

INFORMATION TO USERS

This reproduction was made from a copy of a document sent to us for microfilming. While the most advanced technology has been used to photograph and reproduce this document, the quality of the reproduction is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help clarify markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure complete continuity.
2. When an image on the film is obliterated with a round black mark, it is an indication of either blurred copy because of movement during exposure, duplicate copy, or copyrighted materials that should not have been filmed. For blurred pages, a good image of the page can be found in the adjacent frame. If copyrighted materials were deleted, a target note will appear listing the pages in the adjacent frame.
3. When a map, drawing or chart, etc., is part of the material being photographed, a definite method of "sectioning" the material has been followed. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.
4. For illustrations that cannot be satisfactorily reproduced by xerographic means, photographic prints can be purchased at additional cost and inserted into your xerographic copy. These prints are available upon request from the Dissertations Customer Services Department.
5. Some pages in any document may have indistinct print. In all cases the best available copy has been filmed.

**University
Microfilms
International**

300 N. Zeeb Road
Ann Arbor, MI 48106

8324890

Lambert, James William

MULTIPLE PERCUSSION PERFORMANCE PROBLEMS AS ILLUSTRATED IN
FIVE DIFFERENT WORKS COMPOSED BY STOCKHAUSEN, SMITH BRINDLE,
COLGRASS, DAHL, AND KRAFT BETWEEN 1959 AND 1967

The University of Oklahoma

D.M.A. 1983

University
Microfilms
International

300 N. Zeeb Road, Ann Arbor, MI 48106

Copyright 1983

by

Lambert, James William

All Rights Reserved

PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy.
Problems encountered with this document have been identified here with a check mark ☒.

1. Glossy photographs or pages _____
2. Colored illustrations, paper or print _____
3. Photographs with dark background _____
4. Illustrations are poor copy _____
5. Pages with black marks, not original copy _____
6. Print shows through as there is text on both sides of page _____
7. Indistinct, broken or small print on several pages ☒
8. Print exceeds margin requirements _____
9. Tightly bound copy with print lost in spine _____
10. Computer printout pages with indistinct print _____
11. Page(s) _____ lacking when material received, and not available from school or author.
12. Page(s) _____ seem to be missing in numbering only as text follows.
13. Two pages numbered _____. Text follows.
14. Curling and wrinkled pages _____
15. Other _____

University
Microfilms
International

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

MULTIPLE PERCUSSION PERFORMANCE PROBLEMS AS ILLUSTRATED IN FIVE
DIFFERENT WORKS COMPOSED BY STOCKHAUSEN, SMITH BRINDLE,
COLGRASS, DAHL, AND KRAFT BETWEEN 1959 AND 1967

A DOCUMENT

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF MUSICAL ARTS

By

JAMES WILLIAM LAMBERT

Norman, Oklahoma

1983

MULTIPLE PERCUSSION PERFORMANCE PROBLEMS AS ILLUSTRATED IN FIVE
DIFFERENT WORKS COMPOSED BY STOCKHAUSEN, SMITH BRINDLE,
COLGRASS, DAHL, AND KRAFT BETWEEN 1959 AND 1967

A DOCUMENT

APPROVED FOR THE SCHOOL OF MUSIC

By

Richard C. Gipson
Dr. Richard C. Gipson, Major Professor
and Document Advisor

Irvin L. Wagner
Dr. Irvin L. Wagner, Program Advisor

Eugene J. Enrico
Dr. Eugene J. Enrico

Michael Hennagin
Professor Michael Hennagin

Jerry Neil Smith
Dr. Jerry Neil Smith

James J. Yoch
Dr. James J. Yoch

© 1983

JAMES WILLIAM LAMBERT

ALL RIGHTS RESERVED

SPECIAL ACKNOWLEDGEMENT

Permission to reprint excerpts from Suite for Percussion by William Kraft in this document has been received from Belwin-Mills Publishing Company, New York, New York. University Microfilms International may supply single copies of this document upon demand (which include Mr. Kraft's Suite for Percussion; additional permissions for the remaining excerpts have been acknowledged earlier in this document).

All excerpts from William Kraft's Suite for Percussion are:

Copyright © 1963 by Mills Music, Inc.

Used with permission. All Rights Reserved.

ABSTRACT

MULTIPLE PERCUSSION PERFORMANCE PROBLEMS AS ILLUSTRATED IN FIVE
DIFFERENT WORKS COMPOSED BY STOCKHAUSEN, SMITH BRINDLE,
COLGRASS, DAHL, AND KRAFT BETWEEN 1959 AND 1967

BY: JAMES WILLIAM LAMBERT

MAJOR PROFESSOR: RICHARD C. GIPSON, D.Ed.

This document concerns itself with the identification and cross-relationship of three categories of performance problems related to multiple percussion performance: (1) notation; (2) instrument placement; (3) movement. These problems are illustrated through the works of Karlheinz Stockhausen (Nr. 9 Zyklus), Reginald Smith Brindle (Orion M. 42), Michael Colgrass (Fantasy Variations), Ingolf Dahl (Duettino Concertante), and William Kraft (Suite for Percussion) in the time frame of 1959 to 1967.

Generative and significant twentieth century multiple percussion compositions which preceded these works (prior to 1959) are discussed, and the necessity for a systematic process of performance preparation to such multiple percussion compositions is apparent. The selection of these five works were chosen to illustrate a diversity of the number of performers and consequent percussion instruments involved. In addition, these works reflect the use of the following formats: (1) unaccompanied multiple percussion solo; (2) concerto with percussion ensemble accompan-

iment; (3) percussion ensemble; (4) multiple percussion with another instrument. Their stylistic identities illuminate the differences among the five selected composers. The diversity of sounds in these works is compounded by each composer's choice of instruments, of notation, of instrument placement, and of the conscious or subconscious visual impact on the audience. This document describes the factors that combine to make multiple percussion compositions a continuing musical challenge within a systemized, developmental learning process.

ACKNOWLEDGEMENTS

A debt of gratitude is owed to the five composers whose multiple percussion compositions served as primary sources for this document: Karlheinz Stockhausen; Reginald Smith Brindle; Michael Colgrass; William Kraft; and Ingolf Dahl. Especially I want to thank William Kraft whose genius in music is only matched by his genuinely warm personality.

The author expresses appreciation for the kind permission granted by:

- (1) European American Music Distributors Corporation, sole U.S. agent for Universal Edition, for the use of excerpts from Nr. 9 Zyklus by Karlheinz Stockhausen in Figures 1-8, 16 and appendix 1.
- (2) Henrichsen Edition, Peters Edition Limited, London, for the use of excerpts from Orion M. 42 by Reginald Smith Brindle in Figures 9-15, 17, and appendix 2.
- (3) Music for Percussion, Inc. to use excerpts from Fantasy Variations by Michael Colgrass in Figure 18 and appendices 3-5.
- (4) William Kraft to use excerpts from his Suite for Percussion in Figures 26 and 31, and appendices 6-16.
- (5) Alexander Broude, Inc. to use excerpts from Duettino Concertante by Ingolf Dahl in Figure 19, 24, 25, 28, 29, 30 and 32, and appendix 17.

I also appreciate the cooperation and support of my graduate music committee at the University of Oklahoma: Dr. Richard Gipson, major professor; Dr. Eugene Enrico; Dr. Irvin Wagner; Professor Michael Hennagin; Dr. Jerry Neil Smith; and Dr. James Yoch. In particular I want to thank Dr. Gipson for the extra time which he freely gave in guiding and coordi-

nating this project to its completion. Gratitude is also expressed to Jean Spray for her typing of and technical assistance for this document.

Finally, words cannot express my appreciation and love for my parents, Clifford Louis and Voyce Olive Lambert--particularly my mother, who started my music career at the age of four in her piano studio. They have remained my constant supporters. An equal debt of gratitude, companionship, and love is expressed for Doris Lynn Reed Lambert, my friend and wife, who sang and played piano and percussion at all four of my graduate recitals as well as proofread this document. I dedicate this document to my parents and my wife.

TABLE OF CONTENTS

	Page
LIST OF FIGURES	x
 Chapter	
I. GENERAL DESCRIPTION OF MULTIPLE PERCUSSION WORKS COMPOSED BETWEEN 1959-1967	1
II. PERFORMANCE PROBLEMS ASSOCIATED WITH THE NOTATION OF MULTIPLE PERCUSSION SOLOS	15
III. INTERPRETATION OF MULTIPLE PERCUSSION INSTRUMENT PLACEMENT ...	27
IV. PROBLEMS OF MOVEMENT ASSOCIATED WITH MULTIPLE PERCUSSION WORKS	37
V. SUMMARY	44
BIBLIOGRAPHY	46
APPENDICES	51
1. PREFACE TO <u>NR. 9 ZYKLUS</u> BY KARLHEINZ STOCKHAUSEN	52
2. INSTRUMENTS, INDICATIONS, AND LAYOUT TO <u>ORION M. 42</u> BY REGINALD SMITH BRINDLE	54
3. PREFACE TO <u>FANTASY VARIATIONS</u> BY MICHAEL COLGRASS	56
4. INSTRUMENT SETUP FOR <u>FANTASY VARIATIONS</u> BY MICHAEL COLGRASS	58
5. MICRORHYTHMIC TABLE DEvised BY MICHAEL COLGRASS (FROM <u>FANTASY VARIATIONS</u>)	60
6. COVER PAGE TO THE SCORE OF <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	62
7. OPENING SCORE FOR "FANFARE" TO <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	64

	Page
8. FOOTNOTES FOR "ANDANTE" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	66
9. FOOTNOTE TO "ANDANTE" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	68
10. FOOTNOTE TO "ANDANTE" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	70
11. FOOTNOTE TO "OSTINATOS" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	72
12. OPENING SCORE TO "TOCCATA" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	74
13. FOOTNOTES TO "TOCCATA" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	76
14. OPENING OF "CADENZE" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	78
15. FOOTNOTES FOR "CADENZE" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	80
16. FOOTNOTES FOR "CADENZE" FROM <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	82
17. EXPLANATORY NOTE FROM <u>DUETTINO CONCERTANTE</u> BY INGOLF DAHL	84
18. LETTER OF PERMISSION FROM EUROPEAN AMERICAN MUSIC, INC. IN REGARD TO <u>NR. 9 ZYKLUS</u> BY KARLHEINZ STOCKHAUSEN	86
19. LETTER OF PERMISSION FROM PETERS EDITION LIMITED IN REGARD TO <u>ORION M. 42</u> BY REGINALD SMITH BRINDLE	88
20. LETTER OF PERMISSION FROM MUSIC FOR PERCUSSION, INC. IN REGARD TO <u>FANTASY VARIATIONS</u> BY MICHAEL COLGRASS	90
21. LETTER OF PERMISSION FROM NEW MUSIC WEST PUBLICATIONS IN REGARD TO <u>SUITE FOR PERCUSSION</u> BY WILLIAM KRAFT	92
22. LETTER OF PERMISSION FROM ALEXANDER BROUDE, INC. IN REGARD TO <u>DUETTINO CONCERTANTE</u> BY INGOLF DAHL	94

LIST OF FIGURES

FIGURE	Page
1. Stockhausen's First Structure Type	17
2. Stockhausen's Second Structure Type	17
3. Stockhausen's Third Structure Type	17
4. Stockhausen's Fourth Structure Type	18
5. Stockhausen's Fifth Structure Type	18
6. Stockhausen's Sixth Structure Type	19
7. Stockhausen's Seventh Structure Type	19
8. Stockhausen's Eighth Structure Type	20
9. Smith Brindle's Symbols	22
10. Smith Brindle's Symbols ..	22
11. Smith Brindle's Symbols	22
12. Smith Brindle's Symbols	23
13. Smith Brindle's Symbols	23
14. Smith Brindle's Symbols	23
15. Smith Brindle's Symbols	23
16. Stockhausen's Instrument Placement	28
17. Smith Brindle's Instrument Layout	29
18. Colgrass' Instrument Layout	30
19. Dahl's Percussion Instrument Layout	30
20. Colgrass' Drum Layout	31

FIGURE	Page
21. Colgrass' Drum Layout	31
22. Colgrass' Drum Layout	32
23. Colgrass' Eight Pitches	32
24. Dahl's Drum Layout	33
25. Excerpt from Dahl's <u>Duettino Concertante</u>	34
26. Kraft's Instrument Layout	34
27. Dahl's Problems of Movement	38
28. Dahl's Mallet Changes	38
29. Dahl's Mallet Changes	39
30. Dahl's Special Effect	39
31. Kraft's Problems of Movement	42
32. Dahl's Problems of Movement	42

CHAPTER I

GENERAL DESCRIPTION OF MULTIPLE PERCUSSION

WORKS COMPOSED BETWEEN 1959 AND 1967

The development of multiple percussion as an accepted musical genre between 1959 and 1967 has been a profound artistic influence upon current performances of percussion music. Multiple percussion--that is, the simultaneous or sequential performance of more than one percussion instrument (usually of contrasting timbres)--has its developmental genesis in such works as Igor Stravinsky's L'Histoire du Soldat (1917)¹ and Darius Milhaud's Concerto for Percussion and Orchestra (1929)². Both of these compositions reflect an increased sophistication in the demands made upon a single percussionist to perform on several different percussion instruments and to execute additional specifications of mallet selection. In L'Histoire du Soldat, Stravinsky requires that the percussionist perform bass drum, low-pitched snare drum, field drum, tambourine, small suspended cymbal, and triangle. Mallet selection in this work varies from double-headed timpani-snare drum sticks to a triangle striker and bass drum mallet. Instructions in French are given to the performer on

¹Igor Stravinsky, L'Histoire du Soldat (London: J. and W. Chester, Ltd., 1924).

²Darius Milhaud, Concerto for Percussion and Orchestra (Wien: Universal Edition, 1931).

the score as the need to change mallets arises.

Milhaud selected the following instrumentation for his percussion concerto: four timpani; bass drum with pedal which also had an optional striker-attachment to sound a suspended cymbal simultaneously when desired; a second suspended cymbal; crash cymbals; tam-tam; triangle; wood-block; castanets; rattle or ratchet; whip; metal block; tambourine; snare drum; tenor drum; and a "long" drum (or tambourin provençal). Double-headed timpani-xylophone mallets were necessary for this performance along with a triangle striker and gong mallet. The notation of the instruments incorporates the traditional bass clef for timpani with a diagrammed legend of the remaining instruments.

