

AN ANALYSIS OF RHYTHMS FOUND IN BOOKS IV, V, VI
OF THE STATE ADOPTED MUSIC TEXT BOOKS FOR TEXAS

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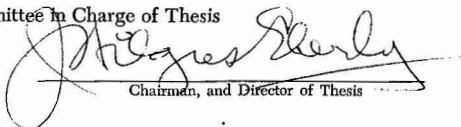
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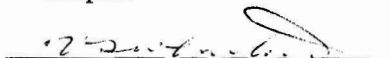
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CHAPTER I

INTRODUCTION

The sense of rhythm is inborn. There is ample evidence, empirical and experimental, to support this idea. According to Brooks and Brown the rhythmic tendency is found in all people, for "it is an inborn and universal characteristic of the nervous system of human beings."¹ Coleman says that the response to rhythmic stimuli is instinctive in both children and animals whether the nervous system receives the stimulus through the ear, the eye, or by the sense of touch, but the earliest response is to rhythm.² Weld, in his report of an experimental study of musical enjoyment, says that "for the auditors rhythm was not objective, something in the music, it was subjective, a feeling of their own activity."³ This study will present further support of this idea from authoritative sources.

Music is built on a rhythmic foundation,⁴ and since the desire for rhythmic motion is inborn, it is logical that

¹B. Marion Brooks and Harry A. Brown, Music Education in the Elementary School (New York: American Book Co., 1946), p. 20.

²Satis N. Coleman, Creative Music for Children (New York: Putnam's Sons, 1922), p. 85.

³Harry Porter Weld, "An Experimental Study of Musical Enjoyment," American Journal of Psychology, Vol. 23, p. 265.

⁴William D. Revelli, "What About Rhythm?" Etude, Vol. 73, No. 5 (May, 1955), p. 19.

a successful music program in the public schools should develop this foundation for musical growth.

An analysis of the rhythms of Books IV, V, and VI of the state adopted textbooks for music in Texas will show the variety of rhythms presented, with the frequency of their appearance. This will, in turn, show the provisions made in these textbooks for the sequence of orderly, cumulative rhythmic experience necessary for musical growth. This analysis may also provide a basis for kinds of developmental tasks that might be expected of students on the elementary grade level. It may also be used as a basis for future evaluations by anyone who wishes to use it.

The investigator found that educators and musicians agree that rhythm holds an important spot in the school music program. There are many method books with pedagogical comments and accompanying music to be used in developing the rhythmic sense of children. The first requisite for using any of these methods is enough room for activity. The normal school situation, with its crowded classrooms, prohibits the consideration of this material, thus leaving the adopted music texts the principal source of rhythm development.

An extensive search of studies of rhythm has been made, and no analysis comparable to the one to be made in this thesis has been found. It is the purpose of this thesis to review authoritative opinions and findings on rhythm--its importance

in music, its historical development, and its psychological effects. The analysis should bring to a focus the rhythms of the music designated for the fourth, fifth, and sixth grades; it should show the growth in the development of rhythmic patterns; and should also show the agreement or disagreement of the editors of the texts on the variety and extent of rhythms presented for elementary children.

The books used for the analysis in this study are:

1. Beattie, John W.; Wolverton, Josephine; Wilson, Grave V.; Hinga, Howard. The American Singer, Books IV, V, and VI. New York: American Book Company, 1946.
2. Pitts, Lilla Belle; Glenn, Mabelle; Watters, Lorrain E.; Singing Every Day. Boston: Ginn and Company, 1950.
3. _____. Singing Together. Boston: Ginn and Company, 1951.
4. _____. Singing in Harmony. Boston: Ginn and Company, 1951.
5. McConathy, Morgan, Mursell, Bartholomew, Bray, Miessner, Birge. New Music Horizons, Books IV, V, and VI. New York: Silver Burdett Company, 1945.
6. Armitage, Theresa; Dykema, Peter W.; Pitcher, Gladys. We Sing. Boston: C. C. Birchard and Company, 1940.
7. Armitage, Theresa; Dykema, Peter W.; Pitcher, Gladys; Stevens, David and Vandevere, J. Lillian. Our Land of Song. Boston: C. C. Birchard and Company, 1942.
8. _____. Music Everywhere. Boston: C. C. Birchard and Company, 1943.

These books became the adopted textbooks for the public free schools of Texas in compliance with the Textbook Law.¹ Books are recommended by the Texas State Textbook Committee. This committee is composed of fifteen persons recommended by the State Commissioner of Education and approved by the State Board of Education. Upon the recommendation of the Textbook Committee, the State Board of Education selects and adopts a multiple list of textbooks for the elementary grades of the public free schools of Texas. This multiple list consists of not fewer than three (3) nor more than five (5) textbooks in music.² These books were adopted in 1954, and will remain in adoption for five years.

The term rhythm suggests the lawful periodicity of every phase of our lives, without which existence would seem chaotic, and we would not be able to sense the facts that go to make up the whole. Without some recognition of the rhythmic sequences that make up our time system, we would feel helpless. The seconds, minutes, hours, days, months and years that recur over and over again from birth to death provide a necessary rhythmic sequence. The recognition of these periodically recurrent signs makes man feel that life is

¹Vernon's Texas Statutes, 1950 Supplement, Art. 2654-4, Secs. 1, 2, 3 (Kansas City, Missouri: Vernon Law Book Company, 1950), pp. 219-20.

²General and Special Laws of Texas, 51st Legislature Regular Session, 1949, Senate Bill No. 37, p. 871.

natural and affords him an understanding of how he lives.¹ Everything in the world partakes of the time element. Spaeth says that if a person could think independently of time, he could explain eternity, immortality, and all other mysteries.²

In the physical realm, we are assured that there is a cosmic rhythm, that whole universes whirl through space and time in rhythms, while the countless planets and stars within each universe mark out smaller, briefer rhythms of their own. Physics and chemistry point out a "dance of atoms," and within each infinitesimal atom, the rhythmic movement of invisible electrons and their equally invisible proton neighbors. Their opposition in charge, positive on the one hand, negative on the other, produces attraction and repulsion which, governed by the factor of distance, sets up rhythmic movement.³

Science has not been unaware of the recurrent periodicity of natural phenomena. The evolving life or organisms has been the subject of extensive research. Rugg and Schumaker offer some quotations from F. T. Flattely's "Rhythms in Nature" article. Flattely says:

The age cycle with its sequence of birth,
growth, maturity, decay and death is the most typical

¹Howard D. McKinney, Music and Man (Chicago: American Book Company, 1948), p. 305.

²Sigmund Spaeth, The Common Sense of Music (New York: Boni and Liveright, 1924), p. 101.

³Harold Rugg and Ann Schumaker, The Child Centered School (Chicago: World Book Company, 1928), p. 160.

and inevitable phenomenon of nature. Living cells have their basic periods of revolution time in which they pass through a cycle or oscillation, the period varying from one type of cell to another.¹

The rhythmically recurrent character of climatic change is analogous with human life. The punctuation of glacial periods and the recently established climatic change whereby the world passes through a climatic cycle once in every thirty-six years illustrates this analogy.

There is also a rhythmic analogue in the slow formation of land features. The long ages of river erosion which produced the gradual flattening of the mountains were followed by centuries characterized by low plains washed by sluggish rivers; only to be succeeded in turn by the rising of the land or the lowering of the sea level which sets erosion to work again, cutting new gorges and carving the rugged features of topography.²

Still another analogy is found in civilization with its cycles of progress, the rise and fall of cultures or empires, and the succession of epochs in the history of man.³

There is rhythm in everyday life. Life is sustained by the rhythmic beating of our hearts, the beats occurring in pairs, one accented and the other unaccented. Our breathing

¹Quoted in Ibid, p. 161.

²Ibid., p. 162.

³Ibid., p. 163.

is also rhythmical, with the inhalations corresponding to unaccented beats and the exhalations corresponding to accented beats.¹

One of the most important functions of the human body is vocal utterance and articulate speech. Sentences become rhythmical first by sounds followed by pauses. Secondly, the rhythm is strengthened by the interspersion of accented words. Word arrangement, along with strong and weak syllables in each word provide multiple rhythms for spoken sentences.²

Our walking, running and jumping are rhythmical. In walking we are quite likely to come down harder on one foot than the other. This is especially true of marching when the accent is always on the "left".³ In running and jumping, rhythm patterns are formed by the divisions of time in the running steps and in the jumps.

Growth appears to take place rhythmically. Distinct periods of activity and rest occur in the embryonic development of some species that have been observed. Rhythm in growth is characteristic of the physical and mental development of children.⁴

¹Howard D. McKinney and W. R. Anderson, Discovering Music (New York: American Book Company, 1934), p. 25.

²Thaddeus L. Bolton, "Rhythm," American Journal of Psychology, Vol. VI (1893), p. 156.

³Spaeth, op. cit., p. 103.

⁴Bolton, op. cit., p. 152.

Since we think in time,¹ innumerable rhythmic patterns are formed daily. Listen to the ticking of a clock or the dripping of a water faucet. Notice the rhythm of a knock at the door or of plates being stacked in the cupboard. Hear the bark of a dog or the purr of a cat, and you will divide these sounds into rhythmic patterns.

In an article published in the Pedagogical Seminary, a psychologist writes:

When we consider that the mind works rhythmically; that the body consists of nearly four hundred organs of motion whose action is rhythmic; that rhythm has been a factor in the development of the race and that probably the development of the race is in many ways repeated in that of the children; we are led to believe that the subject of instruction in rhythm demands more attention, both in the home and the school, than is now given to it . . . and working from this standpoint, is it not possible to build upon rhythm as a fundamental principle of human nature, to the end that the whole character of the individual may be exalted and that he may have a new delight in conforming to common standards of obedience and hope?²

The rhythmic basis of life should find recognition in education. Rhythm is part internal and part external. It is a fundamental characteristic of activity, of individuality, of group life, of the creative arts, and of all those aims and ends the school has in mind.³

¹Spaeth, op. cit., p. 101.

²Jo Pennington, The Importance of Being Rhythmic (New York: G. P. Putnam's Sons, 1925), p. 50.

³Rugg and Schumaker, op. cit., p. 164.

CHAPTER II

RHYTHM IN MUSIC

The word "rhythm" is derived from the Greek rhythmos which means measured motion, measure, proportion. Rhythmos is related to the Greek word rhein which means flow.¹

Rhythm, lit. "flow" is a reading of, a judgment as to the meaning of music. Into this judgment accent, time, period, pace, and metre all enter in their degree; but in any concrete instance rhythm is personal to the musician in a sense in which the others are not. If these others are the vital forces of music, rhythm is the life itself.²

The interrelation of time, beat, metre and rhythm is of such strength that authorities usually discuss them under one heading.

Grove says that accent, beat, time, period and tempo are the formal elements of time; that metre is the substance of music, and that rhythm combines form and substance. Accent is an importance given to one note over another note, and may be obtained by stress, "i.e., a greater volume of sound", or in other ways. When the accent occurs regularly, it becomes the beat or the pulse. This is a "moment of action as against one of reaction," and it marks the beginning of a measure or a

¹Webster's New International Dictionary, Second Edition Unabridged (Springfield, Mass.: G. & C. Merriam Company, 1949), p. 2141.

²Grove's Dictionary of Music and Musicians (London: Macmillan & Company Ltd., 1954), Vol. VIII, p. 470.

group. Music is written within bars. The bar is an arbitrary division that provides orderly accents. This orderliness is called Time. There are many kinds of time--each established by a time signature. Irrespective of its divisions, music goes at a certain pace (Tempo). In one sense, pace or Tempo can be exactly defined, but in another it is relative, like everything else in music. Metre is concerned with durations, as such--the contrasts, the combinations, and the notation that specifies these durations. Rhythm supports form and substance and combines them.¹

According to Lavignac, rhythm is a result of the division of musical time in strictly proportioned parts. He calls time the "absolute equality, in duration, of all the notes of the same value." Time and rhythm are of such relation that we can sing in time while the rhythm remains incomplete, but we cannot produce the correct rhythm without singing in correct time.²

According to Dudley and Faricy, in rhythm we may distinguish three qualities: pulsation, accent and duration. The first requisite for rhythm is regularity of pulsation--something occurring in time. It may be a beat, a sound, or a movement, but it must occur with regularity. We group any progression of pulsations by accented and unaccented sounds.

¹Ibid., pp. 470-80.

²Albert Lavignac, Musical Education (New York: D. Appleton and Company, 1902), p. 70.

Upon this pulsation which is grouped by accents, music "imposes its own special quality of duration." It is not necessary to have a note for every beat of the rhythm, for some notes are held for several beats, or a beat may be divided among several notes.¹

Rhythm in music contains notes of short and long duration. These notes are arranged into pulse groups of three, four, six. Occasionally we find a pulse group of five or seven, but these are unusual. The pulse, or beat, is not the rhythm. It is only part of it. The beat is a means of organizing the parts of music into a fixed relationship; thus, holding music together as a totality. "The features of rhythmic structure are regular recurrence and free play of accent and subordination."²

Stokowski says that the basis of rhythm is pulsation. When we sing or play we set up a definite speed along with a rhythmic design. This becomes the basic rhythm in music. These pulsations will occur in groups of two or three--or a multiple of these--four and six. These pulsations may be extended into nine, twelve, sixteen, etc., or they may be alternated two and three for a group of five.³

¹Louise Dudley and Austin Faricy, The Humanities (New York: McGraw-Hill Book Company, Inc., 1950), p. 314.

²Brooks and Brown, op. cit., p. 141.

³Leopold Stokowski, Music for All of Us (New York: Simon and Schuster, 1943), p. 103.

An indication of the number of pulsations for the rhythmic pattern is first made by the time-signature. At the beginning of each piece of music, with the key signature, there are two numbers resembling a fraction: $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$, $\frac{6}{8}$, etc. Two of these rhythm plans have alternate signs: C for $\frac{4}{4}$, and ϕ for $\frac{2}{2}$. The top number in this sign tells by what group of pulsations the music is going to move--whether in two's, three's or four's. The lower number of this sign tells us what kind of note will be the unit. Thus in $\frac{2}{4}$, the quarter note will receive one beat.¹

Another indication of the rhythm in music is made by dividing music into measures by vertical bars. Normally the first note in a measure is accented; but the measure may or may not constitute the group. Pauses may occur any place in the measure, and unaccented notes are usually linked with the accented note in the next measure.²

A moment's reflection will bring about a cognizance of the vast number of rhythmic patterns that might be found in a series of music textbooks. Each time signature, with its designated pulsations for the measure and its stipulated unit of beat, suggests a great variety of rhythmic patterns. When we consider the infinite number of combinations of notes

¹Dudley and Faricy, op. cit., p. 347.

