On page 18 of her paper, Meyer notes the introduction in 1937 of the Model 55 Imperial vibraphone, stating that the bars (for the first and only time) were finished in flat black. Trommer says that only a few instruments with black bars were produced. As Meyer reports, this feature was discontinued because of manufacturing and repair costs and of the low scratch resistance of the black lacquer. The Imperial was, in fact, available in any of several finishes: The original combination consisted of Tuscan Bronze Wrinkle (a rich, dark brown, finely wrinkled) on the frame rails and end pieces with Lustro-Gold bars, resonators, and metal trim. Later combinations were offered in either wrinkle or smooth finishes, wrinkle being the more common, in the following colors: Opalescent Black (a rich, metallic black) with polished aluminum bars, resonators, and trim; White (a pale ivory) with Lustro-Gold; and, briefly (1937-38), Black Wrinkle frame, Baked Satin Black bars, polished aluminum resonators, and chrome trim. Other combinations were made on a special-order basis.[48]

This instrument was designed by Clair Omar Musser, then Sales Manager at Deagan, and it was the first example of a concert vibraphone, as opposed to a more portable design. Its more solid-looking, metal-sheathed end pieces, concealed motor, and lyre-ornamented pedal support were a departure from the folding and detachable racks of earlier models, and the new look indicates a growing acceptance of the instrument[49] (as well as Musser's talent for sales promotion). The reader should recognize the similarity between this design and that of the current Musser Century.

Meyer says (pp. 18-19) that the mounting posts for the bar cords on the Model 55 were made of rubber for improved insulation. It should be explained that earlier posts were made of brass, sometimes chrome-plated. Today the posts are aluminum, covered with rubber sheaths.[50]

On page 19, Meyer speaks of the new models 145 and 145C appearing at about the same time as the Imperial, stating that a new silent motor had been added and that the "C" suffix represents an optional finish. Trommer clarifies this information:

> . . . The letter suffix designated an alternate finish & color combination. Model 145 was lacquered Royal Buff, bars were polished aluminum (bright--or shiny--polish, as compared to today's dull satin polish to reduce glare), resonators and other metal parts were Lustro-Gold. Model 145C had a walnut-finish frame, bright-polished natural aluminum bars and chrome-plated resonators & metal parts. (Note that "C" does not stand for "concert.") . . . About 1935 . . . the frame finish was changed

to Gold-Flaked Pyralin with Lustro-Gold resonators & metal parts, natural aluminum bars for Model 145, while 145C became Silver Flake & chrome combination. In 1937, another change: 145 frame was Black Mother-Of-Pearl Pyralin & Lustro-Gold, 145C was White Mother-Of-Pearl & chrome--and these M-O-P combinations persisted through 1939 when the 145's were discontinued. Pyralin was a kind of celluloid finish, pre-dating plastics, but the appearance was very much like the black or white pearl or gold or silver sparkle on drums today. The only motor change on the 145 was made about 1929 when the Dumore motor with electric governor was replaced by the Bodine motor with mechanical governor, the latter being used up to 1939. The Bodine was a "Universal" motor. . . . Both Dumore and Bodine motors were "silent" types.[51]

Clair Omar Musser

Clair Musser is well-known for his many designs and inventions in the field of bar percussion (as well as in the field of astronomy). He is also known for a certain penchant for the spectacular, as exemplified by some of his designs and by his one-, two-, and three-hundred-piece marimba orchestras during the 1930s.[52] Two early experimental Musser instruments are recorded as having appeared in 1925 and in 1931:

> A pioneer designer of instruments, far ahead of his time, Musser designed and built the "MARIMBA-CELESTE" in Reading Pennsylvania in 1925 and 1926. Its keyboard was of special design--having a range of 87 tones in two manuals--and incorporating both wood and metal alloy keys. Sustained tones, volume, and auxiliary tremolo (were) controlled by foot pedals and electric excitation. The instrument was played with various types of rubber mallets, and its capabilities as a solo instrument were unlimited." (sic)
>
> Built at a cost of $7,200.00 then and insured for $10,000.00, the top electrical engineers at R.C.A. (Victor) Camden, N.J. helped create "the WORLD'S FIRST Electronic Marimba". It had Reverb, amplifiers and twin-10 inch Rice/Kellog Dynamic Speakers. It had foot-controlled "Bass Effects"--and could control volume to BLEND--and--amplify nicely when playing a concerto with a 110 piece symphony orchestra. Also--it could play vibe solos--PLUS 4 mallet marimba acc. AT THE SAME TIME. (sic)[53]

Blades describes the second instrument,

> . . . reputed to have cost $5,000. The length of this giant instrument, made by Messrs. Deagan of Chicago, was 10-1/2 feet, and its weight 12-1/2 hundredweight (1400 pounds). It consisted of a five octave marimba-xylophone combined with a two octave vibraphone. The tone of the lower register of the marimba was amplified by microphonic 'pickups' emitted through two large horns. Foot pedal mechanism controlled the volume. The instrument was finished in fourteen karat gold and chromium plate, and further enhanced by three rows of 'dummy' resonators. Musser toured America with this instrument. His repertoire included *Mignon* Overture (Thomas), *Polonaise Brilliante* (Weber-Liszt) and (Chopin's) *Fantasie Impromptu*. . . .[54]

Of the former Trommer says, "Considering that electronics and amplifiers were infants in 1925, it surely had to be a remarkable instrument for its time."[55] Of the latter he says the following:

> . . . A (Deagan) 5-octave Marimba-Xylophone was produced in limited number in the early 1920's . . . (Models 4720, 3 octaves; 4722, 3-1/2; 4724, 4; 4726, 4-1/2; and 4728, 5), but the 4700 Series consisted of only the 4724 & 4726 by 1931. The Vibraharp did exist then, and it is entirely possible a "hybrid" instrument was "put together" for Clair Musser. *Magnetic* pick-ups did exist in the 1930's, BUT were usable only with metal, not wood. . . . Reference was made in early literature to "an appearance of genuine 24 karat gold". Such references were extreme . . . (Lustro-Gold . . . looks like polished lacquered brass!)[56]

Musser was the Deagan Sales Manager from 1 January 1931 to 1947. During that time he made a number of design contributions, most of these relating to appearance items. Two of his designs, that of the Deagan Model 55 Imperial vibe (discussed above) and the mitred-edge resonator, have made their way through to the modern Musser instrument. (The mitred resonator appeared for the first time in 1936, on the Deagan "King George" marimba, designed for Musser's International Marimba Symphony Orchestra (IMSO). (Deagan records show that some of the IMSO instruments were built as early as 1934.) The design is decorative and fulfills no acoustical function.[57]

In 1947 Musser left the Deagan company to establish Musser Marimbas in Chicago. He was joined by several other Deagan office and factory employees, including Master Tuner Paul Fialkowski, Assistant Shop Foreman Roy Eichberger, and former Deagan sales representatives Frank Peppler and R. W. Viohl.[58]

In addition to his program as corporate President, Musser handled a demanding schedule as an instructor. When he eventually chose to take a temporary leave of absence, he acceded to stockholders' advice and in 1950 transferred the company to the Lyons Brothers, major shareholders and owners of a successful instrument firm. The Lyons Band Instrument Company began manufacturing Musser instruments about 1952. Musser's firm was later sold to Dick Richardson, then President of the Kitching Company, a manufacturer of classroom percussion instruments.[59]

One of Musser's inventions at about this time was a small, portable, pedagogical instrument called the Vesta Vibes, which is the only vibraphone known to the writer as having a battery-operated motor. The Vesta Vibes was available in three models; the bars of the two smaller models were approximately 1-1/2 inches wide, and those of the larger model (which featured a converter for use with AC) were about 1-3/4 or perhaps two inches.[60]

On page 24 of her work, Meyer says that in 1953 the Musser Model 45 Hampton vibraphone was designed. The Model 45 could not actually have been *introduced* until after 1956, for it followed the in-

troduction of the Deagan Model 580 Traveller (the first vibraphone with bars of uniform 1-1/2-inch width).[61]

In 1966 Musser-Kitching became a division of the Ludwig Drum Company, Chicago. Today, a division of Ludwig Industries, Musser-Kitching occupies a 34,500-square-foot plant in La Grange, Illinois.[62]

Developments since 1945

In 1947 Deagan introduced a number of design changes, most of them having to do with appearance items and all of them short-lived. Meyer discusses these changes (pp. 22-25) but does not explain the operation of a new damper pedal, displayed for the first time on the Model 555 Presto (1947) and later on the Model 510 Performer (1950). At first glance these instruments appeared to be lacking a foot-pedal, but in fact the entire crossbar was fabricated of thin, flexible metal and functioned as a self-contained damper pedal. The action was considered to be unnatural, and this design was discontinued with the introduction of later Deagan models.[63]

