

# percussive

RESEARCH  
EDITION notes

# PERCUSSIONIST

VOLUME 18 No. 2

WINTER 1981

- △ 2 triangles.
- ⊥ 5 suspended cymbals.
- ⊙ Gong (or small fan-tan)
- Tam-tam (or large gong)

[note: numbers indicating multiple instruments (triangle/cymbals, Gong) begin with smallest number (1) for lowest pitch.]

### Sticks:

- ↑ Tam-tam (Gong) beater
- ↙ Vibraphone or marimba mallet (!)  
(It is recommended that triars be used in the ends)
- ↗ Triar

# PERCUSSIONIST

Vol. 18 No. 2  
Winter 1981

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**PURPOSES OF THE PERCUSSIVE ARTS SOCIETY — To elevate the level of 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 among all areas of the percussive arts.**

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# READERS' RESPONSE

My purpose in writing this letter is to bring to your attention matters which concern an article on Swiss rudiments published in *Percussionist*. Please refer to: Brown, Thomas P. "Didly Diddles?" *Percussionist*. IX (Spring 1972): 90-92.

In this article, the rudiment Mr. Brown labeled "Swiss Roll" should be more specifically termed a Fünferruf mit Schlepp (Flammed Five-Stroke Roll). It is not played from hand-to-hand as the example implies. All Fünferrufe mit Schlepp are played with a right hand lead. The accent comes on the last stroke of the roll.

The term "Para-fla-fla" does not exist in either the Swiss or French schools of drumming. The sticking pattern indicated is that of the Pataflafla (French onomatope) or Bataflafla (German onomatope). The rudiment is of French origin and was introduced into the Swiss school ca. 1870. The first sticking pattern is correct, but the second sticking pattern which leads with the left hand is incorrect. In either case, the Pataflafla begins with a tap. The rudiment Mr. Brown explicated is a Pataflafla mit Schleppefang (Pataflafla beginning with a Flam). The word "Pataflafla," being an onomatope, clearly implies: TAP(Pa), TAP(ta), FLAM(fla), and FLAM(fla). The second Flam should be struck slightly harder than the first.

The rudiment labeled "Berger Lesson No. 25" does not belong to the Swiss school. It is, however, a legitimate rudiment of the French school and goes by the name "Le Ra De Trois Saute." It can be speculated that the misnaming of this rudiment came as a result of someone's misinterpretation of the performance notes accompanying Dr. Berger's solo, "Rudimenter Good Luck (Basle-America Mixpickles.)" This solo, published in *America's N.A.R.D. Drum Solos* (Ludwig Drum Co., 1962, p. 59) included an explanation of the rudiment saying that it was an "adaptation of Lesson 25, but as a hand-to-hand rudiment." It is the only Swiss drum solo I am familiar with that incorporates the Ra De Trois Saute. I think that it is unfair to the French to associate Dr. Berger's name and the American numeral designation "25" to this rudiment.

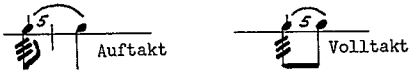



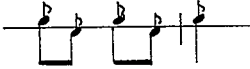


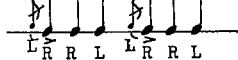


The proper translation of the fourth rudiment listed would be Tapflam, not Flam Tap. Its German name is Doppelstreich with some Swiss drummers referring to it as a Doublé (Fr.). French drummers call it a Coup Anglais (English Stroke). Its introduction to Switzerland came from England by way of France. As its name implies, the "Tapflam" begins with a TAP, not a Flam as Mr. Brown notated it.

The term "Swiss Army Triplet" is the correct translation of this rudiment's German name, Schweizerische Ordonnanz-Triole. It is, however, a one way drum figure and should not be led with the left hand as Mr. Brown's second choice of sticking implies.

"Windmill" is one of many American translations attached to the Muhlestreich (Mill Stroke). The term "einfache Mühle" (Single Mill) is synonymous with the term Paradiddle. The reversed sticking R R L R - L L R L is just a variation. The correct term for this rudiment when the first stroke is Flammed, as Mr. Brown notated it, would be Schleppe-mühle (Flammed Mill).

As Mr. Brown stated, the eighth and ninth rudiments listed were devised by John Davidson, the person from which Mr. Brown gained most of his knowledge regarding Swiss rudiments. The seventh rudiment, a Double Windmill, should also be included with that class of rudiments devised by Mr. Davidson.

The proper notation of the "Swiss" rudiments presented in this article would be as follows:

SWISS NOTATION	AMERICAN RUDIMENTAL NOTATION
<p>Fünfferruf mit Schlepp</p>  <p>Auftakt      Volltakt</p>	<p>Flamed Five-Stroke Roll</p>  <p>Upbeat      Downbeat</p>
<p>Pataflafla</p> 	<p>Pataflafla</p> 
<p>Double</p> 	<p>Tapflam</p> 
<p>Schweizerische Ordnonanz-Triole</p> 	<p>Swiss Army Triplet</p> 
<p>Schleppmühle</p> 	<p>Flamed Mill</p> 

In closing I would like to remind my fellow percussionists that there are several schools of drumming in the world, each having its own terminologies, methods of notation, and performance techniques. It should be recognized that various schools of drumming exist within the rudimental style itself and that each is unique in its own way. Careful attention must be given to the fundamental elements which define each style so that the rudimental art form is not deluged with countless synthesized styles. These "hybrids" must be carefully sorted out for if they are not recognized as such, they will only serve to mutate the purer forms of the art.

History has proven that over the course of time new drumming styles do evolve and, of course, the changes are by no means abrupt. I hope that more percussionists will learn to recognize the differences between the styles and periods of drumming just as other instrumentalists have learned to differentiate the French Renaissance from the Italian Renaissance and the Renaissance Period from the Medieval Period.

Wishing you continued success with your work as Editor, I remain,  
Sincerely yours,  
Allen C. Benson

Dear Sir:

Regarding "A Selected Bibliography of French, Scottish, and Swiss Drum Literature" appearing on page 147 of the Spring/Summer 1980 issue of the *Percussionist*, I would like to make the following additions to the available literature on Scottish drumming:

Paterson/McCormick: *The Gaelic Collection of Drum Settings*, London:  
John E. Dallas & Sons, Ltd. 1951

*The Scottish Pipe Band Association Tutor & Text Book - Volume 1*, Glasgow:  
The Scottish Pipe Band Association

*The Scottish Pipe Band Association Tutor & Text Book - Volume 2*, Glasgow:  
The Scottish Pipe Band Association, 1971

Robertson, Scott *Jigs For Kicks*, Vancouver: Scott Robertson, 1976

Seton, John *Pipe Band Drum Tutor*, Glasgow: Mozart Allan

Liberati, Bruce D. *The Pipe Band Manual: Volume I - "The Pipe Band Drummer"*  
Coralville, Iowa: Bruce Bagpipe Products, 1980

Sincerely yours,

Bruce D. Liberati, Director  
University of Iowa Scottish Highlanders

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Dear Sirs:

Unfortunately, in the printing of the article, "Recent Trends in Percussion Notation" (*Percussionist* v.18, n.1, Fall 1980) two omissions occurred.