In both Stravinsky's and Milhaud's compositions, various percussion instruments were selected to produce unique combinations of timbre which heretofore had not existed. Each composer elected to have the multiple percussion unit function in a different manner. Stravinsky chose to have the percussion instruments underpin the rhythmic, dramatic units of his multi-media, seven-instrument composition. Stravinsky used percussion in a programmatic way to convey the tale of a war-weary soldier who sold his soul to the devil and then attempted in vain to outwit Lucifer. Milhaud constructed a concerto around the percussionist's use of exactly-pitched timpani, relatively-pitched drums, and nonconventional idiophones (such as a metal block, whip, and ratchet). The acceptance of the multiple percussion genre in the twentieth century is shown by Milhaud's decision to write a multiple percussion concerto and by Stravinsky's use of multiple percussion in the medium of chamber music. However, these works lack a systematic approach toward notation, set-up,

and instrument placement.

Subsequent to Stravinsky's multiple percussion composition in 1917 and simultaneous to Milhaud's multiple percussion concerto were works by Edgard Varese (Hyperprism, 1926; Intergrales, 1926; Ionisation, 1931; Ecuatorial, 1933-34) which utilized the timbre of multiple percussion by having many performers play one, two, or three different instruments. Between 1933 and 1939, this style of ensemble composition for multiple percussion continued with the following composers and their works:

Jose Arderol, Estudio en Forma de Preludio y Fuga, para 37 Instrumentos de Percusion, Friccion y Silbido, 1933, 22 percussionists; John Becker, Abongo, 1933, 15 percussionists; William Russell, Fugue for Eight Percussion Instruments, 8 percussionists, March Suite, 3 percussionists, Three Dance Movements, 4 percussionists, all in 1933; Jose Arderol, Suite, para 30 Instrumentos de Percusion, Friccion y Silbido, 15 percussionists, 1934; Henry Cowell, Ostinato Pianissimo, 8 percussionists, 1934; Johanna Beyer, IV, 9 percussionists, 1935; Harold Davidson, Auto Accident, 12 percussionists, 1935; Gerald Strang, Percussion Music for Three Players, 1936; Ray Green, Three Inventories of Casey Jones, 5 percussionists, 1936; John Becker, A Dance, 6 percussionists, 1938; Johanna Beyer, Percussion Opus 14, 11 percussionists, March for 30 Percussion Instruments, 6 percussionists, Three Movements for Percussion, 9 percussionists, Waltz for Percussion, 9 percussionists, 1939; Henry Cowell, Pulse, 5 percussionists, Return, 3 percussionists, 1939; William Russell, Percussion Studies in Cuban Rhythms, 4 percussionists, 1939.³

Lou Harrison also wrote several significant ensemble compositions for multiple percussion:

Fifth Simfony, 4 percussionists, 1939; Bomba, 5 percussionists, 1939; Canticle No. 3, 5 percussionists, 1940; Labyrinth #3, 11 percussionists, 1941; Song of Queztecotl, 4 percussionists, 1941; Fugue, 4 percussionists, 1942.⁴

³Larry Dean Vanlandingham, "The Percussion Ensemble: 1930-1945" (Ph.D. dissertation, Florida State University, 1971), pp. 37-40.

⁴Ibid., pp. 44-45.

Contemporary with Harrison's compositions were those of John Cage:

First Construction in Metal, 6 percussionists, 1939; Imaginary Landscape No. 1, 4 percussionists, 1939; Living Room Music, unspecified number of percussionists, 1940; Second Construction, 4 percussionists, 1940; Amores, 4 percussionists, 1942; Credo in Us, 4 percussionists, 1942; Imaginary Landscape No. 2, 5 percussionists, 1942; Imaginary Landscape No. 3, 6 percussionists, 1942; She Is Asleep, 6 percussionists, 1943.⁵

Cage and Harrison also collaborated on another similar ensemble composition, Double Music, for 4 multiple percussionists (1941). In addition, Carlos Chavez' Toccata is a percussion ensemble composition written in 1942 in which 6 performers use 17 percussion instruments.

Influences from these multiple percussion compositions were apparent in the symphonic works of Bela Bartok and Paul Hindemith. Bartok's 1937 compositions, Music for Strings, Percussion and Celesta, and Sonata for Two Pianos and Percussion, displayed a challenging use of orchestrational procedures in regard to multiple percussion. For instance, in Bartok's Sonata, movement II, two percussionists used combinations of cymbals (struck on the edge and dome with either a thin wooden stick or soft stick), snared and unsnared drums, tam-tam, xylophone, and timpani.⁶ Hindemith's Symphonic Metamorphoses (1943) deals with the percussion section as if it were a "multiple percussion" ensemble within the orchestra instrumentation.

The prevailing influences of both Stravinsky and Milhaud pervaded avant-garde compositional techniques in regard to multiple percussion through their lectures and writings as well as their music compositions.

⁵ Ibid., pp. 57-58.

⁶ Bela Bartok, Sonata for Two Pianos and Percussion (London: Boosey and Hawkes, 1942), pp. 15-17.

Darius Milhaud was the teacher of both Karlheinz Stockhausen (1951) and Michael Colgrass (1953). Milhaud encountered these two students while he was a professor at the Paris Conservatory of Music (Milhaud also maintained a residence in Oakland, California). After Stravinsky's immigration to the United States he settled in Hollywood, where his compositional influence among prominent American composers included percussionists William Kraft and composer Ingolf Dahl. Another influence of multiple percussion practice was generated by Milhaud's protege, Stockhausen, who affected the Welsh composer, Reginald Smith Brindle, through his significant writings for multiple percussion. During the forty-two year period of time from Stravinsky's L'Histoire du Soldat (1917) to Karlheinz Stockhausen's Nr. 9 Zyklus (1959),⁷ no clearly-defined pattern of multiple percussion composition was apparent. In the eight years which followed, however, several distinct compositional procedures emerged. Stockhausen's unaccompanied multiple percussion work, Nr. 9 Zyklus, heralded this significant era. Michael Colgrass' Fantasy Variations,⁸ concerto for solo multiple percussion and six additional percussionists (1961), alluded indirectly to Colgrass' teacher, Milhaud and his Concerto for Percussion. The inspiration of Stravinsky pervades the compositional thought of William Kraft and Ingolf Dahl. Dahl's Duetтино Concertante (1966)⁹ for flute and solo multiple percussion was also partly inspired

⁷ Karlheinz Stockhausen, Nr. 9 Zyklus (London: Universal Edition, 1961).

⁸ Michael Colgrass, Fantasy Variations for 8 Chromatic Drums and Percussion Sextet (New York: Music for Percussion, 1973).

⁹ Ingolf Dahl, Duetтино Concertante for Flute and Percussion (New York: Alexander Broude, 1969).

by the multiple percussion works of William Kraft, such as the Suite for Percussion, (1963).¹⁰ Reginald Smith Brindle's Orion M. 42 (1967)¹¹ brings this eight year time frame (1959-1967) to full circle in that Smith Brindle's work is also for unaccompanied solo multiple percussion (as was Stockhausen's Nr. 9 Zyklus). The acceptance of multiple percussion as a musical genre is documented through the compositions of these five internationally recognized composers.

Born on August 28, 1928, in Modrath, Germany, Karlheinz Stockhausen received a diploma in music from Cologne University in 1951. As previously mentioned, Stockhausen also studied musical composition with Milhaud in Paris during 1951. Stockhausen was intrigued by the relationship between the performer and the listener and developed a "new language" in three evolutionary stages of development:

- (1) Notation of actions
- (2) Notation of compositional processes
- (3) The notation of ideas for compositional realization.¹²

Stockhausen's initial obsession with a "time-space" notational concept was a result of his study and analysis of Webern's complex serial music.¹³ In several of his compositions (including Nr. 9 Zyklus) Stockhausen identified structural entities as "groups" (or segments of time from a few seconds to a few minutes in duration) and larger units (or "moments").

¹⁰ William Kraft, Suite for Percussion for Percussion Quartet (Mellville, New York: Belwin-Mills, 1963).

¹¹ Reginald Smith Brindle, Orion M. 42 for Solo Percussion (London: Edition Press, 1968).

¹² New Grove, 6th ed., s.v. "Stockhausen, Karlheinz," by G. W. Hopkins, p. 154.

¹³ John Vinton, ed., Dictionary of Contemporary Music (New York: E.P. Dutton, 1974), p. 709.

In the concept of "moment" Stockhausen sought a resolution of listeners' difficulties in experiencing form in serial music. Each individually characterized passage in a work is regarded as an experiential unit, a "moment", which can potentially engage the listener's full attention and can do so in exactly the same measure as its neighbours. No single "moment" claims priority, even as a beginning or ending; hence the nature of such a work is essentially "unending" (and, indeed, "unbeginning").¹⁴

In further explanation of this idea of "moment", Stockhausen wrote that

...every moment, be it static or procedural, is personal, central, self-sufficient. The order of events does not follow a predetermined course from beginning to end; a given moment is neither the result of what preceded it, nor the harbinger of what is to come. The emphasis is, rather, on the "now"....¹⁵

Stockhausen gave the name Nr. 9 Zyklus as a combination of "zyklus", German for cycle, and the number nine representing his ninth composition since Kontra-Punkte in 1953 (Stockhausen had eleven major works preceding Kontra-Punkte). As part of his duties in teaching composition at Darmstadt during the summer of 1959, Stockhausen composed Nr. 9 Zyklus.

Nr. 9 Zyklus was designed to be a

physical and musical circle: the soloist is surrounded by a large array of instruments on all sides, and in the course of the piece he completes a circuit round them; the score itself is printed on a number of spiral-bound pages (16), any of which may form the beginning of the work with the rest following in cyclical sequence.¹⁶

The piece is both mobile and directional, and while the processes by which the work (Nr. 9 Zyklus) moves are the same in every performance, the performer may choose from two possible directions: reading from left

¹⁴ New Grove, 6th ed., s.v. "Stockhausen, Karlheinz," by G. W. Hopkins, p. 152.

¹⁵ Oscar Thompson, ed., International Cyclopedia of Music and Musicians, 10th ed. (New York: Dodd, Mead & Co., 1975), p. 2159.

¹⁶ New Grove, 6th ed., s.v. "Stockhausen, Karlheinz," by G. W. Hopkins, p. 152.

to right; or, turning the score over, from right to left.¹⁷ By rediscovering the solo multiple percussion medium which such composers as Milhaud and Stravinsky had given the twentieth century, Stockhausen left his compositional imprint and a definitive set of performance problems for percussionists.

Michael Colgrass represents an American composer-percussionist whose percussion composition has been characterized as playing a "significant melorhythmic role".¹⁸ Born in Chicago on April 22, 1932, Colgrass graduated from the University of Illinois with a music degree in 1956. His percussion teacher was an American pioneer in college percussion pedagogy, Paul Price. Among Colgrass' music composition teachers were Eugene Weigel (1950-54), Lukas Foss (1952, 1954), Darius Milhaud (1953), Wallingford Riegger (1958-59), and Ben Weber (1959-62).¹⁹ Among his free-lance percussion experiences were commercial recordings under Stravinsky's baton, performances with Leonard Bernstein (West Side Story), and drum set playing with Dizzy Gillespie's band.

Colgrass' Fantasy Variations employs six percussionists who perform collectively thirty-four different percussion instruments in accompaniment to a percussion soloist on eight chromatic drums. This concerto has descriptive titles defining stylistic moods for each of its four movements: (1) "with lightness and grace;" (2) "veiled and soft;"

¹⁷Vinton, Dictionary of Contemporary Music, p. 710.

¹⁸Theodore Baker, Baker's Biographical Dictionary of Musicians (New York: G. Schirmer, 1971), p. 337.

¹⁹Vinton, Dictionary of Contemporary Music, p. 144.

(3) "delicate and swift;" (4) "explosive and animated."²⁰ The total synthesis of forty-two percussion instruments creates a larger multiple percussion spectrum through which the soloist is projected.

William Kraft is an American composer and retired principal percussionist of the Los Angeles Philharmonic Orchestra. Born in Chicago on September 6, 1923, Kraft studied music at Columbia University (1949-52). While in New York City Kraft's musical composition teachers included Norman Lockwood, Henry Cowell, Jack Beeson, Otto Luening, Seth Bingham, Vladimir Ussachevsky, and Irving Fine. Simultaneously, Kraft was a percussion student of two outstanding percussionists-teachers (1948-52): timpanist Saul Goodman of the New York Philharmonic Orchestra and percussionist Morris Goldenberg of the Julliard School. Kraft's comprehensive music study also included conducting with Leonard Bernstein at the Berkshire Music Center (1948).²¹ Kraft's diverse musical experiences have included jazz performing and arranging, musical acquaintances with Stravinsky and Varese, solo percussion performances with the Los Angeles Philharmonic Orchestra, and a guest lectureship on contemporary music techniques and notation at the University of Southern California.²²

Kraft's Suite for Percussion includes five diverse movements for a quartet of multiple percussionists. The five movements are entitled: I. Fanfare; II. Andante; III. Ostinatos; IV. Toccata; V. Cadenze.

²⁰Colgrass, Fantasy Variations for 8 Chromatic Drums and Percussion Sextet.

²¹Vinton, Dictionary of Contemporary Music, p. 407.

²²Baker, Baker's Biographical Dictionary of Musicians, p. 923.

Movements I, III, and IV create a choir of relative-pitched drum sounds from bongos and tambourine to two differently pitched snare drums, field drum, tenor drum, and bass drum. Movements II and V serve as contrasting timbral entities with Movement II being scored for two glockenspiels, vibraphone, cow bell, temple bell, five tuned gongs, and tam-tam. Movement V summarizes the contrasting tone colors of the drum choir (Movements I, III, IV) and the melodic choir (Movement II) by requiring the following percussion instruments: song bells; flexatone; bongos; snare drum; medium bass drum; temple bell; vibraphone; large bass drum; five tuned gongs; and large tam-tam. Kraft's musical structure in his suite parallels his choice of instruments in that Movements I, III, and IV are conventional part-form creations while Movements II and V are comparatively less traditional in structure. The collage of multiple percussion timbre is amazingly splendid and made even more interesting by the specified selection of special mallets as well as hand-control of sound origins.