In 1955 Deagan made an attempt to apply a means of direct electronic amplification to the vibraphone. A research firm in Evanston, Illinois produced wafer-thin gold chips called "strain gauges" which were attached to the bars with fine wires. Although successful in amplifying the sound, this system was abandoned for two reasons: (1) There was a tendency to emphasize the octave partial at the point of attachment and to suppress somewhat the fundamental tone, and (2) the delicate wiring could not be prevented from becoming dislodged.[64]

A most interesting vibraphone accessory appeared in California about 1956. Called the Vibories, the device was operated by a keyboard and was developed to allow pianists to double on vibraphone. (The name is from "*vib*raphone" and "iv*ories.*") Its inventor, Jack Harris, was unsuccessful in his attempts to market the attachment, though several West Coast pianists experimented with it at the time of its appearance.[65] In 1968 Harris demonstrated his Vibories to jazz pianist Martin Denny. Harris explained that he lacked the funds to update his working model or to develop the attachment in large numbers, but Denny was so thoroughly impressed with its potential that he agreed to finance and to co-produce it. Harris died in 1972, and Denny has himself been unable to market the Vibories. In his letter to the writer of 3 May 1976, Denny describes Harris's invention:

> It was brought to the attention of Leonard Feather, a well known jazz critic and writer. When he first heard it he was very much impressed with it and suggested the name of Vibories. He recorded . . . it with an all star jazz group. As far as I know it was the only recording utilizing it. This was around 1957. . . .
>
> . . . Jack's invention was a cabinet that fitted over a set of Vibes and was so arranged that plungers fitted with rubber tips would strike the . . . (bars). . . . (The keyboard) was connected by a cable. The wiring is quite complex and he did it all by hand. The pedal was activated by a plunger cable . . . (similar to that)

used in an aircraft to guide the rudders. This in turn was attached to the frame holding the bars and by pressing on the pedal it would depress the cable and thus sustain the tone or release the damper. The action of the keyboard permits you to articulate as fast as you can depress the keys. Or by striking a cluster . . . it would produce a beautiful effect. . . .

. . . It takes a little while to get on to the touch and you cannot hold down the keys after you strike . . . (them) or you can burn out the solenoids.

I have never seen or heard any other instrument similar to it. I have changed the nomenclature to "Vibramatic" as it is partially mechanical. It can be . . . (fitted) to any size bar or make of Vibraphone. . . .[66]

(About 1932 Deagan had experimented with an instrument called the Piano-Vibraharp, housing an Organ Vibraharp with Electro-Vacuum Action inside an upright piano case. Although the Piano-Vibraharp (4-1/2 octaves, F^3 to C^8) was never offered on the market, a steel-bar Deagan keyboard instrument, the Magniharp (4 octaves, C to C), enjoyed mixed success from 1947 to 1958. Rising manufacturing cost and the resultant low turnover brought about the demise of the Magniharp.[67])

Blades speaks of a rare "keyed" vibraphone by Mustel of Paris.[68] It is likely that in this reference Blades is expanding the definition of "vibraphone" beyond its limits, as Trommer explains:

> Auguste Mustel invented (developed?) the Celesta in Paris in 1880. This was a 4-octave keyboard-played steel-bar instrument with a range of C to C (actual tuned range Middle C on the piano to C--but written an octave lower). The Celesta today is made with aluminum bars. Mustel still makes a steel-bar keyboard-played instrument called a Clavitimbre with a written range of Middle C to E, three octaves. By today's definition of "Vibes," no instrument made by Mustel, then or now, could be called a Vibraharp or Vibraphone.[69]

The first commercially feasible realization of continuing efforts to produce an electronically amplified vibraphone appeared at the National Association of Music Merchants (NAMM) Convention in Miami Beach, 1970, in the form of the Deagan 515 ElectraVibe. The instrument rests inside a self contained carrying case without resonators; amplification of the sound is achieved solely through the use of piezoelectric transducers, attached individually to the undersides of the bars. (The aluminum bars, F^3 to F^6, 1-3/8 inches to 1-1/4 inches wide and one-half of an inch thick, are the same as those used on the current version of the Performer, Model 512.) All means of varying the tone (volume, bass and treble response, tremolo, and reverberation) are controlled electronically.[70] When approached with the proper attack, mallet textures, and control settings, the ElectraVibe gives a realistic vibe sound. The instrument is capable also of producing an array of unusual electronic sounds, especially when coupled with accessory wave-forming devices.[71]

A similar instrument was introduced at the same convention by the Rogers Drums division of CBS Musical Instruments. Three octaves, F^3 to F^6, the Malletron featured thin, flat, steel bars and electronic amplification. Although the instrument appears in the 1970 Rogers catalog, it was never put into production.[72]

At the Mid-West Band Clinic in Chicago during December 1971, Studio 49 of Munich introduced to the United States the amplified Royal Harp. This instrument employed magnetic pick-ups rather than bar-attached transducers and has undergone a number of design engineering changes.[73] At present Studio 49 produces two electronic vibraphones, the RVP/ELA, with preamplifier, amplifier, and speaker enclosure; and the RVP/EL, with only the preamplifier. In addition to controlling volume and vibrato, the preamplifier section produces phase shift, distortion, and various wah-wah effects. Both instruments have a three-octave range, F^3 to F^6, with bars 1-1/2 inches wide and one-half of an inch thick.[74]

The recent widespread application of piezoelectric transducers to every means of sound production has resulted in the current use of three methods for the direct amplification of an acoustic vibraphone. The first involves the attachment of two long strips, each containing properly-spaced magnetic pick-ups, to the frame of the instrument, near the underside of each row of bars; these devices are marketed by Deagan as AmpliVibe Pickups and by Musser either as Ampli-Vibe Pick-Ups or as Ampli-Pickups.[75] The second method, pioneered by Bill Dreiman of the too-short-lived Good Vibes Malletworks, Rockville, Maryland, calls for embedding a tiny transducer in each bar. The disc-shaped sensor is sold by Barcus-Berry under the name "Hot-Dot." The third method is the same as that used on the Deagan ElectraVibe, and it appears on the Deagan Model 594 Commander II, introduced in 1976. Using an improved flexible epoxy substance for transducer attachment, this instrument is the first amplified acoustic vibraphone ever put into production in the United States.[76] (The essential features are the same as those of the Model 592 Commander: satin-finished natural aluminum bars, F^3 to F^6, two inches to 1-1/2 inches wide and one-half of an inch thick; black frame with aluminum trim; black wrinkle folding legs; and either treadle-type or ratchet-swivel damper pedal.)

Since the transducer receives and transmits sound in the form of direct energy, it is not affected by acoustical means of sound alteration; the exclusive use of tranducers, therefore, prevents the amplification of the pulsator effect. Any amplified vibrato and/or tremolo must then be obtained synthetically from the amplifier. It is true also that the cost of transducer systems is considerable. Furthermore, there is little evidence to show that any arrangement of transducers will reproduce a more characteristic vibraphone sound than will a pair of good microphones. The primary advantage of the transducers would appear to be (1) its immunity to the leakage of sound from sources other than the vibe (a fun-

damental problem of microphones) and (2) the ease with which it may be coupled with electronic accessory devices.

The field of percussion is continually expanding to include dramatically new instruments and instruments which are adaptations of those already in common use. An example of the latter category is the Thirty-One Tone Vibe (Chromophone), invented by Erv Wilson. Though lacking motor and damper pedal, the microtonal Chromophone (or Chromaphone) uses thick aluminum bars and therefore is sufficiently similar to a vibraphone to warrant its discussion here. In his *World of Percussion*, Emil Richards describes the instrument:

> Range: from 1 unit below middle C (C1/2b 256) up three octaves and 2 units to C1/2# . This instrument is made from tempered aluminum bars with resonating tubes. The octave (2/1) is divided into 31 equal parts. This is a cycle of fifths, tempered by a quarter-comma to give just major thirds (5/4) and excellent harmonic sevenths (7/4) the cyclic completion of the meantone tuning. The perfect fifth (3/2) is approximated by 18 units; the major third (5/4) by ten units; the harmonic seventh (7/4) by 25 units; the harmonic ninth (9/8) by 5 units; the harmonic eleventh (11/8) by 14 units; the harmonic thirteenth (13/8) by 22 units; the harmonic fifteenth (15/8) by 28 units. Symmetrical scales of 5, 7, 12 and 19 tones are to be found in the 31-tone system, plus many ethnic scales found around the world.[77]

Wilson is also the inventor of the Twenty-Two Tone Vibes, which divides the octave into twenty-two unequal parts. The range is 2-1/2 octaves, C^4 (here 264 cps) to F^6. At the time of Richards' writing the instrument was "incomplete but useable."[78]

Conventional vibraphones are currently available from several manufacturers other than those whose products dominate the market (Deagan, Musser, Jenco, Premier, and Studio 49). Among these are Amati, Tuned Percussion, Boosey & Hawkes, Kosth, Nippon Gakki, and Bergerault.