²Albert R. Chandler, Beauty and Human Nature (New York: D. Appleton-Century Company, 1934), p. 196.

or rests that may cover one beat, and add to this combination the innumerable ways of relating them in the measure, the intricacies of this analysis are evident.

A brief survey of the early history of rhythm and notation should provide a background for understanding today's rhythms.

Copland says that most historians agree that music had its start in the beating of a rhythm. An unadulterated rhythm has such a direct effect upon us that we "instinctively feel its primal origins."¹ Art did not originate rhythm. Long before the time of the first artists, the primitive man had sat upon a log and produced a rhythm by kicking with his heels. This rhythm was as perfect, in its way, as that of African tribes who today clap their hands and stamp their feet in time with their dancers or singers.² The rhythms of primitive man have come down to us, also, in the dances of the American Indian, where elaborate ceremonies hold a place of importance in worship and in healing.³

The savage man used rhythmic dances in his petitions to his gods. When he wanted sunshine or rain, he gathered

¹Aaron Copland, What to Listen for in Music (New York: Whittlesey House, 1939), p. 34.

²George Lansing Raymond, Rhythm and Harmony in Poetry and Music (New York: G. P. Putnam's Sons, 1904), p. 8.

³Frances Densmore, The American Indians and Their Music (New York: The Woman's Press, 1926), p. 35.

his tribe together and danced a sun or a rain dance. When he wanted food, he dramatized a bear hunt in a dance.

Thus the prehistoric man talked to his gods by swaying bodies, clapping hands, stamping feet, shrieking and grunting. Once some sort of language was established, he used the same word over and over again. These movements and sounds were the roots from which music grew.¹

Densmore reports a statement made by Dr. James W. Powell who regarded rhythm as the first element of music. He assigned rhythm to the "hunter stage" of man's development. Dr. Powell says that the element of melody was added in the progress from the "hunter stage" to the "shepherd stage." So rhythm is the beginning of music as a cultivated art.²

Wundt says that primitive man repeats the movement of the dance at regular intervals, because of his locomotor organs. "This rhythm gives him pleasure," and establishes rhythm as one of the two earliest aesthetic stimuli.³

Many thousands of years passed before man learned how to write down the rhythms that he sang or played. Even today our system of notation is not perfect. It is impossible to

¹Marion Bauer and Ethel Peyser, How Music Grew (New York: G. P. Putnam's Sons, 1925), p. 4.

²Densmore, op. cit., p. 135.

³Wilhelm Wundt, Elements of Folk Psychology (London: George Allen and Unwin Ltd., 1916), p. 103.

write notes for the subtle differences the accomplished artist adds to his performance.¹

Time in music must be as old as music itself. In all sustained sounds such as those of the voice, there must be some duration. This would be a necessity when several voices would sing together. Then when music and poetry were performed together, the metrical division of the latter must have been infused to some extent into the former. When dancing was combined with music, as it was in the earliest times, rhythmical features inevitably appeared in the music.² "Rhythm in speech, rhythm in sound, and rhythm in motion were in the beginning parts of the same thing, and have only in a process of time become separate things."³

When musical rhythm was first put down, it was not measured off in units as it is now. It was not until about 1150 that "measured music" was introduced into Western civilization.⁴ This revolutionary change sacrificed to some degree the freedom of rhythm.⁵

¹Copland, op. cit., p. 35.

²William Pole, The Philosophy of Music (London: Kegan, Paul, French, Trubner & Co., Ltd., 1910), p. 160.

³Herbert Spencer, "Progress: Its Law and Cause," Essays on Education and Kindred Subjects (London: J. M. Dent and Sons Ltd., 1911), p. 170.

⁴Copland, op. cit., p. 35.

⁵Stokowski, op. cit., p. 16.

Up until that time, much of the music of which we have any record was vocal music to accompany prose or poetry. From the time of the Greeks to the reign of Gregorian chant, the rhythm of music was the natural rhythm of prose or poetry. No one then, or since, has been able to write down that kind of rhythm with accuracy.¹ In this elaborate system of meter and rhythm, long syllables were sung to the long notes, and the short syllables to the short notes.²

In one of the few extant examples of Greek music, Ferguson points out that the rhythm of the music follows exactly the rhythm of the verse, "long syllables having long notes, and short syllables short notes."³ "There is evidence that this idea was carried farther, as signs for unequal length of notes existed in music unaccompanied by poetry."⁴

Authorities are doubtful of the existence and use of measure in the music of the early Christian church. Since Guido d' Arezzo and others of his time (the 11th century) did not refer to it, the general impression is that originally Gregorian music had no signs for establishing time. Fétis, in his History of Music, has succeeded in showing that such




¹Copland, op. cit., pp. 35-36.

²Pole, op. cit., p. 161.

³Donald N. Ferguson, A History of Musical Thought (New York: F. S. Crofts and Company, 1935), p. 34.

⁴Pole, op. cit., p. 161.

signs in Church music existed at the beginning of the 7th century, having been established by St. Isidore at Seville.

The great growth of independent part writing called for a new system of notation, as the use of neumes proved inadequate in rendering this music. Thus arose musica mensurata, or measured music. Simple signs were selected from the existing material, "and the ratio of the short note to the long was established."¹ About the 10th or 11th century, the writing of music started the form of notation that is the root of our present day notation. Notes were given different shapes to signify the different lengths of time they should be held. In the beginning of notation there were three notes: a Long , a Breve , and a Semibreve .

These early notes were of proportionate duration, one to the other. The long was intended to be held twice the length of time for the breve; the breve was intended to be held twice the length of time for the semi-breve. This, however, was not the same thing as our idea of musical time. Here there was no uniform measure in the music, but soon after this notation was established the measure was invented. As counterpoint gained in favor, i. e. as the various parts or voices took independent melodies, it became necessary to mark

¹Paul Henry Lang, Music in Western Civilization (New York: W. W. Norton and Co., Inc., 1941), p. 134.

some division in order to stabilize notes of unequal value against each other. This division provided facility for performance.¹

Great progress took place when rhythm became independent of the text, and notes of different value were introduced. The 13th century marks the beginnings of mensural music. At this time notes were subdivided into threes instead of twos as they are in the present time. The church influenced the adoption of the triple measure symbolic of the Holy Trinity.²

The issuance of a Papal Bull around 1324-1325 by Pope John XXII reveals the controversy in regards to triple rhythm. Great debates were raging over what was called "ars nova". This was a new art in which triple rhythm was used as a means of expression--a revolutionary form of notation at that time, but the commonest form today.³ The development of the "measuring elements" of music composition to its present "perfect state" covered the next centuries.

Music, today, has two divisions of time: duple--marked by the time signatures $\frac{2}{2}$, $\frac{2}{4}$, $\frac{4}{4}$, $\frac{6}{4}$, and $\frac{6}{8}$; triple--

¹Pole, op. cit., pp. 161-162.

²Karl Nef, An Outline of the History of Music (New York: Columbia University Press, 1935), p. 88.

³Warren Dwight Allen, Philosophies of Music History (New York: American Book Company, 1939), p. 37.

marked by $\frac{3}{2}$, $\frac{3}{4}$, $\frac{3}{8}$, $\frac{9}{4}$, and $\frac{9}{8}$. These modifications of the time signature makes it possible for music to offer a variety of styles.¹

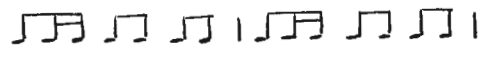
The commonest rhythm is a four rhythm, and it has been given the name of common time. This is the natural rhythm for marching. Most of the hymns, and many folk songs are written in this time. Two rhythm is more brisk in its movement. A slow three rhythm has stateliness. It is the longest slow measure that we can hear as a unit, for a slow four rhythm is mentally broken into a two rhythm. A three rhythm which is fast is a lilting rhythm found most frequently in dances.

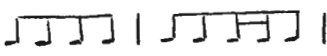
Syncopation of a rhythm is a kind of "robbing Peter to pay Paul"--a taking of the accents from where they belong and putting them on another note. Syncopation must be founded on regularity if it maintains its identity as such. The effect of syncopation is to stimulate and enliven the rhythmic pattern provided there is a balance between regularity and irregularity.²

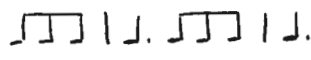
Certain kinds of rhythms have been used so often in the years of music development, that they have become typical of large classes:

¹Pole, op. cit., pp. 162-163.


²Dudley and Faricy, op. cit., p. 315.


Polonaise-- $\frac{3}{4}$ 

Polka-- $\frac{2}{4}$ 

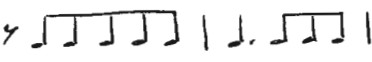
Waltz (Slow)-- $\frac{3}{4}$ 

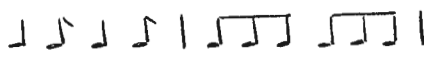
(Quick)-- $\frac{3}{4}$ 

(Moderate)-- $\frac{3}{4}$ 

Galop-- $\frac{2}{4}$ 

Bolero-- $\frac{3}{4}$ 

or $\frac{3}{4}$ 

Tarantelle-- $\frac{6}{8}$ 

There is nothing, however, in the nature of rhythm to prevent these classes from being infinitely multiplied.¹

The 20th century has been a time in which the composer has felt free to experiment in his own individual way, rather than to follow "nationalistic" examples. This experimentation in rhythm has included the use of primitive

¹Raymond, op. cit., p. 104.

rhythms, such as jazz and ragtime, and a great deal of syncopation. Combined rhythms, two or more at a time, have also been used, thus giving rise to the word polyrhythms. (From a Greek prefix, poly meaning many.)

Much use of irregular meter has been used. Some 20th century music uses a constantly changing meter. One measure may be written in $\frac{3}{4}$ followed by one in $\frac{5}{4}$ and another in $\frac{4}{4}$. This is a trait of certain kinds of folk music that musicians have borrowed.¹

Stokowski believes that the time will come when we will regain the freedom of rhythm which was "one of the finest characteristics of the plain song." He says, "We shall replace mechanical, equal pulsations and equidistant bar lines with flexibility of rhythm and freedom of emotional expression."²

Since the response to rhythmic stimuli is instinctive,³ and since rhythm is not only one of the fundamental elements, but the "life" of music,⁴ rhythm plays an important role in the music development of the child. Every child has a natural

¹Hazel Gertrude Kincella, Music and Romance. (Camden: Educational Department, RCA Manufacturing Co., Inc., 1930), p. 206.

²Stokowski, op. cit., p. 17.

³Coleman, op. cit.

⁴Groves, op. cit.

feeling for and a love of rhythm. He naturally yearns for an expression of his feelings through some rhythmic movement. Rhythm provides the structure on which music is built, and combines musical sounds in such a way as to give them life and meaning. Therefore, children's progress in learning music will be more successful if they learn to feel rhythm¹ before they are taught other elements of music.

Rhythm is not new to the child who has reached school age. He made responses to rhythmic patterns long before he was aware of music. The natural reaction to rhythm is muscular.² This is demonstrated in an infant's earliest kicks, as well as in an adult's tapping foot when a band goes by.³

Mursell says, "Rhythm, in all its complexity, depends absolutely upon the motor-consciousness--the feeling of the play of our musculature."⁴ Spaeth goes more directly to the point by simply stating that "Rhythm is 'foot-listening'."⁵ He continues by saying that we are all foot-listeners by

¹T. H. Trotter, Music and Mind (London: Methuen and Company Ltd., 1924), p. 217.

²Catherine Frassetto Reilly, "Run With Rhythm," Etude, July, 1952, p. 20.

³Ibid.

⁴James Lockhart Mursell, Human Values in Education (New York: Burdett and Company, 1934), p. 52.

⁵Spaeth, op. cit., p. 49.

nature, and that it requires a long time for some people to advance beyond this stage in a response to rhythmic stimuli.¹

In view of the above, the psychologically correct approach to the development of the rhythmic sense is by way of bodily response. It is impossible to understand music simply by hearing it with our ears. We do not "enter into music" as we should until our bodies feel attuned to it.² "No sensorial rhythm could be so completely induced in the psychological organism as the sound-rhythm. In listening to music we see how it is that we ourselves, body and soul, seem to be in rhythm."³

There was a time when educators felt that a purely intellectual approach to reading rhythmic patterns was the only approach worthy of consideration. Teachers believed that a mathematical comprehension of note values was the way to produce correct interpretations of rhythmic patterns. Even though, in this way it is possible to determine the correct number of beats for each measure and the various groupings of notes for each beat, this information alone will be likely to lead to a mechanical rendition.⁴

¹Ibid., p. 55.

²Mursell, Human Values in Education, p. 53.

³Ethel D. Puffer, The Psychology of Beauty (Boston: Houghton Mifflin Company, 1905), p. 171.

⁴Marguerite V. Hood and E. J. Schultz, Learning Music Through Rhythm (Boston: Ginn & Co., 1949), p. viii.

Brooks and Brown say that rhythm should never be considered as a mechanical, disciplined metre. If rhythm is considered as something mechanical, it loses its vitality and emotional expression. Then it produces an automatic and lifeless response in a child.¹

Children find an expression of rhythm in a physical response, and through a great many of these physical responses, rhythmic consciousness is developed. It is through this rhythmic consciousness that an interpretation of music with an emotional appeal can be made.²

Without the movement consciousness, music would not be a great art; it would be a mathematics of tone. Rhythm in music prohibits the mathematical interpretation of the notes in the measure as well as the measures in a larger figure. One of the great tasks of a system of music education based on correct psychological principles is to arouse the movement consciousness in connection with music.³

Jacques-Dalcroze was the first to recognize and develop the basic principle of rhythmic training. His teachings influenced many instructors to turn from a mathematical basis of rhythmic experience to one built on muscular response.⁴

¹Brooks and Brown, op. cit., p. 141.