Because William Kraft was one of the most highly-regarded percussionists and composers of percussion music in southern California, it was inevitable that he would influence the percussion writing of composer Ingolf Dahl. In particular, Dahl sought the percussion advice of one of Kraft's admirers, Los Angeles percussionist Karen Ervin, who demonstrated multiple percussion techniques for Dahl by performing some compositions of William Kraft (French Suite).²³ Born in Hamburg, Germany, on June 9, 1912, Ingolf Dahl's parents enabled him to study music at the Hochschule, Cologne (1931-32) and at the Zurich Conservatory (1932-36). After Dahl's

²³J. N. Berdahl, "Ingolf Dahl: His Life and Works" (Ph.D. dissertation, University of Miami, Florida, 1976), p. 170.

immigration to the United States in 1938, he settled in southern California, teaching at the University of Southern California from 1945 until his death in 1970.²⁴ Dahl was significantly influenced in his compositional style by his close collaboration with Igor Stravinsky. Dahl's music has been characterized formally as "large, imaginatively conceived structures held together by motivic and tonal inter-relationships and complex but compelling harmonic forces."²⁵

Dahl's Duettino Concertante was composed at the request of his friend, flutist Doriot Anthony Dwyer and her Boston Symphony Orchestra colleague, percussionist Everett Firth. Dahl completed the work in Los Angeles on December 3, 1966.²⁶

The Duettino Concertante was first performed on December 10, 1966, by flutist Susan Stockhammer Cohn and percussionist Barry Sullivan, during a concert of Dahl's music at the University of Southern California.

The duration of the work is approximately eleven minutes. It is in four movements, entitled "Alla marcia," "Arioso accompagnato," "Fughetta," and "presto Finale." The percussion instruments used are not "pitched" in the conventional sense, but are graduated in sound from low to high and notated accordingly on the single percussion staff (tenor drum, field drum without snare, low suspended cymbal, four tuned bongos, wood block, and small triangle.) In addition, Dahl has included symbols to specify where, how, and with what the instruments should be struck, and to indicate a variety of coloristic effects, such as using the fingernails or creating a glissando with the elbow. The flute part is serially organized, but each movement is oriented toward a different key, beginning with

²⁴Thompson, International Cyclopedia of Music and Musicians, p. 206.

²⁵New Grove, 6th ed., s.v. "Dahl, Ingolf," by Warren Anderson, p. 147.

²⁶Berdahl, "Ingolf, Dahl: His Life and Works," p. 170.

C in the first movement, proceeding by minor thirds to E-flat, F-sharp, and A, and returning to C during the last movement. The combination of the pitch relationships in the flute and the clear changes in percussion produces a dialogue that occasionally becomes very complex, as in the four-part fughetta of the third movement.²⁷

Dahl's Duetтино Concertante elevated the use of multiple percussion to an equal musical participant in a chamber music setting (parallel to the compositional perception of Stravinsky's percussion part in L'Histoire du Soldat). Through his Duetтино Concertante, Dahl makes unique phrasing, articulation, and dynamic demands on the multiple percussionist. He also reflects sophisticated cognizance of multiple percussion set-up logistics and consequent, precise notation.

Born in Bamber Bridge, England, on January 5, 1917, Reginald Smith Brindle was trained in architecture, and it was only after he served in the British Army during World War II that he studied music seriously at the University College in North Wales, Bangor. Music composition lessons followed with the Italian composers Pizzetti and Dallapiccola (1949-53). Smith Brindle worked for the Italian radio in their music broadcasts (1956-61) and taught at the University of Bangor (1967-70).²⁸ Although he was influenced by such Italian composers as Berio, Maderna, Nono, and Donatoni, "the constant changes in Smith Brindle's style have not made it easy for the public to come to terms with him."²⁹ A preoccupation with serialism in the 1950's turned to a

²⁷ Ibid.

²⁸ Vinton, Dictionary of Contemporary Music, p. 688.

²⁹ New Grove, 6th ed., s.v. "Smith Brindle, Reginald," by Gerald Larner, p. 422.

creative time when he wrote primarily for and about percussion as evidenced by his book, Contemporary Percussion (1970). "To take an extreme case of enthusiasm, in 1967, perhaps under the influence of Stockhausen, he wrote for little else other than percussion, completing three major pieces"³⁰ [Auriga, Orion M. 42, and Crux australis].

Smith Brindle categorizes percussion instruments for his single-movement work Orion M. 42 into four areas: 1. "metals" (2 crotales, 2 triangles, 2 cymbals, tam-tam); 2. "woods" (wood chimes, 3 woodblocks, 3 temple blocks, and orchestral castanets); 3. "membranes" (2 timbales, 3 tom toms); 4. "tuned" (vibraphone and 1 timpani).³¹ Twelve graphic symbols are given by Smith Brindle for his instruments along with ten indications for mallet selections as well as the manner in which an instrument is to be struck. Spatial notation combined with tempo indications through the amount of cumulative seconds (or minutes and seconds) create exceptional problems in performance preparation for an eight minute, fifteen second, unaccompanied composition.

In conclusion, many compositions have appeared in recent years using multiple percussion instrumentation performed by a single performer. From 1959 to 1967 several significant composers from Europe and the Americas have contributed to this wealth of multiple percussion repertoire, which includes works for solo players as well as compositions that demand multiple percussion performance integrated into chamber or large ensemble works. The popularity of multiple percussion composition

³⁰ Ibid.

³¹ Smith Brindle, Orion M. 42 for Solo Percussion, preface.

is so recent that a consistent approach to performance preparation has not been developed. Unique performance problems confront the soloist performing a number of percussion instruments either sequentially or simultaneously. Current performance practice is impeded by notational inconsistencies, by problems associated with instrument placement, and by the musician's lack of skill development. The problems of motion awareness in the performance of percussion works by recent composers has surpassed the traditional pedagogy of performance preparation.

There is, therefore, a need to analyze the associated performance problems of multiple percussion compositions in order to identify a systematic approach toward the performance preparation of these works. The purpose of this document is to determine the problems of notation, of instrument placement, and of movement related to the performing of five multiple percussion compositions written between 1959 and 1967.

CHAPTER II

PERFORMANCE PROBLEMS ASSOCIATED WITH THE NOTATION OF MULTIPLE PERCUSSION SOLOS

Notation of multiple percussion compositions presents unique performance problems for percussionists. Two primary trends have been demonstrated by the five composers defined in this study: (1) graphic notation (nonconventional, nonstandardized, and unique to each composer) exemplified by Stockhausen and Smith Brindle; (2) modified-conventional notation by Colgrass, Dahl, and Kraft. Each of these two general approaches to notation has proven successful for precise performance interpretation; however, the mere existence of a nonstandardized notation system exhibits one of the many performance preparation problems which must be overcome by the contemporary multiple percussionist. In each of these two systems the composer's proposals to treat the notation of the instruments, the associated mallets, and special performance techniques will be discussed.

Karlheinz Stockhausen provided an explanatory preface to his Nr. 9 Zyklus in which guidelines for time interval interpretation, durations, intensity, and eight structure types are given for the percussionist's assistance in performing this single movement, unaccompanied multiple percussion solo (25 percussion instruments are required). Two addi-

tional sets of symbols correspond to the thirteen types of instruments and to the types of sticks which are utilized in Nr. 9 Zyklus. These instruments include: (1) marimbaphone; (2) guero (guiro); (3) 2 wood-drums; (4) suspended bunch of bells; (5) side drum; (6) 4 tom-toms; (7) 2 cymbols; (8) hi-hat; (9) triangle; (10) vibraphone; (11) 4 cow-bells; (12) gong with a raised center; (13) tam-tam (appendix 1). There are three stick specifications: (1) hard sticks; (2) soft sticks; (3) iron beater (appendix 1). These composite symbols continuously orient the performer to the correct instrument and stick-type throughout Nr. 9 Zyklus. Stockhausen states that "durations and intervals of entry (time-interval between attacks) are drawn to scale; equal distances correspond to equal amounts of time." He further remarks that "one interpretation can begin with any page, and must then run through all pages in the given order without interruption and finish with the first stroke of the page you started with." Specific visual directions in regard to the dampening or nondampening of resonant percussion instruments are defined:

- and — are damped sounds, • and — undamped (laissez vibrer);
- at the beginning of a group, applies to all the tones in the group. ~ laissez vibrer until the end of wavy line.³²

Instructions with regard to the intervals of tempo are:

- ♩ and  always as fast as possible.
-  observe the proportions of the intervals of entry.
-  closed system: follow up with a tone or group immediately on reaching the final barline (with resonating instruments, the sound may be damped at the final barline, instead of the above procedure).
-  = accelerando,

³² Stockhausen, Nr. 9 Zyklus, preface.

↙ = retardando: intervals of entry in these are free, and so is the total duration.³³

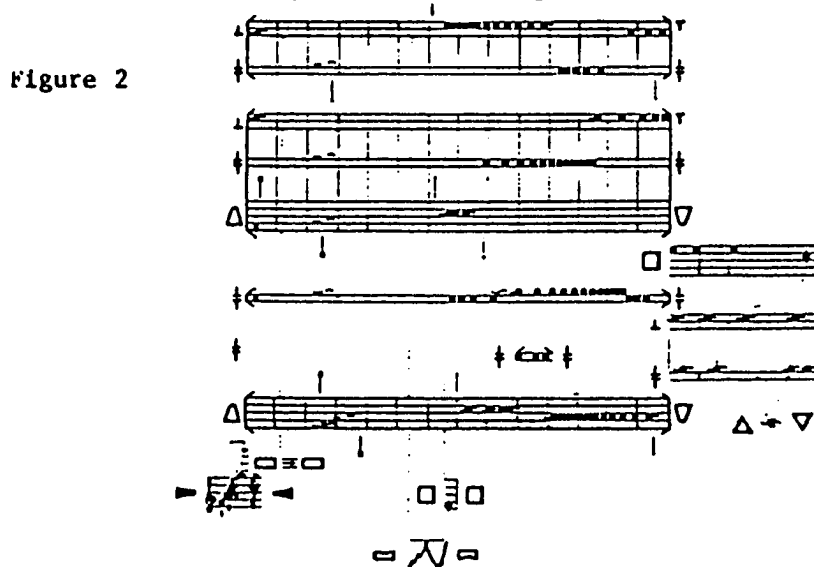
Stockhausen enlightens the performer's perception of "intensity" or relative dynamic determination by his visually "different thickness of the points and lines: they vary between — and ●●●".³⁴

Stockhausen outlines eight structure types of graphic notation through which the performer deduces a logical choice of performance. Stockhausen states these eight structure types to be comprised of the following:

1. Composed straight through as usual; all dots and/or groups are fixed by the time-scale [Figure 1].



2. Where several bracketed staves occur, one is to be chosen for one performance. [Figure 2].

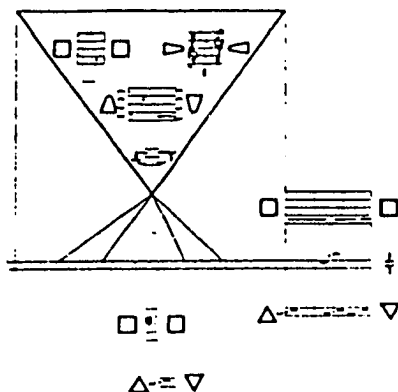


³³Ibid.

³⁴Ibid.

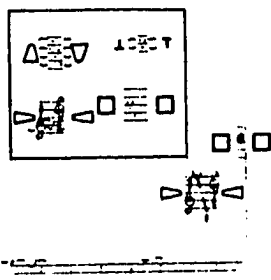
3. Groups and/or dots in triangles $\nabla \Delta$ are interchangeable (as regards their succession), but they must begin at the indicated points $\wedge \vee$ in the measured time-lapse [Figure 3].

Figure 3



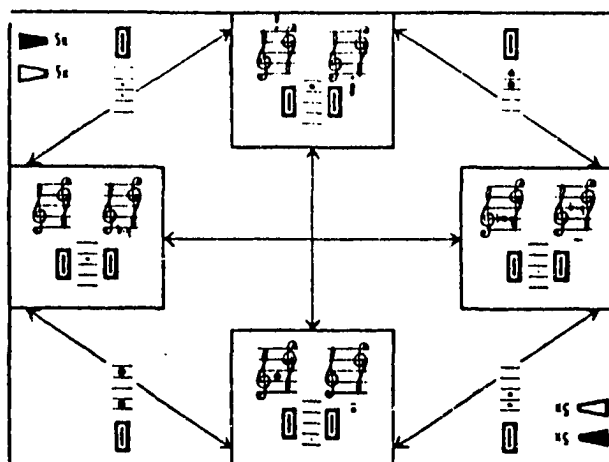
4. Groups and/or dots in rectangles $\square$ are interchangeable (as regards their succession) and can be folded into the measured time-lapse at any point within the length of the rectangle: both successively and simultaneously (wherever possible) [Figure 4].

Figure 4



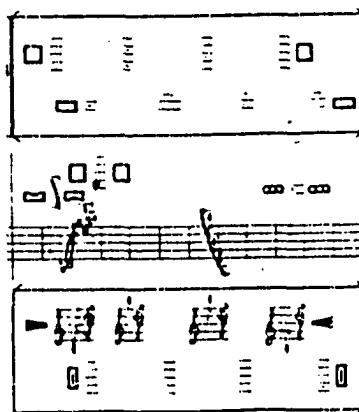
5. Groups and/or dots in 2 rectangles drawn one above the other are just as in single rectangles. But a group or dot from one rectangle should be followed by a group or dot from the other $\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \end{array}$ (alternate). In some rectangles and pairs of rectangles, only connections and changes indicated by arrows may be played [Figure 5].

Figure 5



6. Groups and/or dots in bracketed rectangles drawn simultaneously above and below the continuous measured stave: the procedure is the same as for single rectangles, but the contents of one of the rectangles are to be played. [Figure 6].

Figure 6



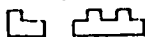
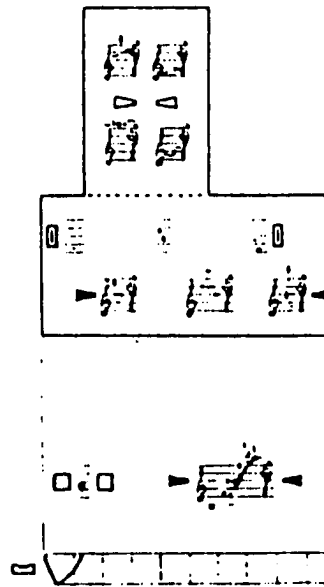
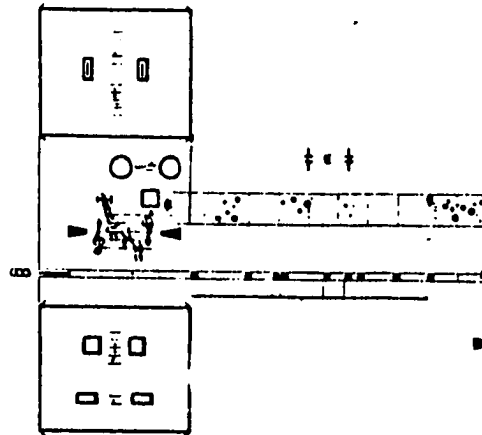
7. Groups and/or dots in rectangles which are occasionally widened  : the procedure is the same as for simple rectangles, but the reservoir of elements is increased during the time of the widening [Figure 7].