An illustration of the Czechoslovakian Amati vibraphone appears in Alexander Buchner's *Musical Instruments: An Illustrated History*. Three octaves, F^3 to F^6, the instrument features a cable-operated damper pedal similar to the sustain pedal used on electric pianos. This pedal is connected to the instrument only by the cable and may therefore be placed anywhere on the floor. There are no wheel locks, perhaps as a result of this pedal arrangement. Each row of pulsators is propelled by a separate belt, and the motor switch is located on the AC cable.[79]

Blades shows illustrations of vibraphones by Tuned Percussion and by Boosey & Hawkes, both of London. The former instrument, with a model name "Viscount," is three octaves, F^3 to F^6, and all of the bars appear to be 1-1/2 inches wide. The Boosey & Hawkes illustration is merely a detail of the pulsators. All percussion instruments by this firm which the writer has seen bear the name "Ajax."[80]

Vibraphones are manufactured in Japan by the Kosth Company and by Nippon Gakki, the huge firm known in the United States as Yamaha. These instruments are distributed most widely in the Far East, but they are exported to a few other areas.[81]

Jazz vibraphonist Karl Berger plays a custom instrument built by a Frenchman named Bergerault. Without mentioning details, Berger notes that "metal has one of the most intricate overtone ranges. I happen to hear very high in the overtone range, and my particular instrument has a very high range because of the metal Bergerault uses."[82]

The most important advancement in vibraphone design since 1927 was introduced at the Music Educators National Conference (MENC) convention in Atlantic City on 10 March 1976. The Deagan Model 598 Innovator 4 is the first four-octave production vibraphone. The bars, C^3 to C^7, are of uniform 1-1/2-inch wideth, for the purposes of controlling side tones in the low register and for preventing unnecessary instrument length. Like the ElectraVibe and the Commander II, the Innovator 4 is equipped with a system of transducers. It should be pointed out that, contrary to various reports, Deagan has never before produced a four-octave vibraphone. Trommer states that one or two instruments have been built with a 3-1/2-octave range, F^3 to C^7, but these only on special order.[83] (Studio 49 has offered 3-1/2- and four-octave vibraphones on a custom basis for some time.[84]) ·

Conclusion

Despite the fact that it is a product of the current century, a time which has seen the near-deification of precision in all fields, the vibraphone has had a recorded history surrounded by confusion and misinterpretation. It is hoped that Part One of this paper has helped to cast some light onto the details of that history.

Though it has not been the purpose of this study to deal with the musical evolution of the instrument, it should be restated that its growth has been almost entirely within the realm of jazz and that its acceptance by non-jazz composers is a fairly recent development. Perhaps this situation has helped to liberate rather than to restrict the vibraphone (and vibraphonists). Gary Burton shows this feeling when he says,

> . . . I believe this has been a healthy thing for the instrument, if only because jazz music places a great deal of emphasis on the maximum capabilities of the individual player in technique and expression. I also feel that I have learned some basic facts about playing mallet-keyboard instruments from the experiences that jazz music offers which would have remained a mystery in other types of music.[85]

Not to be separated from this impression is the frequent remark that the vibraphone is the most expressive percussion instrument. This is probably true, depending upon a few variables, but it must not be permitted to obscure the most important fact to be remembered from

any history of this sort. Burton puts it this way:

". . . I don't think instruments make contributions. Players do."[86]

[44]Leedy, p. 6; Trommer to writer, 17 April 1976; Leonard Feather, *The Book of Jazz: From Then till Now* (New York: Horizon Press, 1965), pp. 133-135.

[45]Trommer interview; Trommer to writer, 17 April 1976.

[46]Ibid.; Trommer to writer, 1 May 1976; J. C. Deagan, Inc., "Tempered Aluminum," Deagan *Catalog* (Chicago: J. C. Deagan, Inc., [1928-29]), no page (photocopy provided by Hal Trommer).

[47]Trommer to writer, 1 May 1976. Today Musser vibraphone bars are made from an aluminum alloy obtained from the Aluminum Company of America (ALCOA), identified as material No. 2024-T4. Its chemical composition includes the following: silicon 0.50% maximum, iron 0.50% maximum, copper 3.48-4.0% , manganese 0.30-0.9% , magnesium 1.2-1.8% , chromium 0.10% maximum, zinc 0.25% maximum; see Moore, p. 19.

[48]Trommer interview; Trommer to writer, 1 May 1976.

[49]Ibid.

[50]Ibid.

[51]Trommer to writer, 1 May 1976.

[52]Percussive Arts Society (PAS), "Hall of Fame 1975," *Percussive Notes* 14 (Winter 1976): 25.

[53]Ibid.

[54]Blades, p. 407.

[55]Hal Trommer to the writer, 3 May 1976.

[56]Trommer to writer, 17 April 1976; Musser to writer, 5 March 1977.

[57]Trommer interview.

[58]Meyer, p. 24; Trommer interview; R. J. Cunningham, associate of Clair Omar Musser, to the writer, 18 June 1976.

[59]Trommer interview; Meyer, p. 26; Cunningham to writer, 18 June 1976.

[60]Trommer interview; Hal Trommer to the writer, 21 April 1976.

[61]Ibid.

[62]Meyer, p. 26; Ludwig Industries, *Ludwig Catalog Number 75-1* (Chicago: Ludwig Industries, 1974), pp. 2-3.

[63]Trommer interview.

[64]Ibid.; Trommer to writer, 1 May 1976.

[65]Trommer to writer, 17 April 1976; Feather, p. 137.

[66]Martin Denny to the writer, 3 May 1976.

[67]Hal Trommer to the writer, 24 November 1976.

[68]Blades, p. 409.

[69]Trommer to writer, 17 April 1976.

[70]Ibid.; J. C. Deagan, Inc., *Catalog 94* (Chicago: J. C. Deagan, Inc., 1973), pp. ii-10.

[71]Transducer elements were applied to struck plates as early as 1960 (Helmut Fuchs, British Patent 998,247); see Blades, p. 409.

[72]Trommer to writer, 17 April 1976; Rogers Drums, "Concert and Marching Percussion," Rogers catalog (Fullerton, California: CBS Musical Instruments, 1970), pp. 30-31.

[73]Trommer to writer, 17 April 1976.

[74]Studio 49, *Royal Percussion* (Munich: Studio 49, 1973), pp. 10-11.

[75]Deagan, *Catalog 94*, p. 32; Ludwig, p. 71.

[76]Trommer interview.

[77]Emil Richards, comp., *World of Percussion: A Catalog of 300 Standard, Ethnic, and Special Musical Instruments and Effects* (Sherman Oaks, California: Gwyn Publishing Company, 1972), p. 25.

[78]Ibid., p. 27.

[79]Alexander Buchner, *Musical Instruments: An Illustrated History* (New York: Crown, 1973), plate 309, p. 266.

[80]Blades, plates 179-180.

[81]Trommer interview; Trommer to writer, 11 November 1976.
[82]Peter Occhiogrosso, "Karl Berger: Music Universe c/o Woodstock, N.Y.," *Down Beat*, 3 June 1976, p. 18.
[83]Trommer interview; Trommer to writer, 1 May 1976.
[84]Studio 49, p. 2.
[85]Gary Burton, "Evolution of Mallet Techniques . . . 1973," *Percussionist* 10 (Spring 1973): 75.
[86]"The Vibe Tribe," *Newsweek*, 15 May 1967, p. 105.

A Catalog of Selected Solo and Small-Ensemble Literature

Editors Note: This article was completed in its original form in July, 1976. There obviously have been significant additions into the repertoire since this writing.

This catalog contains works composed, arranged, or transcribed specifically for solo vibraphone and for small ensembles featuring vibraphone.

"Small ensembles" are defined arbitrarily here as duets, trios, and quartets.