²Hood and Schultz, op. cit., p. viii.

³Mursell, Human Values in Music Education, p. 53.

⁴Revelli, op. cit., p. 56.

Earhart says, "Rhythm appears to be broadly physiological rather than aural, and to seek a welcome in the body rather than a haunt in the realm of ideas."¹

In an investigation of how music produces its effects, Weld tested motor reactions, both actual or imagined. In his conclusions, he says that bodily movements, actual or merely imagined were reported by all the observers except one; she reported visual images that were filled with movement. Weld's analysis of the introspective material reports a motor reaction to rhythm of the measure and a motor reaction to the rhythm of a group of measures or a phrase.

Some motor reactions to the rhythm of the measure listed by the observers were: foot-tapping, moving eyes rhythmically; sensations in arms, head, fingers; clicking teeth, alternating foot taps between the right and left feet with a decided kick on the accent.

The motor reactions to the rhythm of a phrase were principally swaying and swinging; the movement was on the first accented note of each group. Other reactions listed were: breathing in time with the phrases, feeling of strain and release inside the body, a feeling of being rocked in a cradle, and a motor-image of an arm dancing.

Frequently observers reported a feeling of movement

¹Will Earhart, The Meaning and Teaching of Music (New York: Witmark Educational Publications, 1935), p. 101.

that could not be localized. When bodily movements were inhibited, some observers felt a decrease in the rhythmic effect, while others reported that the movement shifted to another part of the body, or a motor image was substituted for the actual movement.

According to Weld, it is significant that in no case did an observer become conscious of the rhythmic experience without some motor reaction, real or imaged.¹

Ruchmich makes the following summary of his experimental investigation of the perception of rhythm:

Under the conditions of these experiments, it proved that whatever was the material presented for rhythmisation (equal and equally spaced sounds for subjective rhythm; sounds of different intensities; tones objectively varying only in duration, in intensity, in pitch; flashes of light differing in intensity), kinaesthesia was essential for the establishment of a rhythmical perception. That perception once established, however, rhythm might be consciously carried, in the absence of any sort of kinaesthesia, by auditory or visual processes.²

During the past half century, there have been many discussions, pro and con in regard to the improvement of rhythmic discrimination. Farnsworth has attempted to reconcile the conflicting views by saying that

Although the specific rhythms one possesses must be acquired, one individual may profit more and faster from practice in rhythms than another. These

¹Weld, op. cit., pp. 263-266.

²Christian A. Ruchmich, "The Role of Kinaesthesia in the Perception of Rhythm," American Journal of Psychology, Vol. XXIV, No. 3, p. 359.

individual differences may be due to nature or nurture. No one knows which, but they have musical significance.¹

Coffman concluded from his experiment in improving rhythmic perception that evidence pointed to the fact that students drilled on rhythm before starting serious musical study should advance more rapidly than those who were not drilled.²

The child who is rhythmically weak is in as unfortunate a position musically as one who is weak tonally. Most musical instruments will produce the correct pitch if the right note is struck, or the right hole covered, or the proper valve used; but no instrument can furnish the rhythmic drive for the performer. The accent and grouping of tones must be felt by him. Therefore, it is important that teachers of the elementary school take not only a tonal inventory of their classes, but also take a rhythmic inventory of their pupils. They should discover those pupils who respond quickly to rhythm, those who hesitate in rhythmic attempts, and those who are totally unable to respond satisfactorily.³

In an investigation of the development of rhythm in which tempo, meter, rhythmic patterns along with various

¹Ashley R. Coffman, "Is Rhythm Subject to Training?" School Musician, Vol. 21 (1949), p. 14.

²Ibid., p. 45.

³Hood and Schultz, op. cit., p. viii.

responses, age, intelligence and sex were considered, Jersild and Bienstock said:

The more practical educational, concern, it would seem, is to provide the child with opportunities to participate in rhythmical activities, to cultivate his interest in rhythmical expression and his "feeling" for rhythm, to encourage him to improvise patterns of his own and take part in exercises that might, directly or indirectly, lead to an improvement in his versatility, poise, balance and muscular control in motor response to a rhythmical stimulus.¹

¹Arthur T. Jersild and Sylvia F. Bienstock, Development of Rhythm in Young Children (New York: Bureau of Publications, Teachers College, Columbia University, 1935), pp. 96, 97.

CHAPTER III

REVIEW OF RELATED RESEARCH

In order to understand the developmental nature of rhythm, some authoritative evidences of its effects and influences should be reviewed. The fields of psychology and education provide the principal source of research for this information.

Seashore defines rhythm as an "instinctive disposition to group recurrent sense impressions vividly and with precision, by time or intensity, or both, in such a way as to derive pleasure and efficiency through the grouping." He adds that the perception of rhythm involves the whole organism, yet it is to be distinguished from rhythmic action.¹ He points out some of the things that rhythm does in perception, and many authorities agree with his statements.

Rhythmic grouping of sounds or notes provides greater efficiency in remembering the sounds. It has been demonstrated that it is possible to grasp approximately as many measures of notes that are heard rhythmically as it is to grasp the same number of individual notes that are not heard rhythmically. It is also possible to develop the ability to

¹Carl E. Seashore, In Search of Beauty in Music (New York: The Ronald Press Company, 1947), p. 128.

group larger and larger units--phrases, periods, and movements.¹

Rhythm adjusts the strain of attention, for it enables us to anticipate the accented notes that in turn are followed by a more relaxed beat. The ordinary measure in music is determined, genetically, by the attention wave. Our attention is periodic.² Bolton says that attention is in a wave-life form; it is a series of pulsations.³ According to James, it is impossible to attend continuously to some object that does not change. "There is no such thing as voluntary attention sustained for more than a few seconds at a time."⁴ The rhythmic measure fits the attention wave and provides a pleasant and satisfied feeling.⁵

Rhythm is built on symmetry. The rhythmic structure of poetry and of music is an object of art in itself. Children sense the rhythm of poetry before they sense the meaning of the words.⁶ This is demonstrated in the popularity of the "Mother Goose Rhymes" with children. Only the effect of the

¹Ibid., p. 129.

²Ibid., p. 130.

³Bolton, op. cit., p. 155.

⁴Ibid.

⁵Seashore, op. cit., p. 130.

⁶Ibid., p. 131.

rhythmic structure could cause the senseless phrases of so many of these verses to produce their delightful effects.¹

Rhythm gives us a

. . . feeling of achievement in molding or creating. It gives us a feeling of rounding out a design. . . in music, when the ear grasps the intricate rhythms of beautiful music and follows it from the groundwork up through the delicate tracery into towering climaxes in clustered pinnacles of rhythmic tone figures, we feel as though we did all this because we wished to, because we craved it, because we are free to do it, and because we were able to do it.²

When the rhythmic pattern is grasped the result is a projection of the self in action, for rhythm is never rhythm unless the person feels that he is carried by his own action. Thus rhythm has a carrying power.³ Coleman says that the carrying power of rhythm makes for an economy of human energy. The swing of rhythm, carried on its own impetus, makes all effort easier and less tiring. This fact was recognized by primitive people who availed themselves of this means to lighten their work. It has been used, also, by more intelligent men to secure more efficient work from their laborers.⁴

Pronounced rhythm can both stimulate and give a feeling of being lulled. This is illustrated in dancing. The

¹Raymond, op. cit., p. 90.

²Seashore, op. cit., p. 131.

³Ibid.

⁴Coleman, op. cit., p. 87.

rhythm of a waltz calls for action--organic movement; but once the dancing is begun the strong stimulation resolves to pleasant self-expression that is sustained by the music.

The same illustration is found in marching. When the rhythmic music is begun, a soldier is stimulated to straighten up, take firmer steps; he is all attention. When he gets into the march, he becomes oblivious to effort. The marked music swings the movement of all parts of his body, and he can march farther with less fatigue.¹

According to Seashore, "rhythmic periodicity is instinctive," and as such is of preservative value.² The importance of the instinct for rhythm for the preservation of the species can be seen in the life of primitive man. He was surrounded by animals with greater strength and agility than he possessed. Consequently, concerted action on the part of the tribal members was a necessity if the tribe survived, and concerted action is possible only when movements are conducted in a certain rhythm. In order to pull down a branch of a tree to be used in fashioning a weapon's shaft, or to pull up a stone to be sharpened into a weapon, men had to work together in rhythmic movement. All through the history of mankind, the rhythmic instinct has enabled men to work

¹Seashore, op. cit., pp. 131-132.

²Ibid., p. 132.

together, and through constant use this instinct has developed.¹

This tendency to act in rhythmic movements has a biological value also. If a person does not know where to put his hand or foot in the next movement, he will be ill at ease. However, if the movements may be foreseen and started without conscious effort, a feeling of satisfaction will prevail.

Rhythm is a matter of two fundamental powers of life-- knowing and acting. Thus the whole organism responds to rhythmic stimuli. Circulation, respiration, and all the secretions of the body are affected in such a way that an agreeable feeling is aroused. Herein we find the groundwork of emotion, for rhythm, when it is highly developed, is emotional.²

Santayana expresses his thoughts in regard to the above mentioned response thusly:

. . . but what gives music its superior emotional power is its rhythmic advance. Time is a medium which appeals more than space to emotion. Since life is itself a flux, and thought an operation, there is naturally something immediate and breathless about whatever flows and expands. The visible world offers itself to our regard with a certain lazy indifference. "Peruse me", it seems to say, "if you will. I am here; and even if you pass me by now and later find it to

¹Trotter, op. cit., p. 33.

²Seashore, op. cit., p. 133.

your advantage to resurvey me, I may still be here. The world of sound speaks a more urgent language. It insinuates itself into our very substance, and it is not so much the music that moves us as we that move with it. Its rhythms seize upon our bodily life, to accelerate or to deepen it; and we must either become inattentive altogether or remain enslaved.¹

Visual associations are aroused by rhythm. There is a tendency for self projection, through the sensory cue of hearing, into the more common fields of vision and action. For many people, the pleasure of music comes from a sense of seeing or doing something rather than through the actual rhythm.²

In an experimental study on Individual Differences in Listening to Music, Charles I. Myers deduced four types of listeners. One of these four is the associative type for whom the main appeal of the music lies in the associations which it suggests. As an illustration, one introspective report was that the listener saw himself in a Queen's Hall where a beautiful girl in a pink dress was playing the violin and another girl was accompanying her.³ In Myer's conclusion he says, "when the average person listens to music, then, associations are enjoyed for their own sake, adding enormously to the total aesthetic appreciation obtainable."⁴

¹George Santayana, "Reason in Art: Music," The Life of Reason (New York: Charles Scribner's and Sons, 1924), pp. 46-47.

²Seashore, op. cit., p. 133.

³Max Schoen, The Beautiful in Music (London: Kegan Paul, Trench, Trubner and Co. Ltd., 1928), p. 33.

⁴Ibid., p. 38.

The mastery of rhythm is progressive. Simple rhythms soon become monotonous, but the variety of rhythmic patterns that may be obtained offer endless opportunities for enriching rhythmic perception and action. "One degree of rhythmic perception acquired becomes a vantage ground from which we may approach higher levels, and each of these, in turn traversed, leads to higher vantage grounds, level after level, vista after vista."¹

For the progression in mastery of rhythm, Waterman divides her teaching procedures into three stages of progress. The first stage brings into awareness the rhythms of everyday movements; the second stage extends the awareness to less familiar movements and provides more rhythmic variation; the third stage applies rhythmic movement to the "materials of the various media of expression."²

Seashore concludes his inventory of the sources of pleasure in rhythm by saying, "The instinctive craving for the experience of rhythm results in play which is the free self-expression for the pleasure of expression." This craving makes us play, and to a large extent, determines the form of play. Through play with rhythm in music artistic forms are developed.³

¹Seashore, op. cit., p. 134.

²Elizabeth Waterman, The Rhythm Book (New York: A. S. Barnes and Company, 1936), pp. 6-7.

³Seashore, op. cit., p. 134.

According to Lundin,

. . . . rhythm must be considered both as a stimulus object and as a response of the organism. On the stimulus side, it includes such things as markings on a printed page of music, a series of auditory beats or the particular temporal pattern some tonal stimuli follow. On the response side, rhythm is both perceptual and motor.¹

In any rhythmic response the entire organism is involved. It is therefore difficult to separate the perceptual and motor reactions. "The perceptual side is emphasized when we listen to a rhythmic pattern or analyze some composition for its rhythmic content."² We find evidences of motor responses in tapping fingers to the beat of the music, and in a performance when a musician plays tones in rhythm on some instrument. The perceptual and motor activities are interdependent; listening involves motor responses, and performance necessitates a perception of the rhythmic pattern.³

One part of the rhythmic stimulus--the grouping of notes on a printed page--has been divided into basic rhythm units. Since the analysis to be made in this study is directly concerned with the unit group, a consideration of the names and characters of these groups should claim a place in the background for the analysis, and at the same time offer

¹Robert W. Lundin, An Objective Psychology of Music (New York: Ronald Press Company, 1953), p. 93.

²Ibid.

³Ibid.

clarification of the rhythmic stimulus.

Lundin lists seven basic rhythmic units with accompanying markings to denote the accented or unaccented beats. These are:

Iamb — /	Anapaest — — /
Trochee / —	Amphibrach — / —
Dactyl / — —	Tremolo — — —
	Single beat //

A unit group contains only one strong beat, and it is distinguished by its form as shown above.¹

Stetson condenses these units into five divisions which he calls the single note, the doublet, the triplet, the iamb or dotted-eighth-sixteenth, and the tremolo. His doublet is the trochee, and his triplet the dactyl.²

Rhythmic units in music almost always occur in combinations. When two or more units combine the result is a rhythmic line. It is possible to have two or more rhythmic lines occurring at the same time, resulting in polyrhythms. Although polyrhythmic structure has been a style characteristic since the primitive beginnings of music, polyrhythms are probably most obvious in modern music. In some modern music, rhythm is often given more attention than tonal patterns.

¹Ibid., p. 94.

²R. H. Stetson, "The Teaching of Rhythm," Musical Quarterly, Vol. 9, pp. 182-183.

"The rhythmic response is a perceptual-motor one.