Figure 7



8. Dots without stave-lines for the 4 Tom-toms: the distribution of the points is determined statistically by their density (speed) and thickness (intensity); the pitches are free; intervals of entry are--taking account of density--relatively free [Figure 8].

Figure 8



In structure types 1, 3, 4, 5, 7, 8, all elements are to be played. In none of the structures types may an element be repeated. In the variable structure types 3-8 the player should leave as much silence as possible. In structure types 3-8 the dots and groups that are variable as regards their placing in time, should be folded into the fixed time lapse in such a way that variable and fixed attacks occur simultaneously as often as possible, so that complex sound-mixtures result, consisting of the sounds of 2 or more instruments. The variable sound-elements can be played within the attack (- process),

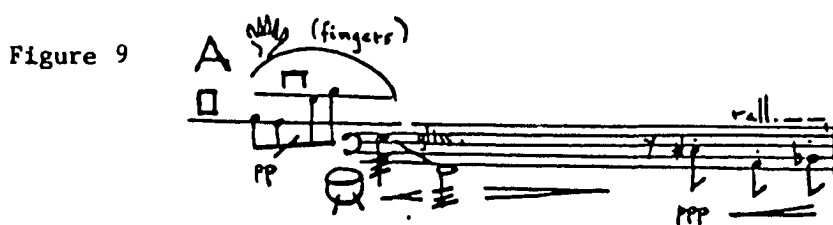
and in the course of, and during the decay or release (~ process) of the fixed sound-elements and vice versa. In particular the guero strokes should be combined with the attack of a different instrument.³⁵

Stockhausen sought to categorize and clarify every marking of unusual notation in his Nr. 9 Zyklus. His combined efforts in music composition and explanation are a credit to his instructional, innovative creativity. Stockhausen's meticulous care with a universal visual language which can translate to percussionists whose spoken language is diverse is underlined by the fact that Stockhausen gives three different written interpretations of the same symbology (German, French, and English). Stockhausen's unprecedented notational design for an unaccompanied multiple percussion solo established a definitive precedent for future composers of the same musical medium.

Reginald Smith Brindle's unaccompanied multiple percussion solo Orion M. 42 denotes symbols for instruments (twelve different types categorized among four percussion families), mallet types (five), and special hand or mallet techniques (five). The instrument legend (appendix 2) corresponds, for the most part, to the instrument's shape or singularly visual distinction. The only exceptions are the symbols for two timbales and three tom-toms. The remaining ten instruments include: (1) two crotales; (2) two triangles; (3) two cymbals; (4) large tam-tam; (5) wood chimes; (6) three wood blocks; (7) three temple blocks; (8) orchestral castanets; (9) vibraphone; (10) one timpani. The five indications for mallets or sticks include: (1) soft beaters; (2) hard beaters; (3) wood sticks; (4) metal beater; (5) heavy tam-tam beater (appendix 2). The

³⁵ Ibid.

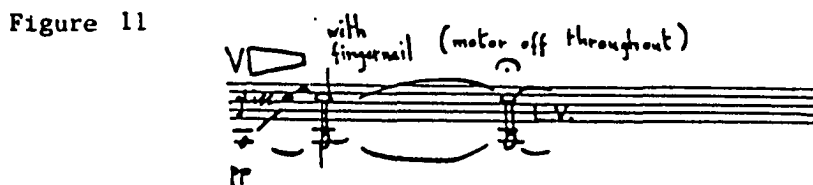
special visual instructions for hand or mallet techniques are: (1) "stroke wood chimes;" (2) "clasp wood chimes with both hands;" (3) "play with fingers, knuckles, palms, etc.;" (4) "strike instrument at rim;" (5) "at centre"³⁶ [appendix 2]. As Stockhausen demonstrated in Nr. 9 Zyklus, Smith Brindle also uses his symbols throughout his thirteen page composition with only occasional literal reminders or additional instructions (Figure 9). Unlike Stockhausen, however, Smith Brindle also em-



plays a mixture of common Italian and English musical terms for directions related to the prepared condition of the instrument (Figure 10),



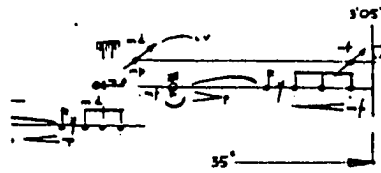
the use of a fingernail (Figure 11), the indication of whether to use the



³⁶ Smith Brindle, Orion M. 42 for Solo Percussion, preface.

right or left hand (Figure 12), the changes of speed of the music

Figure 12



(Figure 13), the indication of stylistic treatment (Figure 14), or a com-

Figure 13

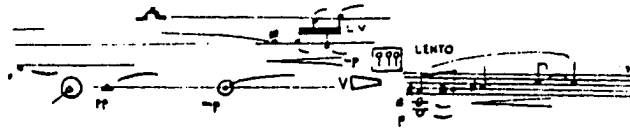


Figure 14

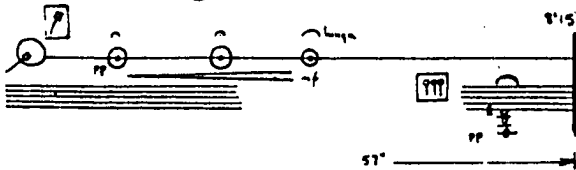
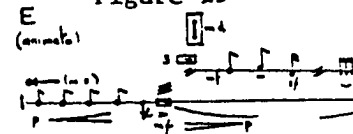


Figure 15



bination of musical speed and style (Figure 15). This integration of spoken and visual communication reflects Smith Brindle's motley career geographically (in Wales and Italy) as well as musically (as an innovative, outspoken composer and author of two books on twentieth-century music). Smith Brindle's self-declared musical independence combined with traceable notational influences from Stockhausen have created his own unique style which demonstrates "strong individuality," "rhythmic themes," and a "fundamentally emotional inspiration."³⁷

³⁷ New Grove, 6th ed., s.v. "Smith Brindle, Reginald," by Gerald Lerner.

The use of a modified conventional music notation for multiple percussion compositions can be shown by Michael Colgrass' Fantasy Variations, William Kraft's Suite for Percussion, and Ingolf Dahl's Duettino Concertante. Although each of these three composers elected to structure their own unique form to their works, their notational applications are generally consistent with established notational systems. Michael Colgrass refers the exact pitches of the eight "chromatic drums" to an alto clef. In Colgrass' preface, he also describes how to construct the eight drums if they are not readily available (appendix 3). Additionally, Colgrass specifies four kinds of "beaters" which he wants the soloist to use: "(1) regular snare drum sticks (thin); (2) brushes (open to half fan); (3) wool covered wood; (4) disc sticks"³⁸ [appendix 3]. Colgrass makes a final note in his preface to Fantasy Variations concerning his notation for rhythmic modulations and the performance preparation thereof (appendix 5). Conventional notation for the remaining six members of the accompanying percussion ensemble is used. These six performers have thirty-four collective instruments divided among themselves (appendix 4).

William Kraft provides no prefatory remarks to his conventionally-notated Suite for Percussion. The four performers have twenty-three percussion instruments divided among them. Nine footnoted remarks by Kraft make reference to unusual or special performance techniques. These include: (1) harmonics on the bells (appendix 8); (2) independent tempo shifts (appendix 8); (3) description of a French bell (appendix 9); (4) fingernail tremelo (appendix 10); (5) performance instructions for

³⁸ Colgrass, Fantasy Variations for 8 Chromatic Drums and Percussion Sextet, preface.

bass drum (appendix 11); (6) open, ringing sound (appendix 13); (7) sharp, short, dry sound (appendix 13); (8) the holding of a rattan mallet for bongos (appendix 13); (9) alternate mallets for bongos (appendix 15).³⁹

Ingolf Dahl's Duettino Concertante is also conventionally notated with double staff notation for flute and multiple percussion. The multiple percussion notation makes use of the traditional five-line staff and assigns a single instrument to a particular line or space (with the addition of three ledger lines above the staff); therefore, all twelve percussion instruments have a particular position as devised by Dahl (appendix 17). Dahl does make a requirement that the drums be graduated in pitch from low to high and corresponds the legend for the drums in respect to their relative pitch (e.g. the lower the drum, the lower it occurs visually on the staff).⁴⁰ Twenty-four special markings for mallet, hand selection, striking area, and special effects are also made by Dahl in his prefatory remarks (appendix 17). Other than these special considerations, Dahl maintains conventional notation for the multiple percussionist.

The lack of a standardized system of notation for multiple percussion has presented problems of creative expression by composers as well as performance preparation problems for the percussionist. Because of the unique manner in which almost every composer has elected to notate a multiple percussion work, a time frame of language assimilation must be

³⁹Kraft, Suite for Percussion for Percussion Quartet.

⁴⁰Dahl, Duettino Concertante for Flute and Percussion, preface.

allowed in the learning process of notation for each composition. This language assimilation is largely nontransferable from one multiple percussion composition to another and therefore demands careful interpretation of each composer's special markings. Problems associated with graphic notation are compounded because of their nonconventional features. The use of the conventional staff to signify multiple instruments instead of a single instrument with multiple pitches is also a distinctive issue encountered by the multiple percussionist. Finally, alternative markings within either graphic or conventional notation systems, whether they are arrows or shaped notes, present supplemental obstructions to performance preparation. Though hardly insurmountable, notational problems in multiple percussion compositions are among the first which are encountered in performance preparation. Once these musical language problems are solved through score study, familiarity with symbols, and initial association with the disparate instruments involved, the remaining performance preparation problems of instrument layout and motion awareness can be resolved.

CHAPTER III

INTERPRETATION OF MULTIPLE PERCUSSION

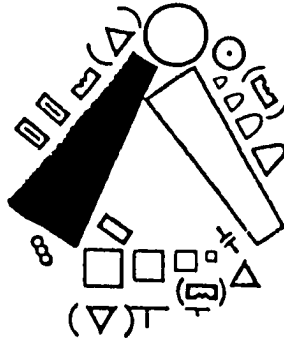
INSTRUMENT PLACEMENT

The placement of multiple percussion instruments is interrelated with the presence (or absence) of a suggested layout of instruments by the composers of such compositions. The associated printed staff or graphic notation also plays a role in instrument placement. The performance problem of instrument placement in multiple percussion compositions is largely the result of these inconsistencies among composers of such works. For those composers who do construct an instrument layout, even more incongruous designs exist: this is the result of whether or not the composer worked through his creative process at the actual instruments. Those composers who did their work at the physical placement of the instruments usually include a carefully constructed design of their instrument placement or "layout". This printed arrangement eliminates most of the experimental preparatory stage by the multiple percussionist. Modifications may be necessary but certainly not as many as those necessary without a design. On the other hand, those composers who elect not to specify an instrument layout must rely on the performer's ingenuity, creative background, and good judgement.

Karlheinz Stockhausen diagrams a distinct "placing" of instru-

ments for his Nr. 9 Zyklus in the preface to the work (Figure 16 and

Figure 16



appendix 1). The instruments which first catch the eye are the marimba-phone (or marimba) and the vibraphone. Their inverted "v-shape" creates the center open space for the performer. It is important that the small end of the marimba (or high-pitched notes) butt into the large end of the vibraphone (or low-pitched notes). The exact degree of the "v-shape" must be determined after the remaining instruments are placed. It is ideal for the performer to be no more than one step away from any single percussion instrument; therefore, the placement of the log drums and guiro must be elevated above and slightly over the sharp/flat keys of the marimba. The guiro can be mounted on a cymbal pole as illustrated in Jim Lambert's article, "A Student's Preparation of Zyklus".⁴¹ This is also true of the tam-tam, gong, and four cowbells in respect to the vibraphone. Alternate (or additional) notation is made for the use of a second triangle over the marimba and a second guiro over the vibraphone in addition to the primary (or nonparenthetical) suggested placement. The open end of the "v-shape" includes an arrangement of a high-hat, four tom-toms, (from high-to-low, left-to-right), and a "side" or snare drum.

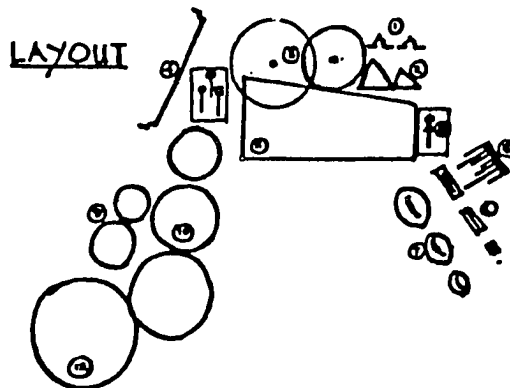
⁴¹Jim Lambert, "A Student's Preparation of Zyklus," *Percussionist* 11 (Fall 1973): 16.

These instruments are banked by a second row of a triangle (suspended on a music stand or a special triangle stand), a secondary guiro, a small suspended cymbal, a large suspended cymbal, and a secondary triangle. Suspended bells are the final instrument to be placed at the foot of the marimba. The music for Nr. 9 Zyklus must be cut out from the printed score and glued or pasted on large panels of cardboard. These panels are placed on conventional music stands but obviously need to be elevated above the bank of instruments. This process eliminates page turning and allows the percussionist to focus on the appropriate sound production with his hands.

Stockhausen's incredible organization of Nr. 9 Zyklus from a printed, spiral-bound composition which can be performed either left-to-right, or upside down left-to-right, to his circular (modified triangular) arrangement of instruments is almost mystical: the result of the performer's motion (in respect to the instrument arrangement) is either clockwise or counter-clockwise. The exact placement of the multiple percussion instruments is of supreme importance.