The catalog does not contain many works which can reasonably be classified as jazz or popular. This limitation, like that of the sizes of ensembles, is practical: The vibraphone was developed and gained prominence solely as an instrument of popular music and jazz, and the reader is well provided with the materials--records, music, methods, books, and articles--needed to pursue the study and performance of this music. (Furthermore, a good deal of the jazz and popular music which actually presents the instrument in a manner so as to accentuate its positive characteristics--that is, the post-Norvo idiom, as opposed to the old clanky-mallet xylophone school--is not written down, which, perhaps, is as it should be.) On the other hand, the catalog does include works by Gary Burton, David Friedman, and David Samuels, players who, though certainly jazz-associated, possess a breadth of musical understanding and educational concern which places their contributions above the standard melody-over-chords concept and among the body of jazz-influenced contemporary music which tends to defy classification.

Catalog entries are listed by title, composer/arranger, and publisher/distributor. No grading system has been employed, even where entries are graded in other catalogs, for the simple reason that there is no viable method of assigning meaningful grades to this music, as is shown by contradictions in existing lists and among their users. Furthermore, it is well known that the most effective grading system is that of practical experimentation and that matters of difficulty are often purely psychological. Since the writer is unable to devote critical attention to each work in the catalog, and since little is to be gained by way of cursory visual assessment, he defers to the reader all such considerations. (Many entries are annotated, however, for the purpose of illustrating important aspects of composition or instrumentation.)[87]

Unaccompanied Solos

1. *Alborada, Op. 63,#2* (1971); de Gastyne; Fereol
2. *Ballade (Night Song);* Stabile; WIM
3. *Ballata, Op. 63, #1* (1970); de Gastyne; Fereol
4. *Berceuse for Tinker Bell;* Hatch; Hatch
5. *Berceuse from Jocelyn;* Godard/Hatch; Hatch
6. *Black is the Color of My True Love's Hair;* de Gastyne, arr.; Fereol
7. *The Case of Nietzche;* LaRosa; Hamar
8. *Chaconne;* Handel/Lylloff; Hansen
9. *Construction;* Schaeffer; Moeck
10. *Contrasts for Vibraphone;* de Beradinis; Seesaw
11. *Le Coucou;* Daquin/de Gastyne; Fereol
12. *Daybreak;* Chapman; MFP
13. *Drifts for Vibraphone;* Kastuck; PPP
14. *Eight Preludes, Op. 37;* de Gastyne; Fereol (includes Unaccompanied Solos no. 43-44)
15. *Etude for Mallet Damping;* Hatch; Hatch
16. *Fascination;* Marschetti/Chappell; WIM
17. *Five Episodes;* Smolanoff; TRE
18. *For Miles and Miles;* Diemente; Seesaw
19. *Four Bagatelles for Solo Vibraphone;* Steiner; Seesaw
20. *Four Mallet Studies;* Burton; Creative
21. *Fugue from Violin Sonata in A Minor;* Bach/Delp; Delp
22. *Gigot (from Partita in Bb);* Bach/de Gastyne; Fereol
23. *Imitation for Vibes;* Breuer; Gornston
24. *Improvisation fur Vibration Solo;* Fink; Junne
25. *Improvisation No. 1;* Breuer; Fox
26. *Improvisation No. 2;* Breuer; Fox
27. *Improvisation and Umkerung;* Fink; Junne
28. *Katalog fur einen Vibraphonspieler;* Heider; Moeck
29. *Links;* Smith; Smith
30. *Links No. 2;* Smith; Smith
31. *Links No. 3;* Smith; Smith
32. *Mallet for classic: masterworks for marimba and vibraharp;* Fink, arr.; Simrock
33. *Master Solo Arrangements for Vibraharp, Vibraphone, and Vibra-Celeste;* Musser, comp.; Gamble (collection of transcriptions; four folios)
34. *Menuet Tres Antique;* de Gastyne; Fereol
35. *Mood Piece;* Frazeur; MFP
36. *New Unaccompained Solos for Vibes;* Burton; Berklee [not yet available as of 15 March 1976]
37. *None But the Lonely Heart;* Tschaikovsky/Chappell; WIM
38. *Ode to an Irish Pumpkin;* LaRosa; TRE
39. *Open My Eyes;* Scott/Hatch; Hatch
40. *Pas seriel s'abstenir;* Guiot; EMS
41. *Perpetual Motion,* Op. 38; de Gastyne; Fereol
42. *Les Poupees Anciennes;* Desportes; EME
43. *Prelude, Op. 37, #1;* de Gastyne; Fereol [included in Unaccompanied Solo no. 14]
44. *Preludes No. 2-8 for Vibraharp;* de Gastyne; Fereol [included in Unaccompanied Solo no. 14]
45. *Recital for Vibraharp;* Davis, comp.; Barnhouse [collection of transcriptions]
46. *Reminiscing for Vibes;* Breuer; Gornston
47. *Seascape;* Hatch; Hatch
48. *Siciliano for Solo Vibraharp;* Spivak; Lang
49. *Solo; 6 Unaccompanied Solos for the Vibe;* Burton; Creative
50. *Solos for the Vibraphone Player;* Finkel, ed.; Schirmer [collection of transcriptions]

51. *Theme form the Polvetsian Dances;* Borodin/Chappell; WIM
52. *Three Pieces, Op. 27;* Beale; ACA
53. *Three Pieces for Vibraphone Solo;* Steiner; Seesaw
54. *Three Preludes, Op. 73;* de Gastyne; Fereol
55. *Three Studies After Heller;* de Gastyne; Fereol
56. *Traumeri;* Schumann/Hatch; Hatch
57. *Two Preludes from Scriabin;* de Gastyne; Fereol
58. *Valse Mystique;* Hatch; Hatch
59. *Vibraharp Moods;* Blank; RFT
60. *Vibraphone Technique: Dampening and Pedaling;* Friedman; Berklee [collection of etudes]

Accompanied Solos

1. *Concertino fur Vibraphon und Klavier;* Fink; Wrede [piano part is reduction of orchestral score; see Solos with Orchestra no. 1-2]
2. *Courtes Pieces, Album No. 4;* Dupin; TRE [with piano]
3. *Dido's Lament;* Purcell/Brown; Seasun [with two violins, viola, cello, and bass]
4. *Drumistec I;* Delecluse; TRE [with piano; some xylophone by vibraphonist]
5. *Interactions for Vibraphone and Percussion;* Bergamo; TRE [with six percussionists]
6. *Liaisons;* Haubenstock-Ramati; Universal [may be performed either as solo with performer-prepared tape or as vibraphone-marimba duet; very deep tam-tam needed]
7. *Perpetual Commotion;* Brown; TRE [with piano]
8. *Three Ballads* (Liszt, Liebestraum; Dedrick, Blue Nocturne; Drigo, Valse Bluette); Brown, arr.; TRE [with piano]
9. *Two Archaic Dances;* Russell; TRE [with piano]
10. *Vibracussion: concert for vibraharp and percussion-ensemble;* Fink; Wrede

Solos with Orchestra

1. *Concertino fur Vibraphon* und Streichorchester; Fink; Wrede [same piece as Accompanied Solo no. 1]
2. *Concertino fur Vibraphon* und Streichorchester oder Klavier; Fink; Wrede [same piece as Accompanied Solo no. 1]
3. *Concerto pour marimba* (et vibraphone) et orchestre; Milhaud; Enoch [marimba and vibraphone played by one performer]

Duets

1. *Air and Gavotte from Partita in E Minor;* Bach/de Gastyne; Fereol [vibraphone and marimba]
2. *Cantos 1975;* Steiner; TRE [vibraphone and medium voice]
3. *Conversation Piece;* Bond; TRE [vibraphone and viola]
4. *Duos for Vibes and Marimba;* Friedman and Samuels; Lang [in preparation as of 18 March 1976]
5. *The Everglades;* Hatch; TRE [two marimbas and vibraphone needed]
6. *Fantasia;* Mozart/de Gastyne; Fereol [vibraphone and marimba]
7. *Five Improvisations for Vibraphone and Piano;* Takeuchi; TRE
8. *Four Miniatures for Flute and Vibes;* de Beradinis; Seesaw
9. *Four Songs for Medium Voice and Vibraphone;* Steiner; Seesaw
10. *Fragment No. 5;* Gibson; TRE [vibraphone and viola]
11. *Frammento, Op. 10;* Ferritto; ACA [trumpet in C and vibraphone]
12. *Impression Nr. 1 fur Flote and Vibraphon;* Fink; Simrock
13. *Interludes for Medium Voice and Vibraphone;* Steiner; Seesaw (three interludes)
14. *Interludes for Oboe and Vibraphone;* de Beradinis; Seesaw
15. *Liaisons;* Haubenstock-Ramati; Universal [may be performed either as solo with performer-prepared tape or as vibraphone-marimba duet; very deep tam-tam needed]
16. *Melody; Khatchaturian/Duesterbeck;* Black River [marimba and vibraphone]

