



Percussionist

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PERCUSSIVE ARTS SOCIETY, INC.*

VOLUME X, NUMBER 2
WINTER, 1972

PERCUSSIVE ARTS SOCIETY, INC.
(PAS)

PURPOSE--To elevate the level of music percussion performance and teaching; to expand understanding of the needs and responsibilities of the percussion student, teacher, and performer; and to promote a greater communication between all areas of the percussion arts.

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TEACHING POLYRHYTHMS

Ron Delp

Berklee College of Music
Boston, Mass.

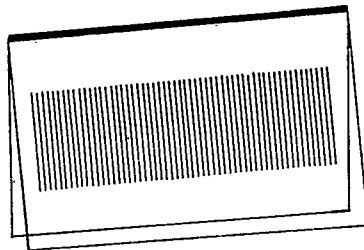
Polyrhythms are usually a problem for students and teachers alike. We have all heard about the Africans and other ethnic groups performing difficult polyrhythms at an early age. This is of course, because polyrhythms are a part of their musical heritage. We in the Western world are, for the most part, victims of the '4/4 syndrome' and find great difficulty learning, let alone performing polyrhythms other than three-against-two.

With the influence of African music on today's jazz and rock, the interest in so-called 'free-bag' jazz and chamber music, and the occasional NOTATION of polyrhythms in serious music, it is evident that polyrhythms are here to stay, and that an effective method of teaching them is needed.

I have come up with a device that can be easily constructed, and has been invaluable in my teaching. The best part about teaching polyrhythms this way is that the student is required to HEAR one meter against the other rather than relying on a purely mathematical comparison of the two (or more) . . . and that's what music in general is all about isn't it?

First, the device: at an office supply store, buy a clear plastic report cover (the kind students put their term papers in). Next, get a piece of stiff, white paper the same size as the plastic cover. Lay the paper down horizontally and with a thin point, black ink pen, draw at least fifty vertical lines, three inches long and $\frac{3}{16}$ inch apart.

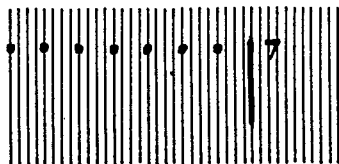
Ex.:



Now insert the lined paper into the plastic cover and secure it permanently. You will need a grease pencil or felt-tip pen to write on the plastic. It will easily wipe off so the grid can be used again.

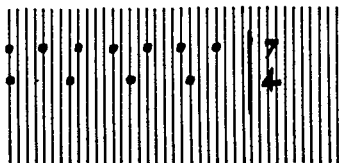
Now let's say that we want to figure out 7 against 4 (in quarter notes). On the plastic, place a dot somewhere on the first (farthest left) line; count over four lines and place another dot. Do this until you have seven dots.

Ex.:







Beneath the dot on the first line place another dot. Count over seven lines and place another dot. Do this until you have four dots.

Ex.:

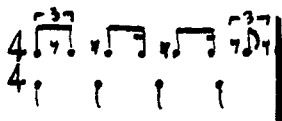


Draw a barline at the end.

Insert a piece of plain white paper between the grid and the plastic cover so that only the dots show. Thinking of the dots as note heads, add stems to them. You now have seven notes in exact proportion to four.

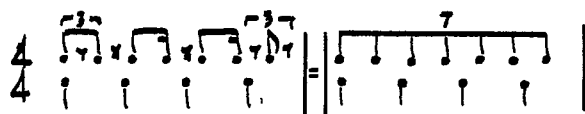
Using only eighth notes, triplets, and sixteenth notes, relate the position of the notes in the top row to those in the bottom row according to their position, into everyday rhythms. In other words, the first two notes of the *seven* look like  compared to the first two of the *four*. The third and fourth notes look like  compared to the second and third of the four. The next two look like  and the seventh note .

Ex.:



Have the student count in four and at the same time play the 'seven' rhythm. Of course *THIS IS ONLY AN APPROXIMATION* of seven-against-four. When the student can perform the rhythm as written, have him look away from the notes and concentrate on "rounding off" the 'seven' until the pulses are in proportion to themselves and to the 'four'.

Ex.:



When he can do this accurately, have the student divide the seven into eighth notes (14), triplets (21), and if possible, sixteenth notes (28) while still feeling the original seven.

Other polyrhythms can be learned using the grid in the same manner:

5 against 4 --	5 dots every four lines 4 dots every five lines
8 against 3 --	8 dots every three lines 3 dots every eight lines
11 against 5 --	11 dots every five lines 5 dots every eleven lines

And so on. Each time figure out an approximate rhythm and round it off.

Using this method, I am sure that you will find that your students will learn polyrhythms faster and with greater enthusiasm, and will be able to figure out any new, difficult rhythm with a minimum of effort.

THE DEVELOPMENT OF THE TIMPANI THROUGH THE BAROQUE ERA by Jim Lambert

About the Author:

Mr. Lambert is a senior percussion and theory major at Baylor University, Waco Texas. He studies percussion with Dr. Larry Vanlandingham.

The timpani have evolved from a primitive noisemaking instrument into a musical instrument of great importance in the percussion definite pitch instruments. This development made itself known by the Baroque period and cannot be credited to any one society or civilization, but was a culmination of Western polyphonic musical thought. This musical thought was influenced earliest by Far Eastern civilizations.

The development of the timpano (kettledrum) in India was characteristic of the Far Eastern civilizations' contribution to percussion. Some drums were built for usage in a horizontal position. Others were made to stand upright on the ground or imbedded in it. "Eventually someone tried fastening a skin over a bowlshaped form: probably a section of a round gourd, a pottery dish, or perhaps the brain pan of the skull of a former adversary."¹ This type of cylinder with a rounded bottom reflecting the sound proved to be the best resonant shape. Some early kettle-shaped drums used by the tribes of India were made of pine wood which was hollowed out into a hemispherical form and then equipped with heads of bull hide. Inside these wooden-shelled Hindu drums were fitted bells of bronze. These drums were held high in the air and beaten in a loud, terrifying manner, with the purpose of frightening the enemy during battles. Although India's drums more nearly resemble the kettledrums of the Baroque era, the Arabians possess the first evidence of illustrating the kettledrums. On a relief at Taq-i Bustan, Persia, there is a carved representation of a drummer dating about 600 A.D. who plays a small, shallow-bowled drum which stands on the ground and is struck with one, or perhaps two, sticks.² It may have been the *tas* mentioned in Persian texts of that time, as such a drum existed in northern India under the name *tasa*. The first preserved proof of a larger kettledrum is found on Mesopotamian miniatures of the twelfth century, A.D. A distinct detail which these miniatures depict is the change from the egg shape to a more or less hemispheric shape.³ This change accompanies the transition from clay to metal, the bulging egg shape being typical of pottery, the hemispherical, on the contrary, of metal work. The earlier, oval form was characteristic of the *khordhak*, *damama*, *tikara*, *agara*, and, with them, a shallow drum *tasa* or *qasa's*. The metal or kettledrums were more easily distinguishable. They included the *naqqarya* which were large flat kettles played on the back of a

camel, the lower in pitch at the player's right, the higher at his left⁴ (the *naqqara* were two small kettledrums, different from the *naqqarya*). Two kettledrums fastened on a camel's back was a frequent sight in the Orient.⁵ The kettledrums were most importantly martial instruments; consequently, it was through a military event that they were introduced to European civilization.