First, in the discussion of "Loops" by Robert Erickson, the figure at the bottom of page 41 should have included a list of colors used in conjunction with the note-head shapes. These are as follows:

Ringing Metals-◆-Black      Dry Metals-▲-Red

Rattles-X-as is              Cymbals-△-Green

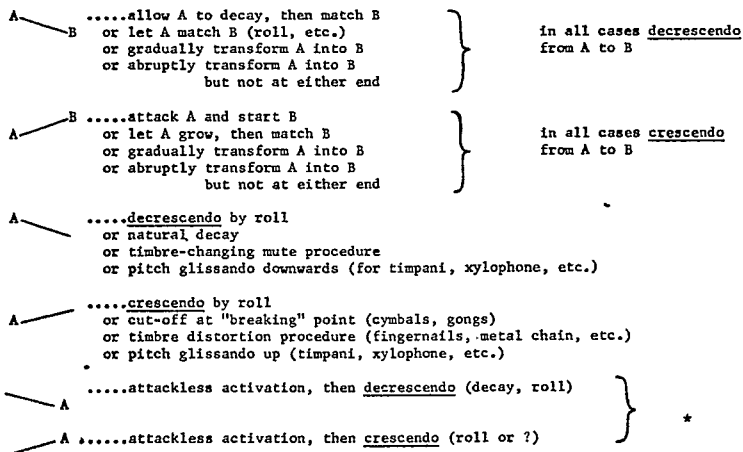
Gongs-♣-Yellow              Skins-○-White, open

Woods-□-Blue

Secondly, the discussion of "Plot For Percussion" by Herbert Brun should have included an explanation of disconnected and connected symbols. Below is that explanation:

"Disconnected" symbols: Attack the indicated instrument in such a manner that the "volume of timbre" computed from SIZE and FORCE will show its shortest sufficient life-time.

"Connected symbols:



\* Strictly speaking "impossible" until you discover and explore the possibilities of masking an attack, of blowing, rubbing, sympathetic vibrations, etc., and, last not least, of make-believe gestures and prestidigitatorial sleight of hand.

Sincerely,

John C. O'Neill

## ABOUT THIS ISSUE.....

Notation is the act, process, or method of representing music by graphic means. From the earliest notated percussion parts it was apparent that the traditional notation system (designed for a music based upon scales, melodies, and harmonies) would always be less than satisfactory for the predominantly non-pitched percussion family, though in the past it seemed easier to adapt the system than to produce a new one. Throughout most of the 20th century, new developing musical styles and a new and prominent role for percussion have helped produce a great diversity of notational designs and devices. These

new notations have helped many composers to control parameters other than pitch and duration (i.e. timbre, articulation, and intensity) and others to avoid elaborate notations and present minimal instructions toward the realizations of their works. Articles gathered for these two issues of THE PERCUSSIONIST include both a survey of the past and a look toward the future. My hope is that they will stimulate discussion within our membership and lead us toward a continued inquiry into this complex and most important area of percussion music.

Tom Siwe  
Second Vice President

# PUBLISHER'S ACKNOWLEDGEMENT

In our constant effort to up-grade the PERCUSSIONIST and keep it an attractive, relevant journal for our membership and the music world, we have presented articles including musical examples, most recently examples illustrating a variety of music notation methods. We wish to acknowledge the publishers of these

musical examples who hold the copyrights to the works included in the Fall 1980 PERCUSSIONIST and express our gratitude to them in allowing us to increase the knowledge of the membership by using portions of their published works as musical examples. Those publishers along with the examples used are listed below:

European American Music Distribution Corporation  
195 Allwood Road, Clifton, NJ 07012  
ZYKLUS by Stockhausen (p 46-47)

C. F. Peters Corp.  
373 Park Avenue South, New York, NY 10016  
JANISSARY MUSIC by Wuorinen (p 26 and 27)  
FIRST CONSTRUCTION IN METAL by Cage (p 23)  
KING OF DENMARK by Feldman (p 49)

Theodore Presser Co.  
Presser Place, Bryn Mawr, PA 19010  
MACHINE MUSIC by Hiller (p 40)

Smith Publications  
Baltimore, MD 21207  
PLOT FOR PERCUSSION by Brun (p 50)

Music for Percussion  
17 NE 33rd Street, Ft. Lauderdale, FL 33334  
WELCOME TO WHIPPERGINNY by Childs (p 37-38)

Universal Edition, Inc.  
1212 Avenue of the American, New York, NY 10036  
CIRCLES BY Berio (p 33)

Franco Colombo, Inc.  
16 West 61st Street, New York, NY 10023  
IONISATION by Varese (p 30)

## **PERCUSSIVE ARTS SOCIETY INTERNATIONAL CONVENTION 1981 Set for Indianapolis, November 12-15**

PASIC '81 will be held at the Indianapolis Convention Center hosted by Paul Berns of the Indianapolis Symphony. Pre-convention activities are scheduled for November 11th with the convention opening the morning of

November 12th and concluding in the early afternoon of November 15th. Mark your calendar now and watch for the June issue of PERCUSSIVE NOTES for complete details.



# MUSIC NOTATION AS VISUAL ART

by Sylvia Smith and Stuart Smith

The importance of nonsense can hardly be overstated. The more clearly we experience something as 'nonsense', the more clearly we are experiencing the boundaries of our own self-imposed cognitive structures. 'Nonsense' is that which does not fit into the prearranged patterns which we have superimposed on reality. There is no such thing as 'nonsense' apart from a judgmental intellect which calls it that.

True artists and true physicists know that nonsense is only that which, viewed from our present point of view, is unintelligible. Nonsense is nonsense only when we have not yet found that point of view from which it makes a sense.<sup>1</sup>

There arose in the 1950's, for a variety of social, artistic, and philosophical reasons, the interest in creating musical situations for which the fixity and immobility of standard Western music notation was not suited. The new musical concerns were various, bringing forth compositions in which certain fixed patterns or parameters were recognizable, yet allowed a greater range of possible correct solutions than traditional notation could allow. There was the desire to use a greater range of sounds and sound relationships, and to establish different degrees of collaboration between composer and performer. Beginning with Earle Brown's "Folio" (1952-53), many composers turned to a pictorial or graphic representation to document and prescribe these musical ideas. In the years that followed Earle Brown's breakthrough, a multitude of pictorial notations had been devised.

In the search for a precedence, pictorial notation is sometimes referred to as twentieth century 'eye music' as if it were a revival and extension of the 'augenmusik' of the fifteenth and sixteenth centuries. Historically this is incorrect. The term 'eye music' or 'augenmusik' describes a fifteenth and sixteenth century notative technique in which the affective meaning of the music is reinforced by an embellished notation. For example, a passage that dealt with death and lamentation might be decorated with blackened notes. Or, the actual design of the notes on the staff might be an illustration of the subject matter of the lyrics, or title, or other extra-musical ideas, where the illustrations act as a sort of musical/visual pun. (see fig. 1)

What distinguishes it from twentieth century pictorial notation is that the embellishments of 'augenmusik' have a mere calligraphic function. They may give subtle inflection to the interpretation of the notation, but are not an integral part of the musical notation system itself. While it is still possible to write this sort of 'eye music' in the twentieth century (and some of what is called pictorial or graphic notation is indeed in this category), the use of a pictorial representation

Sylvia Smith is the founder and editor of Smith Publications and Sonic Art Editions, publishing American 20th Century Music. In addition, Ms. Smith does research in selected topics of American Studies.

Stuart Smith is a composer and percussionist.

of sound that functions as notation and not calligraphy is unprecedented in Western musical history. (see fig. 2)

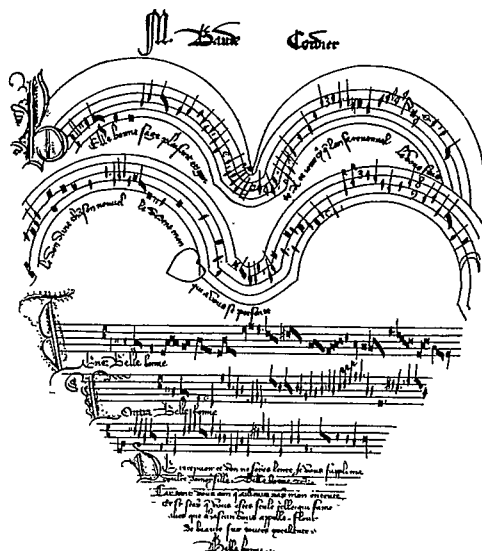


Figure 1



Figure 2

In recent years we have witnessed a growing interest in the visual qualities of pictorial notation, and numerous collections of such scores have been arranged for exhibition in museums and galleries. The feeling is emerging that, independent of their function as notation, graphic scores have a meaning in the visual realm, and that traditional notation is lacking in this interest, except perhaps as

novel or handsome calligraphy. The exhibition of notation begs the question, "Why do they work as visual art?"