17. *Mutables for Vibraphone and Piano;* Gonzalez; Gonzalez
18. *New Poems for Viola and Vibraphone;* 1974; Steiner; Seesaw
19. *Notturno e Due Scherzi;* Loeb; Lang [clarinet and vibraphone; some small percussion by vibraphonist]
20. *Quatre preludes pour vibraphone et piano;* Ptaszynska; Ptaszynska
21. *Rhapsody for Vibraphone and Violin;* de Beradinis; Seesaw
22. *Rondel for Medium Voice and Vibraharp;* de Gastyne; Fereol
23. *Schwarz--wie die Teppiche Salomos;* Salbert; Zimmerman [high female voice and vibraphone]
24. *Serenade for Vibraphone and Marimba;* dePue; Hamar
25. *Song at Year's End;* Cuomo; Media [flute and vibraphone]
26. *Three Baroque Dances;* Duesterbeck; Black River [marimba and vibraphone]
27. *Two Sketches for Flute and Vibraphone;* de Beradinis; Seesaw
28. *Two Songs on Tanka Poems for Medium Voice and Vibraharp;* de Gastyne; Fereol
29. *Zeitdehner;* Washburn; TRE [vibraphone/marimba and viola]

Trios

1. *Coming in Glory;* LaRosa; TRE [vibraphone, alto saxophone, and trombone]
2. *Deux chansons francaises;* de Gastyne; Fereol [soprano, flute, and vibraphone]
3. *Durations IV;* Feldman; Peters [violin, cello, and vibraphone]
4. *For Him;* Silverman; TRE [vibraphone, flute, and cello]
5. *Formlets for Three Vibraphones;* Russell; Seesaw
6. *Madrigals, Book I;* Crumb; Peters [soprano, vibraphone, and contrabass]
7. *Music for Three;* Heussenstamm; Seesaw [amplified bass flute, vibraphone, and percussion]
8. *Poikilos Flute;* Heussenstamm; Seesaw [alto flute, vibraphone, and percussion]
9. *Prelude & Dance for PVC;* Hoskins; ACA [piccolo, vibraphone, and contrabassoon]
10. *Sonata, Op. 21;* Noon; Fischer [clarinet, piano, and vibraphone]
11. *Speak Softly;* Blickham; TRE [vibraphone, soprano, and flute]
12. *Suspensions;* Zinn; TRE [vibraphone, alto saxophone, and bassoon]

Trio with Orchestra

1. *Concerto for Xylophone, Marimba, Vibraphone, and Wind Orchestra;* Nelson; Peters

Quartets

1. *Constellation;* Hachimura; TRE [violin, piano, vibraphone, and tubular bells]
2. *Quartet 1966;* Diemente; Seesaw [flute, clarinet, vibraphone, and contrabass]
3. *.Quartett for Violine, Vibraphon, Klarinette in A, and Violoncello;* Westergaard; B-M
4. *The Session;* Gottschalk; TRE [vibraphone, flute, alto saxophone, and string bass]
5. *Six Reflections;* Frank; TRE [two vibraphones and two xylophones]
6. *Spiegel-Kanon von W. A. Mozart, fur Mallet-Quartett;* Leonard, arr.; Simrock (two marimbas, glockenspiel, and vibraphone]
7. *Three Bagatelles with Contrabassoon, Flute, Clarinet, and Vibraphone;* Pleskow; Seesaw
8. *Two Poems for Jazz Quartet;* Blacher; Bote & Bock [vibraphone, bass, drums, and piano; although dedicated to the Modern Jazz Quartet and containing various jazz-influenced lines, phrasings, and voicings, this is most definitely not a jazz composition]

List of Publishers

ACA: American Composers Alliance, 170 West 74th Street, New York, New York 10023
AMP: Associated Music Publishers, 866 Third Avenue, New York, New York 10022
Barnhouse: C. L. Barnhouse, 110 B Avenue East, Oskaloosa, Iowa 52577
Berklee: Berklee Press Publications, 1140 Boylston Street, Boston, Massachusetts 02215
Black River: The Black River Folk Co., Ltd., Route R, Woodview Drive, Onalaska, Wisconsin 54650

B-M: Belwin-Mills Publishing Corp., Melville, New York 11746
Bote & Bock: See AMP
Creative: Creative Music, 1701 De L'Ogier, Glenview, Illinois 60025
Delp: Ron Delp; see Berklee
EME: Editions Max Eschig; see AMP
EMS: Editions Musicales Sforzando, 126 Rue Cardinet, 75017 Paris, France
Enoch: Enoch & Cie. Editeurs; see AMP
Fereol: Fereol Publications, P.O. Box 6007, Alexandria, Virginia 22306
Fischer: Carl Fischer, Inc., 62 Cooper Square, New York, New York 10003
Fox: Sam Fox Publications, 62 Cooper Square, New York, New York 10003
Gamble: Gamble Hinged Music Co.; see MPHC
Gonzalez: Luis Gonzalez, 1401 Enfield Road, No. 105, Austin, Texas 78703
Gornston: David Gornston; see Fox
Hamar: Hamar Percussion Publications, Inc., 333 Spring Road, Huntington, New York 11743
Hansen: Wilhelm Hansen Musik-forlag; see Magnamusic
Hatch: Hatch Publications, 5140 Vineland Avenue, North Hollywood, California 91601
Junne: Verlag Otto Junne, Sendlinger Tor Platz 10, 8 Munchen 2, West Germany
Lang: Lang Percussion Company, 139 West 87 Street, New York, New York 10024
Leduc: Alphonse Leduc, 175 Rue Saint-Honore, 75-Paris Ier, France
Magnamusic: Magnamusic-Baton, Inc., 10370 Page Industrial Boulevard, St. Louis, Missouri 63132
Media: Media Press, P.O. Box 895, Champaign, Illinois 61820
MFP: Music for Percussion, 17 West 60th Street, New York, New York 10023
Moeck: Moeckverlag; see B-M
MPHC: Music Publishers Holding Corp., 619 West 54th Street, New York, New York 10019
Peters: C. F. Peters Corporation, 373 Park Avenue South, New York, New York 10016
PPP: Paul Price Publications, 470 Kipp Street, Teaneck, New Jersey 07666
Presser: Theodore Presser, Elkan-Vogel, Presser Place, Bryn Mawr, Pennsylvania 19010
Ptaszynska: Marta Ptaszynska; see Leduc
RFT: RFT Music Publishing Corp., 151 West 46th Street, New York, New York 10036
Schirmer: G. Schirmer, Inc., 866 Third Avenue, New York, New York 10022
Seasun: Seasun Experience, Box 2068, Prairie View, Texas 77445
Seesaw: Seesaw Music Corporation, 177 East 87th Street, New York, New York 10028
Simrock: N. Simrock; see AMP
Smith: Smith Publications, 1014 Wilmington Avenue, Baltimore, Maryland 21223
TRE: TRE Music Company, 1402 East Kleindale Road, Tucson, Arizona 85719
Universal: See Presser
WIM: Western International Music, 2859 Holt Avenue, Los Angeles, California 90034
Wrede: Verlag Otto Wrede, Schumannstrasse 35 a, Wiesbaden, West Germany
Zimmerman: See Peters

Appendix One

Performance Frequency of Solo and Small-Ensemble Literature

The following is a survey of the performance frequency of solo and small-ensemble vibraphone literature in student and faculty recitals and in concerts from early 1971 through early 1976, as listed in the "Programs" section of *Percussive Notes* magazine, Fall 1971 to Spring/Summer 1976. The number of performances for a work which consists of a collection of short pieces indicates the number of times that one or more of its component pieces was played. Works which

received the same number of performances are listed "chronologically"; that is, in the order in which they were encountered in the survey.