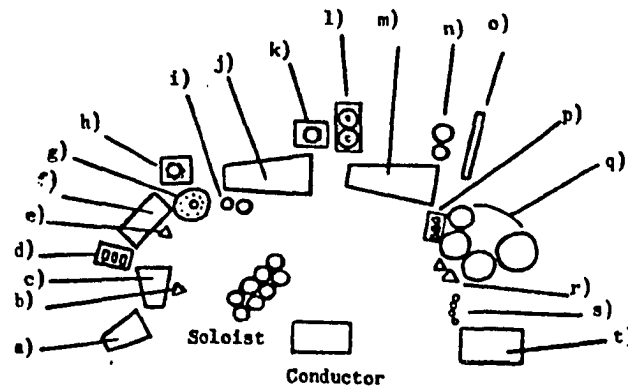
Less interrelated to the composition, but nevertheless important, are the instrument layouts for Smith Brindle's Orion M. 42 (Figure 17 and

Figure 17



appendix 2), Colgrass' Fantasy Variations (Figure 18 and appendix 4), and

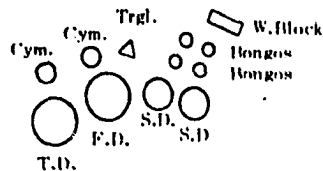
Figure 18



Dahl's Duettino Concertante (Figure 19 and appendix 17). Smith Brindle's

Figure 19

The drums must be graduated from low to high



instrument layout is based on his "timbral" division of Orion M. 42 into four generic percussion areas: (1) metals; (2) woods; (3) membranes; (4) tuned (appendix 2). The only exception to this timbral unity is Smith Brindle's placement of the single timpani (which he classifies as "tuned") with the "membranes" instead of adjacent to the vibraphone (his other "tuned" instrument). The instruments are arranged in a semi-circular shape from left-to-right as follows: timpani; three tom-toms banked by two timbales; tam-tam; vibraphone banked by large and small suspended cymbals, high and low crotales, and large and small triangles; orchestral castanets; three temple blocks banked by three wood blocks and

a cluster of wood wind chimes. It is most important to modify Smith Brindle's placement of the timpani so that it flanks the three tom-toms rather than being positioned almost behind the tom-toms as he illustrates. As in Nr. 9 Zyklus, the performer must be no more than one step away from any given instrument. The music for Orion M. 42 ought to be mounted on large cardboard panels (similar to Nr. 9 Zyklus) and elevated above the banks of membrane and wood instruments (on the left and right of the performer). A large hanging rack is a solution to the mounting of the tam-tam, cymbals, crotales, and triangles. This means that the tam-tam becomes more positioned over the end of the vibraphone than indicated. This more compact instrument arrangement (than seems to be illustrated) lessens the distance that the performer needs to move among the instruments.

Colgrass' Fantasy Variations positions the soloist within a semi-circular arrangement of the six accompanying percussionists (Figure 18 and appendix 4). The soloist has a suggested instrument arrangement which includes two rows of four drums each. What is not clear from the soloist's point-of-view is whether the arrangement of the drums is chromatic in nature (Figure 20) or consecutive (Figure 21). The remaining

Figure 20

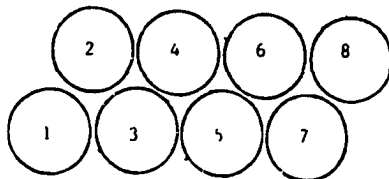
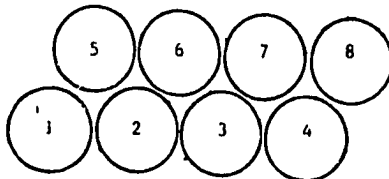
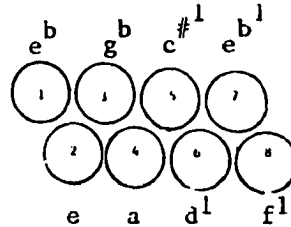


Figure 21



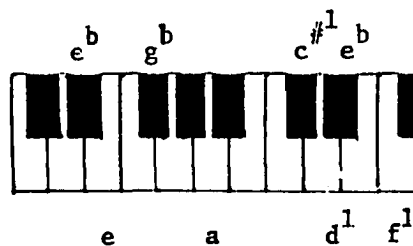
modification arises from the arrangement of the drum staggering based on the pitches Colgrass gives (e^b , e , g^b , a , $c^{\#1}$, d^1 , e^{b1} , and f^1). These pitches reflect a possibility of the drum arrangement beginning with the "banked" row farthest to the left (Figure 22). In fact this arrangement

Figure 22



accommodates the drum arrangement with the printed alto clef notation (especially for percussionists who would associate these pitches with a keyboard percussion instrument). However, Colgrass' special selection of these pitches within the context of a "chromatic" arrangement suggests a transferability of a keyboard arrangement of the drums to alto clef notation with the exclusion of obvious pitches. Figure 23 shows the eight pitches which are used in the solo part for Colgrass' work:

Figure 23



The transferability is nearly negated, though, because of the absence of seven pitches in this conventionally accepted keyboard arrangement. There is no necessity for a special preparation of the printed music as was the case in Nr. 9 Zyklus and Orion M. 42. The accompanying six percussionists are positioned in a collective semi-circular shape (toward the audience) with individual setups also in a semi-circular arrangement (toward the performer, Figure 18). Conventional notation with orchestral percussion

instruments (appendix 4) constitutes the requirements for Colgrass' ensemble.

Dahl's Duettino Concertante contains a suggested placement for the percussion instruments (Figure 19 and appendix 17), but curiously does not make any suggestion concerning the relative placement of the flautist. Dahl's arrangement of percussion instruments (from left to right) is reflective of his corresponding staff instrument legend (from bottom to top). The notated, lowest instrument is the tenor drum, which is positioned physically at the extreme left. Adjacent to the tenor drum's right (as the performer faces the setup) are the field drum and two snare drums. Banked above the snare drums are four bongo drums (arranged in two sets of pairs) and a wood block. The cymbals (which have a special "x" marking in the staff) are to be banked (without indication of specific size) above the tenor and field drums. The triangle is to be placed adjacent to the cymbals. Dahl specifies that the drums must be graduated (in pitch) from low to high. Modifications in the placement are required by certain of Dahl's passages which move from low to high (or vice versa) in succession on the drums (Figures 24 and 25).

Figure 24

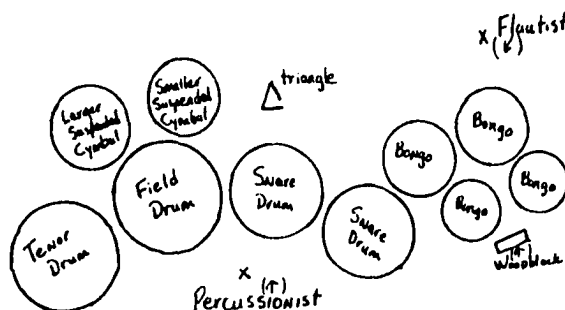
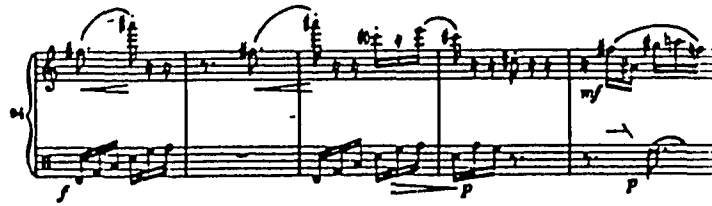


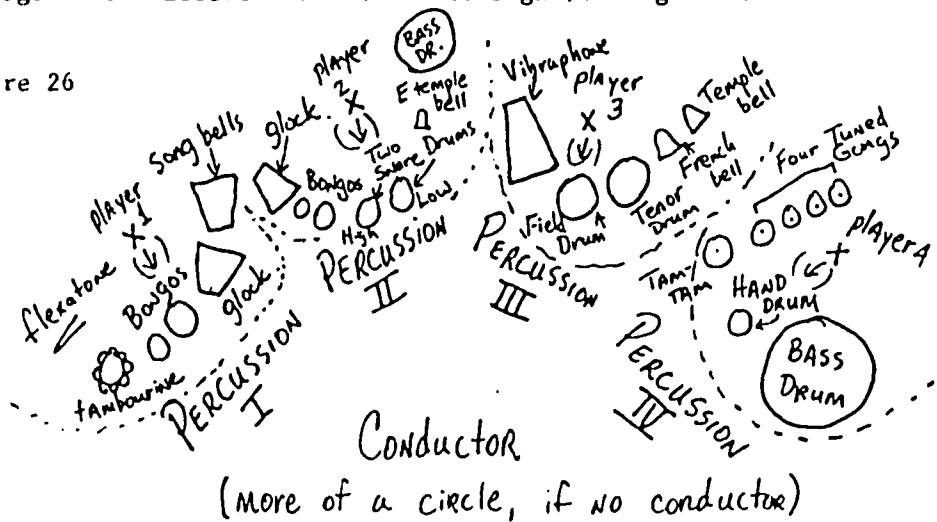
Figure 25



For purposes of eye contact and ensemble precision the flute performer ought to be positioned facing the Dahl percussion setup, near the bongos. This permits maximum ensemble precision. No special considerations of the music (other than an extra performance score for the percussionist) are needed.

Kraft's Suite for Percussion makes no suggested instrument layout for any of the four multiple percussionists. Kraft obviously assumes in this multiple percussion ensemble either that skilled individuals with at least an intermediate knowledge of instrument placement will be guided by a conductor's setup expertise or that four advanced performers will elect to design their own setup. In either instance the notated placement of the instruments on the score (from bottom to top) implies a setup from largest to smallest drums (left to right). Figure 26 illustrates

Figure 26



this point (also appendix 7). This license from the composer of setup design enables this multiple percussion ensemble to be flexible with the performance situation.

Each of these five works present the possibility of setup improvement; however, Nr. 9 Zyklus is the least flexible to change. This is due to the unique relationship between the composition and the actual performance. As previously mentioned, the Kraft Suite for Percussion offers the most adaptability to instrument placement because of the lack of a suggested setup. The primary considerations in this collective multiple percussion work are the presence or absence of a conductor and the individual performance background of each player. Both the Dahl Duettino Concertante and the Smith Brindle Orion M. 42 demand relatively compact placement of the instruments. The reasons for this are the rapid passages found in each work. The solo player's instrument arrangement in Colgrass' Fantasy Variations can be adjusted in its staggering, depending on the performer's ability to interpret the notation quickly.

Percussionist Michael Udow states an important suggestion in regard to instrument placement and its related notation.

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 setup. Then I imagine the notation system. I practice transferring the visual image of the notation system with the visual image of the percussion setup. By doing this, I learn the notation system in relation to the instrumentarium prior to my initial practice session with the instruments.⁴²

⁴²Michael W. Udow, "Visual Correspondence Between Notation Systems and Instrument Configurations," Percussive Notes Research Edition 18 (Winter 1981): 28.

An important factor in any multiple percussion instrument setup is the performer's familiarity with the placement of the instruments. This facilitates the flow of the composition and enables the diverse percussion instruments to become one unit or one (collective) percussion instrument. The performance problems associated with the percussionist's awareness of the instrument placement will be discussed in the next chapter.

CHAPTER IV

PROBLEMS OF MOVEMENT ASSOCIATED WITH MULTIPLE PERCUSSION WORKS

There is little documented research concerning the relationship of the multiple percussionist's physical body movement and the actual composition of the multiple percussion work. Of the five works cited in this study, only Stockhausen's Nr. 9 Zyklus gives an organizational choreography to its performance. The remaining four compositions offer resultant body motion to the performance but rarely is the percussionist aware of this fact until a video recording of the performance is observed. In addition, as previously stated, the multiple percussionist's awareness of the multiple percussion instrument is the important factor to subsequent fluid body language as well as technical fluency in performance.

Problems of movement associated with multiple percussion works are divided into two categories: (1) those problems associated with the pragmatic aspects of technical fluency (made difficult as a result of the physical distance of the instrument layout); (2) those problems which concern themselves with aesthetic congruence (e.g. body language associated with dynamics, articulations, or structural ideas). The pragmatic areas of technical fluency include executional or spatial problems, mallet

preparational problems, and unusual effects associated with the multiple percussion work. Dahl's Duetтино Concertante contains each of these aspects. In Movement II, measures 54-57, the multiple percussionist performs from the extreme left end of the setup to the right end. This passage must be rehearsed slowly (Figure 27) so that continuity of musical

Figure 27

Figure 27 shows three measures of music. Measure 54 is marked *rubato*. Measure 56 is marked *rapido, ma con precisione*. Measure 57 is marked *Adagio, come prima (J. 50, J. 100)* and *f espr.*

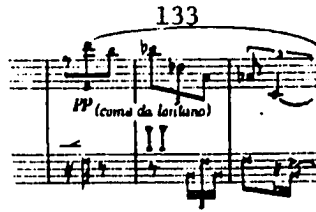
thought begins to emerge in this excerpt. In Movement IV of Dahl's work, the percussionist is required to use several different kinds of mallets (one at a time). At one point in this movement (Measures 118-134, Figure 28), the percussionist has just completed the use of yarn mallets

Figure 28

Figure 28 shows three measures of music. Measure 118 is marked *sempre ppp*. Measure 119 is marked *sempre l'olosso tempo* and *pp dolce*. Measure 120 is marked *senza cresc.*. Measure 121 is marked *morendo*. Measure 122 is marked *PP (come da lontano)*.

and has four quick beats to trade mallets with brushes which are inverted to use as substitute triangle strikers. At measure 133 (Figure 29) the

Figure 29



brushes are to be returned to their normal brush end. These two changes must be calculatively timed, paced, and executed in a smooth, graceful fashion; but, their mere presence compounds the normal performance readiness by adding these particular requirements. The final movement of Dahl's work also demonstrates the special or unusual effect brought about by snapping the snares suddenly and noisily on to the bottom head (Measure 172, Figure 30). The performer must be aware of the location of

Figure 30



the snare strainer on the drum and be consistent with placing the snare drum in the same location. These added motions have no common practice or documented pedagogy to support a systemized approach; furthermore, almost all of these motions are to date nontransferable to other multiple percussion compositions.

Limited research in regard to motion awareness for other percussion instruments has been made--primarily for the marimba. Combs' study articulates an important hypothesis which is transferable to multi-

ple percussion instruments. Combs' states:

The performer on a mallet-played instrument is the only musician who cannot rely on his tactual sense, since he makes no direct contact with the instrument itself. He depends more heavily than other musicians on the "sixth sense", usually called the kinesthetic sense by modern physiologists. This is the sense on which one depends heavily when finding his way through a familiar room in total darkness, when performing often-repeated tasks such as typing without having to watch every step of the operation, and when manipulating complicated key punch systems.⁴³

This concern with a kinesthetic sense or instrument awareness is obviously transferable to a multiple percussion instrument and the subsequent spatial familiarity of its individual instrument components.

Another study concerning this topic was undertaken by Raush. Raush discusses three performance problems associated with spatial orientation on the marimba: "...its inordinate length, the variance in the width of the bars, and the absence of the marimbist's tactile awareness of his instrument."⁴⁴ These three factors are parallel to those problems encountered by the multiple percussionist. The multiple percussion instrument is not a standard length; on the contrary, its physical structure is unique to each composition. The individual instrument components of the multiple percussion instrument are of inconsistent diameter or width--thus creating the need to consistently use the same instruments when rehearsing or performing in a given multiple percussion work in order to structure a setup familiarity. Otherwise, the multiple percussionist might be faced with a modification of Combs' analogy of a person

⁴³ Joseph Carl Combs, "The Problems of Sight-Reading on Mallet-Played Instruments and Their Relationship to Kinesthetic Sensation" (D.M.E. dissertation, The University of Oklahoma, 1967), p. 2.