In answering this question, it is not enough to say that pictorial notation resembles much of mid-century visual art. Any resemblance is accidental or immaterial. To fully understand the connection of pictorial notation to the visual art world one must investigate their structural interrelatedness rather than similarities in appearance.

At the heart of the answer is an understanding of visual art as notation. Although visual art may not fit the myopic symbol-system definitions of art philosophers, it is, broadly speaking, a notation because it relies on established conventions of documentation. These conventions are learned within a given artistic culture and are not often cross-cultural. The conventions of documentation (for the artist) and interpretation (for the viewer) are not as explicit as, say, the legend accompanying a road map. Yet both the viewer and the creator rely on a cultural 'legend' or 'code' to make sense of even the traditional portrait or still life. Even the clearest photograph relies on this cultural code of interpretation.

As an example, most people are familiar with some version of the story of the anthropologist who showed a photograph of some easily recognizable object to a people unacquainted with Western technology. The puzzled natives turned the photograph every which way, even examined the back, trying to make some sense of the image. The anthropologist, at first bewildered, was suddenly made aware that the photograph was a notation that one must learn to 'read'. The existence of art, then, may be universal, but the interpretation or meaning of it is always bound by the notational system of the culture that produced it.

Too often we make a false distinction between 'representational' and 'abstract' art, the one meaning a reference to tangible objects or people, the other referring to less tangible ideas, feelings, or patterns of thought. All art is at once both representational and abstract. If, for example, a painting represents an object, that is, stands for it instead of merely duplicating the object, it is also an abstraction of it. It is the use of familiar notational conventions that makes us use the labels 'abstract' or 'representational'.

It is the very abstractness of artwork that gives it meaning. The abstractness makes the artwork inextricably ambiguous. This ambiguity, that every artwork has, allows for the process of completion—the filling in of missing or ambiguous aspects—in the mind of the viewer. In this way, individual interpretations and reinterpretations of a work are added to the cultural conventions of notation, according to one's personal idiosyncrasies and one's own history within the culture.

The less highly defined the artwork, the greater the variety of completion possibilities and therefore multiple reinterpretations. More than any other visual medium, drawing is especially susceptible to multiple reinterpretations due to the low definition (and therefore high ambiguity) of line.

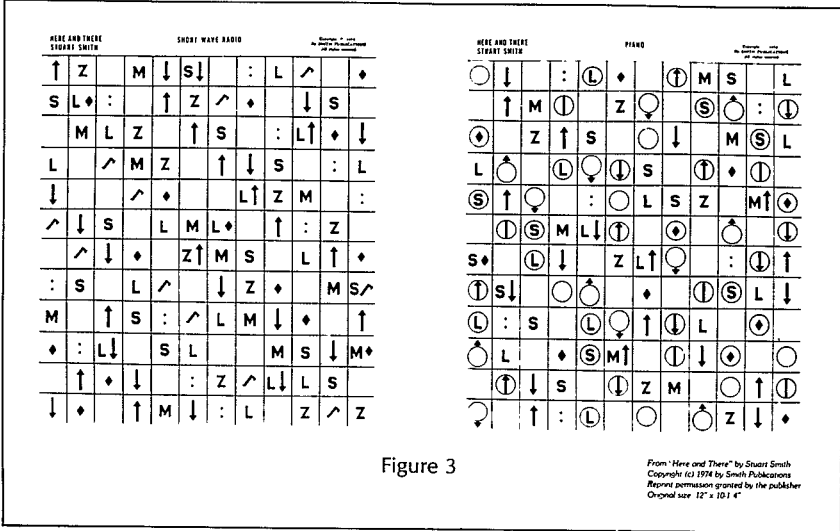
Pictorial notation works as visual art because, essentially, it is drawing. While to the composer, the use of a pictorial or graphic notation is strictly functional, to the viewer it is a drawing to be interpreted using the legend of visual art. The mind (of the viewer) can interpret and reinterpret the ambiguity of line, even in the absence of the composer's intent to make a drawing.

One could, of course, take a visual interest in traditional notation and exhibit it as is often done in music schools and libraries. Despite its historic or calligraphic interest, when we ask it to function as visual art it grows tiresome quickly. The question then is raised: why does traditional notation lack the visual interest that pictorial scores have, even in a thoughtful exhibition?

The answers that first come to mind might be that it is too clearly recognizable as notation—that it is too familiar to take an interest in. Or, once again, that they do not resemble the visual art of the present day. But, these immediate responses ignore the fundamental difference between traditional notation and pictorial scores: unlike pictorial notation, traditional notation functions like an alphabet—it has been atomized into a system of standard replaceable parts that have a musical meaning only when grouped together in some pattern. Its function is like that of the letters of the phonetic alphabet that stand not for ideas, or even words, but for phonemes that must be grouped together into words to make a meaning.

That traditional notation (like the phonetic alphabet) is a system of standard replaceable part of ideas prevents us from seeing it as drawing. It does not have inherent visual ambiguities and so is not subject to the multiple and highly individual reinterpretations that a drawing always has. There are, of course, various interpretations and inflections possible in performance, but they are not part of the **look** of the notational system.

An analysis of the notational system used in Stuart Smith's "Here And There" (1971), for short wave radio, piano interior, and any melody instrument, should further clarify the distinctions between the notation of an alphabet-system and that of drawing. (See Fig. 3)



If the short wave radio is to be used as a musical instrument, traditional notation is obviously useless. With the radio one can, in a general way, control volume, duration, and relative pitch. So the composer developed a notational system for these parameters as follows:



These symbols apply to the duration of one sound or of notes or sounds within a musical phrase.



These symbols apply to register and/or dynamics.

In addition to notating the short wave radio parameters, the composer used symbols that tell the performers how to respond to each other in performance instead of describing the sounds themselves. The symbols in this category tell the piano interior and melody instrument players to imitate or blend with the short wave radio sounds, each other's sounds, and/or their own previously performed sounds in various ways as follows:



repeat an event or sound from 8" to 15".



sound events one usually considers 'proper' short wave radio sounds (i.e. music, people talking, news, etc.).



imitate a sound or event that you hear, after you hear it.



imitate or blend with an event as you hear it.



imitate an event you have heard, in diminution.

This ideogrammic notation is a set of fixed symbols accompanied by an inflexible code or legend. Yet the meaning of each symbol is sufficiently broad to be a complete idea in itself. The score is seen as a series of little drawings that are repeatable but not alphabetical.

When we see an ideogram, such as the circle in "Here And There," we see it instantly in its entirety. We cannot atomize it into a series of points, sections, or as two semi-circles. Its function in the notational system is a complete sonic idea and/or task to perform, not just an individual note. The same is true of the shapes, arrows, or lines of all pictorial notation.

Due to poor education in modern music, many musicians assume that most pictorial scores are basically alike—that they are pictures of concepts like improvisation, spontaneity, or chance, and that 'anything goes' in performance. Or, since particular notes are not specified in the alphabet-style of traditional notation, the greater latitude of control is misinterpreted as the composer's lack of care what happens sonically. A careful analysis of the musical function of two very different pictorial scores should dispell these false assumptions.

The first pictorial music notation is contained in "Folio," a collection of early pieces by Earl Brown. The piece "December 1952" is from this collection. (see fig. 4)



fig. 4

("December 1952" with excerpt of performance directions shown here)

To be performed in any direction, from any point in the defined space, for any length of time. Tempo, as fast as possible to as slow as possible, inclusive. Attacks may be interpreted as completely separated by infinite space, collectively in blocks of any shape, or defined exactly within that space. Lines and spaces may be thought of as tracks moving in either directions (horizontally at different and variable speeds), and clef signs may be considered as floating (vertically over the defined space). . . . The defined space may be thought of as real or illusory, as a whole or in parts. Either space (vertical or horizontal) may expand, contract, or remain as it seems to be here. Vertical space will vary according to the performer's view of the floating clefs.