Composer/ Arranger and Work	Number of Performances
de Gastyne, Preludes	26
Milhaud, Concerto	21
Burton, Solo	15
Stabile, Ballade	12
Bergamo, Interactions	11
Haubenstock-Ramati, Liaisons	9
Steiner, Four Bagatelles	9
de Gastyne, Rondel	8
Fink, Concertino	7
Takeuchi, Five Improvisations	7
Beale, Three Pieces	7
Steiner, Three Pieces	6
de Gastyne, Menuet Tres Antique	6
Daquin/de Gastyne, Le Coucou	6
de Gastyne, Two Songs on Tanka Poems	5
Russell, Two Archaic Dances	5
de Gastyne, Deux chansons francaises	5
Steiner, Four Songs	4
Fink, Vibracussion	4
Cuomo, Song at Year's End	3
Frazeur, Mood Piece	3
de Gastyne, Two Preludes from Scriabin	3
Steiner, Interludes	3
Russell, Formlets	3
Friedman, Vibraphone Technique	3
Bach/de Gastyne, Air and Gavotte	2
Schaeffer, Construction	2
Finkel, Solos	2
Ptaszynska, Quatre preludes	2
Diemente, For Miles and Miles	2
Fink, Impression Nr. 1	2
de Beradinis, Contrasts	2
de Gastyne, Ballata	2
de Beradinis, Four Miniatures	2
Borodin/Chappell, Theme	1
Blacher, Two Poems	1
de Beradinis, Rhapsody	1
Washburn, Zeitdehner	1
Tschaikovsky/Chappell, None But	1
Chapman, Daybreak	1
Crumb, Madrigals, Book I	1
Hatch, Everglades	1

de Gastyne, Three Studies after Heller 1
de Gastyne, Black is the Color 1
Total number of performances: 219

Appendix Two
Recommendations For Further Research

The following is a brief description of topics which show a need for further study:

Investigation of the music and performance practices peculiar to the vibraphone before its acceptance as a jazz instrument; detailed study, with musical excerpt analysis (and disc transcription analysis), of the vibraphone in jazz; study of the influence which the development of the vibraphone as a jazz instrument has had upon non-jazz literature; detailed study, with musical excerpt analysis, of the vibraphone in the standard repertoire of major composers, both in chamber and in symphonic settings; compilation of a catalog of literature for vibraphone in symphonic ensembles; compilation and publication of a list of vibraphone works listed in the "Programs" section of *Percussive Notes* magazine and in other sources which appear to be unpublished, as a means of contacting the composers and arrangers to determine the availability of these works.

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———. S.v. "Voice-Training."

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COMMERCIALLY AVAILABLE EXCERPTS FOR PERCUSSION

Compiled by David W. Vincent
Percussion Instructor
East Tennessee State University
Johnson City, Tennessee

Abbreviations

A2 - Alan Abel, *Twentieth Century Orchestra Studies for Percussion*, New York: G. Schirmer, Inc., 1970.
AP - Al Payson, *The Snare Drum in the Concert Hall*, Park Ridge, Ill.: Payson Percussion Products, 1970.
CG2 - Carl Gardner, *The Gardner Modern Method for Drums*, New York: Carl Fischer, Inc., 1945.
CG3 - Carl Gardner, *The Gardner Modern Method for Bells, etc.*, New York: Carl Fischer, Inc., 1919.
JL - Joseph Leavitt, *The Rhythms of Contemporary Music*, New York: Henry Adler, Inc., 1963.
MG1 - Morris Goldenberg, *Modern School for Snare Drum*, New York: Chappell & Co., Inc., 1955.
MG5 - Morris Goldenberg, *Modern School for Xylophone, etc.*, New York: Chappell & Co., Inc., 1950.

* - Indicates complete part.

Percussion parts are also available from Edwin F. Kalmus Co. for all works listed in their catalog. For information, write to P.O. Box 1007, Opa-Locka, Florida 33054.

No timpani excerpts are listed here, except for those appearing with other percussion parts. For timpani excerpts, refer to Commercially Available Excerpts for Kettledrums found in PERCUSSIONIST, Volume XIV, Number 3, Summer 1977.

Adam	*If I Were King Overture* - bells, CG3-74
Albeniz	*Iberia Suite: Triana* - bells, A2-1 (letters F-I)
Antheil	*Symphony # 5* - snare drum, JL-86 (# 15-16, 19, 20-21, 35, 37-38)
Auber	*Fra Diavolo Overture* - snare drum, bass drum, cymbals, CG2-70 (first 53 meas., last 30 meas.)
	Masaniello Overture - snare drum, bass drum, cymbals, AP-14 (L to end); CG2-77 (L to end)
Balakirev	*Islamey (arr. Casella)* - triangle, tambourine, snare drum, cymbals, bass drum, MG1-147 (#45-48)
Barber	*Media's Meditation and Dance of Vengeance* - A1-1 *
Bartok	*Concerto for Orchestra* - snare drum, timpani, AP-30 (Movt. 2 *)
	Sonata for 2 Pianos and Percussion - MG1-157 (movt. 1, meas. 386-411; movt. 2, m. 1-24, 66-end; movt. 3, m. 117-133, 309-324, 351-end)
Beethoven	*Wellington's Victory* - snare drum, AP-16 (English and French cadences at start; AP-44 (first 168 meas. of The Battle)
Bennett	*Drum Tune # 7* - vibraphone, MG5-130 *
Berio	*Circles* - score, AP-117 (first 3 pages)
Berlioz	*Rakoczy March* - snare drum, MG1-82 (#4 to end)
	Roman Carnival Overture - tambourine, CG2-84 *; Tambourine, MG1-107 (#3-end); triangle, MG1-110 (#3-5)
Bernstein	*Age of Anxiety* - score, A2-12 (Variations X, XI, XIV; The Masque, #14-21, #32-39); score, MG1-155, (The Masque, start to 13, #33, epilogue; Variation V)
	Candide Overture - score, A2-6 (start-meas. 81, m. 132-176, m. 190-end)
	Chichester Psalms - bells, xylophone, A2-10 (movt. 1, meas. 80-101), score, A2-11 (movt. 2, meas. 64-end)
Bizet	*L'Arlesienne* - Tambourin Ap-26 (Farandole *)
	Carmen - tambourine, MG1-101 (Entr'acte # 3 *); castanets, MG1-117
Bloch	*Schelomo* - snare drum, MG1-78 (#2-end)
Blon	*Sizilietta (Arr. Moses)* - bells, CG3-75 *
	Whispering Flowers - bells, CG3-76 *
Borodin	*Prince Igor, Polovetzian Dances* - score, MG1-137 *
Chabrier	*Espana Rhapsodie* - bass drum, cymbals, CG2-118 (Start-B, E-end)
Chavez	*Sinfonia India* - score, A2-15 (start- #20)
Cowell	*Concerto for Percussion* - score, JL-99 (movt. 2, meas. 66-85)
	Symphony # 4 - xylophone, A2-17 (movt. 3, start-F)
	Symphony # 11 - xylophone, tom-toms, glass bowls, A2-18 (movt. 2 *)
Creston	*Chtonic Ode* - tom-tom, tenor drum AP-90 (meas. 67-80)
	Invocation and Dance - score, A2-19 (meas. 102-163)
Debussy	*Nocturnes, Fetes* - snare drum, MG1-82 (solos only)
	Prelude a l'Apres-Midi d'un Faune - antique cymbals, MG1-94 (10)
Delibes	*Lakme, Bell Song*- bells, MG5-131 (Allegro section)
Dubois	*La Farandole* - bells, CG3-77 (Ballet de l'Opera)
Dukas	*Sorcerer's Apprentice* - bells, A2-21 (# 17-26, 31, 39-40, 52)
Dorak	*Carnaval Overture* - tambourine, MG1-1)5 *
Falla	*The Three-Cornered Hat* - bass drum, MG1-91 (Doppio meno vivo section)
Flotow	*Stradello Overture (arr. Moses)* - Bass drum, CG2-116 *
Gershwin	*Porgy and Bess* - xylophone, MG5-122 (Overture, start-meas. 18; Act 1, Scene 1, #69, #120)
Ginastera	*Cantata para America Magica* - multiple-perc., JL-97 (movt. 1, m. 10-21; movt. 3, m. 110-126); xylophone, marimba, JL-98 (movt. 3, m. 110-126)