The Crusades brought about the extension of the knowledge of both the Eastern and the Western worlds. This exchange of ideas did not restrict itself from the kettledrums. Timpani appear for the first time in English literature in an old Cornish drama, *Ordinale de Origine Mundi*, written toward the end of the 1300s, where "psalms (shawms), gytrens, and nakrys" are mentioned together.⁶ "Trompes and nakerys" are associated in the old romance of *Sir Gawain and the Grene Knight*; while in *Belshazzar's Feast*, another English poem, they take their place among the instruments of their class as "the nakeryn voyse, notes of pipes, tymbres and tabors."⁷ As a result of the Crusades, King Edward I of England, in 1304, had a player of the *nakers* (Anglicized form of *naqqara*) in a list of his minstrels. These *nakers*, in their original form, were small cauldron-shaped drums with stretched skin and were barely larger than the palm of the hand.⁸ They were always used in pairs and were fastened to a strap slung around the performer's neck or attached to his girdle. The introduction of the larger size of kettledrums was made to Europe in a different manner.

Eastern Europe was responsible for the presentation of the military-purposed kettledrum to Europe. This larger-sized kettledrum, borne on either side of a ridden horse, was due to the Hungarians, who left Scythia about 800 A.D. Their application in other areas of Europe became apparent during the middle 1400s in Germany. Wherever trumpets blared--at princely banquets or in the field--also would the great kettledrums roll. In many European armies, signals were given on the kettledrums. To lose a kettledrum to the enemy was an additional loss of signaling. "Each army was as careful of its drums as of its flag."⁹ Naturally, there were people who opposed the all-too-noisy intruder. In 1511 Virdung writes of the "rumpelfessern" (monstrous rattle barrels) that the devil himself must have invented for "the suppression of all sweet melodies and the whole art of music."¹⁰ On the other hand, a party of Hungarian ambassadors was sent to France in 1451 from King Ladislaus Posthumus to entreat the hand of Princess Madeline, daughter of King Charles VII. Along with this group of nobility were a pair of "drumes lyke bigge ketels, caryed one on each syde of ye horse's necke."¹¹ This appearance impressed the rest of the Continent as well as the French, and it became vogue among the elite to have kettledrummers in their court. It is recorded of Henry VIII that he sent to Vienna to procure kettledrums that could be played on horseback, "after the Hungarian manner."¹² These became the special instruments of the Hussar regiments, a title originating from the

Hungarian word for cavalry. They appeared again in a martial manner during the great entertainment made by James I in honor of King Christian of Denmark. At the Restoration the use of cavalry drums was limited to the Household Cavalry, though from the accession of James II every mounted regiment was equipped with them. Meanwhile, in Germany various imperial decrees led to the establishment of the Imperial Guild of Trumpeters and Kettledrummers in 1623.¹³ The German drummers were renowned for their skillful and spectacular style of playing, its system holding a secret imparted only to initiates of the Guild. Germany was responsible for an essential change in the design of the kettledrums. "There, instead of lacings used to tighten the heads, a metal ring was employed which could be depressed by screws."¹⁴ Germany became a center of kettledrum playing. As symbols of wealth and nobility, kettledrummers were expected to show a certain extravagance.

The classic monographer of the "Heroic and musical art of the trumpet and the kettledrum," Johann Ernst Altenburg, emphasizes in 1795 "the affected figures, turns and movements of the body" of German kettledrummers, and Zedler's gigantic *Universallexicon* (1735) calls a kettledrummer the one "who knows how to strike the drum elegantly. This is done with certain movements of the body which elsewhere would be ridiculous." Sometimes, to make the appearance more spectacular, Negroes were employed as kettledrummers. Cavalry regiments delighted in the same extravagant parading of their kettledrums, which they used more and more as a special privilege. The cavalry drummer would wear a full beard, ride on a black horse, and throw up and catch the sticks while playing. About the middle of the sixteenth century a German Baron von Dohna came to France. His ostentatious entrance annoyed the French so much that the Duke de Guise ordered his kettledrums to be dashed to pieces "to his great abashment."¹⁵

Court and other official composers had, however, benefit of their art, and during the seventeenth century, musicians began to recognize the possibility of cavalry kettledrums as orchestral instruments. Thus, quite radically the kettledrums were becoming a cultured, musical instrument instead of a primitive noise-making tool.

The orchestral addition of the kettledrums was brought about primarily by the physical adaptations of the Germans. The kettledrums were now able, by means of screws placed around them, to be tightened or loosened which would change the pitch of the drum. Hence, this development qualified the kettledrums into the family of definite pitch percussion. Even though much had been heard from the kettledrums, not much had been written about them. The guilds required its members to take an oath to keep their art a secret. As a result, each student learned by rote the playing technique and the music from his master, and for the rest of his career played from

memory.¹⁶ Composers recognized the value in serious music for the kettledrums. Matthew Locke scored kettledrums in his *Psyche* (1673).¹⁷ Jean Baptiste Lully included a part in his opera *Thesee* in 1675.¹⁸ In 1692 Henry Purcell wrote an important part for kettledrums in his opera *Fairy Queen*.¹⁹ Purcell's composition is an early example of a solo passage which reflects the cavalry style in the orchestras of this period. In the orchestras of Johanne Sebastian Bach and George Frederick Handel, the kettledrums were merely cavalry drums put to orchestral use. The limited range of well-sounding notes restricted their ordinary application to the trumpeter's keys of D and C. The range of the larger kettledrum was F--c and the smaller, Bb--f. They were generally tuned in fourths with the dominant below the tonic of the composition. Both Bach and Handel stabilized rhythms with the timpani, but Handel also appreciated their dramatic effect. "The 'Hallelujah Chorus' from his 'Messiah' remains one of the most thrilling and effective parts ever written for the kettledrums, and it is one of the best examples of writing for the character of these instruments."²⁰ This drama is additionally emphasized in Handel's works of *Dettingen Te Deum* (1743), the *Occasional Oratorio*, and *Judas Maccabaeus* (1746).²¹ Handel was one of the first composers to use three kettledrums. Bach's use of the kettledrums was governed by a carefully observed convention. They sounded the bass of the trumpets and, apart from wind instruments, claimed no place in his scores. In his orchestral music timpani are found only in the "Violin Sinfonia in D" and the two *Ouvertures* in that key.²² Bach associated the timpani invariably with festive occasions or public ceremonies. Exemplifying this is the fact that they are scored in both the oratorios but in neither of the Passions.²³ Bach thought it was inappropriate for the timpani to be ostentatious in any way. "This is evidenced not only by his disinclination to give them a solo part but also by deliberate neglect of their more elaborate and noisy 'Beatings'."²⁴ As with Handel, Bach's purpose for the timpani was rhythmical. The tuning of the timpani remained constant throughout the composition and the timpani were silent when modulations occurred.

The timpani were well-established as a member of the orchestra, furnishing a reinforcement of the bass line.

The timpani evolved from a design meant to increase the resonance quality of a small drum through functional appearances as an indirect tool or symbol of war to the primitive form of a highly esteemed pitched musical instrument. Its development does not end with the Baroque period but rather culminates itself with a new refreshing artistic approach to this percussion instrument. This added dimension in thought as well as performance created respect not only for this novel drum, but regard for the experimentation into the structuring of the percussion family.