"December 1952" is related to visual art conceptually as well as visually. Borrowed from visual art, as well as Brown's own jazz background, are the concepts of mobility and spontaneity reinterpreted to apply to sound. As Earle Brown explains,

My first thoughts about making musical works in what I call a condition of mobility, and what is now called open form, were influenced by the mobiles of the American sculptor Alexander Calder. At approximately the same time, around 1948, the paintings and working methods of Jackson Pollock began to be widely publicized in America. A correlation that I made—rightly or wrongly—between these two artists and their technical and esthetic points of view has been my rather obsessive primary motivations as an artist and composer since that time. The first works that I consider practical extensions of this point of view into music are in FOLIO (1952-53); they reflect both of the above artists' characteristics, which I feel are applicable to the composition, form, and performing and experiencing of music.<sup>2</sup>

The mobility of Calder's mobiles is achieved by freely floating the fixed sculpted elements in three-dimensional space and by the mobility of the viewer. "December 1952", however, is a two-dimensional drawing, a fixed score. But in performance it becomes a mobile, as Brown has directed the performers to look at the score as if the symbols were suspended in three-dimensional space. In their realization of the work, the performers are to imagine changing their perspectives to the suspended symbols, thereby making possible multiple reinterpretations of the symbols within a single realization of the work. Says Brown about the resulting form of the work, "I prefer to think of form as the

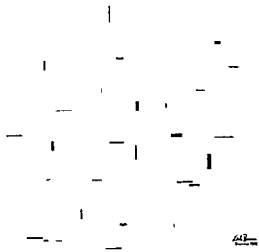


fig. 5 (Calder)

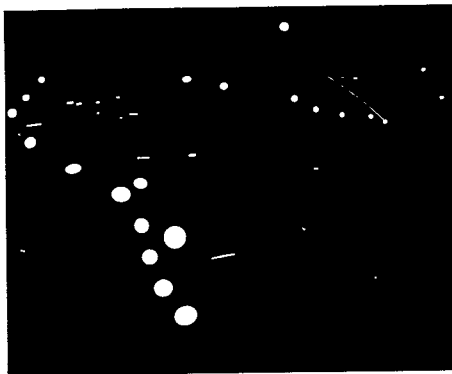


fig. 6 (Pollock)

result of activity in relation to a labyrinth of implications rather than as a fixed configuration."<sup>2</sup>

A crucial point here is that although Brown was influenced by Calder's mobiles and the work of Pollock, "December 1952" bears no visual resemblance to either the Calder mobile or the Pollock painting. However, the look of it as a drawing may very well resemble other visual art that Brown was not influenced by and to which bears no conceptual relationship. The score works as visual art because it is a drawing, not because of any visual resemblance. It is in the performance directions, or the 'knowing how it works' as a notation that it resembles a mobile.

The next score under analysis is Herbert Brun's "Mutatis Mutandis" (see fig. 7). This score is a unique concept known as the 'graphic analog' developed by Brun in 1968. The graphic analogue is a pictorial slice of the process that generates it or as Brun prefers, "these graphics are traces left by a process."<sup>3</sup> Brun further states, "The graphic displays turn into scores as soon as an interpreter translates their structural characteristics into the instructional code of another medium (music, movement, etc.) and following his translation recreates the simulated process by analogy."<sup>4</sup>

Unaccustomed to the coexistence of a multitude of notations, many scholars, musicians, and composers are calling for notational standardization. They see our present state of notational diversity as a reflection of mere confusion. Why have different symbols that stand for more or less the same thing? Why not get



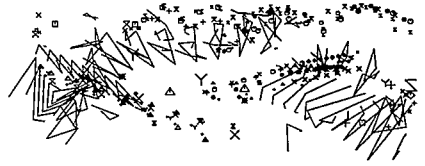
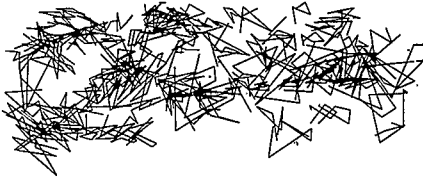


fig. 7

together at a notation convention and codify that notation that is appropriate for a given situation?

This codification process would lead to convenience, communication, and accessibility. At the same time it would strike the death blow to the primary function of art—the expansion of our consciousness. To standardize notation is to standardize patterns of thought and creativity. Our present abundance of notations is as it should be. It makes our differences so clear.

### MUTATIS MUTANDIS

Compositions for Interpreters

Ink graphics drawn by a Plotter under control  
of a Computer programmed by the composer

"Mutatis Mutandis" are not to be treated as scores, as some symbolic representation in a new notation, as sets of instructions which, if obeyed, would lead a performer to 'execute' the shapes, symbols, and configurations, as they follow one another, according to his reading habit, on the page. I have written, and shall continue to write such scores; but with "Mutatis Mutandis" I intend to present a different kind of challenge.

Here the Interpreter is invited to begin by contemplating a graphic as traces left by a process which moved a pen in various directions across the plane.

This process has been composed by the composer. The pen, thus, moved according to a programmed structure: rules, constraints, commands.

The Interpreter, now, is to construct, by thought and imagination his version of a structure that might leave the traces which the graphic displays.

The Interpreter is not asked to reconstruct my computer program, the structured process that actually generated the graphics. Rather he is asked to construct the structured process by which he would like to have generated the graphics.

Finally he should compose a working model of this structure, (a score?), in and for the medium of his choice: sound, movement, language, film, etc., and perform it.

The Interpreter is not asked to improvise.

The Interpreter is asked not to improvise.

He is asked to compose.

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- Herbert Brun

For more examples of musical notations as visual art see inside back cover.

<sup>1</sup> Gary Zukav, *The Dancing Wuli Masters, An Overview of the New Physics*, William Morrow and Company, Inc. N.Y.C. 1979.

<sup>2</sup> Earl Brown, *Form in New Music*, *Source Magazine*, issue no. 1.

<sup>3</sup>Telephone interview with Herbert Brun.

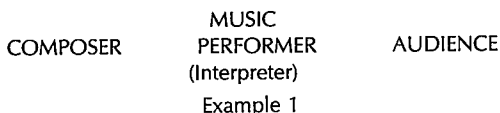
<sup>4</sup>Pg. 6 *Composition with Computers*, Herbert Brun.



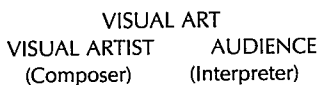
# “VISUAL CORRESPONDENCE BETWEEN NOTATION SYSTEMS AND INSTRUMENT CONFIGURATIONS”

by Dr. Michael W. Udow

Like many performers, I have seen, studied and performed music from scores which represent a wide variety of notational systems. As a composer, in the preliminary stages of each composition, I must grapple with the way in which my compositional ideas are to be presented to the performer. These musical ideas will be interpreted and performed in concert for audiences, listeners! A diagram of that series of events might look something like this:



Compared with the interactive chain of events in the visual arts, the diagram above takes on significance:



Example 2

The visual artist, a painter as an example, puts ideas on canvas. The finished work of art is viewed directly by the audience. The viewer is the interpreter. The composer of music, through a selected notation asks the interpreter/performer to take the score and bring it “alive” to the listening audience. This puts an awesome responsibility on the composer to select a notation that will best reflect the desired acoustical result. It is no less demanding, if not precarious, for the performer to interpret those marks on the page into sound.

Michael W. Udow is currently Percussionist-Composer with EQUILIBRIUM, INC., a percussion and dance duo. He is principal percussionist with the Santa Fe Opera Orchestra and is Assistant-Professor of Percussion and Composition at the University of Missouri at Kansas City: Conservatory of Music. He is currently serving on the Percussive Arts Society Board of Directors. Dr. Udow's writings include: the *Rhythmic Sourcebook for Actors, Dancers, and Musicians* and *The Contemporary Percussionist: A Multiple Percussion Method*. He is a former member of the Blackearth Percussion Group and the New Orleans Philharmonic. His other article on notation, “An Acoustical Notation System for Percussively Generated Sounds”, was written at the Experimental Studio, Warsaw, Poland, while on a Fulbright Grant.