	Raymonda Ballet - triangle, MG1-113
	Latin American Symphonette - xylophone, vibraphone MG5-129 (Guaracha *, Harvest-start)
	Minstrel Show - wood block, sandpaper, MG1-116 (J)
	Pavanne - drum set, MG1-119 (D)
Grainger	*Shepherd's Hey* - xylophone, bells, timpani, MG5-119 *
	Spoon River - marimba, xylophone, bells, timpani, MG5-121 *
Hartmann	*Symphony* # 6 - bells, 2 xylophones (4 players), (movt. 1 21, 77, 101; movt. 2 # 98, 261, 281, 582)
Haydn	*Symphony #100 (Military)* - triangle, bass drum, cymbals, MG1-136 (movt. 2, meas. 161-end)
Herbert	*Fortune Teller* - bells, CG3-73; xylophone, cymbals, snare drum, CG3-84; chimes, CG3-105
	Red Mill - bells, CG3-73; xylophone, CG3-82
Hindemith	*Mathis der Maler* - bells, snare drum, cymbal (movt. 1, start # 2, 22-23; movt. 3, start # 2) A2-25
	Sinfonia Serena - bells, snare drum, triangle, cymbals, A2-30 (movt. 1, letter T-V; Finale, start, H-L)
	Symphonic Metamorphosis - score, A2-26 (movt. 2 *)
Holst	*The Planets* - bells, xylophone, A2-31 (Jupiter, VI, XVI; Uranus, start-meas. 42, # VII)
Honegger	*Pacific 231* - tenor drum, MG1-87 (meas. 73-109), tenor drum, cymbals, bass drum, MG1-148 (m. 173-end)
Isenman	*Kiss Me Quick* - bells, CG3-75 (last 16 meas.)
Ives	*Gong on the Hook and Ladder* - snare drum, triangle, AP-70 * (analysis in appendix)
	Symphony # 4 - indian drum, snare drum, bass drum, cymbals, AP-72 (movt. 2, # 10-end) (analysis in appendix)
	Three Places in New England, Putnam's Camp - snare drum, bass drum, cymbals, AP-71 (letter O) (analysis in appendix)
Johnston	*Knocking Piece - score*, AP-113 (2 pages)
Kabalevsky	*Colas Breugnon Overture* - xylophone, MG5-113 (meas. 77-98, 324-335); JL-88 (m. 77-98)
	The Comedians - xylophone, JL-88 (Prologue, Comedians' Galop)
Khachaturian	*Gayne Ballet* - xylophone, MG5-117 (Dance of the Rose Maidens *); xylophone, MG5-118 (Sabre Dance *); xylophone, snare drum JL 87 (Sabre Dance, start- #5); snare drum, cymbals, A2-31 (Dance of the Kurds); xylophone A2-3 (Dance of the Young Kurds, # 19-end); snare drum, A2-31 (Lesginka, start-m. 8)
Kleinsinger	*Peewee the Piccolo* - xylophone, bells, MG5-124 (start-# 6, #10-12, 14-15, 17-18, 24, 26, 30, 33-35, 45, 53-55, 58-end)
	Tubby the Tuba - xylophone, MG5-124 (#2, 14, 43-end)
Kodaly	*Hary Janos Suite* - snare drum, AP-16 *; score, A2-32 (movt. 2, start 1, 5-end; movt. 6, start 1, 7, 10-end)
Korngold	*Much Ado About Nothing* - xylophone, MG5-104
Levin	*Prelude in G* - xylophone, MG5-127 *
Liszt	*Hungarian Rhapsody* # 2 - bells, MG5-102 (letter B); bells, bass drum, triangle, CG3-74 (start-B)
	Piano Concerto #1 - triangle, MG1-110
Losey	*Alita* - bells, snare drum, bass drum, cymbals, CG3-75 ("Morceau", end)
Meacham	*American Patrol* - snare drum, tambourine, bass drum, cymbals, CG2-66 *; AP-50 *
Meyerbeer	*L'Africaine* - bells, CG3-77
Milhaud	*La Creation du Monde* - drum set, AP-96*

Moszkowski	*Bolero* - triangle, CG2-81 *
Moussorgsky	*Night on Bald Mountain* - bass drum, cymbals, MG1-95 (#18)
Mozart	*Magic Flute* - bells, MG5-102 (Act. 1 Finale, m. 264-325); CG3-82 (Act 1 Finale, m. 264-325)
Nielsen	*Symphony #5* - snare drum, A2-36 (#33-end)
	Symphony #6 - bells, triangle, snare drum, A2-39 (movt. 2 *); xylophone, triangle, snare drum, bass drum, A2-39 (movt. 4, variation 9 *)
Orff	*Carmina Burana* - score, A2-43 (movt. 14 *; 20 *; 22, start-meas. 15; movt. 24, start-meas. 4)
Piston	*Symphony #4* - score, A2-48 (movt. 2, meas. 90-110)
Planquette	*Bells of Normandy* - bells, snare drum, bass drum, CG3-80
Ponchielli	*La Gioconda, Dance of the Hours* - bells, CG3-79 *
Prokofiev	*Alexander Nevsky* - wood block, MG1-116 (movt. 5, 51-52); snare drum/brushes, MG1-119 (movt. 7); xylophone, bells, MG5-111 (#30, 81-83, 90-end)
	Lieutenant Kiji Suite - snare drum, bass drum, JL-89 (#1); AP-53 (#1, start-meas. 32)
	Love of Three Oranges - xylophone, bells, snare drum, A2-49 (March *, Scherzo *)
	Peter and the Wolf - field drum, MG1-84 (#49-51); cymbals, MG1-93 (#14)
	Piano Concerto # 3 - castanets, MG1-117
	Romeo and Juliet, Suite #1 - xylophone, bells, snare drum, bass drum, cymbals, A2-53 (movt. 1, #14-16; movt. 4, #44-46; movt. 5, 47-48; movt. 7, #63-69, 79-end)
	Romeo and Juliet, Suite #2 - bells, snare drum, tambourine, maracas, A2-56 (movt. 2, #12; movt. 4, #25-27; movt. 6, #52-54)
	Scythian Suite - xylophone, bells, MG5-109 (movt. 1, # 2-4; movt. 2, 23-27, 32-33; movt. 3, # 51; movt. 4, # -57-62, 69-71)
	Symphony # 5 - field drum, MG1-84 (movt. 2, #28); wood block, MG1-116 (movt. 2, #30); tambourine, wood block, snare drum, MG1-149 (movt. 2, #43, movt. 4, #111-end); snare drum, wood block, bass drum, triangle, tambourine, A2-57 (movt. 2, #26-39)
	Symphony 6 - bass drum, MG1-91 (#18); bass drum, cymbals, MG1-95 (#43); triangle, MG1-113 (#103); cymbals, snare drum, tam-tam, MG1-151 (#29-30, 50, 120)
	Symphony # 7 - snare drum, triangle, bells, JL-89 (movt. 4, #93-110); score, A2-58 (movt. 1, # 6-7, 11, 16-end; movt. 2, # 18-29, 61-63, 64-end; movt. 3, #72; movt. 4, #91-104, 110-end)
Ravel	*Mother Goose Suite* - xylophone, MG5-104 (movt. 3, # 7-8); CG3-85 (movt. 3, # 7-8, # 19-end)
Resphigi	*Pines of Rome* - triangle, tambourine, MG1-113 (#7-9); ratchet, MG1-118.
Revueltas	*Sensemaya* - score, MG1-153 (#1, 8, 11, 23-24, 34-36); score, A2-62 (#30-39)
Riegger	*Dance Rhythms* - marimba, snare drum, A2-64 (start-meas. 17, letter R-U)
Rimsky-Korsakov	*Capriccio Espagnol* - score, MG1-140 *; snare drum, AP-18 (movt. 3, start; movt. 4 *)
	Scheherazade - snare drum, MG1-79 (movt. 3-4 *); bass drum, cymbals, tam-tam, MG1-96 (movt. 4 *); tambourine, MG1-103 (movt. 4 *); traingle, MG1-111 (movt. 4 *); snare drum, AP-27 (movt. 3-4 *)
Rossini	*La Gazza Ladra Overture* - snare drum, bass drum, cymbals, AP-15 *; CG2-68 * (arr. Moses)
Saint-Saens	*Dance Macabre* - xylophone, CG3-83 *

	Samson and Delilah, Bacchanale - castanets, MG1-117 (Allegro section)
Schuller	*Seven Studies on Themes of Paul Klee* - bells, vibraphone, JL-92 ("Little Blue Devil", D-E); wood block, guiro, JL-93 ("Twittering Machine" *); tom-toms, timpani, bass drum, JL-94 ("Arab Village" *); timpani, bass drum, claves, triangle, JL-96 ("An Eerie Moment" *)
Schuman	*Circus Overture* - snare drum, A2-65 (meas. 32-54)
	Judith - xylophone, A2-66 (meas. 360-388)
	Symphony #3, Toccata - snare drum, xylophone, A2-66 (meas. 142-254, 362-399); snare drum, AP-32 (meas. 143-199); MG1-83 (m. 143-199)
Varese	*Ionisation* - complete score, MG1-163 *
Wagner	*Gotterdammerung, Siegfried's Rhine Journey (Prelude to Act 1)* - bells, MG5-103
	Siegfried, Forest Murmurs - bells, MG5-103 (concert version *); CG3-81 (concert version *)
	Tannhauser - castanets, MG1-117 (Bacchanale; Act 1, Scene 1, meas. 119-153); castanets, CG2-82 (Venusberg *)
Waldteufel	*Espana Waltz* - score, CG2-92 (arr. Wright)*
	The Skaters Waltz - score, CG2-90 (arr. Wright) *
Walton	*Facade Suite #2* - drum set, MG1-133 *
Wolf-Ferrari	*Jewels of the Madonna* - xylophone, MG5-104 (Dance of the Camorrists, #7-end)
Yradier	*La Paloma* - score, CG2-89 *

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Percussion Research
by
H. Tom Coursey
For
Dr. Sherman Hong
Professor of Percussion
University of Southern Miss.