FOOTNOTES:

¹Charles L. White, *Drums Through the Ages; the Story of Our Oldest and Most Fascinating Musical Instruments* (Los Angeles: Sterling Press, 1960), p. 136.

- ²Curt Sachs, *The History of Musical Instruments*, (New York: W. W. Norton and Company, Inc., 1940), p. 250.
- ³*Ibid.*, p. 251.
- ⁴*Ibid.*
- ⁵Satis Narrona Coleman, *The Drum Book* (New York: The John Day Company, 1931), p. 97.
- ⁶Francis W. Galpin, *Old English Instruments of Music: Their History and Character* (New York: Barnes and Noble Inc., 1965), p. 183.
- ⁷*Ibid.*
- ⁸Karl Geiringer, *Musical Instruments--Their History in Western Culture From the Stone Age to the Present* (New York: Oxford University Press, 1945), p. 81.
- ⁹Coleman, *The Drum Book*, p. 95.
- ¹⁰Geiringer, *Musical Instruments*, p. 82.
- ¹¹White, *Drums*, p. 143.
- ¹²Galpin, *Old English Instruments*, p. 184.
- ¹³Anthony Baines, *Musical Instruments Through the Ages* (Baltimore: Penguin Books, 1961), p. 328.
- ¹⁴Donald N. Ferguson, *A Short History of Music* (New York: F. S. Crofts and Co., 1947), p. 143.
- ¹⁵Sachs, *History*, p. 330.
- ¹⁶Caldwell Titcomb, "Baroque Court and Military Trumpets and Kettledrums: Technique and Music," *The Galpin Society Journal*, IX (June, 1956), p. 60.
- ¹⁷"Timpani," *Encyclopedia Britannica*, XXII (Chicago: William Benton, 1968), p. 3.
- ¹⁸White, *Drums*, p. 147.
- ¹⁹*Ibid.*
- ²⁰*Ibid.*
- ²¹Henry George Farmer, *Handel's Kettledrums and Other Papers on Military Music* (London: Edwards and Brune, Ltd., 1960), p. 90.
- ²²Charles Sanford Terry, *Bach's Orchestra* (London: Oxford University Press, 1932), p. 50.
- ²³*Ibid.*
- ²⁴*Ibid.*, p. 53.

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President's Corner

Although I feel that the PRESIDENT'S CORNER should relate to the entire membership, I would like to direct this one to those of our members who are involved with the various levels of school music.

The advent of popular and jazz-rock styles in solo, ensemble, marching band, concert band, stage band, choral and orchestral music for performing groups has been tremendous in the past few years. An accomplished drum set performance is a necessity for proper interpretation of this music. With this in mind, I strongly urge you to include drum set instruction in the school curriculum. Many students do receive this training privately, or on their own, but encouragement in the school is also necessary.

Teachers must be familiar with the techniques, as well as methods and materials for drum set instruction, to be able to develop students and their performing groups to their fullest potential.

Your President urges you to investigate this area and include the drum set in the total percussion concept, so necessary in the training of today's musician.

STICKING PATTERNS - A MUSICAL APPROACH

by Gary Chaffee

About the Author:

Mr. Chaffee graduated with a B. S. degree from Potsdam State Teachers College, Crane Dept. of Music in 1966. He received a Masters of Music Degree from DePaul University in 1968. He has studied percussion with Dr. Saul Feldstein and Mr. Bob Tilles.

Mr. Chaffee is currently percussion instructor at Western Illinois University in Macomb, Illinois.

It could easily be said that sticking patterns serve as an important structural device in the teaching of percussion. However, as is too often the case, most students have no real understanding of the essential nature or function of various sticking pattern types. As a result of this fact, a large gulf exists between the learning of a pattern and its practical application.

The following discussion has as its primary purpose the development of a musical approach to sticking patterns, based primarily upon a concept of articulation.

On most instruments, a crucial part of the development of musical concepts has to do with the teaching of various methods of articulation. In the case of the percussionist, one of the primary ways of teaching concepts of articulation can be through sticking pattern types.

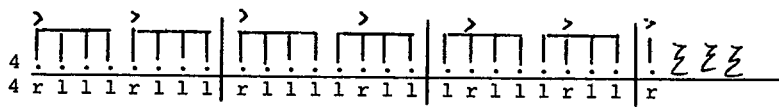
Sticking patterns found in percussion music could be broken down into the following categories:

- a. Patterns employing single strokes.
- b. Patterns employing double strokes.
- c. Patterns employing combinations of single and double strokes. (referred to as Combination patterns).
- d. Patterns employing more than two notes in a given hand. (referred to as Multiple-Stroke patterns).
- e. Patterns employing the above stroke types with the addition of grace notes.

Considerations of Pattern Types

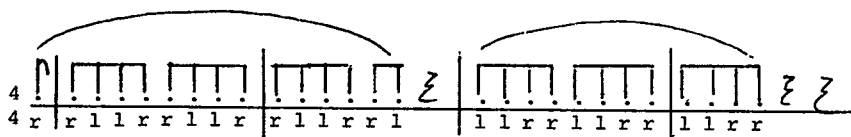
1. Of all the patterns listed, single strokes are capable of producing the most staccato hand-to-hand articulation available to the percussionists. (The phrase hand-to-hand is used since it is also possible to achieve certain types of staccato articulations through the use of certain multiple stroke patterns.) The following examples illustrate this point.





The difference in the sound of these two types of stickings has to do with the overall phrasing quality. The example containing the multiple stroke patterns will tend to have a more flowing quality than the example containing the alternating single strokes.

2. Double stroke patterns, when played in an open fashion, can produce a very legato sound.

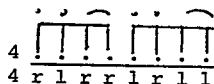


3. Considering the aspects of the staccato single stroke and the legato double stroke, a multitude of staccato-legato articulations can be achieved through the use of Compound Patterns.

Take for example the following sticking pattern.

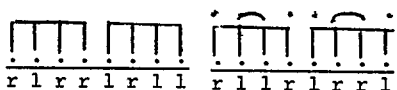


Applying articulation markings to the above would create the following:

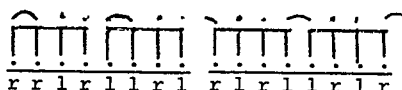


The importance of understanding and using this process can easily be seen when one considers how this would affect ensemble performance. If for example the percussionist were to play a line which was similar to that being played by the upper brass, he could match not only the rhythmic aspect, but could also use a matching articulation, making for a much greater degree of similarity between the parts.

A secondary aspect of Compound Sticking patterns is that they may be permuted to create new but basically similar patterns. For example, the sticking RLRR-LRLL may be permuted to create three other patterns.



Original



Permutations

There are two important aspects of this process to consider.

a. The approach gives the student a musical way of thinking about sticking patterns.

b. The student is given a method of expanding his pattern vocabulary. This is achieved not by learning a lot of different patterns, but rather by a more thorough development of basic sticking pattern types.

This basic process of articulation can be applied to any and all other sticking patterns. One could say that the central idea is not merely teaching the student what to play, but is equally concerned with the why of playing a particular pattern in a particular place. By using this process in the teaching of sticking patterns, the student can be given a much greater degree of musical awareness in regards to the way in which pattern articulations are chosen.