The perceptual side is evident when one observes or listens to the various groupings of the rhythmic stimuli."¹ This response need not be entirely in the organism. At a concert there will be people tapping fingers lightly, nodding slightly, or moving programs in time to the music. Many responses cannot be observed, because they are slight muscular movements hidden by an article of clothing.

The complex behavior of a drummer illustrates the overt motor rhythmic response as well as a perceptual reaction to the notation of the printed score. His entire organism is involved.

"The rhythmic response is an organizational one. The perceptual organization of separate rhythmic stimuli involves also a differentiation of stimuli."² The organizational nature of rhythm is demonstrated when we listen to a series of clicks spaced at regular intervals. We tend to perceive these in groups with a definite accent at regular intervals. Seashore has called this organization to beats "subjective rhythm", and claims that it is inherent.³ Lundin contends that the ability to organize a series of equally spaced sounds into groups is dependent on learning.

¹Lundin, op. cit., p. 97.

²Ibid., p. 98.

³Seashore, op. cit., p. 127.

The term "objective rhythm" is used in referring to the organization of stimuli by accentuation. Accentuation is a result of "increasing the intensity of one of the members of the rhythmic group, by prolonging one of the beats, or by changing the quality of one of the tones." Accentuation organizes the stimuli in the groupings that might be desired.¹

Henderson substantiates Lundin's contention that musical ability can improve with training. He studied the problem of training in rhythmic performance. For his experiment he used a Seashore rhythm meter. This meter, developed by Robert Seashore consists of a metal disk on a turntable. Attachments on this turntable provide contacts for establishing any desired rhythmic pattern within a revolution of the disk. The subject is asked to follow or reproduce the rhythm by tapping on a telegraph key with a goal of making the telegraph clicks coincide with the stimulus. Henderson's results show that although there were individual differences in ability at the start of the experiment, as a group they made distinct progress over five days of practice.²

According to Wundt, the feeling of rhythm is a psychological motive in musical composition. It is characterized by the elements of both expectation and satisfaction. "The

¹Lundin, op. cit., pp. 98-99.

²Ibid., p. 103.

regular repetition in rhythmical sense-excitation makes us expect every succeeding stimulation, and the expectation is immediately followed by satisfaction." This statement is applicable to pleasant rhythms. Each rhythmic stimulus arouses the expectation of the one to follow, and at the same time it satisfies the expectation aroused by its predecessor. Therefore, rhythm never involves strain. If strain does occur, the rhythm is simply "bad rhythm." "Rhythm is an emotion compounded of the emotions of expectation and satisfaction. A broken rhythm is emotionally identical with disappointment."¹

Hevner's experiments dealing with the problem of meaning in music, or with the "affective value and expressiveness of music" included a study of rhythm. In order to maintain the maximum amount of objectivity in the description of expressions, Hevner used a circle of adjectives. This circle was made up of eight lists of words that might be used in describing music, with the words in each section closely related in meaning. The observer was asked to check the adjective that described his judgment of the rhythmic meaning.

In regard to rhythm, Hevner concluded that firm rhythms are

. . . . vigorous and dignified; flowing rhythms are happy, graceful, dreamy, and tender, and neither is

¹Wilhelm Wundt, Human and Animal Psychology (London: Swan Sonnenschein and Company Ltd., 1894), p. 376.

particularly useful in determining such characteristics as excitement, satisfaction, and serenity.¹

In an "Experimental Study of the Nature of Musical Enjoyment," Gatewood points out that all musical enjoyment is derived from one of four sources:

- (1) physical, in terms of movement, felt to be either in the observer himself or in the music; (2) a simple feeling of satisfaction not otherwise defined, usually dependent upon a quietly moving melody; (3) associational, which includes emotions and memories, and
- (4) ideational, which includes interest in, or analysis of, the composition, its interpretation or technique.²

In her study, she compared the four elements of music, rhythm, melody, harmony, and timbre with the above mentioned sources of musical enjoyment; she then compared the sources of enjoyment and the elements of music with the reported effects of the music on the listener.

Ten phonograph records were used in the experiment. Thirty-five young women participated as observers. On the basis of plurality score, rhythm was the outstanding feature of four selections, with one selection classed dominant over melody by only one score. In an analysis of the individual relationships between the rhythm and the emotional effect, thirty-five out of eighty-seven recordings of rhythm were

¹Kate Hevner, "Experimental Studies of the Elements of Expression in Music," American Journal of Psychology, Vol. 48, pp. 246, 268.

²Esther L. Gatewood, "An Experimental Study of the Nature of Musical Enjoyment," The Effects of Music (New York: Kegan, Paul, Trench, Trubner and Co. Ltd., 1927), p. 104.

combined with the word "happy" and thirty-three recordings were combined with "excited" and "stirred".

In determining the relation of the four musical elements to the basic sources of musical effect, the consistency of scores was pronounced. In almost every instance there was a relation between rhythm and physical effect; rhythm was connected with movement. In the relationship between melody and sources of effect, rhythm was almost as dominant as melody, for "there is no melody without it."¹

In her conclusion, Gatewood says, "Marked rhythm as an element in music is the chief factor in arousing the feeling of happiness and the feeling of excitement or stir."²

A study similar to Gatewood, was made by Washburn and Dickenson. Their object was to note the comparative frequency with which rhythm, melody, design, harmony, and tone color were mentioned as contributing to the enjoyment of instrumental music. Their results indicated that melody was in general the most noticeable source of pleasure, with rhythm next.³

The emotional attributes inherent in rhythm are clearly demonstrated in the mass hysteria present in the recordings of primitive peoples and a similar mass hysteria of a modern "jam-

¹Ibid., p. 110.

²Ibid., p. 115.

³Schoen, The Beautiful in Music, pp. 98-99.

session". The reasons back of all this rhythmic excitement is not always understood; Schullian and Schoen present an explanation. They define rhythm as "the combination or subdivision of time units within fixed metric patterns." It is to these "temporal relationships within a metric design that music owes a large part of its ability to produce effects which are soothing or exhilarating, quieting or disturbing."¹

The principles set up by Schullian and Schoen regarding the effects of rhythm are:

First, everything else being equal, the further the tempo is accelerated from the pulse rate toward the upper limit of practical tempo the greater becomes the emotional tension. Second, as long as the subdivisions of the metric units are regular and the accents remain strictly in conformity with the basic pattern, the effect may be exhilarating but will not be disturbing. Third, rhythmic tension is heightened by the extent to which the dynamic accent is misplaced in terms of the metric accent. Fourth, the emotional effect of "off-balance" accents is greatly heightened by an increase in dynamic power.²

Barris states that an accent in a normal place does not add energy to the music; an accent on the second beat is more energizing; while an accent between the first and second beats gives music the greatest amount of energy.³

Rhythm in music has an inimitable strength. One

¹Dorothy M. Schullian and Max Schoen, Music and Medicine (New York: Henry Schuman Inc., 1948), p. 259.

²Ibid., p. 260.

³Chester Barris, "Rhythm Puts Life into Music," Etude, Vol. 70, p. 15.

evidence of this strength is shown when a person unconsciously marks time to music heard in the distance while he is engaged in something near at hand, such as conversation. It is also shown in the fact that a decided rhythmic motive established in a piece of music will be recalled immediately later in the music when the rhythm is repeated with a melodic inversion.

The impression of time is so strong in music that the pulsation of the rhythm is the one and single element of unity between the different movements of sonatas, symphonies, etc., where there is no repetition of key, no repetition of motives out of the other parts of the work, and nothing apparently upon which an impression of unity can base itself.¹

Matthews says there can be no unity between movements of a sonata without a physical basis "through which it could impress itself upon the attending consciousness. In this case that element is the pulsation of time."²

In an experiment to determine the "immediate and long-time effects of classical and popular phonograph selections" on an unselected group of college undergraduates, Gilliland and Moore say:

Two educational conclusions seem to be implied by our results. The first is that since the strongly marked rhythm of street music has such an immediate stimulating value, it is important to select as our first music for the child of the musically immature pieces that have a strongly marked rhythm, as well as melodic, harmonic, or structural merit. It is

¹W. S. B. Matthews, New Music Miscellanies, Vol. II (Philadelphia: Theodor Presser, 1904), p. 89.

²Ibid., p. 90.

rhythm that will first get the child's spontaneous attention, and the other musical values will gradually unfold themselves to him as he hears the selection repeatedly.¹

The influence of rhythm was responsible for developing a new style of music in America that has now spread throughout Western civilization. Copland emphasizes the importance of rhythm in American music when he says, "There seems to be no doubt that if we are to lay claim to thinking inventively in the music of the Americas our principal stake must be a rhythmic one."²

In establishing the source of our American rhythms, many authorities agree that they are partly African and partly Spanish in origin. However, since Spain and Portugal have not produced anything like the rhythmic developments of the Western countries, "it is natural to conclude that we owe the vitality and interest of our rhythms in a large measure to the Negro in his new environment."³

Sachs substantiates this conclusion in his statement that the "driving force of Afro-American music got its momentum in the South of the United States."⁴

¹A. R. Gilliland and H. T. Moore, "The Immediate and Long-Time Effects of Classical and Popular Phonograph Selections," The Effects of Music, Max Schoen (ed.). (London: Kegan Paul, Trench, Trubner and Co. Ltd., 1927), p. 220.

²Aaron Copland, Music and Imagination (Cambridge: Harvard University Press, 1953), p. 83.

³Ibid., p. 84.

⁴Curt Sachs, Rhythm and Tempo (New York: W. W. Norton and Company, 1953), p. 365.

Around 1890 a certain style was developed out of the cake-walks, jigs and buck-and-wings known as "ragtime" or literally, "time in tatters". Ten years later John Philip Sousa took his well trained band on a world tour and "ragtime" began to conquer Europe.¹ However, "ragtime" is essentially music for the piano.

Chase describes ragtime as "the application of systematic syncopation to piano playing and composition. More precisely, it consists basically of a syncopated melody played over a regularly accented beat ($\frac{2}{4}$ time) in the bass."²

Ragtime was the source of those musical styles known as blues, hot jazz, sweet jazz, swing, and fox trot. "Jazz has never been, and probably cannot be, properly defined."³ It is characterized by four even quartered beats in each measure counterbalanced by various styles of irregularities.

The most fascinating irregularity very frequent in ragtime, negro spirituals, and jazz proper, is notated as a $\frac{1}{4}$ measure with a tie that connects the fourth and fifth eighth note. Thus it bridges the center of the measure, and destroys its two-times-two structure.⁴

This is recognized as a typical fox trot rhythm.

¹Ibid., p. 365.

²Gilbert Chase, America's Music (New York: McGraw-Hill Book Company, Inc., 1955), pp. 438-439.

³Sachs, op. cit., p. 365.

⁴Ibid., p. 367.

One offshoot of this development of rhythmic styles has been an unusual interest in percussive sounds, as such. The percussion sections of orchestras have grown from a few elementary instruments to a whole battery of noise-making instruments. Contemporary composers are writing music for percussion instruments alone, thus assisting in the development of American rhythms.¹

Heinlein's study of the motor responses of pre-school children shows the difficulty of ascertaining the rhythmic nature of children through simple observation. He found that observers in attempting to compare and relate visual and auditory stimuli would project their own attitudes in their observations. If the observer is playing a piano accompaniment for rhythmic responses, his sensorial projection is greater. His music will, in a short time, be synchronized with the movements of the children instead of the children's movements occurring with the rhythm of the music. This leads to the illusion that children are keeping in exact time with the music.

In order to get an exact record of the rhythmic tendencies of children marching to a musical pattern, Heinlein devised an instrument for an exact recording "of the musical pattern, of the reaction of the subject, of the judgments of

¹Copland, op. cit., p. 88.

an observer, and of the time value of these several respective functions."¹ Further reading for the detailed description of this instrument will be interesting and profitable. Here, it is sufficient to describe one part: that which recorded the children's movements. Children were asked to walk in time with the music across a runway which had electric contacts to record their steps after they had received special training in rhythmic physical response. In Heinlein's analysis of the records, he found that only "two children out of a total of eight gave any evidence of an ability to synchronize their foot movements with the musical beat."² In regard to the rhythmic capacities of several children, the results obtained from the exact measurement did not agree in several instances with the judgment made by observers.³

Rhythm as the control element in music commands a place of importance in the music program of the school. Rhythm as a basis of life commands a place of importance in the development of the individuality. The school of today is interested in the "self". "Education is to produce the freeing attitude of assurance, feelings of personal signifi-

¹Christian Paul Heinlein, "A New Method of Studying the Rhythmic Responses of Children Together with an Evaluation of the Method of Simple Observation," Pedagogical Seminary and Journal of Genetic Psychology, Vol. 36, p. 206.

²Ibid., p. 215.

³Ibid.

cance." One aim of the school is to help the child adjust "the personal rhythm of his own activities with the larger stride of the social rhythm."¹

Perham says,

The modern school sees the educative process as an unfolding of child personality, a matter of continuous growth throughout the school years. The experiences of the elementary school are truly educative, and should in no way be regarded as a preparation for later work, except as they form a basis for the reconstruction of new experiences on progressively higher levels.²

"All musical activities, experiences, endeavors, and learnings should be thought of and planned as episodes in a process of musical growth."³ Singing a rote song, listening, engaging in rhythmic activities etc., should develop musical responsiveness. This is the process of musical growth--the heart of a well organized plan of music education.⁴

In planning for musical growth, it should be recalled that music is both a bodily and a mental experience. The whole organism is involved--a moving, feeling, and thinking organism.⁵ Music provides an experience in which "bodily

¹Rugg and Schumaker, op. cit., p. 165.

²Beatrice Perham, Music in the New School (Chicago: Neil A. Kjos Music Co., 1937), p. 22.

³James L. Mursell, Education for Musical Growth (New York: Ginn and Co., 1948), p. 3.

⁴Ibid.

⁵Perham, op. cit., p. 22.

movement, and mental and emotional apprehension are integrated."¹

The element of rhythm with its place in musical responsiveness--or musical growth--should be considered here. If all tonal elements are stripped from a piece of music the rhythmic pattern would be left. This is a "pattern of stresses and releases of various intensities, and of durations and pauses of varying lengths." These arrangements of stress, release, and duration may appear with regularity, but they are not repeated with the same intensity. Some arrangements may appear irregularly only once or twice, yet they are rhythmic entities. Thus "rhythm is a pattern of stress, release, duration, and pauses organized for an expressive purpose."²

A response to rhythm is, then, a response to an "expressive" pattern of stress, release, duration, and pause. This should determine the educational approach to it. A mathematical approach cannot evoke the desired response.³

Emile Jacques-Dalcroze developed his system of rhythmic training to assist his music students in making a satisfactory approach to music. He considered rhythm the "most potent element in music, and the nearest related to life."⁴

¹Mursell, Human Values in Music Education, p. 51.