The following is a review of Beckford, John S., *The Kettle-drumming Profession in England Between 1660-1750,* August, 1975 (unpublished).

The purpose of this study was to "illustrate the occupation (kettledrumming) and all its different facets and characteristics" for this period. To do this the author has drawn much information from many sources "trying to establish a picture of these musicians lives". The study is divided into two major divisions -- "Life Under Royalty" and "Life in the Theater and Concert Halls". Included under these are descriptions of the performers-their training, duties, wages, instruments used, and their own personal belongings. There is a section on "The Kettledrummer's Music" which includes how composers would write, and how much freedom the performer took with his playing (embellishments, etc.)

The kettledrums were used along with the trumpets, both of which were closely associated with royalty and martial music. Germany had

become the model for all trumpeters and kettledrummers in western Europe. The influence of France and Italy were also felt (so much that kettledrums were for a long time referred to by their Italian name, timpani, even in court records). Yet, the kettledrummers found other, and distinctly English usage. They escorted royalty on trips across the country or even abroad, and they were used in celebrations and church services.

Becoming a kettledrummer was a long process. Kettledrummers usually graduated from the ranks (and there were many) of ordinary drummers. One becoming a kettledrummer found his duties many and varied, but was usually compensated with having quality instruments on which to perform and liberal pay (both, however, comparable to his status).

Kettledrums made their way into the theater as early as 1604. They eventually became quite popular and many times were assigned solo or important parts. Kettledrumming went on to become a frequent attraction at theaters, sometimes at preconcert performances. There were several outstanding kettledrummers at this time, and their pay was also quite liberal.

In conclusion the author states "The kettledrumming profession in England between 1660 and 1750 was an honorable occupation that drew respect, envy, and interest from nonkettledrummers, and talent, envy, and flamboyance from the few who played these drums.... At no other time in English history would the kettledrummer and his instrument claim so much stature".

This study appears to have been very carefully researched and is very well written, in an easily readable and orderly manner. It is housed in the Percussion Research Collection of the University of Southern Mississippi. Inquiries about this (and other studies in the collection) can be sent to:

Mr. Henry Simmons
USM Library
Southern Station Box 53
Hattiesburg, Ms. 39401

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Letters to the Editor

Dear Mr. Fluegel,

Enclosed you will find a letter which I felt inspired to write. This brief note is just to say thank you for your contributions through the society to the world of percussion. My membership in P.A.S. has only been for a few years but the society has been a vital force in my percussive education and development. I've just graduated from Moorhead State University in Minnesota and have been passing on the word about

P.A.S. to the students whom I teach and to drummers I meet. I think the publications of P.A.S. are excellent, and I hope we can keep the high standard and increase the membership. Thank you.

Sincerely yours,
Kenne Thomas
507 10th St. S.
Moorhead, MN 56560

Dear Neal,

I am enclosing my dues for the coming year, grateful in the knowledge that I am not required to pay dues both as a professional and a music educator.

I am also assuming that this becomes an opportunity for others, as well as myself, to give PAS and those dedicated to it a well deserved pat on the back for rendering the unique service it affords in so many ways to the world of percussion.

I also wish to take this opportunity to suggest to you that somehow or other the point should be made that when percussionists indiscriminately confuse the terms "trill" and "tremolo," they are perpetuating the kind of nonthinking-unmusical attitude that characterized drum pedagogy for so many years.

The old fashioned use of the symbol tr, whether alone or with a wavy line, signified tremolo. This called for alternation of strokes when applied to the percussion instruments in use at the time, (whether single strokes as on a kettledrum, or double strokes as on a snare drum) or could refer to alternation of up and down bows on a string instrument.

Strictly speaking, a trill is a tremolo, but played on two notes according to rules of performance involving the principal note and its upper neighbor in the scale. Hence we play trills only on pitched instruments, (although I can't think of any occasion that involved timpani repertoire) in which case the difference between a tremolo and a trill becomes significant.

To that end, the only material that could be added that is pertinent to my claim would be the following quotes from Webster's (New International Dictionary) who says, in part, of the tremolo: "The rapid fluttering reiteration of a tone." Concerning the trill he says: "The alternation of *two tones* a degree apart; a shake. (The emphasis is mine.)

If I am incorrect in these observations, or it is deemed that I am belaboring a point, any criticism would be accepted and appreciated, because I believe that that is what PAS is all about.

Sincerely,
Wm. Schneiderman
1214 Raven Drive
Pittsburgh, Pa. 15243

The Challenge

The following letter was sent to Dr. Gary Olmstead by the Executive Secretary on behalf of the entire Society.

Dear Gary,

We wish to express our appreciation and gratitude for the fine work and enormous amount of time and energies given to the Percussive Arts Society during your reign as President. Through your fine leadership and continued awareness of the needs of the organization, we have had an exceptionally fine growth, have made great strides in accomplishing our many extensive goals, and are financially solvent.

We know you will maintain an active interest in the future work of the Society and that you will continue an immediate direct involvement as a continuing member of the Board of Directors. We will also continue to look forward to your council and suggestions as you join three other outstanding leaders of the Society as a member of the Ex Officio Advisory Committee.

Sincerely,

Neal Fluegel
Exec. Sec. PAS

We are very pleased to announce the election of Mr. Jim Petercsak as our new President. In his past position as First Vice President, he has been most successful in working with existing committees and establishing additional committees. Through this work he has given extensively of his time and we feel certain he will be an excellent President.

Dr. Larry Vanlandingham who has done such fine work as Second Vice President in organizing state chapters and recently, chapters outside the United States, will succeed Jim as First Vice President in charge of committee activities. Judging from his past efforts we are confident he will do excellent work as he meets the new challenges of committee activity.

We are also pleased to welcome a new officer and member of the Executive Committee, Ms. Karin Ervin as Second Vice President. Karen is well known as a fine performer and teacher. We are most pleased that she has accepted this challenging position, and we look forward to her work and any additional new concepts she can add to the Executive Committee as an incoming new member.

Time and Place

1978-PASIC, October 28-30, Arizona State University, Tempe, Arizona
Mervin Britton, Program Chairman

PLAN NOW TO ATTEND
the
Illinois Chapter

—DAY OF PERCUSSION—

December 17, 1977
at
American Conservatory of Music
116 So. Michigan Ave.
Chicago, Illinois

8:00 a.m. - 5:00 p.m.

Jim Piekarczyk - Chairman

**** PROGRAM ****

Clinics - Demonstrations - Workshops - Rap-Sessions - Concerts - Including:

Gordon Peters	Principal Percussionist with the Chicago Symphony Orchestra.
Harvey Mason	World-acclaimed Recording Drummer from Los Angeles, Calif.
Tele Lesbines	Timpanist with the Milwaukee Symphony Orchestra.
Dave Samuels	Vibraphone Specialist from New York.
Marty Hurley	Percussion Instructor of the Phantom Regiment, drum and bugle corps.
Karen Ervin	Solo Percussionist.
Gerldo De Oliveira	Latin and Brazilian Percussion Specialist.
Ron Keezer	Percussion Instructor at the University of Wisconsin.
Jim Petercsak	President of the National Percussive Arts Society, (Guest speaker).
John B. Austin	Winner of the National P.A.S. 4th annual 1977 Percussion Composition Contest. (Premiere Performance by Terry L. Applebaum and Ed Poremba).
Peter Erskine	Drummer with Maynard Ferguson

NOTE: Send your advanced registration to:
Jim Piekarczyk
ccs/music
Governors State University
Park Forest South, Illinois 60466

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