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**EFFECT OF OTHER MUSICAL ELEMENTS
UPON RHYTHMIC STRESS PERCEPTION**

**BY Grant Fletcher
Professor of Music
Arizona State University**

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Rhythm - Notation and Production

Cont. from page 10 of Percussionist Vol. X, No. 1

NON-NOTATIONAL ELEMENTS

I have just shown how elements inherent in the notation produce perceived stresses. There are other elements which are implied in the score but not expressly notated which must affect our production of rhythmic relationships. Such stylistic implications must be a part of the performer's knowledge of the score to be properly used.

MECHANICS OF INTERPRETATION

A number of practices of the performing musician have become so widely adopted and proven so useful to the production of the notated score that their use is not only implied but demanded in

many tonal languages. I shall refer to such commonly accepted practices as mechanics of interpretation. Actually these mechanics of interpretation are means which are used to subtly emphasize the organization of all the rhythmic means so far discussed. Many of these practices may be notated in part or suggested by various terms (*ad lib.*, *tempo rubato*, *espressivo*, etc.) but I am principally referring here to their subtle use as applied by the performer to the production of some style languages. In general these mechanics are organized about the rhythmic unit called the phrase and are used by the performer to emphasize the rhythmic growth of the phrase to its climactic point, and its consequent subsidence. There is no doubt but that a great number of composers of all periods have tacitly expected the performer to apply such means of creating expressive change while performing the notated scores. Composer's correspondence, remarks to students, performing practices, and acknowledged statements, (as well as frequent score notations) show that such means lend themselves to the complete intention of the composer. Some composers have found it necessary to notate that such effects are expressly *not* to be used which negatively proves their otherwise accepted existence. This is certainly an aspect where the performer "gets in the way" between the notated symbols and the listener, but let us hope that he is a wise artist and truly adds to the effectiveness of the composer's ideas.

The subtle and progressive alterations of duration and stress values which we refer to as phrase leading, or *rubato*, are the means used by the performer to emphasize the rhythmic urgency of the phrase. This precisely the same practice in the phrase length unit that the dance musician applies to the rhythmic possibilities within the metric bar unit. It is an underlining of the inherent elements which can destroy its purpose when overdone. But the phrase is an organized complex of stress relationships which approaches and then recedes from the greatest point of stress. It is this movement which creates most of the necessity for continuing a musical composition and therefore it is effective and useful that the performer should aid it to do so. The performer's means of adding to this rhythmic urgency are the two basic phases - duration and stress. Progressive and subtle change of either phase will produce the desired movement. The combination of both phases creates an even more obvious leading. The fact that either phase may be employed to achieve the desired end once again points to the implied relationship of duration and stress previously remarked in discussing agogic pulse. (Which is to be used is dependent upon further factors of the formal organization of groups of phrases.) But music which contains (through its notational means) a well husbanded growth of the rhythmic resources needs very little such emphasis of its expressive qualities. Music which tends to depend mostly upon its emotional qualities for its musical significance demands such added intensity of rhythmic means. Music

which lacks a truly integrated rhythmic structure must depend upon such interpretation practices to give it any musical meaning. Thus the performer's addition of rhythmic means can even give a musical point to scores which otherwise carry none. This is one reason why we are so often given an excellent impression of a second rate work by a first rate performance.

Rubato is another of the rhythmic terms which has been used for so many different concepts of interpretational changes that it has become difficult to define. It has been used for almost any expressive alteration by either duration or stress means. Refer to Scholes' "Oxford Companion to Music" and Groves's Dictionary. *Tempo Rubato* has usually been reserved to express the quickening and slackening of pace (duration relationships) as opposed to *tonal rubato* - progressive alterations of other means. The doctrine of the "inexorable bass" allowed the rubato flow of one part to oppose the strict flow of the harmonic background and consequently retained a means of balancing rubato "give and take." Obviously, such practices would fit only a particular style of music. The concept of phrase (and formal) symmetry of rubato use has been questioned by a number of musicians and is open to grave doubt in many instances (certainly in stretto passages). Such symmetric return is mostly dependent upon the rhythmic urgency of the single phrase in relationship to the climactic rise of the formal design and the expressive purpose of the music. Probably rubato symmetry should be retained in tonal languages where many other basic concepts are built upon symmetric means. The use of rubato has probably always been a natural adjunct to all humanly expressive music (and what music is not in some way humanly expressive?) though perhaps often expressed through tonal or dynamic means as well as in duration relationships. The jazz musicians' use of dragged and anticipated rhythmic articulations or dynamic or tonal changes is an expression of this same means. That the rhythmic dance musicians' use of these elements was confused with the sloppy articulation of the crooner or commercial "popular" ensemble of second rate horn blowers was unfortunate. The rhythmic urgency of these effects of anticipation and delay is purely physical and therefore deeply expressive. It might be classified as a type of metricity which is staggered above the durational starting points of the established meter.

The *hiatus* is a means of further intensifying the climactic point of the phrase. After a growth of intensity in approaching the highlight it is dramatically effective to create a slight pause before the climactic point which, when it enters, will thereby be given the added strength of expectation. How long this pause can effectively be depends upon the preceding growth of intensity, the scale of the general dynamic level, and the amount of force with which the highlight is to be created. The hiatus pause may be produced by many means and

particularly by the vocalists whose word sounds often contain aspirates or other means of slightly delaying the stressed attack. The hiatus has often been notated before tremendous highlights employing *afz* and explosive dynamic means. An example of this may be found at measure 285 in the last movement of Brahms Symphony No. 1 in C minor. The rhythmic feel of such a rest hiatus can be a tremendous impulse, quite disturbing physically to the listener and therefore an intense emotional means of expression. To create its most intense effect, a heavy mental pulse image must be built up before it occurs, so that it is a jarring dislocation of the expected rhythmically physical points of intensity. In the example just quoted, Brahms has a rather limping passage of 6 bars previous to the hiatus (in fact this is a type of notated hiatus in itself), which is often a weak spot in this movement when played by most orchestras. The rhythmic drive often disintegrates here and thus the point at measure 285 is too often merely a happy return to firmer ground, rather than the passionately intense climactic point which Brahms has notated. So the rest, when properly used, can become a tremendously dynamic rhythmic means, for suppression after expectation has been well established may create a stronger effect in the hearer's mind than actual articulation.

So far we have discussed rubato changes of the phrase length unit. But such changes will also occur in the combination of series of phrases which go to make up the rhythmic unit known as formal design. This formal organization carries the same implications and problems which effect the phrase unit. The group of phrases must lead to the climactic point and again subside. The dynamically loud section bears much the same relationship within the formal design as the highlight bears to the phrase length and the stress points (either by pulse patterns or the dynamic accent) bear to the bar length. Such a dynamically intense section is closely associated with the emotional tension for physiological reasons, but the climactic points within the formal design may be created through any of the other notational means discussed in this chapter. It is obvious that no formal design will reach its climactic points by a completely simple climax. The formal design is a complex building up of the varying and relative intensities of all these rhythmic means. Only a complete understanding of every contributing factor and a restraining control of the relationships of rhythmic growth can produce a satisfying result in the formal unit. Many composers have produced such results by intuitive means. The larger the unit of perception the more simple and obvious must the means of organization be to be comprehensible to the greatest number of listeners. In the formal design, as in the phrase unit and bar unit, symmetry is not a necessary adjunct but presents an obvious means of perception.