²Mursell, Education for Musical Growth, pp. 43-44.

³Ibid., p. 44.

⁴Emile Jacques-Dalcroze, Rhythm, Music and Education (New York: G. P. Putnam's Sons, 1921), p. 115.

The aim of the bodily education, which he called Eurhythmics, was

. . . . to enable pupils at the end of their course to say, not "I know", but "I have experienced", and so create in them the desire to express themselves; for the deep impression of an emotion inspires a longing to communicate it, to the extent of one's powers, to others. The more we have of life, the more we are able to diffuse life about it. "Receive and grow!" is the golden rule of humanity; and if the whole system of rhythmic training is based on music, it is because music is a tremendous psychic force; a product of our creative and expressive functions that, by its power of stimulating and disciplining is able to regulate all our vital functions.¹

Dalcroze's theories of rhythmic training have had a notable influence on musicians both in Europe, where they originated, and in America.

Coleman says that "the foundation of music is rhythm, and as everyone knows, the feeling for rhythm must first find expression through the body." Before a child can sing rhythmically or play an instrument rhythmically, he must feel the rhythm physically.²

While rhythm is in a sense the most basic of all the elements of music, it nevertheless remains the most difficult to achieve. Correct time may be achieved in the classroom's music while rhythm is left out completely. Rhythm--true rhythm--is not a "deadening thump; but the organization and

¹Ibid., p. 119.

²Coleman, op. cit., p. 82.

differentiating of groups of beats of heavy and soft accents, and the measuring of members, one in relation to another."¹

It has been found that some teachers "allow just anything" in the way of rhythm until the pitches of the notes have been learned; then they try to straighten out "the time". Sometimes they never try to correct it at all. This indicates that in many schools, and with many teachers, rhythm holds a place of less importance than pitch. Pitch and rhythm are both of utmost importance; everything in the music will be wrong unless both are correct. "Any mistake is better than a mistake in rhythm." Rhythm should come before everything.²

Williamson points out a similar laxity in training choral singers. "The deadening result of choral music when every individual counts and keeps 'perfect' time without a thought of rhythm is the thing that makes choral music more objectionable than anything else." If rhythm is established, there is a feeling of forward movement, and the music becomes a "living, pulsating thing, which brings joy or sorrow, gladness or pain to the listener."³

¹Dudley and Faricy, op. cit., p. 314.

²Parks Grant, Music for Elementary Teachers (New York: Appleton-Century-Crofts Inc., 1951), p. 64.

³John Finley Williams, "Rhythm Makes the Music Go," Etude, Vol. 69, p. 18.

Great conductors of choirs will forgive an occasional bad pitch, but they will not tolerate bad rhythm. Bad rhythm brings a chaotic result, and if "faulty rhythm continues, the performance is sure to disintegrate."¹

According to Revelli, rhythm is the most deficient element in the performances of school bands, for this phase of the teaching program seldom receives the "proper emphasis or attention." Rhythm molds the melody into musical thought; a series of tones without rhythm is meaningless. Rhythm with tone may become monotonous, but it maintains form and meaning. Thus, rhythm is a vital element in a successful performance.

While tone, intonation and technical facility are indispensable to the effective rendition of a musical composition, rhythm is its very life, and only through its proper presentation can the composition be made to achieve its true musical meanings.²

To teach rhythm to young pianists, Gehrken suggests singing more difficult rhythms many times, and then present the notation for those rhythms. Playing the notation follows. He stresses the fact that the "arithmetic" of rhythms should never be explained until after the singing and playing of them.³ He points up that a

. . . . sense of rhythm implies the ability to accurately repeat rhythmic figures upon hearing

¹Ibid.

²Revelli, op. cit., pp. 19, 56.

³Karl W. Gehrken, "How to Teach Rhythm," Etude, February, 1952, p. 21.

them once; it includes the power to maintain a given tempo without either hurrying or retarding; and it implies ease in learning to associate the symbols of rhythm with rhythm itself.¹

Rhythm has a certain independence in its nature that is not common to the other elements of music. It can exist by itself when the other elements are eliminated. "This independence of rhythm ought to mean that it can be taught as an independent factor." Thus, any rhythmic problems in a performance may be mastered apart from other difficulties that might occur.² In overcoming rhythmic difficulties, the performer should not forget the "basic law of rhythm--all rhythm is motion."³ Rhythm is not properly apprehended by getting each of its constituent parts just right, and then putting them together. "It should be approached as one movement."⁴

When performers "bring out the rhythm of a composition the effectiveness and enjoyableness of their performance are enhanced both for them and for any auditors they may have."⁵

¹Karl W. Gehrken, An Introduction to School Music Teaching (Boston: C. C. Birchard and Co., 1927), p. 93.

²Stetson, op. cit., p. 181.

³Sol Babitz, "Teaching Rhythm to Instrumental Beginners," Etude, March, 1953, p. 16.

⁴Mursell, Human Values in Education, p. 127.

⁵James L. Mursell, Music and the Classroom Teacher (New York: Silver Burdett Co., 1951), p. 253.

It is the responsibility and the duty of the music teacher to "see to it that a child's musical education includes a thorough background and training in physical response to all rhythmic patterns--plus the ability to read accurately these same musical patterns."¹

¹Revelli, op. cit., p. 57.

CHAPTER IV

ANALYSIS OF TEXTS

For the analysis of the rhythms of Books IV, V, and VI of the state adopted textbooks for music in Texas, the measure was arbitrarily chosen. This choice was made for the following reasons: first, the measure provides a rhythmic pattern reduced to a standard form; second, it provides a finite area for numerical checking; and third, it furnishes a working base for any further study of extended rhythmic patterns.

Four series of books were used in this analysis: The American Singer, hereafter designated A; Our Singing World, designated B; New Music Horizons, designated C; A Singing School, designated D. The analysis is divided into three sections called Book IV, Book V and Book VI. The Roman numerals of these headings specify the grade level stipulated by the editors for the use of each book in each series. Each section presents all the rhythmic patterns found in each book of the series for the stipulated grade. The number of songs containing the presented pattern in each book of the series is then tabulated under its designated letter. Parentheses around numbers in this tabulation mark patterns that have been presented previously in the series. At the end of the patterns listed under each signature, the number of frequencies have

been totaled. This is followed by a total of the new patterns presented for the first time in all series.

Tables I, II, and III present a summary of Books IV, V, and VI. These tables show the total number of patterns presented under each signature and the total number of frequencies in each book of the series.


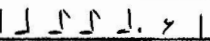
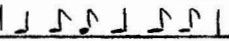
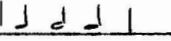
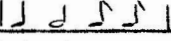
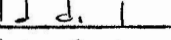
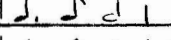
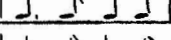
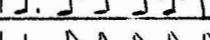
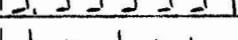
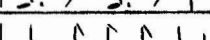
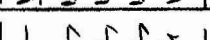
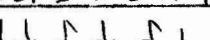
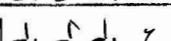

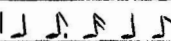
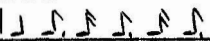
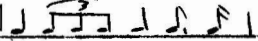
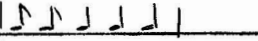
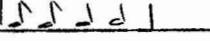
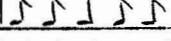
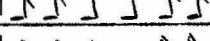
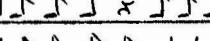
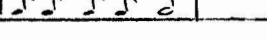

Table IV is a tabulation of new rhythms. (A new rhythm is one that has not appeared previously in the series.) This tabulation shows the number of new patterns presented in each of the four series.

Table V is a tabulation of those new rhythms that are presented for the first time in all series.

Signature	Pattern	A	B	C	D	Tot.
Rhythm 1	o	4	7	12	11	34
"	2 d d	8	7	25	17	57
"	3 d =	1	2	5	5	13
"	4 d d d	6	12	14	13	45
"	5 d x d	1	2	4	7	14
"	6 d d x	2	0	1	2	5
"	7 d d d d	1	1	6	1	9
"	8 d d. d	2	2	1	1	6
"	9 d x d d	1	1	2	1	5
"	10 d d d d d	1	0	0	1	2
"	11 d d. x d	0	1	0	0	1
"	12 d d. x d	0	0	0	1	1
"	13 d. d	7	5	16	10	38
"	14 d. x	9	5	3	4	21
"	15 d. d d	2	5	2	4	13
"	16 d. x d	0	0	1	1	2
"	17 d. d. d	0	1	1	0	2
"	18 d d d d	28	30	59	46	163
"	19 d d d x	0	2	8	2	12
"	20 d x d d	1	0	0	0	1
"	21 d d x d	0	0	0	5	5
"	22 d d =	0	0	1	0	1
"	23 d x d x	2	1	0	1	4
"	24 d x d d x	0	1	0	0	1

Signature	Pattern	A	B	C	D	Tot.
Rhythm 25	1 x =	0	0	0	1	1
" 26	x 1 1 x	0	1	0	0	1
" 27	1 1 1	5	7	18	20	50
" 28	1 1 1 1 1	6	7	16	13	42
" 29	1 1 1 1 1	2	1	6	2	11
" 30	1 1 1 1 1 1	4	1	7	5	17
" 31	1 1 1 1 1 1	1	1	0	0	2
" 32	1 1 1 1 1 1	0	1	0	0	1
" 33	1 1 1 1 1 1	1	1	0	0	2
" 34	1 x x 1 1	0	1	0	0	1
" 35	1 1 x 1 1	0	0	2	0	2
" 36	1 x x 1 1	0	0	1	0	1
" 37	1 x x 1	0	0	0	1	1
" 38	1 x 1 1 1 1	0	0	0	1	1
" 39	1 1 1 1 1	3	4	5	9	21
" 40	1 1 1 1 1	0	0	4	1	5
" 41	1 1 1 1 1 1	0	0	0	1	1
" 42	1 1 1 1 1 1	1	0	1	3	5
" 43	1 1 1 1 1	2	4	7	4	17
" 44	1 1 1 1 1	5	7	12	14	38
" 45	1 1 1 1 1 1	1	5	2	5	13
" 46	1 1 1 1 1 1	2	3	8	1	14
" 47	1 1 1 1 1 x	0	0	1	0	1
" 48	1 1 1 1 1	2	1	0	1	4

Book IV, continued

 Signature	Pattern	A	B	C	D	Tot.
Rhythm 49		0	1	0	0	1
" 50		3	5	11	11	30
" 51		0	1	3	2	6
" 52		1	0	0	3	4
" 53		0	0	0	1	1
" 54		3	3	3	1	10
" 55		13	11	12	7	43
" 56		3	1	1	2	7
" 57		1	2	1	2	6
" 58		1	0	0	0	1
" 59		0	1	1	1	3
" 60		0	0	1	0	1
" 61		0	1	2	0	3
" 62		0	0	1	0	1
" 63		1	0	0	0	1
" 64		1	0	0	0	1
" 65		0	1	0	0	1
" 66		1	0	0	0	1
" 67		1	1	1	1	4
" 68		0	1	0	0	1
" 69		1	4	5	1	11
" 70		0	2	1	0	3
" 71		0	0	0	1	1
" 72		2	3	2	5	12

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 73	♪ ♪ ♪ ♪ ♪ ♪	3	5	5	11	24
" 74	♪ ♪ ♪ ♪ ♪ ♪ ♪	1	2	3	15	21
" 75	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	2	1	4	7
" 76	♪ ♪ ♪ ♪ ♪ ♪ ♪	1	3	0	1	5
" 77	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	1	0	2
" 78	♪ ♪ ♪ ♪ ♪ ♪ ♪	1	2	3	2	8
" 79	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	1	2
" 80	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	3	3	0	6
" 81	♪ ♪ ♪ ♪ ♪ ♪ ♪	3	10	5	10	28
" 82	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	2	0	2
" 83	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	1	1	3
" 84	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	1	2
" 85	♪ ♪ ♪ ♪ ♪ ♪ ♪	1	0	0	0	1
" 86	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 87	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 88	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 89	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 90	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 91	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	1	0	2
" 92	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	1	0	2
" 93	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	1	0	2
" 94	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 95	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 96	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 97		0	2	0	0	2
" 98		0	1	0	0	1
" 99		0	1	1	1	3
" 100		0	2	1	0	3
" 101		0	0	0	2	2
" 102		0	1	0	0	1
" 103		0	1	0	0	1
Total		153	214	327	304	998

3 4 Signature						
Rhythm	1 d .	22	24	18	26	90
"	2 d x	2	5	12	13	32
"	3 d d	24	23	30	34	111
"	4 d d	2	4	3	5	14
"	5 d d d	2	8	2	8	20
"	6 d d . d	2	1	2	0	5
"	7 d d d	29	28	36	40	133
"	8 d d x	4	3	1	3	11
"	9 d x d	2	4	7	4	17
"	10 x d d	0	1	1	0	2
"	11 d x x	6	2	4	2	14
"	12 d d d d	6	9	1	10	26
"	13 d d x d	1	1	0	0	2
"	14 d x x d	0	1	0	0	1
"	15 d x d d	0	1	0	1	2

Book IV, continued

³ ₄ Signature	Pattern	A	B	C	D	Tot.
Rhythm 40	1 1 1 1	1	0	0	0	1
Total		151	157	141	190	639