⁴⁴ John Richard Raush, "Four-Mallet Technique and Its Use in Selected Examples of Training and Performance Literature for Solo Marimba" (D.M.A. treatise, The University of Texas at Austin, 1977), p. 122.

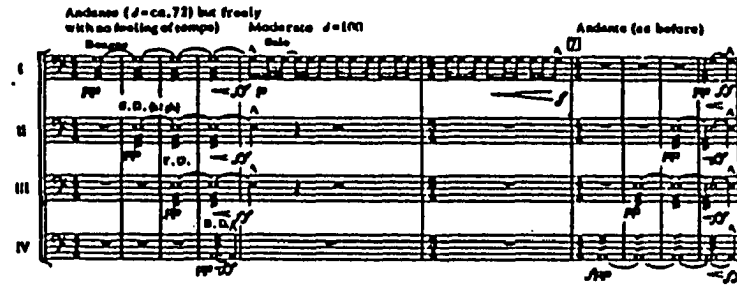
walking into a darkened room but being surprised and stumbling because someone else rearranged the furniture. The third problem of the absence of a tactile awareness on the marimba also applies to multiple percussion. This tactile sense must be replaced by a muscle sense in which the multiple percussionist senses or feels relative distances with apparent ease.

The total awareness of familiarity of the multiple percussion instrument is the accumulative result of the previously discussed notation preparation problem and the visual memorization of the setup or layout. There is no substitute for familiarity of the setup: this is accomplished through the consistent repetition of instrument placement combined with an anticipation of body movement based on the notational association of the multiple percussion work. This means that ideally the multiple percussion setup should not be moved or rearranged from one rehearsal session to another. If there is an absolute need to put the instruments in storage between rehearsals, their consequent rearrangement must be calculatively as similar as possible. Through the repetition or memorization of the instrument setup the subsequent visual recognition of the notation of a multiple percussion work, and the associated physical placement of the instruments, the bodily anticipation of musical form and structure becomes almost instantaneous.

An aesthetically important and peculiar relationship exists in multiple percussion works between the aural composition and the visual composition. The very nature of a multiple percussion instrument necessitates the anticipation of body motions. The articulation, structure, and listener expectation of a multiple percussion work are based to some de-

gree on body motion. In Kraft's Suite for Percussion the articulation of the opening rolls in the first movement necessitates a similar visual or choreographic motion from each of the four performers (Figure 31). In

Figure 31



Dahl's Duettino Concertante, the structural form of the third movement is made visually apparent by one entry being sounded in the percussionist's left hand, another in his right, and the third and fourth by an aural means of a tessitura differential in the flute part (Figure 32). This

III. Fughetta

Allegro moderato ed energico (♩. 98)

Figure 32



visual separation of voices in the multiple percussion part dramatically distinguishes the imitative or canonic musical form. Smith Brindle's Orion M. 42 acknowledges the idea of listener expectation by notating associated mallet changes. In one instance, a vibraphone theme is stated, followed by a tam-tam passage. The visual exchange of mallets (from vibraphone to tam-tam) accomplished in such a slow manner as to anticipate the subdued volume of the tam-tam prepares the listener for the "timbre" of tam-tam sound. The consideration of visual flow is discounted when a multiple percussion work is heard solely through an audio reproduction. Solving choreographic problems is part of the final performance preparation of a multiple percussion composition, but inclusion of calculated visual mannerisms and graceful, fluid motions cannot be over-estimated as a primary contributor to listener comprehension of a live performance.

CHAPTER V

SUMMARY

In the previous four chapters, five significantly diverse multiple percussion works composed between 1959 and 1967 have been identified.

They were selected to reflect a diversity of compositional format:

(1) unaccompanied solo; (2) concerto; (3) chamber duet; and (4) composite ensemble combination. Their related performance preparation problems of notation, setup, and movement have been discussed, and their non-related individuality has been made apparent. The diversity of sounds in these works is compounded by each composer's choice of instruments, of notation, of instrument placement, and of the conscious or subconscious visual impact on the audience.

Like any other musician, the multiple percussionist must develop a systematic approach toward solving the problems in performance preparation of his medium. While the multiple percussionist is faced with the compositional variables mentioned above, the developmental processes of notational familiarity (consequent musical structure and style), calculated instrument placement, and associated instrument awareness remain constant from one work to another. The most important cross-relationship in the multiple percussion repertoire is that these developmental processes and the mastery of their technical problems must begin anew

with every multiple percussion work performed. The twentieth-century performer of the pianoforte assumes that his instrument has eighty-eight keys and that those keys will be arranged in the same way and produce the exact same pitch, regardless of the composer's work for that medium. However, the multiple percussionist transfers only a learning process from one multiple percussion work to another.

It must also be noted that a composer's stylistic identity becomes much more distinct when he uses the multiple percussion medium. The fame of Karlheinz Stockhausen, Michael Colgrass, William Kraft, Reginald Smith Brindle, and Ingolf Dahl is based to a large extent on their compositions that use multiple percussion. Future composers who use multiple percussion should examine the strengths and weaknesses of instrument combinations, instrument legends, and notational alternatives used by those composers.

It is of utmost importance that the multiple percussion performer systemize an organized approach toward learning a multiple percussion work. This includes the comprehension of the work's notational system, the associated instrument placement, and an awareness of body motion associated with the work. These factors combine to make multiple percussion compositions a continuing musical challenge within the identification of a systemized, developmental learning process.

BIBLIOGRAPHY

Musical Compositions

- Colgrass, Michael. Fantasy Variations for 8 Chromatic Drums and Percussion Sextet. New York: Music for Percussion, 1973.
- Dahl, Ingolf. Duetтино Concertante for Flute and Percussion. New York: Alexander Broude, 1968.
- Kraft, William. Suite for Percussion for Percussion Quartet. Melville, New York: Belwin-Mills, 1963.
- Milhaud, Darius. Concerto for Percussion and Orchestra. Wien: Universal Edition, 1931.
- Smith Brindle, Reginald. Orion M. 42 for Solo Percussion. London: Edition Peters, 1968.
- Stockhausen, Karlheinz. Nr. 9 Zyklus. London: Universal Edition, 1961.
- Stravinsky, Igor. L'Histoire du Soldat. London: J. and W. Chester, Ltd., 1924.

Books

- Apel, Willi. Harvard Dictionary of Music. Cambridge, Massachusetts: Harvard University Press, 1958.
- Austin, William W. Music in the 20th Century. New York: W. W. Norton, 1966.
- Baker, Theodore. Baker's Biographical Dictionary of Musicians. Completely revised by Nicolas Slonimsky. New York: G. Schirmer, 1971.
- Bavin, Charles. The Percussion Band from A to Z. London: Evans Brothers, 1960.
- Blades, James. Percussion Instruments and Their History. London: Faber and Faber, 1975.

- Busoni, Ferruccio. Sketch of a New Esthetic of Music. Translated by T. Baker. New York: G. Schirmer, 1911.
- Lang, Morris, and Spivack, Larry. Dictionary of Percussion Terms. New York: Lang Percussion Company, 1977.
- Marcuse, Sibyl. Musical Instruments, A Comprehensive Dictionary. New York: W. W. Norton and Co., 1975.
- Peinkofer, Karl, and Tannigel, Fritz. Handbook of Percussion Instruments. Translated by Kurt and Else Stone. Mainz: B. Schott's Sohne, 1976.
- Peters, Gordon B. The Drummer: Man. Wilmette, Illinois: Kemper-Peters Publications, 1975.
- Scholes, Percy A. The Concise Oxford Dictionary of Music. 2nd ed. Edited by John Owen Ward. London: Oxford University Press, 1977.
- Smith Brindle, Reginald. Contemporary Percussion. London: Oxford University Press, 1970.
- Smith Brindle, Reginald. The New Music: The Avante Garde Since 1945. London: Oxford University Press, 1975.
- Thompson, Oscar, ed. International Cyclopedia of Music and Musicians. 10th ed. New York: Dodd, Mead & Co., 1975.
- Vinton, John, ed. Dictionary of Contemporary Music. New York: E. P. Dutton, 1974.

Articles in Journals/Dictionary

- Baker, Don R. "Multiple Percussion Techniques." Instrumentalist 31 (April 1977): 75-59; (May 1977): 74-48.
- Baldwin, John. "Multipercussion in Chamber and Solo Music." Percussionist 5 (Spring 1968): 286-289.
- Baldwin, John. "Multipercussion: Techniques and Materials." School Musician 41 (May 1970): 10.
- Brown, A. "A Survey of the Notational Procedures Found in Contemporary Percussion Music." Brass and Percussion 2, no. 5 (1974): 14-15.
- Colgrass, Michael. "Fear and the Creative Process." ACA Bulletin 8, no. 5 (1959): 21-22.
- Colgrass, Michael, "Michael Colgrass (interview)." Music Journal 35 (September 1977): 4-6.

- Colgrass, Michael. "Something Better than Quack Goes the Duck." Music Magazine 2, no. 6 (1979): 38.
- Colgrass, Michael. "Walking in the Wrong Direction." Music Magazine 2, no. 4 (1979): 38.
- Dahl, Ingolf. "The Composer in Academia; Reflections on a Theme of Stravinsky." College Musician 10 (1970): 72-74.
- DeFelice, L.A. "Problems in Percussion Notation." Percussionist 6 (Summer 1969): 108-112.
- DePonte, Niel. "No. 9 'Zyklus' How and Why?" Percussionist 12 (Summer 1975): 136-149.
- Erickson, E. "A New Clef Sign for Percussion Instruments." Brass and Percussion 2, no. 1 (1974): 14.
- Eyler, David P. "The Top Ten Ensemble Works." Instrumentalist 34 (May 1980): 20.
- Francheski, D.L. "Notational Problems." Percussive Notes 13 (Fall 1974): 12.
- George Ron. "Research into New Areas of Multiple Percussion Performance and Composition." Percussionist 12 (Spring 1975): 110-131.
- Jamison, Roger. "Percussion Notation." Woodwind World, Brass, and Percussion 17, no. 5 (1978): 36.
- Lambert, Jim. "A Student's Preparation of Zyklus." Percussionist 11 (Fall 1973): 15-18.
- Larner, G. "The Music of Reginald Smith Brindle." Music Teacher 112 (June 1971): 543-545.
- Larrick, G.H. "'Duettino Concertante' by Ingolf Dahl--Analysis." Percussionist 13 (Fall 1975): 17-28.
- Leach, Joel. "The Use of Symbols in Multiple Percussion." Brass and Percussion 1, no. 2 (1973): 7-9.
- McCarty, F. "Notational Standards for Percussion--A Report on the Ghent Conference." Instrumentalist 29 (June 1975): 53-55.
- McCarty, F. "Symbols for Percussion Notation." Percussionist 18 (Fall 1980): 8-19.
- McCormick, R.M. "Duettino Concertante by Ingolf Dahl--Analysis." Percussionist 8 (Fall 1975): 14-16.

- McKenzie, Jack. "Some Performance Problems of Contemporary Percussion Composition." Percussionist 2 (Summer 1965): 1-6.
- McKinney, J. R. "Play a Multiple Percussion Solo." Instrumentalist 31 (January 1977): 54-57.
- Nelhybel, Vaclav. "Percussion Notation." Instrumentalist 29 (June 1975): 56.
- Neuhaus, Max. "Zyklus." Percussionist 3 (Fall 1965): 6-12.
- New Grove, 6th ed. S.v. "Dahl, Ingolf," by Warren Anderson.
- New Grove, 6th ed. S.v. "Stockhausen, Karlheinz," by G. W. Hopkins.
- New Grove, 6th ed. S.v. "Smith Brindle, Reginald," by Gerald Larner.
- O'Connor, G. A. "Prevailing Trends in Contemporary Percussion Notation." Percussionist 3 (Summer 1966): 61-74.
- O'Neill, J. C. "Recent Trends in Percussion Notation." Percussionist 18 (Fall 1980): 20-55.
- Otte, Allen. "Preferences in Percussion--1973." Percussionist 11 (Spring 1974): 89-97.
- Pimentel, Linda. "The Solo Percussionist's Performance Limitations." Percussionist 11 (Summer 1974): 128-129.
- Ptaszynska, M. "Tonal Control of Indefinite Pitch Percussion Instruments." Percussionist 18 (Fall 1980): 4-7.
- Udow, Michael W. "Visual Correspondence between Notation Systems and Instrument Configurations." Percussive Notes Research Edition 18 (Winter 1981): 28.

Unpublished Dissertations

- Berdahl, J. N. "Ingolf Dahl: His Life and Works." Ph.D. dissertation, University of Miami (Florida), 1976.
- Combs, Joseph C. "The Problems of Sight Reading on Mallet-Played Instruments and Their Relationship to Kinesthetic Sensation." D.M.E. dissertation, The University of Oklahoma, 1967.
- Rausch, John Richard. "Four-mallet Technique and Its Use in Selected Examples of Training and Performance Literature for Solo Marimba." D.M.A. treatise, The University of Texas, 1977.

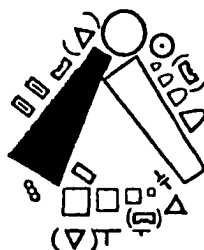
Vanlandingham, Larry Dean. "The Percussion Ensemble: 1930-1945."
Ph.D. dissertation, Florida State University, 1971.

Appendix 1

Preface to Nr. 9 Zyklus

By Karlheinz Stockhausen

Discharge



Sounding

= Marimbaphone

= Guero, fixed to a stand, deep sound (if possible use several gueros).

= 2 wood-drums (African iron-drums) (each guero 2 inches).

= a suspended bunch of bells (if possible Indian ones of various sizes) and/or tambourines fixed to a stand, struck with a stick or with the hand

= Side-drum, very high in pitch, with snares, if the snare rattle too much when other instruments are struck they may be disengaged

= 4 Tam-toms
 = ratchet

= 2 cymbals. The striking-point (nearer the edge or nearer the centre) should be varied continually.

= M-hat
 = closed, struck with a stick (or clasp it with the pedal).
 = open, struck with a stick.
 = open, struck at the centre.

= Triangle continual change-over between at least 2 very high-pitched triangles. Single strokes with the heavier stick, Tremoli with very thin metal sticks.

Sounding

= Vibraphone (without vibrato).