So far as we are consciously concerned with the problem, music must move in *time*. Since the time it must move in (for the

listener) is the ever present now we must give this sense of progressive growth by judiciously using relationships of change. This is the formal organizational problem of composition. The tempo rubato means of the performer is yet another manner of producing such movement. Yet it is best used to emphasize precisely these qualities of movement present in the composer's score and the performer must gauge correctly these relationships or he will completely caricature and destroy them.

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Time and Place

The annual meeting of the Percussive Arts Society, Inc. will be held in Chicago on December 15 and 16, 1972. It will be in the Sherman House in conjunction with the Mid-West Band and Orchestra clinic.

Following is a list of meeting times on Friday:

7:30-9:45 a.m. Manufacturers and Executive Committee Breakfast -
Orchid Room 106

3:15-4:15 p.m. Annual membership meeting - Crystal Room

6:00-7:45 p.m. PAS Board of Directors meeting - Orchid Room

Following is a list of times for the Saturday, PAS Day of Percussion. All of these events will be held in the College Inn of the Sherman House

2:30-3:30 p.m. Maine West High School Percussion Ensemble,
directed by Jake Jerger

4:30-5:30 p.m. Crane Percussion Ensemble, Potsdam New York
directed by James Petercsak, guest soloist, Roy Burns

5:30-7:00 p.m. Dinner Break

7:00-8:00 p.m. Gary Burton

8:00-9:00 p.m. Indiana State University Percussion Ensemble,
directed by Neal Fluegel, guest soloist, Jim Ganduglia, guest conductor, Ramon Meyer

9:00-9:30 p.m. Break

9:30-10:00 p.m. Hall of Fame Awards

10:00-11:00 p.m. Black Earth Professional Percussion Ensemble

Plan now to attend this outstanding program sponsored by your National PAS in cooperation with the Illinois State Chapter.

The Challenge

A subject which has been given considerable attention during the past few years, by means of clinics and articles in this periodical as well as other magazines and journals, concerns the use of matched grip. So much has been written about it that there seems little need for another article or necessity to consider the subject in a challenge section of this journal.

However, perhaps now more than any other time, the subject of matched grip needs to be of concern, since numerous teachers and students are employing matched grip.

Most enlightened percussionist performers and/or teachers, whether or not they use or teach matched grip, agree that it is perfectly acceptable for one to do so. It is therefore logical to assume that little problem should exist for one if he uses matched grip.

The following statements represents problems which are very real even in this age of progress of percussion education:

1. Music educators having never heard of matched grip
2. Adjudicators lower ratings for use of matched grip
3. Band directors refuse to allow students to play matched grip in their band or class lessons
4. Percussion teachers refuse to allow a student to use matched grip
5. Drum & Bugle Corps do not yet allow matched grip in contest playing.
6. Attitude "Matched grip can not be used on slung drums"
7. Attitude "Rudiments can not properly be executed using matched grip"
8. Attitude "Almost all successful players use traditional grip"

It is deplorable that such situations and attitudes continue about this often publicized topic. It is not the intent of this column to promote one grip or the other, but to be concerned only with the student. He is the one who is hurt by being engulfed in the middle of these illogical feelings about how he holds his sticks.

A student should never suffer tension or be penalized in any way for using matched grip. It should be a responsibility of all to take positive actions to remove all stigmas against one using matched grip, so that no student or performer will ever be penalized or segregated because he uses matched grip, rather than traditional grip, when playing drums.

This presents a challenge to all, but perhaps most to the organization of state chapters, to adopt projects and procedures to eliminate, through education and communication, all obstacles of ignorance, biased rules, and illogical thinking, so that all students have equality of participation based on musical and technical ability rather than how they hold their sticks.

THE PERCUSSION ENSEMBLE 1930-1945

by Larry Vanlandingham

Con't. from page 25, Volume X, Number 1 of PERCUSSIONIST

As a member of the faculty of the Cornish School in Seattle, Washington, Cage organized percussion ensembles and presented concerts of music for percussion instruments throughout the Pacific coast area. Cage contributed nine ensembles to the percussion music repertoire during the period 1935 to 1945 (Table 5). His concern with percussion instruments produced timbres and percussion instruments heretofore not utilized.

For sometime composers had been hearing sounds they could not obtain with regular instruments. This was particularly true of Varese, who went to great lengths to obtain what might be termed "electronic" sounds with conventional instruments. Both Harrison and Cage obtained sounds similar to those which are presently common to the electronic medium by employing flexatones, musical saws, thunder sheets, wind glasses, water gongs, and sirens. In addition, Cage employed a number of instruments which relied on electronic amplification. *Imaginary Landscape No. 3* (1942) requires six players and features such instruments.

(1) Audio Frequency Oscillator - an electronic device capable of generating tones of various frequencies and amplitudes

(2) Variable Speed Turntable, Amplifier, Loudspeaker, Constant Frequency Record - a recording is played which produces a single frequency unless changed by speed of turntable

5 Tin Cans - 6 inches in diameter; one end removed; placed open-end down on mat; metal or rubber beaters

(3) 5 Tin Cans

(4) Buzzer - battery operated; non-variable amplitude

Source: All of the scores listed above except *Living Room Music* and *Imaginary Landscape No. 2* are published by C. F. Peters Corporation, 373 Park Avenue South, New York; the instrumentation for the two unpublished ensembles is listed in *John Cage* (New York: Henmar Press, Inc., 1962), pp. 36-7.

Variable Speed Turntable, Amplifier, Loudspeaker, Variable Frequency Record - recording has constantly varying tone

(5) 2 Balinese Button Gongs (or 2 Large Temple Blocks) - muted by placing on mat; played with yarn mallets

Variable Speed Turntable, Amplifier, Loudspeaker, Recording of Generator Whine

(6) Radio Aerial Coil, Phonograph Pick-Up Arm, Loudspeaker - flexible coil of radio aerial attached to phonograph are in place of needle, hung freely in space and amplified through speaker; struck or plucked with fingernail

Marimbula - connected to contact microphone, amplifier, loudspeaker; keys played with fingers

TABLE 5

JOHN CAGE'S PERCUSSION
ENSEMBLES (1939-43)