⁶ ₈ Signature						
Rhythm 1	1	1	10	4	4	19
"	2 1 1 1 1	1	2	1	4	8
"	3 1 1 1	5	11	7	10	33
"	4 1 2 1	0	2	1	2	5
"	5 1 1 1	11	11	4	5	31
"	6 1 1 2	1	6	2	2	11
"	7 1 2 1 2	0	1	0	0	1
"	8 1 1 2 1	0	2	1	6	9
"	9 1 1 1 1	11	21	6	5	43
"	10 1 1 2	3	12	3	3	21
"	11 1 1 1 1 1	1	2	0	0	3
"	12 1 1 2 1 1	0	3	0	4	7
"	13 1 1 1 1	4	3	0	1	8
"	14 1 1 1 1 1	1	3	1	1	6
"	15 1 1 2 2	0	3	0	2	5
"	16 1 1 1 1 1 1	4	15	6	9	34
"	17 1 1 1 1	10	8	5	2	25
"	18 1 1 1 1 1	19	27	10	17	73
"	19 1 1 1 2	1	3	2	0	6
"	20 1 1 1 1 1 1	1	2	1	0	4
"	21 1 1 1 1 1 1	0	2	0	0	2

Book IV, continued






















































































$\frac{6}{8}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 22	♩ ♩ ♩ ♩	0	2	0	0	2
" 23	♩ ♩ ♩ ♩	0	1	0	0	1
" 24	♩ ♩ ♩ ♩	0	2	0	0	2
" 25	♩ ♩ ♩ ♩	0	1	1	1	3
" 26	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 27	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 28	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 29	♩ ♩ ♩ ♩ .	3	6	4	4	17
" 30	♩ ♩ ♩ ♩ ♩	14	21	8	14	57
" 31	♩ ♩ ♩ ♩ ♩ ♩	2	1	1	1	5
" 32	♩ ♩ ♩ ♩ ♩ ♩	14	18	7	13	52
" 33	♩ ♩ ♩ ♩ .	1	1	0	0	2
" 34	♩ ♩ ♩ ♩ ♩	0	3	2	0	5
" 35	♩ ♩ ♩ ♩ ♩	1	2	0	1	4
" 36	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 37	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 38	♩ ♩ ♩ ♩ .	0	1	0	0	1
" 39	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	2	3
" 40	♩ ♩ ♩ ♩ ♩ ♩	1	1	0	0	2
" 41	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	1	2
" 42	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 43	♩ ♩ ♩ ♩ ♩	0	5	1	2	8
" 44	♩ ♩ ♩ ♩	0	1	0	0	1
" 45	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1

Book IV, continued

⁶ / ₈ Signature	Pattern	A	B	C	D	Tot.
Rhythm 46	♩ ♩ ♩ ♩ ♩ ♩	0	4	0	0	4
" 47	♩ ♩ ♩ ♩ ♩ ♩	0	2	0	0	2
" 48	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 49	♩ ♩ ♩ ♩ ♩ ♩	1	1	1	0	3
" 50	♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 51	♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 52	♩ ♩ ♩ ♩ ♩ ♩	1	0	2	0	3
" 53	♩ ♩ ♩ ♩ ♩ ♩	1	0	1	1	3
" 54	♩ ♩ ♩ ♩ ♩ ♩	1	0	1	0	2
" 55	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 56	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 57	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 58	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 59	♩ ♩ ♩ ♩ ♩ ♩	1	0	0	1	2
" 60	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 61	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 62	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 63	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 64	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 65	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	4	4
" 66	♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 67	♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 68	♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 69	♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1

Book IV, continued

$\frac{6}{8}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 70		1	0	0	0	1
Total		120	232	85	131	568

2 4 Signature						
Rhythm	1					
	19		19	14	11	63
"	2		 			
	19		27	27	19	92
"	3		  			
	7		14	8	11	40
"	4		   			
	4		4	3	1	12
"	5		   			
	9		11	15	12	47
"	6		   			
	4		6	3	4	17
"	7		   			
	3		0	0	2	5
"	8		  			
	10		7	14	9	40
"	9		   			
	1		2	0	2	5
"	10		  			
	3		0	1	3	7
"	11		    			
	41		38	22	30	131
"	12		    			
	4		4	0	4	12
"	13		   			
	14		28	18	18	78
"	14		     			
	1		1	1	0	3
"	15		    			
	2		6	1	4	13
"	16		   			
	3		8	5	3	19
"	17		  			
	1		1	4	0	6
"	18		     			
	1		1	0	1	3
"	19		    			
	2		4	4	1	11
"	20		   			
	2		2	1	1	6
"	21		     			
	1		2	0	0	3

Signature	Pattern	A	B	C	D	Tot.
Rhythm 22	♩ ♩ ♩ ♩	1	7	2	1	11
"	23 ♩. ♩ ♩ ♩	3	8	2	8	21
"	24 ♩ ♩ ♩ ♩ ♩. ♩	1	0	0	1	2
"	25 ♩ ♩ ♩ ♩	0	2	0	0	2
"	26 ♩ ♩ ♩ ♩	0	1	0	2	3
"	27 ♩ ♩ ♩	0	3	0	0	3
"	28 ♩ ♩ ♩	0	1	0	0	1
"	29 ♩ ♩ ♩ ♩ ♩	0	5	0	2	7
"	30 ♩ ♩ ♩ ♩ ♩ ♩	0	2	0	0	2
"	31 ♩ ♩ ♩ ♩.	0	2	0	0	2
"	32 ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
"	33 ♩ ♩ ♩	0	2	0	0	2
"	34 ♩ ♩ ♩	0	1	0	0	1
"	35 ♩ ♩ ♩	0	1	0	0	1
"	36 ♩ ♩ ♩ ♩	0	1	0	0	1
"	37 ♩ ♩ ♩ ♩	0	1	0	0	1
"	38 ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
"	39 ♩ ♩ ♩ ♩	0	1	1	0	2
"	40 ♩ ♩ ♩ ♩ ♩	0	2	2	1	5
"	41 ♩ ♩ ♩ ♩ ♩ ♩	0	4	4	3	11
"	42 ♩ ♩ ♩ ♩	0	1	0	0	1
"	43 ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
"	44 ♩ ♩. ♩ ♩ ♩	0	1	0	0	1
"	45 ♩ ♩ ♩ ♩	0	1	0	0	1

Book IV, continued

$\frac{2}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 46	♪ ♪. ♪ ♪.	0	1	0	0	1
" 47	♪ ♪ ♪ ♪ ♪	0	2	1	2	5
" 48	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	1	0	2
" 49	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	1	2
" 50	♪ ♪ ♪.	0	0	1	0	1
" 51	♪ ♪. ♪	0	0	1	0	1
" 52	♪ ♪ ♪ ♪	0	0	1	1	2
" 53	♪ ♪. ♪ ♪	0	0	1	0	1
" 54	♪ ♪ ♪ ♪ ♪.	0	0	1	0	1
" 55	♪ ♪ ♪	0	0	1	0	1
" 56	♪ ♪ ♪ ♪	0	0	1	1	2
" 57	♪ ♪ ♪	0	0	1	0	1
" 58	♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 59	♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 60	♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 61	♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 62	♪ ♪ ♪ ♪	0	0	2	0	2
" 63	♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 64	♪ ♪ ♪ ♪	0	0	1	0	1
Total		156	240	170	159	725

Signature									
Rhythm	1		♩. ♩		0	2	0	2	4
"	2		♩. ♩		0	2	0	7	9
"	3		♩. ♩ ♩		0	2	0	3	5

Book IV, continued

Signature	Pattern	A	B	C	D	Tot.
Rhythm 28		0	2	0	1	3
" 29		0	2	0	0	2
" 30		0	1	0	0	1
" 31		0	1	0	0	1
" 32		0	1	0	0	1
" 33		0	1	0	0	1
" 34		0	1	0	0	1
" 35		0	3	0	1	4
" 36		0	2	0	2	4
" 37		0	3	0	0	3
" 38		0	1	0	0	1
" 39		0	1	0	0	1
" 40		0	4	0	2	6
" 41		0	1	0	0	1
" 42		0	2	0	0	2
" 43		0	1	0	0	1
" 44		0	1	0	1	2
" 45		0	1	0	0	1
" 46		0	0	0	6	6
" 47		0	0	0	1	1
" 48		0	0	0	1	1
" 49		0	0	0	1	1
" 50		0	0	0	2	2
" 51		0	0	0	1	1

Signature	Pattern	A	B	C	D	Tot.
Rhythm 52	$\underline{\text{J.}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	1	1
" 53	$\underline{\text{J.}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	1	1
" 54	$\underline{\text{J.}}$ $\underline{\text{y}}$ $\underline{\text{J}}$	0	0	0	1	1
" 55	$\underline{\text{J}}$ \times $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	1	1
" 56	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	3	3
" 57	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J.}}$ $\underline{\text{J}}$	0	0	0	1	1
" 58	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	1	1
" 59	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	2	2
" 60	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	1	1
" 61	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ \times	0	0	0	1	1
" 62	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{y}}$ $\underline{\text{J}}$	0	0	0	1	1
" 63	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	1	1
" 64	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	0	0	2	2
Total		0	90	0	121	211

 $\frac{3}{8}$ Signature

Rhythm 1	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	2	2	0	4
" 2	$\underline{\text{J}}$ $\underline{\text{J}}$	0	2	2	0	4
" 3	$\underline{\text{J.}}$	0	2	2	0	4
" 4	$\underline{\text{J}}$ $\underline{\text{y}}$	0	1	1	0	2
" 5	$\underline{\text{J.}}$ $\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{J}}$	0	1	0	0	1
" 6	$\underline{\text{J}}$ $\underline{\text{J}}$ $\underline{\text{y}}$	0	0	1	0	1
Total		0	8	8	0	16

 $\frac{3}{2}$ Signature

Rhythm 1	$\underline{\text{O}}$ $\underline{\text{J}}$	0	0	0	1	1
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$\frac{3}{2}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 2	0 1 1 1	0	0	0	1	1
"	3 1 1 1 1	0	0	0	1	1
"	4 0. 1	0	0	0	1	1
"	5 1 - 1 1	0	0	0	1	1
"	6 1 1 1 1 1	0	0	0	1	1
"	7 1 1 1 1 1 1 1	0	0	0	1	1
Total		0	0	0	7	7
Total Number of Rhythms, Books IV--354						

Signature	Pattern	A	B	C	D	Tot.
Rhythm 1	0	(1)	(10)	(12)	(16)	39
"	2 0 0	(6)	(12)	(16)	(22)	56
"	3 0 0 0	(2)	(2)	(2)	(7)	13
"	4 0 0 0 0	(3)	(9)	(13)	(8)	33
"	5 0 0 0 0 0	(2)	(4)	(3)	(5)	14
"	6 0 0 0 0 0 0	(2)	(1)	(3)	0	6
"	7 0 0 0 0 0 0 0	(1)	(0)	(3)	(1)	5
"	8 0 0 0 0 0 0 0 0	0	0	0	1	1
"	9 0 0 0 0 0 0 0 0 0	(0)	(3)	(3)	(4)	10
"	10 0 0 0 0 0 0 0 0 0 0	(1)	(3)	(5)	(1)	10
"	11 0 0 0 0 0 0 0 0 0 0 0	(1)	5	0	(0)	6
"	12 0 0 0 0 0 0 0 0 0 0 0 0	0	1	0	0	1
"	13 0 0 0 0 0 0 0 0 0 0 0 0 0	0	(1)	0	(2)	3
"	14 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0	0	1	1
"	15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(1)	(10)	(14)	(20)	45
"	16 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(8)	(9)	(7)	(11)	35
"	17 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(1)	(6)	(3)	(7)	17
"	18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0	(2)	(0)	2
"	19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0	1	0	1
"	20 0	0	(3)	(1)	0	4
"	21 0	(27)	(30)	(47)	(51)	155
"	22 0	2	(2)	(5)	(1)	10
"	23 0	0	0	0	1	1
"	24 0	(0)	1	0	0	1

Book V, continued

Signature	Pattern	A	B	C	D	Tot.
Rhythm 25	♩ ♩ x ♩	1	3	4	(2)	10
" 26	♩ ♩ y ♩ ♩ ♩ ♩	0	0	1	0	1
" 27	♩ ♩ x y y ♩	0	0	1	0	1
" 28	♩ ♩ x	0	1	0	1	2
" 29	♩ x ♩ x	(1)	(1)	0	(0)	2
" 30	♩ x x	2	1	1	(0)	4
" 31	x ♩ ♩ x	1	(0)	0	0	1
" 32	♩ ♩ ♩	(4)	(9)	(16)	(13)	40
" 33	♩ x ♩	0	1	0	0	1
" 34	♩ ♩ ♩ ♩ ♩	(3)	(4)	(10)	(15)	32
" 35	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 36	♩ ♩ ♩ ♩ ♩	(0)	(0)	(4)	(4)	8
" 37	♩ ♩ ♩ ♩ y ♩	0	0	1	0	1
" 38	♩ ♩ ♩ ♩ ♩ ♩	(3)	(3)	2	6	14
" 39	♩ ♩ y ♩ ♩ ♩	1	0	0	0	1
" 40	♩ ♩ ♩ y ♩ ♩	0	0	1	0	1
" 41	♩ ♩ ♩ ♩ ♩	(0)	(1)	0	0	1
" 42	♩ ♩ x ♩ ♩	0	1	(1)	1	3
" 43	♩ x x ♩ ♩	0	(0)	1	0	1
" 44	♩ x x ♩ ♩	1	0	1	0	2
" 45	♩ x x ♩	0	1	1	(0)	2
" 46	♩ ♩ ♩ ♩	(0)	(8)	(11)	(3)	22
" 47	♩ ♩ ♩ y ♩	0	2	(1)	(1)	4
" 48	♩ ♩ ♩ ♩ ♩	0	1	0	0	1