P. = durations free.
P. = where possible hold pedal for a long time.

= 4 cow-bells, suspended without the beater, "frog mouthed" and flat bells.

= Gong with a raised centre. Where possible struck with a soft stick, if nothing specific is indicated.

Very the striking-point continually.

= Tam-tam, where possible struck with a hard stick, if nothing specific is indicated.

Very the striking-point continually.

Tuning of the wood-drums, Tam-toms and cow-bells.
If possible each set should comprise 4 adjacent pitches in the scale (Tam-toms should be tuned as low as possible)

= hard sticks, = soft sticks, = iron beater for the cow-bells.

Where nothing specific is indicated (| | |), the sticks for drums, cymbals, wood-drums, marimbaphone and vibraphone can be hard or soft, and of any material whatever (particularly metal sticks, for instance use triangle sticks on the Tam-toms, etc.).

The sticks used for glistandi on marimbaphone and vibraphone should be as sharply differentiated as possible.

Vibraphone glistandi should be varied in ways similar to those indicated in the marimbaphone glistandi (straight, or broken, or played out chromatically at the beginning and/or in the middle and/or at the end, or with both sticks in various combinations, etc.).

All signs in dot-form represent "one stroke"

All signs in line-form represent "tremolo" ()

Universal Edition (London) Ltd., London, 1960
Used by Permission of European American
Music Distributors Corporation, Sole U.S.
Agent for Universal Edition

Appendix 2

Instruments, Indications,
and Layout to .
Orion M. 42
By Reginald Smith Brindle

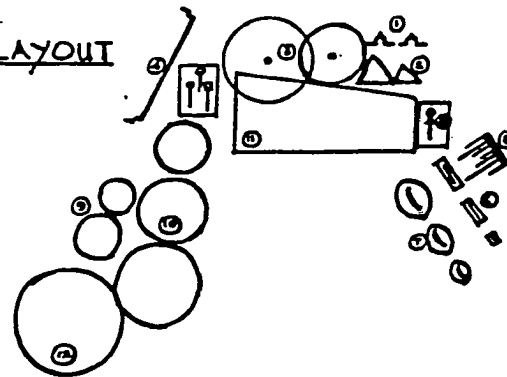
INSTRUMENTS

Metals	Woods	Membranes	Tuned
① 2 crotales (high, low)	① 3 wood chimes (bambos)	① 2 timbales (high, medium-high)	① Vibraphone
② 2 triangles (large, small)	② 3 wood blocks	② 3 tom toms (high, medium, low)	② 1 Timpani (pedal tuning)
③ 2 cymbals (large, small)	③ 3 temple blocks		
④ tam tam (large)	④ orchestral castanets		

INDICATIONS

- ① soft beater
- ② hard beater
- ③ wood sticks (snare drum or timbale)
- ④ metal beater
- ⑤ heavy tamtam beater
- ⑥ stroke wood chimes
- ⑦ clasp wood chimes with both hands
- ⑧ play with fingers, knuckles, palms etc.
- ⑨ strike instrument at rim, ⑩ at centre

LAYOUT



Reprinted by Kind Permission of the Publishers, Hinrichsen Edition,
Peters Edition Limited, London.

Appendix 3

Preface to Fantasy Variations

By Michael Colgrass

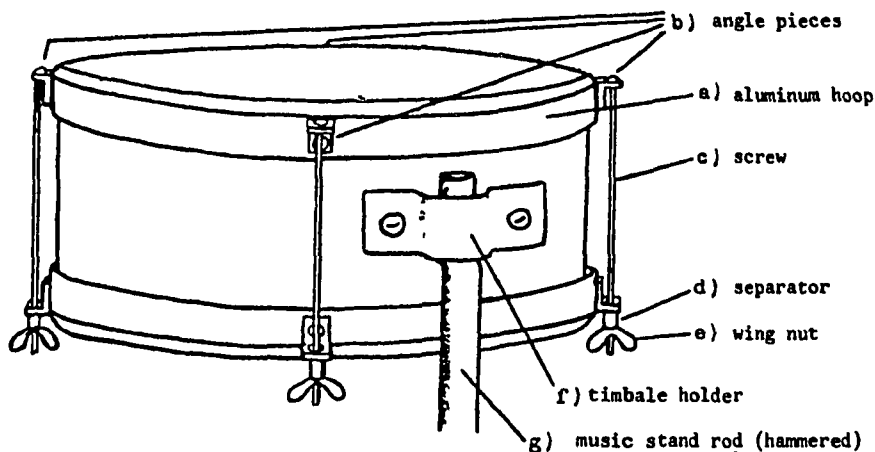
Appendix 3

CHROMATIC DRUMS

The CHROMATIC DRUMS are pitched as follows:



They do not change throughout the piece, and are notated in the third-line C-clef to avoid ledger lines. These are the actual pitches the drums must achieve, not just a relative facsimile, and are obtained easily with cardboard shelled drums of 8" diameter and 4" depth. The shells, about 1/4" thick, are available from paper manufacturers in the form of tubing suitable for shipment of carpets and linoleum. On this drum the flesh and counter hoops are one in the same made with 10/16" x 2/16" aluminum stripping (a), which is a standard cut (see diagram). The thin calfskin heads are tucked around the rim loosely, that is, to form a collar, and an angle piece (b) is screwed into a hole already threaded in the aluminum at four equidistant points on the circumference. The long (4 1/2" x 3/16") screw (c), also a standard piece, with a separator (d) and wing nut (e) at the bottom, fits through a hole in each angle piece and thereby tightens each head simultaneously. A timbale holder connected to the shell (f) hooks on to the rod of a converted fold-up music stand (g) which serves as a rack for each drum.



BEATERS

Beaters to be used on CHROMATIC DRUMS are: 1) regular wooden snare drum sticks (thin); 2) brushes (open to half fan); 3) wool covered wood — 100% virgin wool stretched over tip of medium weight snare drum stick and taped at the neck to eliminate metallic ictus of wood on membrane; 4) disc sticks each made with 16 1 1/2" circular discs of 100% virgin wool perforated at the node and drawn over the tip of a wooden timpani stick from which the felt ball has been removed. With discs in place washer is replaced and wool is trimmed to simulate the striking surface of a felt piano hammer.

Used by Permission from
Music for Percussion, Inc.

Appendix 4

Instrument Setup
for Fantasy Variations
by
Michael Colgrass

Appendix 4

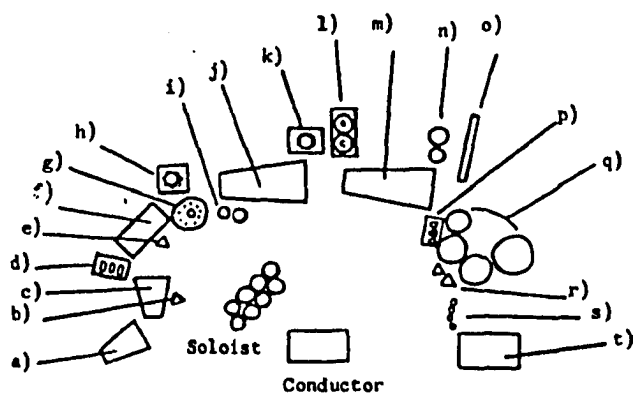
ENSEMBLE SET-UP

- Player 1 a) Glockenspiel (sounds 15a)
 b) High pitched triangle
 c) Small xylophone (sounds 8a)
 d) 3 graduated wood blocks
- Player 2 e) Medium triangle
 f) Celeste (sounds 8a)
 g) Sizzle cymbal (with rivets)
 h) High tambourine (but not small)
 i) Bongos
- Player 3 j) Bongos
 k) Vibraphone (with slow motor adjustment)
 l) Medium tambourine
- Player 4 m) Pair 16" crash cymbals
 n) Marimba
 o) Timbales
 p) Chimes
- Player 5 q) 3 graduated cowbells (muffled)
 r) 4 Timpani (2-28", 1-25", and 1-23")
 s) 2 triangles (medium and low)
- Player 6 t) Finger cymbals (suspended on music rack)



t) Concert bass drum (34" x 14")

DIAGRAM FOR SET-UP



Used by permission from
 Music for Percussion, Inc.

Appendix 5

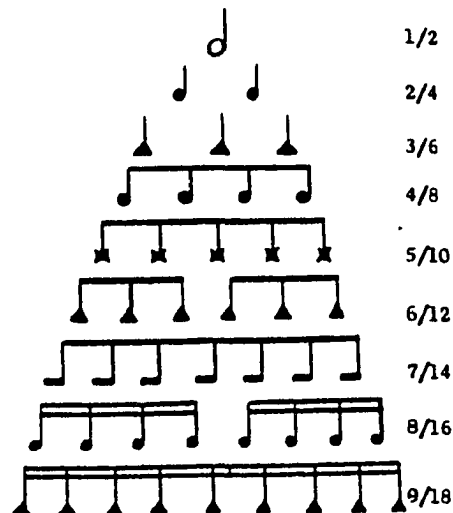
Microhythmic Table
Devised by
Michael Colgrass
(from Fantasy Variations)

Appendix 5

NOTE

The notation for rhythmic modulations in this work is based on the assumption that all odd, or bracketed groupings, e.g. 3—4—5 etc., are tense by nature because they are against the basic metrical unit of a given bar. When this conducted unit is allowed to "fall away" the odd group can "float out" freely, that is, without tension and one or more of these odd group units can become the new basic metrical unit. To emphasize the difference between this rhythmic feeling and all other changes in time which are similar in feeling but not the same (i.e., accelerando, ritardando, meno and piu mosso, con moto, etc.), dotted bar lines, triangular and star-like note heads and "microrhythmic" meter signatures are employed (see table below).

MICRORHYTHMIC TABLE



MC
New York City
November 2, 1961

Used by Permission from
Music for Percussion, Inc.

Appendix 6

Cover Page to the Score
of Suite for Percussion
By William Kraft

Appendix 6
SCORE

SUITE FOR PERCUSSION

I - FANFARE II - ANDANTE III - OSTINATOS IV - TOCCATA V - CADENZE

BY
WILLIAM KRAFT

FOR PERCUSSION QUARTET

PERCUSSION I	PERCUSSION II	PERCUSSION III	PERCUSSION IV
BONGOS, GLOCKENSPIEL, TAMBOURINE, SONG BELLS, FLEXITONE	TWO SNARE DRUMS, (High & Low) GLOCKENSPIEL, BASS DRUM, E TEMPLE BELL, BONGOS	FIELD DRUM, TENOR DRUM, VIBRAPHONE, FRENCH BELL OR LOW COW BELL, TEMPLE BELL	BASS DRUM, TUNED GONGS, TAM TAM, HAND DRUM

Belwin  **Mills** Publishing Corp. MELVILLE, N. Y. 11746

Used by kind Permission of William Kraft

Appendix 7

Opening Score for "Fanfare" to Suite for Percussion

By William Kraft

Appendix 7

To Hema Belli

Suite For Percussion

For Percussion Quartet

FULL SCORE **WILLIAM KRAFT**

I. Fanfare

I Bongos
II Two Snare drums (high and low)
III Field drum and Tenor drum
IV Bass drum

Andante (♩ = ca. 72) but freely with no feeling of tempo *Moderate ♩ = 100* *Andante (as before)*

Copyright © 1961 by G. Schirmer, Inc. New York, N. Y.
International Copyright Secured. Made in U.S.A. All Rights Reserved.

Used by Permission of William Kraft

Appendix 8

Footnotes for "Andante" from Suite for Percussion

By William Kraft

Appendix 8

II. Andante

- I Glockenspiel
 II Glockenspiel
 III Vibraphone, French Bell *8va*
 or Low Cow Bell, *3x* Temple Bell
 IV Tuned Gong

Andante $\text{♩} = 70$, but with very flexible phrasing

Glsp. I Hard mallets Harmonics * *accel.** rit.*

Glsp. II *molto legato* soft mallets

Small Temple Bell (sounding *8va*)

Tuned Gong Solo

Fingertips

mp

- * Glockenspiel Harmonics sound a tenth or a diminished 12th above and are produced by holding mallet loosely in vertical position (i.e. hanging) and striking narrow sides of bars
- ** Glockenspiel I ignores tempo changes in 5th bar.

A $\frac{1}{2}$ ← 0 → C $\frac{1}{2}$

Used by Kind Permission of William Kraft

Appendix 9

Footnote to "Andante" from Suite for Percussion

By William Kraft

* French Bell is a very resonant low D Cow Bell. Therefore use any low D Cow Bell as substitute if necessary.

Used by Kind Permission of William Kraft

Appendix 10

Footnote to "Andante" from Suite for Percussion

By William Kraft

Appendix 10

mf

Gong

mf

Tempo I

mp

soft mallets

L.V.

L.V.

L.V.

L.V.

French Bell

fingertips

mp

5

3

mp

Vibraphone

Ped.

Ped.

Ped.

Ped.

Side of flat on knob

tremolo

Fingernails

3

3

3

3

3

3

* Rattle or Fingernail tremolo: Irregular patterns (i.e. no patterns.) Many notes—no diatonic, chromatic triadic formations.

Used by Kind Permission of William Kraft

Appendix 11

Footnote to "Ostinatos" from
Suite for Percussion

By William Kraft

Appendix 11

6

I Tambourine III Field Drum
 II Snare Drum IV Bass Drum
 Presto ♩ = ca. 100

III. Ostinatos

Base Drum-Right hand on right head with stem of Xylo. mallet (rattan stick). Left hand on left head with hard Timpani mallet. Control ringing by muffling with base of palms.

Used by Kind Permission of William Kraft

Appendix 12

Opening Score to "Toccata"
from Suite for Percussion

By William Kraft

Appendix 12

IV. Toccata

10

I Bongo-Tambourine

II Two Snare Drums

III Field Drum-Tenor Drum (or Long Drum)

IV Bass Drum, Hand Drum or very large Tambourine without jingles played with hard vibraphone mallet

Allegro $\text{♩} = 120$

Bongo (S.D. sticks)

The musical score for IV. Toccata consists of four systems of percussion notation, each with four staves. The notation is in 2/4 time, with a tempo of Allegro $\text{♩} = 120$. The score includes various dynamics and performance instructions.

System 1: The first staff is labeled "Bongo (S.D. sticks)". The second staff has the instruction "S.D., Snare off". The third staff has the instruction "F.D., No Snare". The fourth staff has the instruction "B.D.". The notation includes eighth and sixteenth notes, rests, and accents. Dynamics include *f*, *dim.*, *p*, *f*, *dim.*, and *p*.

System 2: The notation continues with eighth and sixteenth notes, rests, and accents. Dynamics include *dim.*, *pp*, *pp*, *pp*, *p*, *p*, and *mp*. A *cresc.* marking is present at the end of the system.