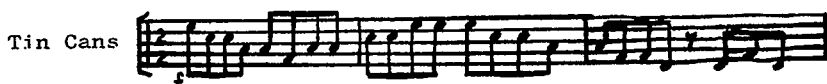
Title	No. of Percussionists	Percussion Instruments Employed
<u>First Construction (In Metal)</u> (1939)	6	<u>Single Instruments:</u> 5 Thunder Sheets, Sleigh Bells, Tam Tam, Gong, Water Gong; Orchestra Bells; Piano; Siren <u>Sets of Instruments:</u> 12 Oxen Bells, 4 Brake Drums, 8 Cowbells, 3 Japanese Temple Gongs, 4 Turkish Cym, 4 Anvils, 4 Chinese Cym, 4 Muted Gongs
<u>Imaginary Landscape No. 1</u> (1939)	4	<u>Single Instruments:</u> Sus. Cym; <u>Variable Frequency Recording,</u> <u>Constant Frequency Recording,</u> <u>Frequency Recording; String Piano</u> <u>Sets of Instruments:</u> None
<u>Living Room Music</u> (1940)		The percussion instruments are those to be found in a living room: furniture, books, papers, windows, walls, doors.
<u>Second Construction</u> (1940)	4	<u>Single Instruments:</u> Sn. Dr; Tam Tam, Thunder Sheet, Water Gong; Indian Rattle, Maracas, Large Maracas, Small Maracas; Wind Glass; Piano <u>Sets of Instruments:</u> 5 Tom Toms; 7 Sleigh Bells, 3 Temple Gongs, 5 Muted Gongs
<u>Amores</u> (1942)	4	<u>Single Instruments:</u> Pod Rattle; <u>Prepared Piano</u> <u>Sets of Instruments:</u> 9 Tom Toms; 7 Wood Blocks
<u>Credo in Us</u> (1942)	4	<u>Single Instruments:</u> Tom Tom, Tom Tom; Piano; Electric Buzzer, Radio or Phonograph <u>Sets of Instruments:</u> 2 Muted Gongs, 5 Tin Cans, 5 Tin Cans
<u>Imaginary Landscape No. 2</u> (1942)	5	<u>Single Instruments:</u> Bass Dr, String Dr; Water Gong, Metal Wastebasket; Conch Shell, Ratchet; Buzzers, Amplified Coil of Wire <u>Sets of Instruments:</u> Tin Cans
<u>Imaginary Landscape No. 3</u> (1942)	6	
<u>She Is Asleep</u> (1943)	6	<u>Single Instruments:</u> Prepared Piano; Voice <u>Sets of Instruments:</u> 12 Tom Toms

Source: All of the scores listed above except
Living Room Music and Imaginary Landscape

In instrumentation Cage has completely avoided standard percussion. Only the gongs (or temple blocks) and marimbula are percussion instruments per se; only the tin cans are percussion in the sense that other composers of percussion music, including Cage, had used similar sound producers. This work is Cage's third endeavor with electronic equipment. In *Imaginary Landscape No. 1* he used the frequency recordings in combination with a prepared piano and cymbal; *Imaginary Landscape No. 2* required the aerial coil, buzzers, and assorted percussion.¹

In the performance instructions Cage is vague concerning the pitches for the tin cans, explaining only that "the pitch gradation will change with use."² It can be assumed from the notation that five gradations of pitch are to be sought (Example 25). As was Harrison in

Example 25. *Imaginary Landscape No. 3*, p. 1, meas. 1-3.



Canticle No. 3, Cage is vague concerning pitch of the truly pitched instrument (*marimbula*); no clef appears in the third *Landscape*, though the parts are placed on a five-line staff. Nothing is said about the gongs other than that they are to be muted in the manner prescribed in the list of instruments. In writing about the electronic equipment Cage refers to the score of the first *Landscape*, indicating that the frequency recordings required therein by name and record number may be used by the others are acceptable.³

Timbre in *Imaginary Landscape No. 3* is less varied than that in either *Ionisation* or *Canticle No. 3*. Sostenuito is produced only by the electronic equipment, from which four timbres are generated: explosive rumblings (from the aerial coil), a buzz (from the buzzer), a whine (from the generator recording), and a hum (from the oscillator and frequency recordings). Each of these relatively constant timbres is subject to pitch variation; all except the buzz are subject to dynamic variation. In the following Example 26, the hum of the solo constant-frequency recording is combined with the whine of the generator recording. Both timbres are fluctuated in pitch by moving the turntable speed-lever between 78 r.p.m. (high pitch) and 33 1/3 r.p.m. (low pitch). Dynamics are varied by the volume control on the amplifiers.

Example 26. *Imaginary Landscape No. 3*, pp. 4-5, meas. 1-24

Constant Frequency Recording

[C] RIT. MOLTO

[fff] Dim. Poco A Poco

Generator Recording

HIGH (FADE IN) ppp mf

PP cresc. f SLIDE SLOWLY

f p f ACCEL. MOLTO

SLIDE

HIGH DIM. pp

SLIDE SLOWLY

ppp (FADE OUT)

The "pitched" instruments, which include the two sets of tin cans and the *marimbula*, produce relatively short though not quite secco sounds. The metallic "plink" of the cans appears in all but the recitative passage quoted in Example 26 and three measures in the final moments of the work. The following Example 27, rare to the Landscape for the absence of *sostenuto*, illustrates a passage in which the tin cans are combined with the mellow wooden pitches of the amplified *marimbula* and the hollow muted sounds of the high and low button gongs. Both the half-note triplets and the quarter notes in the *marimbula* part are of the same duration as the eighth notes; all of the durations produced on the *marimbula* are relative to the instrument being employed for a particular performance.

Example 27. *Imaginary Landscape No. 3*, p. 2, meas. 1-3.

Tin Cans

Dim.

Tin Cans

Plink

Muted Gong

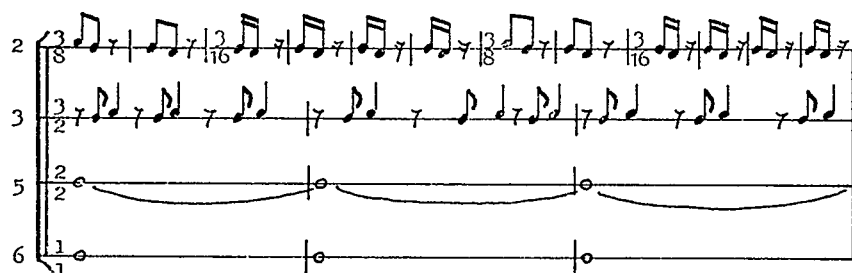
Marimbula

f

In summary, each of the six performers in *Imaginary Landscape No. 3* is required to play no more than a single instrument at a given time. Standard percussion is virtually absent from the work. Instead, Cage employs unconventional instruments from which are produced only a limited number of timbres. The notation of pitched instruments does not convey a sense of tonality; the instruments appear to be used only for rhythm, range, and timbre. The range of highs and lows is wisest on the electronic oscillator, more limited on the frequency and generator recordings. All of these, however, are relative in that Cage does not dictate the degree of high or low to be produced. There is only one metallic timbre (tin cans), one wooden timbre (*marimbula*), and one timbre which might be either (muted gongs or temple blocks). The range of these is extremely limited. *Sostenuto* is consistently produced only on the electronic instruments; *secco* sounds are regularly produced on the wooden and metallic instruments. Cage appears to be interested in traversing narrow ranges of relatively short sounds with rising and falling waves of sustained sound.

The rhythmic structure of *Imaginary Landscape No. 3* is carefully controlled by the composer. The work consists of twelve divisions of twelve measures each; each of the twelve divisions is subdivided into subsequent measures which are grouped in three, two, four, and three. Each grouping of measures and each division is set apart from the next in one or more of the following ways: the addition or omission of an instrument, a gradual or abrupt change in dynamics or in rhythmic patterns, a rising or descending pitch. In the following Example 28, each group of measures is set off by the symbols []. The first three measures are separated from the second set of two measures by means of a rise in pitch (part 5), the addition of the frequency recording (part 1), and a change in dynamics (part 6). This second set is in turn separated from the third group of four measures by the omission of the generator (part 5) and the addition of the variable frequency recording (part 4). The final set of three measures is separated from the preceding third set by the re-entrance of the generator recording (part 5) and crescendos in parts 1, 4, and 5. This procedure of separating groupings of measures is strictly followed throughout the work.

Example 28. *Canticle No. 3*, p. 5, meas. 1-12.