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As a composer, I have found that no single notational system will service all of my needs. Yet, in each composition, there will be a notation which will best represent to the performer what **acoustical** events I would like an audience to **hear**. Forums and articles which discuss different notational systems are important as they encourage an open dialogue which will extend the **sonic** possibilities rather than set acoustical limitations. An attempt to standardize the notation of music is undesirable as it is limiting the sonic possibilities of the composer. A good composer will find the best way to notate desired sounds.

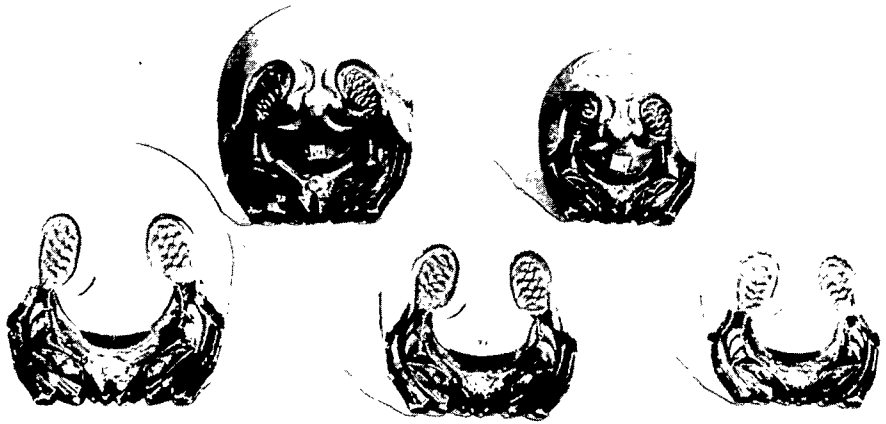
Which came first: the NOTATION or the INSTRUMENT?

Which came first: the NOTATION or the COMPOSITION?

Which came first: the INSTRUMENT or the COMPOSITION?

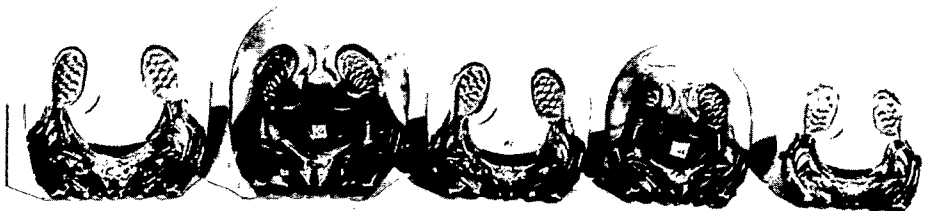
In the context of World Music, the above mutation of the old "Chicken or the Egg" philosophical question remains tenuously unanswerable. As both a performer and a composer, however, I find these questions stimulating.

Let us first consider the early traditional configuration of five temple blocks as used by the American vaudeville percussionist.



Example 3

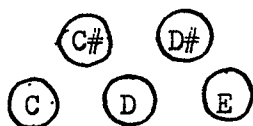
and the more widely used current temple block set-up.



Example 4

The set-up of five horizontally placed temple blocks on the same plane (example 4) permits the possibility of glissandi as well as double sticking. The configuration of (example 3) also permits the possibility of double sticking. The glissando, however, is virtually impossible to produce with this two-plane configuration. Thus, the placement of instruments, beyond the basic discussion of proximity to one another and to the performer, should also include an analytical approach to the player's positioning of instruments in space. This careful placement of instruments in a specific configuration will affect the performer's sticking, balance, articulation, tone and dynamic control, and, thus, will affect this musical phrasing.

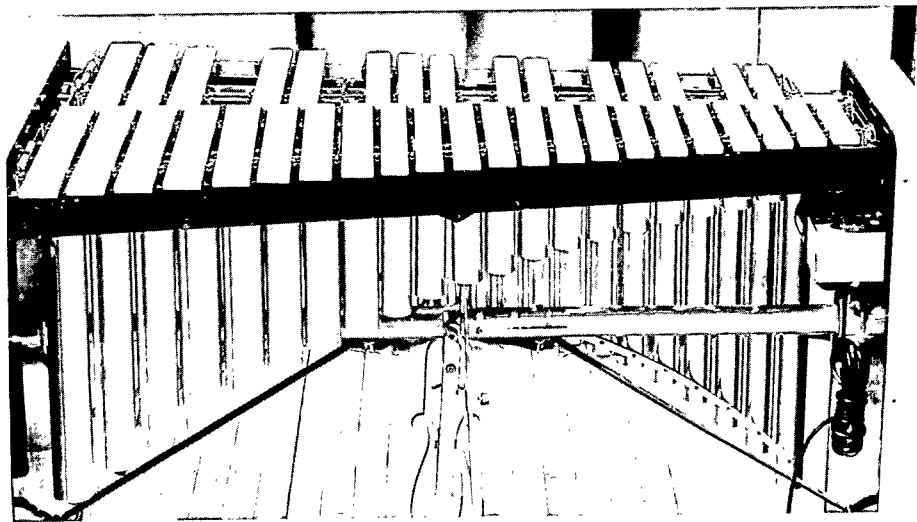
The configuration of (example 3) reminds one of the configuration of an actual keyboard instrument:



Example 5A

It is, however, the physical location of the temple blocks (not the order of "pitches") which does have a similarity to a keyboard instrument. This concept may be used advantageously when the physical limitations of an instrumental group permit the incorporation of **timbres** into a keyboard configuration.

To reflect further on the significance of this idea, consider the concept of a three octave vibraphone as 37 mono-timbral instruments placed in a systematic configuration. The vibraphone is then a multiple percussion instrument console represented by staff notation.



Example 5B

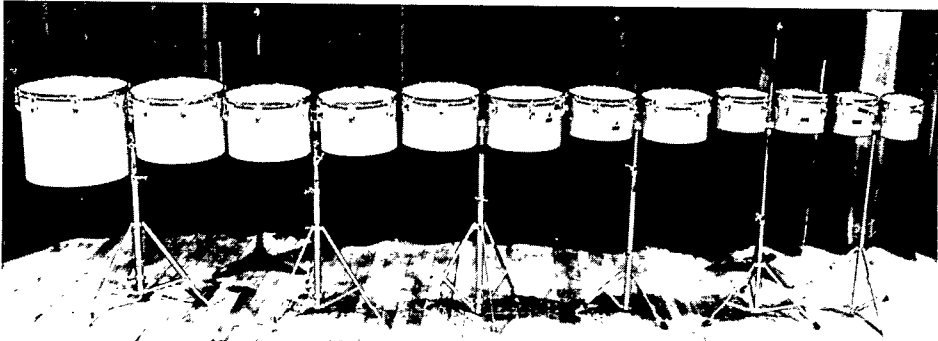
If a composer desired twelve membranophones to be played by one percussionist in a precisely notated score, how could it be notated and how would the

percussionist set-up the drums? Let us consider, for the sake of example, a set-up of twelve tom toms in the same order (low to high) as the following staff notation indicates:



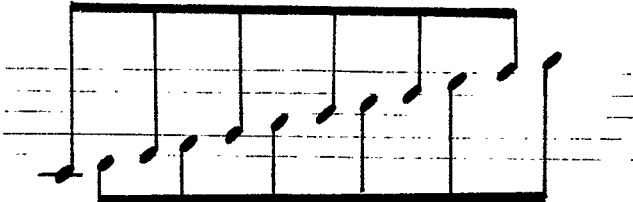
Example 6

There would be either one long row of twelve tom toms:

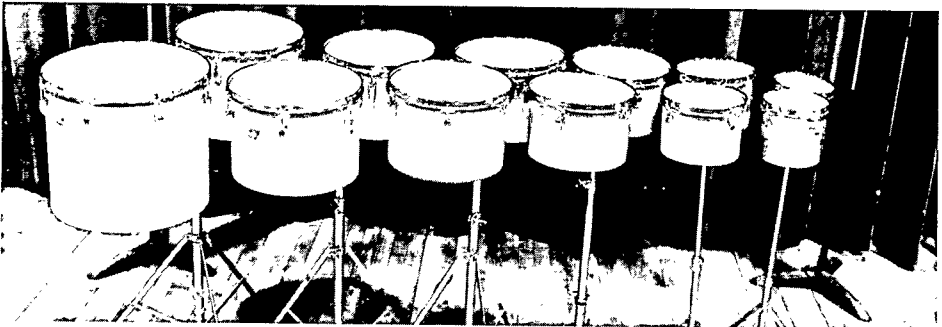


Example 7

or, perhaps two rows or planes of membranophones based on a space-line-space-line staff concept:

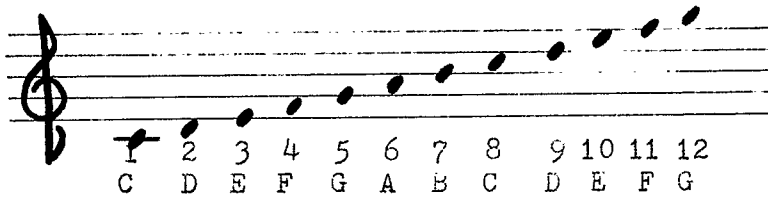


Example 8



Example 9

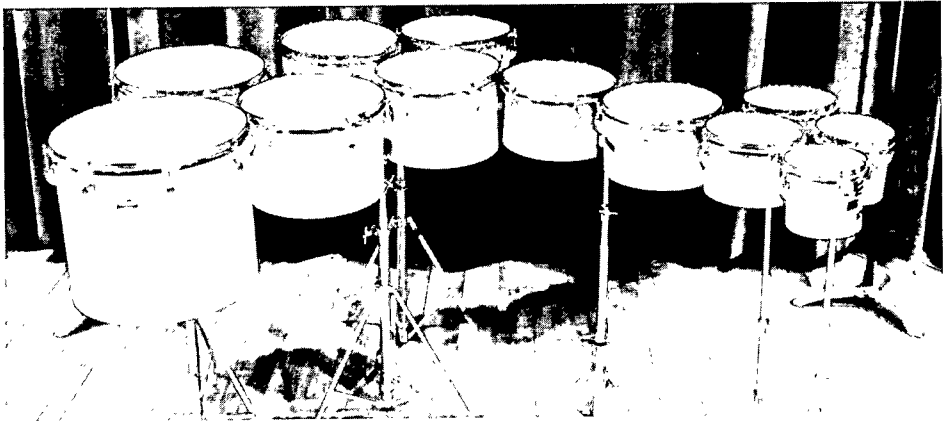
If we place a treble clef sign at the beginning of the staff, we immediately assign diatonic keyboard values to the tom toms:



Example 10

Whether or not we tune the membranophones to those frequencies, we can still call the first drum "number 1" or "C", the second drum "number 2" or "D", etc. The "1" is a numeral and the "C" is a letter; they are **signs** which indicate numerous possibilities until they are defined by the composer. It is important to note that it is the composer who defines the meaning of the marks in the score. It is the performer who interprets these marks.

The advantage of the membranophone set-up in (example 9) as compared with (example 7) is having two rows of drums reducing (by 50%) the distance (left to right) that the percussionist must travel in order to reach the tom toms. Yet another notational and instrument configuration refinement could be made. The membranophones could be placed in a keyboard configuration:



Example 11

and notated in an "altered keyboard notation":



Example 12

The sign:



Example 13

signifies the use of keyboard notation and configuration to indicate the **location** of timbres rather than exact frequencies. Thus, (example 11) is a TIMBRE STAFF indicating, in this case, the sound of twelve graduated (low to high) membranophones placed in the configuration of a keyboard.

Charles Wuorinen, in his "Janissary Music"<sup>1</sup> (1966), calls for twelve membranophones notated in the score as follows:

	Bass Drum (Deep)
	Bass Drum (Medium)
	Field Drum
	Tenor Drum
	Medium Drum
	Small Drum
	Snare Drum (w/o snares)
	5
	4
	Bongos
	3
	2
1	

Example 14

The following four measure excerpt from "Janissary Music" demonstrates the incorporation of all twelve membranophones used in a "homo-timbral" context.<sup>1</sup>

Example 15

The next example indicates the use of the membranophones in a mixed timbral structure with the vibraphone, marimba and two cowbells.<sup>1</sup>

Example 16

"Janissary Music" is a composition in which the timbre staff notation could have been employed. The advantage of this notation in the specific case of "Janissary Music" is twofold. The drums can be placed in a keyboard configuration which will:

- (1) take up a minimal amount of linear space in the multiple set-up and
- (2) have a one-to-one visually recognizable correspondence with the notation.

Considering the rapid mallet changes, the locomotion, and the total instrumentation of this solo multiple percussion work:

- 1 Vibraphone (37 idiophones)
- 1 marimba (49 idiophones)
- 12 membranophones (non-pitched)
- 12 Metallophones
- 1 timpano

forming the INSTRUMENTARIUM\* becomes an important factor for the interpreter/performer. A notation which has a visibly recognizable correspondence with the instrumentarium should be a significant aid to the performer during the initial stages of learning the music.

Wuorinen, in "Janissary Music," requires twelve metallophones:

- 3 Triangles
- 3 cowbells
- 3 suspended cymbals
- 3 tam tams

Due to the suspension requirements of these instruments, an "altered keyboard" configuration (and, consequently, the incorporation of a timbre staff notation) becomes less viable. The difficulties of arranging these metallophones into a keyboard configuration borders on the comparison of trying to force a square peg into a round hole.

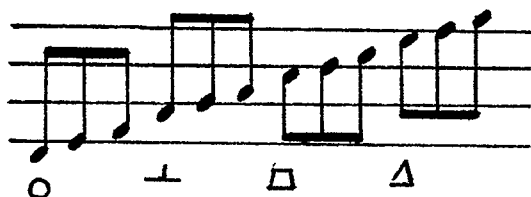
Wuorinen notates the lowest tam tam on the **line** below the staff, the lowest cymbal on the first **space** in the staff, the lowest cowbell on the third **line** of the staff, and the lowest triangle on the fourth **space** in the staff:



Example 17

\*an enclosure of instruments in the center of which the performer is located (mwu). . . .as in "terrarium: n. an enclosure for keeping small animals."

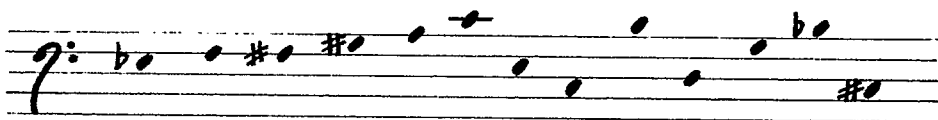
I personally favor a notation system which more clearly defines these four distinct timbral groups:



Example 18

It should be understood that critical reflection about the notation of a score is not, in itself, a condemnation of the music! Charles Wuorinen's "Janissary Music" has received performances of distinction by percussionists over the last decade. It is not this author's intention to review the artistic merits of "Janissary Music" in this article. It is, however, worthwhile to point out notational problems in order that any future compositions may communicate more clearly a composer's musical ideas to the performer.

In the next example, the problem lies not in the notation of the music but in the lack of instruction to the performer regarding instrument placement. Ross Lee Finney in his "2 Acts for 3 Players<sup>2</sup> (1975)" for clarinet, percussion and piano presents thirteen roto toms in equal tempered tuning. The pitches are introduced in the following order which span one complete octave.