System 3: The notation continues with eighth and sixteenth notes, rests, and accents. Dynamics include *mf*, *f*, *f*, *sempre*, *dim.*, *p*, and *dim.*. A *sec.* marking is present at the end of the system.

System 4: The notation continues with eighth and sixteenth notes, rests, and accents. Dynamics include *ff*, *f*, *ff*, *ff*, *dim.*, *dim.*, and *mf*. A *sec.* marking is present at the end of the system.

Used by Kind Permission of William Kraft

Appendix 13

Footnotes to "Loccata" from
Suite for Percussion

By William Kraft

Appendix 13

The musical score is divided into four systems, each with three staves. The first system is labeled with measure numbers 38 and 41. The second system is labeled with measure numbers 54 and 57. The third system is labeled with measure numbers 64 and 67. The fourth system is labeled with measure numbers 74 and 77. The score includes various musical notations such as notes, rests, and dynamic markings. The instruments are labeled as Tambourine, Hand Drum, Snare, and Wood (l) etc. The dynamics range from *mp* (mezzo-piano) to *f* (forte). The score also includes a section for the Bass Drum, with instructions for the left hand using a wood mallet and the right hand using felt.

System 1 (Measures 38-41): Tambourine (measures 38-41), Hand Drum (measures 38-41). Dynamics: *mp*, *p*, *mf*.

System 2 (Measures 54-57): Snare (measures 54-57), Hand Drum (measures 54-57). Dynamics: *mp cresc.*, *p*, *mf*.

System 3 (Measures 64-67): Rim Shot (measures 64-67), Hand Drum (measures 64-67). Dynamics: *mf*, *f*, *mf*, *p*, *mf*.

System 4 (Measures 74-77): Wood (l) etc. (measures 74-77), Hand Drum (measures 74-77). Dynamics: *mp*, *f*, *mf*.

System 5 (Measures 84-87): To Bass Drum-Left Hand Wood Mallet-Right Hand-Felt (measures 84-87). Dynamics: *f*.

- o-ringing sound towards edge of drum.
- sharp short dry sound at center of head.

Used by Kind Permission of William Kraft

Appendix 14

Opening of "Cadenze" from
Suite for Percussion

By William Kraft

Appendix 14

V. Cadenze

I Song Bells  Flexitone sounds *8va*

II Bongos, Snare Drum, Medium Bass Drum (ca. 28") sounds *8va*

III Vibraphone

IV Large Bass Drum (ca. 32" or more), Tuned Gongs (same as in II), Large Tam Tam

Temple Bell 

Bass Drum Cadenza *J=ca. 160* R.H.: Rattan, L.H.: hard felt B.D. Mallet

lunga [6] *secco*

sec. 1 rapid scraping (rattan) *come sopra*

[28] *Largo J=40* *soft mallets*

I Song Bells

II Bongos with fingers, very rapid and irregular

III Vibr.

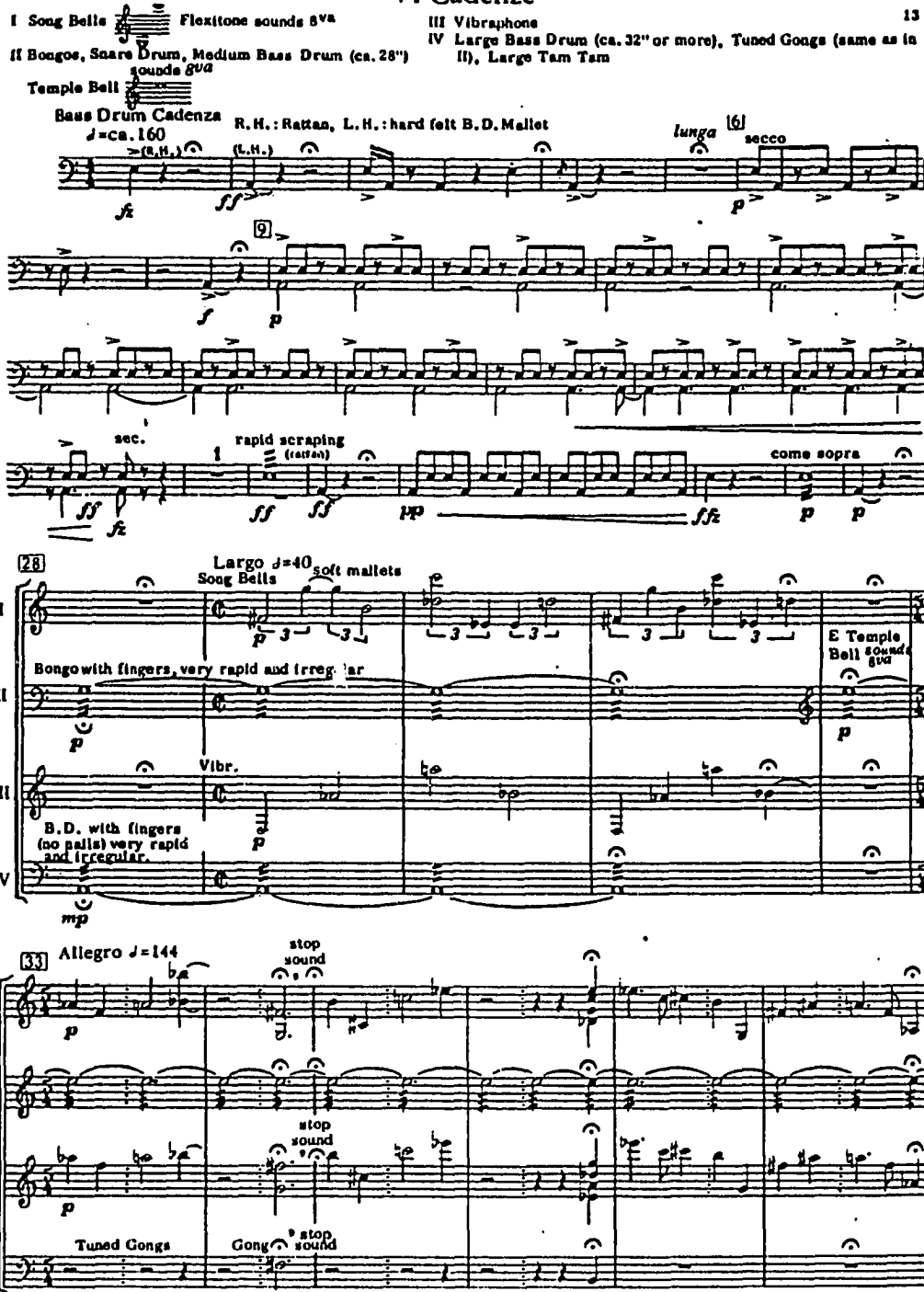
IV B.D. with fingers (no mallets) very rapid and irregular

E Temple Bell sounds *8va*

[33] *Allegro J=144* *stop sound*

Tuned Gongs *stop sound*

Gong *stop sound*



Used by Kind Permission of William Kraft

Appendix 15

Footnotes for "Cadenze" from
Suite for Percussion

By William Kraft

Appendix 15

Appendix 15

Meno mosso

Allegro

$\text{♩} = \text{ca. } 80$

sec.

Vibr. mallets

Bongos

Cadenza ad lib.

S.D. is played fz with ball of stick

Center (sec.) Vibr. mallets

edge (ring)

p

Allegro ma non troppo $\text{♩} = 100$

Med. Hard Mallets

Bongos

Vibr. mallets (ball ends)

S.D. p

B.D. (no snares)

Gongs

Rub face of S Gong with flat side of metal rod or Triangle beater in circular motion to produce smooth continuous sound.

p

Any notes-but irregular and large intervals-cover whole instrument.

no pedal

Two large Gong Mallets mp

add pedal bit by bit

- * 1. R.H. - Hold ball of Vibr. Mallet in hand, rattan extended over Boogo (tip about 2/3rds in.)
L.H. snaps rattan end against head producing explosive sound like rim shot.
- * 2. L.H. - tip of rattan on head. R.H. - Stick (rattan) plays against underside of L.H. stick and as sound increases alternates between stick and head until speed leads into tremolo scraping on head.

Used by Kind Permission of William Kraft

Appendix 16

Footnotes for "Cadenze" from
Suite for Percussion

By William Kraft

Used by Kind Permission of William Kraft

Appendix 17

Explanatory Note from Duettino Concertante

By Ingolf Dahl

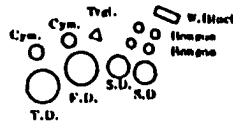
Appendix 17

Explanatory Note

Tenor Drum Field Drum without snares Low Snare Drum High Snare Drum (Piccolo) Four tuned (graduated) Bongos Wood Block Small Triangle

Low suspended Cymbal High suspended Cymbal

The drums must be graduated from low to high



If necessary, felt pads or other devices should be used on the drums to ensure proper balance between flute and percussion.

	soft ends of double-headed sticks		slide across drum head in a wavy line
	hard ends of double-headed sticks		on the rim of drum
	rattan sticks with wound mallets		rim shot
	reverse end of rattan sticks		on side of drum
	brushes		on dome of cymbal
	reverse end of brushes (metal)		on center of cymbal
	fingernails		on edge of cymbal
	play with hands or fingers		split brush over edge of cymbal
	snares on		in dead center of drum head
	snares off		at extreme edge of drum head
	circular slide on drums or cymbals		left elbow slides from edge to center of drum (glissando)
	snap on snares		the bracketed stick remains unchanged

Note: Metronome markings should be followed as closely as possible.

Duration about 11 minutes

Used by Permission of Alexander Broude, Inc.

Appendix 18

Letter of Permission from
European American Music, Inc.
in Regard to Nr. 9 Zyklus
by Karlheinz Stockhausen

Appendix 18

European American Music

DISTRIBUTORS CORPORATION

11 West End Road • Totowa, New Jersey 07512
(201) 256-7100 • Telex 252311

12 November 1982

Mr. James William Lambert
Director of Percussion Studies
Cameron University
Lawton, OK 73505

Re: Karlheinz Stockhausen - ZYKLUS - mm. 1-40; preface

Dear Mr. Lambert:

In accordance with your request of 26 October 1982, we herein grant a non-exclusive license for you to use the abovementioned excerpt in your doctoral dissertation, provided the conditions listed below are satisfied:

1. Under this excerpt, the following copyright information must appear:
 © Universal Edition (London) Ltd., London, 1960
 Used by permission of European American Music Distributors Corporation,
 sole U.S. agent for Universal Edition.
2. Mention will be given us in the prefatory or appendix acknowledgements, if any.
3. This permission is valid providing your doctoral dissertation is completed within 1 (one) year of the date of this letter.
4. This usage is restricted only for the purpose outlined in your letter, which is attached hereto and becomes a part hereof, and is not to be sold, or distributed in any manner whatsoever, without the consent of the publisher, and is not to be reproduced except for the archives of the University.
5. In consideration for the foregoing, you agree to pay to European American Music Distributors Corporation, a token license fee of Thirty-five Dollars (\$35.00), which shall be paid when signed copies of this letter are returned to us.
6. One (1) copy of your dissertation is to be provided to the publisher gratis, upon completion thereof.

12

James William Lambert

Appendix 19

Letter of Permission from
Peters Edition Limited
in regard to
Orion M. 42
by Reginald Smith Brindle

Appendix 19

Peters Edition Limited

Edition Peters-Hinrichsen Edition

119-125 Wardour Street
London W1V 4DN
Telephone: 01.439 7726

Registered in England No 337746



Music Publishers since 1800

Mr. James William Lambert,
Director of Percussion Studies,
Department of Performing Arts,
Cameron University,
Lawton, Oklahoma 73505,
U.S.A.

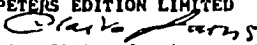
5th November 1982

Dear Mr. Lambert,

Thank you for your letter dated 26.10.82. This is to confirm our permission for you to use extracts from "Orion M.42", by Reginald Smith-Brindle, in your dissertation "Performance Problems Associated with Multiple Percussion Works Composed Between 1960 and 1980". I would be grateful if you could print the following acknowledgement underneath the extracts:-

"Reprinted by kind permission of the publishers, Hinrichsen Edition, Peters Edition Limited, London.

I trust this will be acceptable to you and remain,

Yours sincerely,
PETERS EDITION LIMITED

Miss Claire Jarvis,
Copyright Manager.

Appendix 20

Letter of Permission from
Music for Percussion, Inc.
in regard to
Fantasy Variations
by Michael Colgrass

Appendix 20

MUSIC FOR PERCUSSION, INC.
170 N.E. 33rd Street, Ft. Lauderdale, Fla. 33334
phone: (305) 563-1844

November 1, 1982

Mr. James William Lambert
Department of Performing Arts
Cameron University
Lawton, OK 73505

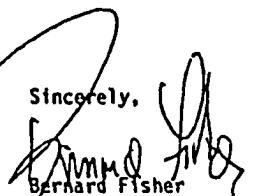
Dear Mr. Lambert:

This is in reply to your letter of October 26.

We hereby grant you permission to use excerpts only from "Fantasy Variations" by Michael Colgrass for you doctoral dissertation. Please state that it is used by permission from MUSIC FOR PERCUSSION, INC.

Good luck.

Sincerely,



Bernard Fisher
MUSIC FOR PERCUSSION, INC.

BF:ss

Appendix 21

Letter of Permission from
New Music West Publications
in regard to
Suite for Percussion
by William Kraft

Appendix 21



NEW MUSIC WEST
PUBLICATIONS

October 11, 1982

This is to affirm that Mr. Jim Lambert has
my permission to use excerpts from several
of my compositions for discussion in his
doctoral dissertation.

10/14/82

WILLIAM KRAFT
C/O NEW MUSIC WEST PUBLICATIONS
P O BOX 7434
VAN NUYS, CALIFORNIA 91409

P. O. BOX 7434 VAN NUYS, CALIFORNIA 91409, U.S.A. (213) 994-1484/769-3379

Appendix 22

Letter of Permission from
Alexander Broude, Inc.
in regard to
Duettino Concertante
by Ingolf Dahl

Appendix 22



1 November 1982

James William Lambert
Director of Percussion Studies
Department of Performing Arts
Cameron University
Lawton, Oklahoma 73505

Dear Mr. Lambert:

Thank you for your letter of 26 October regarding
Duettings Concertante by Ingolf Dahl.

Permission is granted for the use of excerpts
from the above work; use is restricted to that
described in your letter.

Yours faithfully,

Alexander Broude, Inc.

A handwritten signature in black ink, appearing to read 'Dean H. Streit', is written over the typed name.

Dean H. Streit

DHS:ips