In addition to combining metrical and non-metrical rhythms, Cage obtains a free-tempo effect by means of a suspension of meter; the sustained tones produced by the electronic equipment are not subject to exact measurement (see Example 26, page 60).

Imaginary Landscape No. 3 contains no basic rhythm or rhythmic theme. The work is based entirely on the rhythmic structure of twelve subdivided divisions (12 x 12 [3, 2, 4, 3,]). An additional degree of coherence is obtained by employing certain rhythmic ostinatos more than once. However, Cage does not restate entire passages or combinations of rhythm; the mixed meter in part 2 of Example 28 is also used in the second and eleventh divisions, but in both instances the rhythm is combined with new and different material rather than with the rhythms of parts 3 and 6.

The following Example 30 illustrates various metrical divisions commonly employed by Cage; prolations of threes, fours, fives, and sevens appear throughout the work.

The passages described above represent features basic to the style of *Imaginary Landscape No. 3*: exact measurements of successive twelve-measure groupings subdivided into smaller units; various metrical and non-metrical ostinato rhythms in regular and mixed meter in combination with non-metrical sostenuto. Notated half-note movement with prolations of threes, fours, fives, and sevens in normal and special notation are often actually various combinations of regular and mixed meter. The alternation of metrical and non-metrical passages, the combination of regular and mixed meter, and various contrasts of solo, concertino, and tutti permeate the entire work.

Example 30. *Imaginary Landscape No. 3*, p. 6, meas. 7-9.





The completion of *Amores*, *Credo in Us*, and the second and third *Landscapes* in 1942 marked the end of Cage's concern with percussion instruments alone, though percussion emphasis is apparent in *She Is Asleep* (1943), for prepared piano, voice, and twelve tom-toms. It has been said that his experiments with improvised percussion instruments led Cage to the prepared piano and its use as a substitute for the percussion ensemble.⁴ The fourth and fifth *Landscapes* require no percussion, but rather twelve radios and a tape recording using as material any 42 phonograph records respectively.

While Harrison, Cage, and their associates were seeking new and unusual instruments and timbres, two other composers completed ensembles which returned to a more conventional instrumentation. Carlos Chavez and Alan Hovhaness virtually abandoned the unusual instruments and electronic timbres sought by their contemporaries.

All examples in the preceding article are:

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FOOTNOTES:

¹John Cage (New York: Henmar Press, Inc., 1962), pp. 35-36.

²John Cage, *Imaginary Landscape No. 3* (New York: C. F. Peters Corporation, 1961), p. ii.

³John Cage, *Imaginary Landscape No. 1* (New York: C. F. Peters Corporation, 1960), p. 2.

⁴William W. Austin, *Music in the 20th Century* (New York: W. W. Norton, 1966), p. 379.

To be continued in next issue of Percussionist.

Percussion Material Review

by Mervin Britton
Professor of Percussion
Arizona State University

ENSEMBLES

CIRCUS, Stanley Leonard, \$4.50; Volkwein Bros., Inc.

Using standard percussion instruments, this composition is written to depict six scenes of a circus. An average secondary school ensemble should be able to handle the parts quite well. It should also be of interest to the audiences of school programs.

BEWEGUNGSSPIELE Fur Violin, Cello, Gitarre, Xylophone Und Schlagzeug Hort Evenhoh, \$3.00; Doblinger-Associated Music Publishers, Inc.

Important explanation about performance for this composition is only in German. The notation is combination of standard and modern graphic. Field drum, wood block, triangle and suspended cymbal comprise the percussion instruments. Three percussionists, including the xylophone, can cover the parts. It appears that the composition is printed in score form without separate parts.

LAURA SOAVE, Caroso-Fink, \$6.00; N. Simrock-Associated Music Publishers.

This an easy sextet for mallet instruments, orchestra bells, xylophone, vibraphone and marimbas plus four timpani and hand percussion instruments. Three of the movemnts are contrasting, while the fourth is a general repeat of the first. Total duration is 5' 20".

SONATA FOR PERCUSSION, Ron Riddle, \$4.75; Ron Riddle, 1140 Boylston St., Boston, Mass.

Nine players are required for this composition. The vibraphone has a four mallet solo passage which requires moderate to advanced facility. The xylophone and marimba players have single and double stop lines. Considering the number of players, the number of standard instruments is quite small. Duration of the compositon is 5' 20".

SONORIC FANTASIA No. 3, Opus 125, Gardner Read, \$5.00 score only (parts on rental) Seesaw Music Corporation.

This is a Composition for Piccolo, Eb flute, C Flute, Alto Flute, Bass

Flute, Harp and three percussionists. Percussion instruments are standard, while the notation uses special symbols with graphic signs.

FILM MUSIC, Ronald Keezer, \$3.50; Ronald Keezer; Music Dept. University of Wisconsin at Eau Claire, Eau Claire, Wisc. 54701.

While 14 players are needed for this four minute work, the techniques involved are rather simple for standard percussion instruments. However, the composition is to be pre-recorded three ways and played with the live performance.

A MAN WHOSE RAGE WAS ROSE. Ronald Keezer, \$12. +; Ronald Keezer

This composition is a song cycle of three poems by Will Jennings for mixed chorus and percussion. Percussion instrumentation changes for each song. Total duration of this interesting setting is approximately 8' 20".

SYMPHONY FOR PERCUSSION, Jose Serebrier, \$7.75; Peer International Corporation 1710 Broadway, New York, 10019

Five players utilize a large group of standard South American instruments with suspended cymbals, dance set, two xylophones, four timpani and bass drums. The composition has an interesting form. Movement I is Adagio and Conga; II is a solo for one percussionist; III Moto Perpetuo è Cadenza provides a cadenza for drum set. The approximate duration of the composition is nine minutes.

MALLETS IN MIND, Tom Brown, a collection, \$3.00; Kendor Music, Inc.

The ten tunes in this collection will be of interest to both students and professional mallet players looking for material in the jazz-pop style. All compositions include four mallets work except one which uses three. Chord symbols make it possible to include other keyboard, guitar and bass players for combo style performance. A demonstration record is also included with the compositions.

THE SACK OF CALABASAS, Scene III from the opera, Grant Fletcher; Grant Fletcher Music Dept.; Arizona State University, Tempe, Arizona 85281

A short opera scene is adapted for percussion instruments (eight performers), narrator, and two pantomime figures on shadow screen. The technical aspects of performance are easy for university performance, but presents a nice variety to a percussion program.

PERCUSSION RESEARCH AND STUDIES

by

Sherman Hong

University of Southern Mississippi

The following is a summary of alea and graphic notations. The study attempts to convey the underlying reasons for and methods used in the respective notations.

Hong, Sherman. *Alea and Graphic Notations*, unpublished research study, University of Southern Mississippi, 1972.

Overview

Commonly accepted notational procedures (symbolism signifying basically eight dynamic levels [ppp-fff] and basic durational proportions (half, whole, quarter, etc.)) has imposed restrictions in the composition and performance of new music. Behrman pointed out the inadequacies of notation by stating: "The range of sound which a player is capable of covering is so extensive and so susceptible to nuance that no notation can hope to control the whole of it. . ."¹

Pone' observed that the structural aspects of a composition most dependent on notational definitions are:

- A. Dynamics
- B. Articulation
- C. Tempo and agogics
- D. Intonation
- E. Timbre and mode of tone production²

Pone' also observed that individuals, while adhering to the notational directives prescribed in a composition must also perform functions of 1) blending, 2) projecting themselves into the foreground, 3) receding themselves into the background, and 4) observing dynamics.³ Since there was no commonly used notation which satisfied the performance requirements, as listed by Pone', some composers advocated the establishment of more precise notation.