Example 19

Although the composer does not suggest an instrument set-up, a performer could use a keyboard configuration since the composer already introduced a staff notation with specified pitches. Thus, the following excerpt becomes readily accessible to the performer.<sup>2</sup>

Percussion

[74] *mf* (ch.) 1 1 R. T.  $\text{♩} = 100$ ,  $\text{♩} = \text{♩}$

[80] *f*

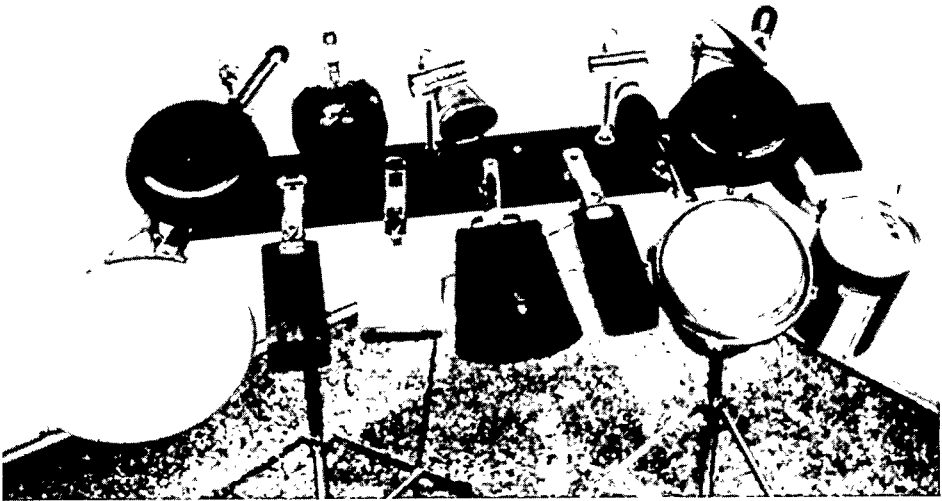
[86]

The image shows three staves of musical notation for percussion. The first staff starts at measure 74 with a dynamic marking of *mf* (ch.) and includes performance instructions: a first ending bracket labeled '1', '1 R. T.' (Right Tom), and a tempo marking '♩ = 100, ♩ = ♩'. The second staff starts at measure 80 with a dynamic marking of *f*. The third staff starts at measure 86. The notation consists of rhythmic patterns and note heads on a staff.

Example 20



The following examples incorporate an instrument configuration and a corresponding notational system which readily facilitate interpretation and performance. Herbert Brun's ". . .In And And Out. . ." (1974) (for piccolo-flute, oboe, clarinet in B $\flat$ -Eb-bass, trumpet, posthorn, trombone, violin, double bass, piano, and multiple percussion) presents the percussionist with a choice of instruments to play during two sections of the work. The percussionist is given a timbre-staff notation system with music which looks not unlike a xylophone part. The percussionist is asked to select a combination of membranophones and/or idiophones and place them in a keyboard configuration, a **timbre-rack**. Thus, the timbre-rack would have a visual correspondence with the music. The following photo shows the original timbre-rack constructed by this author for the first performance of this work.



Example 21

The following musical example from ". . .In And And Out. . ." shows the timbre-staff notation of the timbre-rack in a trio section for piccolo, violin and timbre-rack.<sup>4</sup> (see example 22)

Since Herbert Brun composed the timbre-rack music using a timbre staff notation while having already conceived of the instrument configuration, the performance problems of playing a disparate combination of idiophones and membranophones was virtually eliminated.

An example of a multiple-timbre percussion notation with an analogue in the instrument configuration which does not use a five lined staff system is Michael Kowalski's "Traveling Music" (1976) for dancer and percussionist. The following chart indicates the exact relationship of the instrumentarium to the notational system.<sup>5</sup> (see example 23)

J. 140 ②

Flute

Violin

Percussion

Fl.

Viol.

Perc.

Fl.

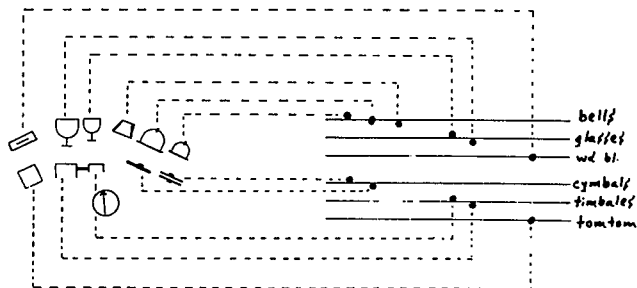
Viol.

Perc.

Example 22

Percussion:

- △ (2): button-activated desk bells ("Ring for service"-type), pitched at least a semitone apart.
- : cowbell, damped (e.g., with foam rubber or rags).
- ∪ (2): crystal wine glasses, high/low.
- ▬: woodblock.
- ≡: hi-kat.
- : suspended cymbal.
- : timbales, high/low.
- : tomtom.



Example 23

The following excerpt from "Traveling Music" should indicate the strength of a notational system which has a direct analogue in the instrument configuration.<sup>5</sup>

Example 24

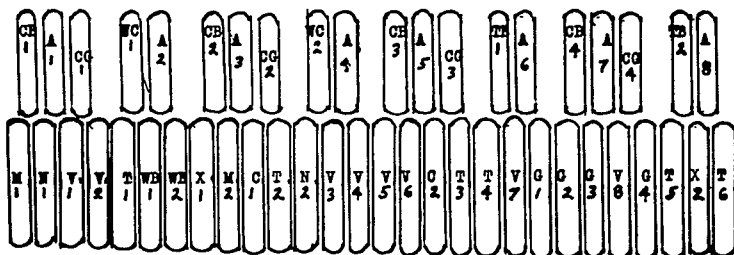
To put the concept of a timbre-staff notation system into some historical perspective, let us consider the timpani notation of J.S. Bach. Composer, Richard Wernick, in a recent conversation with this author, pointed out that Bach, in his timpani part writing, used an arbitrary selection placement of the notes on the staff such as:

Fis - H

Example 25

Although the pitches "G" and "C" are notated on the staff, the printed letter names "Fis - H" supersede the actual music. Therefore, the performer would tune the timpani to F# and B natural even though the staff notation indicates something quite different. The notes in the staff represent the low and the high drum, not the tuning of the timpani. Thus, the notation is similar to the basic concept of a timbre-staff notation system.

The *Timbrack\** is a four "octave" multiple percussion console arranged in the configuration of a mallet keyboard instrument. The idiophonic elements consist of a variety of metallic and wooden objects constructed in the shape of bars, rods, tubes, bells, and blocks. Although each idiophone is individually tuned, it is the timbre of the thirteen basic idiophonic elements and the way in which they are arranged forming an instrument which presents an interesting view of notational possibilities. The *Timbrack's* keyboard configuration permits the possibility of composers using traditional staff notation where the notation symbolizes timbre location rather than frequency location for 48 individual idiophones. The *Timbrack Configuration Chart* below indicates the timbre layout.



**TIMBRACK CONFIGURATION \***

Wooden elements

- M. marimba bar (pitched)
- N. nabimba bar (pitched)
- X. xylophone bar (pitched)
- C. clave
- WB. wood block
- TB. temple block
- WC. wood cylinder (semi-pitched)

Metallic elements

- V. vibraphone bar (pitched)
- G. glockenspiel bar (pitched)
- A. angklang tube
- T. tubophone cylinder
- CB. cowbell (semi-pitched)
- CG. clog gong

\* Note the console is arranged in the configuration of a keyboard instrument. Thus, the possibility of traditional staff notation over a four octave range exists. The notation symbolizes timbre rather than frequency.