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 49	♩ ♩ ♩ ♩	(0)	2	(0)	0	2
" 50	♩ ♩ ♩ .	1	0	0	0	1
" 51	♩ ♩ ♩ ♩	(1)	(5)	(6)	(0)	12
" 52	♩ ♩ ♩ ♩ ♩	(9)	(6)	(16)	(12)	43
" 53	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 54	♩ ♩ ♩ ♩ ♩ ♩	(4)	(7)	(10)	(10)	31
" 55	♩ ♩ ♩ ♩ ♩ ♩	0	1	1	0	2
" 56	♩ ♩ ♩ ♩ ♩ ♩ ♩	(1)	(1)	(1)	(2)	5
" 57	♩ ♩ ♩ ♩ ♩ ♩	(0)	(1)	(0)	(3)	4
" 58	♩ ♩ ♩ ♩ . ♩	(1)	(2)	3	(0)	6
" 59	♩ ♩ ♩ ♩ ♩ . ♩	0	1	1	0	2
" 60	♩ ♩ ♩	2	(3)	(1)	(4)	10
" 61	♩ .	1	(0)	2	(0)	3
" 62	♩ ♩ ♩ ♩	0	1	2	(3)	6
" 63	♩ . ♩ ♩ ♩	1	0	0	0	1
" 64	♩ ♩ ♩ . ♩	0	1	0	0	1
" 65	♩ ♩ x	0	0	2	0	2
" 66	♩ x ♩ y ♩ y	1	0	0	0	1
" 67	♩ ♩ ♩ . ♩ ♩	0	1	0	0	1
" 68	♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 69	♩ ♩ ♩ ♩ ♩ .	0	0	0	1	1
" 70	♩ ♩ y x ♩	0	1	0	0	1
" 71	x ♩ ♩ ♩ x	1	0	0	0	1
" 72	♩ y y ♩ ♩ y y ♩	0	1	0	0	1

Book V, continued

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 97	♩ ♩ ♩ ♩ ♩ ♩	3	2	2	1	8
" 98	♩ ♩ ♩ ♩	(1)	0	0	0	1
" 99	♩ ♩ ♩ ♩	(0)	(2)	(0)	(0)	2
" 100	♩ ♩ ♩ ♩	0	(0)	0	(1)	1
" 101	♩ ♩ ♩ ♩ ♩	(0)	(3)	0	(1)	4
" 102	♩ ♩ ♩ ♩ ♩	0	(1)	0	(1)	2
" 103	♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 104	♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 105	♩ ♩ ♩ ♩ ♩	(3)	(1)	(2)	(4)	10
" 106	♩ ♩ ♩ ♩ ♩	(2)	(2)	(7)	(8)	19
" 107	♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 108	♩ ♩ ♩ ♩ ♩ ♩	(2)	(3)	(4)	(10)	19
" 109	♩ ♩ ♩ ♩ ♩ ♩	1	(0)	(1)	(2)	4
" 110	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 111	♩ ♩ ♩ ♩ ♩ ♩	(1)	(2)	3	(0)	6
" 112	♩ ♩ ♩ ♩ ♩ ♩	(0)	(2)	(0)	(2)	4
" 113	♩ ♩ ♩ ♩ ♩ ♩	1	(1)	3	(1)	6
" 114	♩ ♩ ♩ ♩ ♩ ♩	1	(2)	(2)	(1)	6
" 115	♩ ♩ ♩ ♩ ♩ ♩ ♩	(3)	(6)	(3)	(11)	23
" 116	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 117	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 118	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 119	♩ ♩ ♩ ♩ ♩ ♩	1	(0)	(0)	(0)	1
" 120	♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1



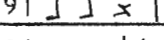
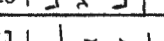
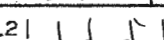

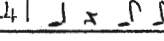
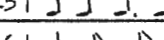
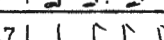


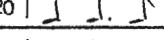
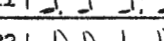
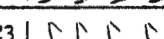
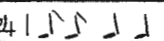
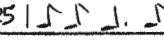
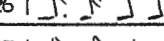
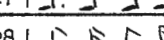
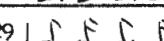
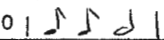



Book V, continued

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 121	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	1	0	(0)	1	2
" 122	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	(1)	0	1	2
" 123	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 124	♪ ♪ ♪ ♪ ♪	0	(2)	0	0	2
" 125	♪ ♪ ♪ ♪ ♪ ♪	0	1	1	0	2
" 126	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	1	1	2
" 127	♪ ♪ ♪ ♪ ♪ ♪ ♪	1	0	0	0	1
" 128	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	0	2	2
" 129	♪ ♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 130	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	1	0	0	0	1
" 131	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	1	0	0	0	1
" 132	♪ ♪ ♪ ♪ ♪ ♪ ♪	1	0	0	0	1
" 133	♪ ♪ ♪ ♪ ♪ ♪ ♪	1	0	0	0	1
" 134	♪ ♪ ♪ ♪	0	0	0	1	1
" 135	♪ ♪ ♪	0	0	0	2	2
" 136	♪ ♪ ♪ x =	1	0	0	0	1
" 137	♪ ♪ ♪ x ♪	1	0	0	0	1
" 138	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 139	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 140	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 141	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 142	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 143	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1
" 144	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	1	0	0	1

Book V, continued

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 145	♩ ♩ ♩ ♩ ♩	0	0	1	1	2
" 146	♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 147	♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 148	♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 149	♩ ♩ ♩ ♩ ♩ ♩	0	0	1	1	2
" 150	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 151	♩ ♩ ♩ ♩	1	0	1	1	3
" 152	♩ ♩ ♩ ♩ ♩	0	0	2	0	2
" 153	♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	3	4
" 154	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 155	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 156	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 157	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	2	(2)	1	(2)	7
" 158	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	1	(2)	(1)	2	6
" 159	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 160	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 161	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 162	♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 163	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 164	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 165	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 166	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 167	♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 168	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1







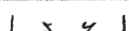




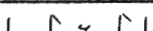
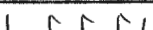
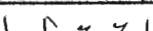
Book V, continued

³ 4 Signature	Pattern	A	B	C	D	Tot.
Rhythm 7		0	2	0	0	2
" 8		(27)	(39)	(45)	(31)	142
" 9		(5)	(1)	(6)	(1)	13
" 10		(1)	(1)	(4)	(3)	9
" 11		(4)	(2)	(8)	(8)	22
" 12		(5)	(7)	(8)	(10)	30
" 13		0	(1)	0	1	2
" 14		(0)	(3)	2	(4)	9
" 15		(2)	(1)	4	3	10
" 16		0	(1)	0	0	1
" 17		(5)	(8)	(6)	(9)	28
" 18		1	2	(2)	0	5
" 19		(9)	(12)	(16)	(11)	48
" 20		(3)	(5)	(6)	(1)	15
" 21		0	1	0	0	1
" 22		(1)	(2)	(2)	(2)	7
" 23		(5)	(1)	3	(5)	14
" 24		(14)	(5)	(6)	(8)	33
" 25		(1)	1	7	1	10
" 26		1	(1)	1	1	4
" 27		0	(1)	0	0	1
" 28		1	1	1	0	3
" 29		0	1	0	0	1
" 30		4	(0)	1	2	7

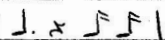

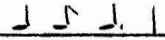
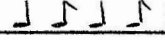
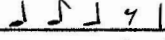
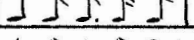
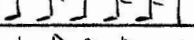
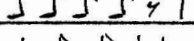
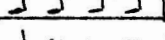
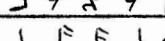

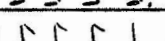
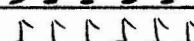

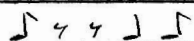
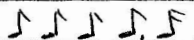

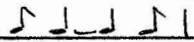
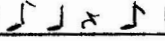
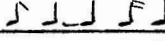
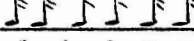
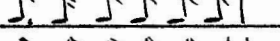
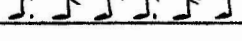

³ / ₄ Signature	Pattern	A	B	C	D	Tot.
Rhythm 31	♩. ♩. ♩. ♩.	(11)	(6)	(13)	(6)	36
" 32	♩. ♩. ♩.	0	0	1	0	1
" 33	♩. ♩. ♩. ♩.	0	0	1	0	1
" 34	♩. ♩. ♩. ♩.	0	0	1	0	1
" 35	♩. ♩. ♩.	0	0	1	0	1
" 36	♩. ♩. ♩.	0	0	1	0	1
" 37	♩. ♩. ♩.	0	0	1	0	1
" 38	♩. ♩. ♩. ♩.	0	(0)	1	0	1
" 39	♩. ♩. ♩. ♩.	(1)	(0)	0	1	2
" 40	♩. ♩. ♩. ♩. ♩.	2	0	0	1	3
" 41	♩. ♩. ♩. ♩.	0	0	0	1	1
" 42	♩. ♩. ♩. ♩.	0	0	0	1	1
" 43	♩. ♩. ♩. ♩.	0	0	0	1	1
" 44	♩. ♩. ♩. ♩.	0	0	0	1	1
" 45	♩. ♩. ♩. ♩. ♩.	0	0	0	1	1
" 46	♩. ♩. ♩. ♩.	(1)	0	(0)	3	4
" 47	♩. ♩. ♩. ♩.	1	0	0	0	1
" 48	♩. ♩. ♩. ♩. ♩.	0	0	0	1	1
" 49	♩. ♩. ♩. ♩.	0	0	0	1	1
" 50	♩. ♩. ♩. ♩.	1	0	0	0	1
" 51	♩. ♩. ♩. ♩.	0	0	0	1	1
" 52	♩. ♩. ♩. ♩. ♩.	0	0	0	1	1
" 53	♩. ♩. ♩. ♩.	1	0	0	1	2
" 54	♩. ♩.	2	0	0	1	3

Book V, continued

$\frac{3}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 55	♩ ♩	0	(0)	(0)	1	1
" 56	♩ ♩ ♩ ♩	0	0	0	1	1
" 57	♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 58	♩ ♩ ♩	1	0	0	0	1
" 59	♩ ♩ ♩ ♩	1	0	0	0	1
" 60	♩ ♩ ♩	1	0	0	0	1
Total		172	190	232	198	792
Total new rhythms presented for first time in all series		10	4	7	15	

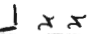


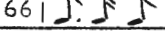
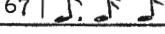
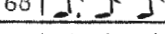
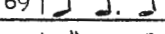
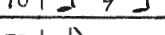
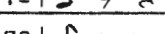
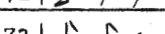


$\frac{6}{8}$ Signature					
Rhythm 1 	(1)	(14)	(2)	(5)	22
" 2 	(2)	(2)	(1)	(8)	13
" 3 	(10)	(12)	(8)	(3)	33
" 4 	(2)	(1)	(3)	(1)	7
" 5 	(5)	(15)	(7)	(7)	34
" 6 	(2)	(2)	(1)	0	5
" 7 	1	2	0	(0)	3
" 8 	2	3	(0)	0	5
" 9 	(10)	(15)	(10)	(15)	50
" 10 	(2)	(8)	(1)	(7)	18
" 11 	1	(1)	1	0	3
" 12 	1	(2)	2	(5)	10
" 13 	(0)	(1)	(0)	1	2
" 14 	1	(1)	1	3	6




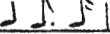

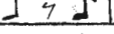
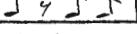

Book V, continued

⁶ / ₈ Signature	A	B	C	D	Tot.
Rhythm 15 	0	1	0	0	1
" 16 	(13)	(17)	(12)	(13)	55
" 17 	(9)	(7)	(4)	(9)	29
" 18 	(17)	(27)	(17)	(28)	89
" 19 	(1)	(5)	(1)	(5)	12
" 20 	(2)	(1)	(1)	2	6
" 21 	0	(2)	1	2	5
" 22 	0	1	0	0	1
" 23 	(0)	(1)	(0)	(0)	1
" 24 	0	1	(3)	0	4
" 25 	0	1	0	0	1
" 26 	(6)	(2)	(5)	(3)	16
" 27 	(19)	(16)	(15)	(20)	70
" 28 	(19)	(10)	(26)	(15)	70
" 29 	(1)	(2)	0	2	5
" 30 	(0)	(1)	0	0	1
" 31 	1	(1)	0	0	2
" 32 	0	1	0	1	2
" 33 	0	3	(4)	1	8
" 34 	0	(1)	0	3	4
" 35 	0	1	0	0	1
" 36 	0	1	0	0	1
" 37 	(1)	(2)	0	3	6
" 38 	(1)	(1)	(1)	2	5


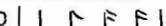
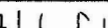
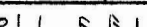
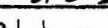

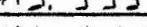
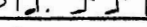
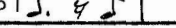

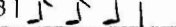


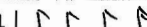
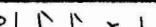

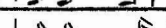
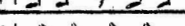
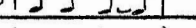
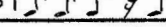




Book V, continued

⁶ 8 Signature	Pattern	A	B	C	D	Tot.
Rhythm 39	♪ ♪ ♪ ♪	(1)	1	0	1	3
" 40	♪ ♪ ♪ ♪	1	0	(1)	0	2
" 41	♪ ♪ ♪ ♪ ♪ ♪	(1)	(0)	(2)	(0)	3
" 42	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 43	♪ ♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 44	♪ ♪ ♪ ♪	0	0	1	0	1
" 45	♪ ♪ ♪ ♪ ♪	0	0	1	(2)	3
" 46	♪ ♪ ♪ ♪	0	0	3	0	3
" 47	♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 48	♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 49	♪ ♪ ♪ ♪ ♪	0	0	0	2	2
" 50	♪ ♪ ♪ ♪ ♪	0	0	0	(5)	5
" 51	♪ ♪ ♪ ♪ ♪	0	0	0	3	3
" 52	♪ ♪ ♪ ♪ ♪	0	0	0	(2)	2
" 53	♪ ♪ ♪ ♪	(0)	0	0	(2)	2
" 54	♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 55	♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 56	♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 57	♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 58	♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 59	♪ ♪ ♪ ♪	1	0	0	1	2
" 60	♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 61	♪ ♪ ♪ ♪ ♪	0	0	0	(1)	1
" 62	♪ ♪ ♪	1	0	0	0	1




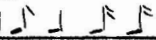

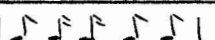
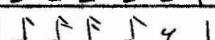

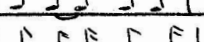
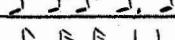

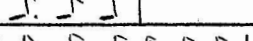
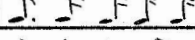
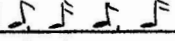
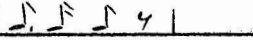
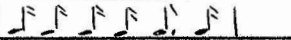

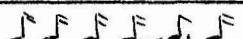
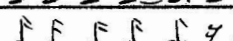