Traditional notation induces a stimulus-action movement by a performer; that is, the notation causes a performer to act according to the notational prescription. The "new" notation induces a stimulus-reaction movement by a performer; that is, the performer reacts to the notated materials in an unpredictable, interpretive response.⁴ The second type of notation allows a maximum of possible interpretive variance. Advocates of the second type of notation have moved toward aleatoric and graphic notation.

Alea

Aleatoric notation allows performers more freedom in choosing actual pitches, rhythm and placement of parameters on a chosen scale


and in relationship to what they have played or will play.⁵ Because such notation intervenes in the horizontal aspect of form, the absence of perceptible pulsation throughout makes it impossible to create strong contrasts in the internal character of music necessary for the creation of significant form.⁶ Alea also occur in vertical relationships of structures; hence, two or more superimposed layers may evolve more or less independently of one another.⁷ Since alea avoids traditional symmetry and continuity, an "amorphous" (formless) texture results; the listener to the music can hardly perceive any clear organization because of the complex relationship.⁸

"Irrational" deviations of pulse-beats (5's, 7's, etc.) have posed problems for the proper execution of contemporary rhythms and for the notation of those rhythms.⁹ Stout reasoned that his use of alea was to produce complex rhythms without complex notation.¹⁰ Boulez called alea "meticulous imprecision", because the same rhythm will probably not be produced the same way again.¹¹

There are several commonly used ways to incorporate alea:



- A. Use of note heads within a framework; notes are to be played according to visual, spatial relationships
- B. Proportional dynamic notation indicates loudness by the size and/or thickness of noteheads. Such notation allows performers to use loudness levels including and between the eight levels of conventional notation. Example

loud ●
soft •
medium ●

- C. Proportional duration notation replaces the use of conventional note values (whole, half, dotted notes) with single notes. These notes, through their varying lengths (● short,  long, etc.) constitute geometric, rather than symbolic, representations of durations. Stone stated that this system has an additional advantage:

... legato slurs, staccato dots, and many related signs of articulation become superfluous because the length of the pitch indicators and their positions relative to each other (detached, overlapping, etc.) take their place.¹²

- D. Notation combining B and C offer geometric representation of the desired length and dynamics.
Example:

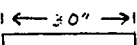
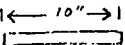
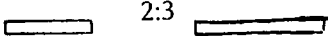
 
 Soft, long and crescendo loud, long and decrescendo

Analog notation incorporates musical materials in porportioned segments or in relationship to one particular norm. For example, a particular melody may be the controlled norm; execution of the other parts dependent on how the melody is performed.

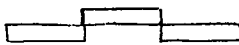
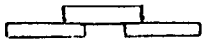

Graphic Notation

In graphic notation alea is incorporated with certain limitations of time or space. All parametric specifications are defined in symbols which are open to relative interpretations without adhering to a specific norm.¹³ Performers discover the material within the graphic section and "invent" the form of the music.¹⁴ The "invented" form can be a continuously varied one, a "closed one using repetitious materials, or a combination of both.¹⁵ Selective control is used by composers, but free and/or fixed materials can vary. For example, time of occurence, range, or dynamics can be fixed, but exact pitch or instrumentation can be optional.¹⁶

Pone summarized the basic elements in graphic notation:¹⁷

- A. The act of creation begins with a sound impulse, called a "point" (rather than pitch or tone). A stimulus-reaction section consisting of a limited number of points, 3-9, is called a "group". Those sections with over nine points is called a "field".
- B. A group's duration is predictable with approximate temporal boundaires. A field's duration is unpredictable or will have to be indicated in one of three ways:
 1. Chronometrically (time)  or 
 2. Proportionately 
 3. Physiologically - duration determined by the physical properties of instruments, strings, breath, etc.

C. There are several ways to attain vertical time exploitation:

1. Successive group or field reaction 
2. Overlapping group or field reaction 
3. Coinciding group or field reaction 


With a large number of reacting agents, the sections of materials can appear in various combinations, and complex structures become possible.

4. Points can be projected against time in regular or irregular patterns:

a. Periodic group or field patterns: fixed reaction tempi regularly spaced sound impulses

b. Aperiodic patterns: variable reaction tempi, irregularly spaced sound impulses

1)  slow movement

2)  medium speed movement

3)  fast movement

With aperiodic group or field patterns, the realization of point succession in time is dependent upon the performer's reaction to varying density levels of notational symbols.¹⁸

Summary

The previous discussion encompassed the basic ideas behind alea and graphically notated compositions. The varying techniques are often functionally combined. These techniques are based on reaction to written materials, rather than prescribed action to written material.

¹David Behrman, "What Indeterminate Notation Determines," *Perspectives of New Music*, Vol. 3, No. 2, 1965, p. 59.

²Gundaris Pone', "Action-Reaction, Paralipomena to a Genesis of Graphics and Form in Music," *Music Review*, Vol. 27, No. 3, 1966, p. 218.

³*Ibid.*, p. 218-219

⁴*Ibid.*, p. 220

⁵George O'Conner, "Prevailing Trends in Contemporary Percussion Notation," *Percussionist*, Vol. 3, No. 4 p. 66

⁶Anthony Gross, "The Significance of Aleatorism in Twentieth-Century Music," *Music Review*, Vol. 29, No. 4, 1968, p. 317.

⁷*Ibid.*, p. 309

⁸*Ibid.*, p. 315

⁹Charles Wuorinen, "Notes on Performance of Contemporary Music," *Perspectives on New Music*, Vol. 3, No. 1, 1964, p. 13.

¹⁰Alan Stout, personal letter, 1968.

¹¹Pierre Boulez, "Alea," *Perspectives of New Music*, Vol. 3, No. 1, 1964, p. 44.

¹²Kurt Stone, "Problems and Methods of Notation," *Perspectives of New Music*, Vol. 2, 1963, p. 21.

¹³Pone, *op. cit.*, p. 220.

¹⁴*Ibid*

¹⁵Roman Haubenstock-Ramati, "Notation-Material and Form", *Perspectives of New Music*, Vol. 4, No. 1, p. 41.

¹⁶Behrman, *loc. cit.*

¹⁷Pone', *op. cit.*, pp. 226-227

¹⁸*Ibid*

**AN INDEX OF PERCUSSION ARTICLES - INSTRUMENTALIST (1960-1972)
SCHOOL MUSICIAN (1960-1972) NACWPI BULLETIN (1958-1972)**

by Robert Nelson



About the author:

Mr. Robert Nelson is a senior at Indiana State University majoring in music education. His principle instrument is percussion, and he is presently studying with Mr. Neal Fluegel.

The Instrumentalist

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Letters to the Editor

Dear Mr. Fluegel,

Presently I am beginning research on my doctoral dissertation which deals with the history and evolution of jazz drumming in the United States. This project will include a detailed analysis of drumming styles from the beginning of this century up to the present day and will contain information regarding the evolution of the drum set.

I would appreciate any information your readers might like to share regarding record collections and instrumental collections pertaining to this topic.

Thank you for your assistance.

Sincerely,

Theodore D. Brown
1067 Barton Dr.
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