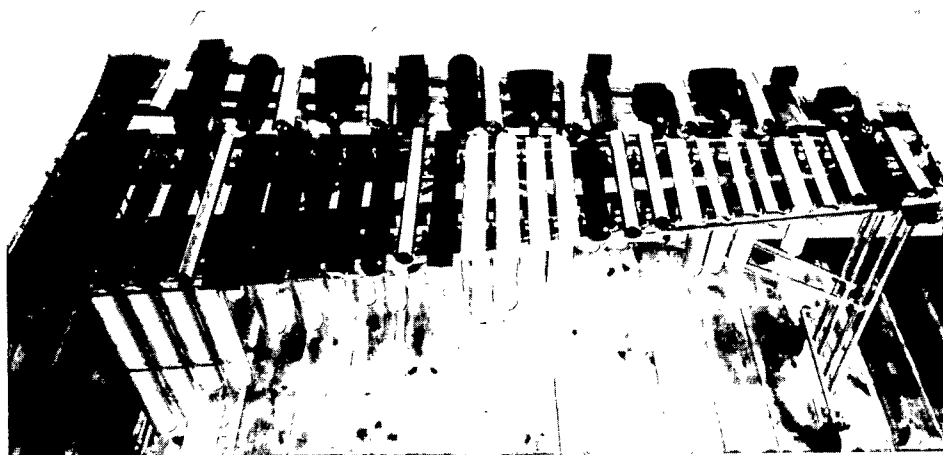
Example 26

The *Timbrack* was designed and built for the realization of Herbert Brun's solo percussion work, "Stalks And Trees And Drops And Clouds." (Smith Publications). Although the score does not incorporate a timbre staff notation, I chose to design a keyboard multiple percussion instrument which would facilitate the performance of densely shifting timbres. The keyboard configuration would per-

\*Constructed by the author with the assistance of chief research designer, Mr. Peter Spenlove, at the Premier Drum Company, Leicester, England.

mit other composers the possibility of composing for the Timbrack using traditional staff notation. The following example from "Miniatures for Timbrack" (1977) by the Dutch composer, Jan Dhont, demonstrates the similarity of the Timbrack notation to the notation of marimba music, and why not? They are both keyboard instruments played with mallets!<sup>6</sup> (see example 28)

The following photograph displays the actual keyboard of the Timbrack.



Example 27

*laca 54* *f* *No I* *pp*

*pp* *libero* *hard mallets* *accel* *a tempo* *pp*

Example 28

Although the concept of the Timbrack came about through a conscious and, no doubt, unconscious synthesis of my musical and socio-political experience, I do see a relationship between the notation and the configuration of the Timbrack with that of the Prepared Piano invented by John Cage. Peter Yates comments: "John Cage demonstrated with his compositions for prepared piano (screws, bolts, nuts, rubber strips, or other objects placed at measured points between the strings sounded by some keys of a piano, altering the pitch and timbre) that a note (as written) may be read as instruction to strike a certain key of the piano keyboard, the sign having no other relation to the quite unexpected tone (pitch and type of sound) the instrument may produce, transforming the piano into a percussive instrument of microtonal variability."<sup>3</sup> The obvious major conceptual difference in the design of the prepared piano and the Timbrack is the actuation process: the prepared piano **strings** are actuated by the performer through a mechanical device, the piano action. The Timbrack idiophones are actuated by the performer using mallets.

This article has focused on the importance of a visually recognizable correspondence between the notation of the score and the percussion set-up. It is hoped that, when appropriate, composers will select a notation system which directly relates to the locative configuration of the percussion instruments used in the composition. As a composer, I want to communicate my **music** through a clear written communication system. As a performer, when working on precisely notated scores, I expect the notation to accurately reflect the composer's intentions and serve as a facile communicator of those intentions to the performer.

To the percussionist who is beginning to develop skills in the area of multiple percussion performance, I offer the following remarks for consideration. As a percussionist, I find it very helpful when beginning to work on a new multiple percussion piece to close my eyes and imagine the physical percussion set-up. Then I imagine the notational system. I practice transferring the visual image of the notation with the visual image of the percussion set-up. By doing this, I learn the notation system in relation to the instrumentarium prior to my initial practice session with the instruments. This technique has proved useful in learning the Timbrack notation and the configuration of the keyboard which it represents.

Variations of this technique can be employed by beginning mallet keyboard students. The student should close his eyes and imagine the configuration of the keyboard. Then the student imagines the musical staff (different clefs). While thinking of each note on the staff, one can transfer that image to the image of the correct bar on the keyboard. By doing this mental imagery process, while also sightsinging, the student is mentally learning the notational system, its relation to the keyboard, and the sonic result.

Notation is one way in which composers are currently able to communicate their ideas to performers. The composer of music communicates ideas which result in sound. The sounds are produced by the performer through a medium, an instrument. I have tried to weave a pattern of discussion focusing on notation while desperately being concerned that this discussion of this aspect of **notation** should not become divorced from the **performer**, the **instrument**, and the **music**.

1. Wuorinen's "Janissary Music," p. 10, 2nd system and p. 11, bottom stave: Copyright (c) 1967 by C.F. Peters Corporation. Reprinted by permission of the publisher.
2. Finney's "2 Acts for 3 Players," percussion part, p. 7 (1st 3 Staves): Copyright (c) 1975 by Henmar Press Inc. (C.F. Peters Corp.) Reprinted by permission of the publisher.
3. Yates, Peter. *Twentieth Century Music*, Pantheon Books (Random House), 1967, New York, (p. 242).
4. Herbert Brun, ". . .In And And Out. . ." used with permission from the composer.
5. Michael Kowalski, "Traveling Music," used with permission of the composer.
6. Jan Dhont, "Miniatures for Timbrack," used with permission of the composer.

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\* \* \* \* \*

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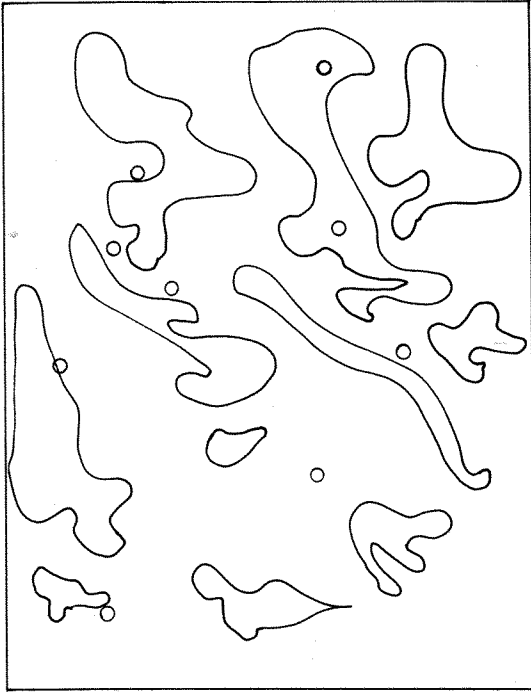
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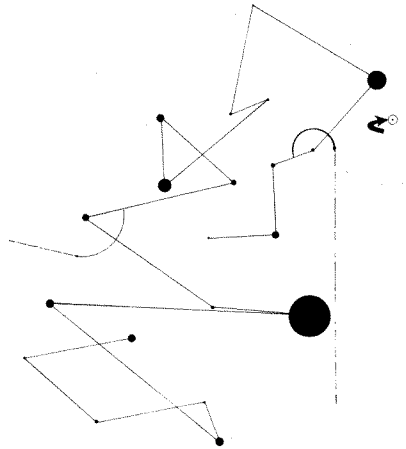
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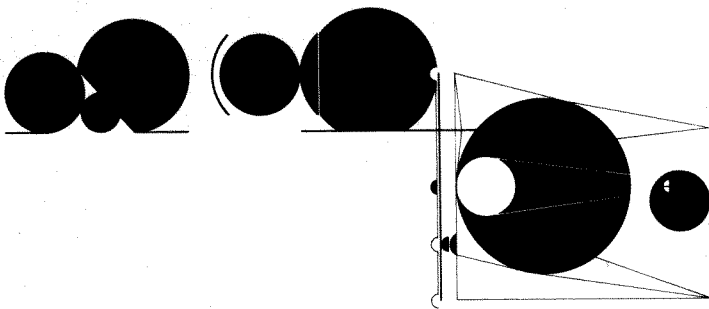
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