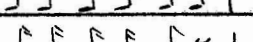
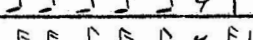
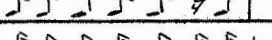
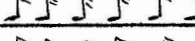
$\frac{6}{8}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 63		1	0	0	0	1
" 64		1	0	0	0	1
" 65		1	0	0	0	1
" 66		1	0	0	0	1
" 67		1	0	0	0	1
" 68		1	0	0	0	1
" 69		1	0	0	0	1
" 70		1	0	0	0	1
" 71		1	0	0	0	1
" 72		2	0	0	0	2
" 73		1	0	0	0	1
" 74		1	0	0	0	1
Total		148	186	139	189	662
Total new rhythms presented for first time in all series		14	14	11	16	

$\frac{2}{4}$ Signature					
Rhythm 1 	(10)	(24)	(11)	(14)	59
" 2 	(13)	(27)	(15)	(10)	65
" 3 	(9)	(9)	(9)	(5)	32
" 4 	(4)	(9)	1	(3)	17
" 5 	(15)	(18)	(14)	(8)	55
" 6 	(7)	(6)	(2)	(5)	20
" 7 	(1)	(6)	0	0	7
" 8 	(2)	0	1	0	3


Book V, continued



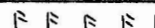
² 4 Signature	A	B	C	D	Tot.
Rhythm 9 	1	2	(0)	1	4
" 10 	1	(2)	0	(4)	7
" 11 	(11)	(18)	(7)	(11)	47
" 12 	(1)	(4)	0	3	8
" 13 	(1)	8	(1)	0	10
" 14 	1	0	0	0	1
" 15 	1	0	0	0	1
" 16 	1	1	0	0	2
" 17 	(28)	(42)	(23)	(23)	116
" 18 	(16)	(12)	(11)	(7)	46
" 19 	(3)	(8)	(2)	(5)	18
" 20 	2	(4)	1	3	10
" 21 	4	(9)	0	(6)	19
" 22 	1	(4)	0	1	6
" 23 	1	0	0	0	1
" 24 	1	0	0	0	1
" 25 	1	0	0	0	1
" 26 	2	0	0	0	2
" 27 	2	0	(1)	0	3
" 28 	1	0	1	1	3
" 29 	1	0	0	0	1
" 30 	1	2	0	(1)	4
" 31 	1	0	0	0	1
" 32 	(6)	(12)	(2)	(4)	24




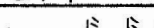
Book V, continued


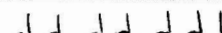
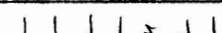

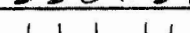
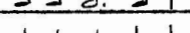
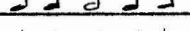


$\frac{2}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 33		(1)	(3)	(1)	0	5
" 34		1	0	0	0	1
" 35		1	2	0	0	3
" 36		1	(3)	(0)	2	6
" 37		(2)	(2)	0	(1)	5
" 38		(3)	(9)	(1)	0	13
" 39		1	0	0	0	1
" 40		2	0	0	0	2
" 41		1	1	0	0	2
" 42		1	3	(1)	(1)	6
" 43		(2)	(3)	(1)	0	6
" 44		1	(2)	0	0	3
" 45		7	(3)	(0)	(4)	14
" 46		1	0	0	0	1
" 47		(1)	0	0	0	1
" 48		3	(1)	1	(2)	7
" 49		1	0	1	(1)	3
" 50		1	0	0	0	1
" 51		2	(1)	(1)	(1)	5
" 52		1	0	(1)	0	2
" 53		1	0	0	0	1
" 54		1	(4)	0	3	8
" 55		1	1	(1)	0	3
" 56		1	(2)	0	0	3

Signature	Pattern	A	B	C	D	Tot.
Rhythm 30	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 31	♩ ♩ ♩ ♩	0	0	0	(1)	1
" 32	♩ ♩ ♩ ♩	0	(1)	0	(5)	6
" 33	♩ ♩ ♩	0	(0)	0	1	1
" 34	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	(1)	1
" 35	♩ ♩ ♩ ♩ ♩	0	(0)	0	(1)	1
" 36	♩ ♩ ♩ ♩	0	0	0	(3)	3
" 37	♩ ♩ ♩ ♩ ♩ ♩	0	(2)	0	(1)	3
" 38	♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 39	♩ ♩ ♩ ♩	0	0	0	1	1
" 40	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 41	♩ ♩ ♩ ♩ ♩	0	0	0	2	2
" 42	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 43	♩ ♩ ♩ ♩	0	1	0	2	3
" 44	♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 45	♩ ♩ ♩ ♩ ♩	0	0	0	3	3
" 46	♩ ♩ ♩ ♩	0	0	0	2	2
" 47	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 48	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
Total		0	18	0	96	114
Total new rhythms presented for first time in all series		0	7	0	19	

$\frac{2}{8}$ Signature					
Rhythm 1 	1	0	0	0	1

$\frac{2}{8}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm	2 	1	0	0	0	1
"	3 	1	0	0	0	1
"	4 	1	0	0	0	1
Total		4	0	0	0	4
Total new rhythms presented for first time in all series		4	0	0	0	

$\frac{3}{8}$ Signature					
Rhythm 1 	1	(0)	(0)	0	1
" 2 	2	(0)	(0)	0	2
" 3 	2	(0)	(0)	0	2
" 4 	1	0	0	0	1
Total	6	0	0	0	6
Total new rhythms presented for first time in all series	1	0	0	0	



$\frac{3}{2}$ Signature					
Rhythm 1		0	1	0	(0) 1
" 2		0	1	0	(0) 1
" 3		0	1	0	0 1
" 4		0	1	0	0 1
" 5		0	1	0	0 1
" 6		0	1	0	0 1
" 7		0	1	0	(0) 1
" 8		0	1	0	(0) 1
" 9		0	1	0	0 1

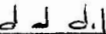
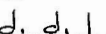
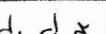
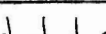
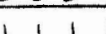
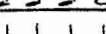
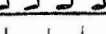
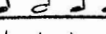
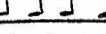
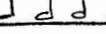
$\frac{3}{2}$ Signature	Pattern	A	B	C	D	Tot.
Total		0	9	0	0	9
Total new rhythms presented for first time in all series		0	9	0	0	





$\frac{9}{8}$ Signature					
Rhythm 1 $\underline{\underline{d. x y}}$	0	0	0	1	1
" 2 $\underline{\underline{d. d d}}$	0	0	0	1	1
" 3 $\underline{\underline{d. d d d d d}}$	0	0	0	1	1
" 4 $\underline{\underline{d. d. d d}}$	0	0	0	1	1
" 5 $\underline{\underline{d d d. d.}}$	0	0	0	1	1
" 6 $\underline{\underline{d. d d d d}}$	0	0	0	1	1
" 7 $\underline{\underline{d. d. x y}}$	0	0	0	1	1
" 8 $\underline{\underline{d. d y d d}}$	0	0	0	1	1
" 9 $\underline{\underline{d d d d d d}}$	0	0	0	1	1
Total	0	0	0	9	9
Total new rhythms presented for first time in all series	0	0	0	9	

12 8 Signature						
Rhythm	1		♪	♪	♪	♪
	1		♪	♪	♪	♪
"	2		♪	♪	♪	♪
"	3		♪	♪	♪	♪
"	4		♪	♪	♪	♪
"	5		♪	♪	♪	♪
"	6		♪	♪	♪	♪
"	7		♪	♪	♪	♪
"	8		♪	♪	♪	♪

Book V, continued

¹² ₈ Signature	Pattern	A	B	C	D	Tot.
Rhythm 9		0	1	0	0	1
" 10		0	1	0	0	1
Total		0	10	0	0	10
Total new rhythms presented for first time in all series		0	10	0	0	

⁶ ₄ Signature					
Rhythm 1 	0	0	0	1	1
" 2 	0	0	0	1	1
" 3 	0	0	0	1	1
" 4 	0	0	0	1	1
" 5 	0	0	0	1	1
" 6 	0	0	0	1	1
" 7 	0	0	0	1	1
" 8 	0	0	0	1	1
" 9 	0	0	0	1	1
" 10 	0	0	0	1	1
Total	0	0	0	10	10
Total new rhythms presented for first time in all series	0	0	0	10	

$\frac{2}{2}$ Signature					
Rhythm 1 	0	0	0	1	1
" 2 	0	0	0	1	1
" 3 	0	0	0	1	1
" 4 	0	0	0	1	1

² / ₂ Signature	Pattern	A	B	C	D	Tot.
Rhythm 5		0	0	0	1	1
" 6		0	0	0	1	1
" 7		0	0	0	1	1
" 8		0	0	0	1	1
" 9		0	0	0	1	1
" 10		0	0	0	1	1
" 11		0	0	0	1	1
" 12		0	0	0	2	2
" 13		0	0	0	2	2
" 14		0	0	0	1	1
" 15		0	0	0	1	1
" 16		0	0	0	1	1
" 17		0	0	0	1	1
" 18		0	0	0	1	1
" 19		0	0	0	1	1
" 20		0	0	0	1	1
" 21		0	0	0	1	1
Total		0	0	0	23	23
Total new rhythms presented for first time in all series		0	0	0	21	
Total Number of Rhythms, Book V--526						
Total new rhythms in Book V presented for first time in all books		93	94	64	136	

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 1	o	(7)	(9)	(14)	(20)	50
" 2	d d	(4)	(7)	(25)	(21)	57
" 3	d =	(0)	(0)	(6)	(1)	7
" 4	d d d	(4)	(13)	(22)	(9)	48
" 5	d x d	(6)	(3)	(8)	(5)	22
" 6	d d x	(0)	(2)	(7)	(0)	9
" 7	d d f f	(2)	(1)	(6)	(5)	14
" 8	d d y f	1	0	0	0	1
" 9	d d. f	(1)	(2)	(5)	(2)	10
" 10	d d. f	0	0	0	1	1
" 11	d x f f	1	1	2	2	6
" 12	d x y f	1	0	1	1	3
" 13	d x f. f	0	1	1	1	3
" 14	d f f f f	0	3	1	0	4
" 15	d y f f f	1	0	0	0	1
" 16	d d f. f	0	2	1	1	4
" 17	d f f f f	1	0	0	0	1
" 18	d f f f f f	0	1	0	0	1
" 19	d f. y d	0	1	0	0	1
" 20	d f. y d	0	0	0	1	1
" 21	d f. y f f	0	0	0	(1)	1
" 22	d f. y d	0	0	0	1	1
" 23	d. d	(4)	(20)	(15)	(10)	49
" 24	d. x	(13)	(6)	(13)	(6)	38

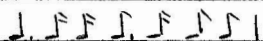

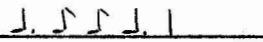

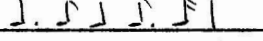
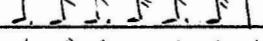
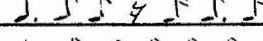
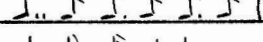
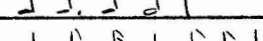
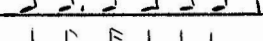
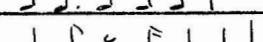
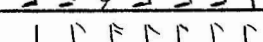
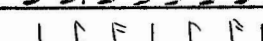

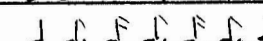

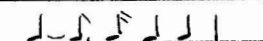




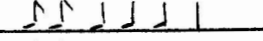
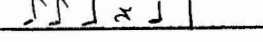

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 25	$\underline{\underline{J}} \cdot \underline{\underline{J}} \underline{\underline{J}} $	(1)	(2)	(2)	(3)	8
" 26	$\underline{\underline{J}} \cdot \underline{\underline{y}} \underline{\underline{J}} $	0	0	(1)	(1)	2
" 27	$\underline{\underline{J}} \cdot \underline{\underline{y}} \underline{\underline{y}} \underline{\underline{J}} $	0	0	1	0	1
" 28	$\underline{\underline{J}} \cdot \underline{\underline{J}} \cdot \underline{\underline{J}} $	2	(3)	(1)	0	6
" 29	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	(22)	(31)	(57)	(51)	161
" 30	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{x}} \underline{\underline{J}} $	(0)	(1)	(0)	(2)	3
" 31	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{x}} \underline{\underline{y}} \underline{\underline{J}} $	0	1	0	0	1
" 32	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{—}} $	(0)	1	(2)	1	4
" 33	$\underline{\underline{J}} \underline{\underline{x}} \underline{\underline{—}} $	(0)	(1)	(2)	(0)	3
" 34	$\underline{\underline{x}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{x}} $	(0)	(0)	1	0	1
" 35	$\underline{\underline{x}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	0	1	1	0	2
" 36	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	(6)	(8)	(17)	(11)	42
" 37	$\underline{\underline{J}} \underline{\underline{x}} \underline{\underline{J}} $	0	(0)	1	0	1
" 38	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	(6)	(13)	(21)	(15)	55
" 39	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \cdot \underline{\underline{J}} $	0	(1)	0	0	1
" 40	$\underline{\underline{J}} \underline{\underline{x}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	0	0	1	0	1
" 41	$\underline{\underline{J}} \underline{\underline{x}} \underline{\underline{J}} \underline{\underline{J}} \cdot \underline{\underline{J}} $	0	0	1	0	1
" 42	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	(0)	(1)	(3)	(10)	14
" 43	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \cdot \underline{\underline{J}} \underline{\underline{J}} $	0	0	1	0	1
" 44	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	(0)	(2)	(9)	(4)	15
" 45	$\underline{\underline{J}} \underline{\underline{x}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	1	0	1	0	2
" 46	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	1	0	0	0	1
" 47	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{y}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} $	(0)	1	0	0	1
" 48	$\underline{\underline{J}} \underline{\underline{J}} \underline{\underline{J}} \underline{\underline{y}} \underline{\underline{J}} \underline{\underline{J}} $	0	1	0	0	1

Book VI, continued

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 49		(1)	(1)	0	(3)	5
" 50		1	0	1	0	2
" 51		2	(0)	(0)	(0)	2
" 52		0	0	0	1	1
" 53		(0)	0	(0)	1	1
" 54		0	(0)	(0)	(1)	1
" 55		(4)	(5)	(12)	(11)	32
" 56		0	(1)	2	0	3
" 57		0	(0)	(2)	(2)	4
" 58		0	0	1	(0)	1
" 59		(0)	(1)	(3)	3	7
" 60		(0)	0	1	0	1
" 61		(1)	(3)	(7)	(3)	14
" 62		1	0	0	0	1
" 63		(2)	(11)	(20)	(14)	47
" 64		0	1	0	0	1
" 65		0	0	0	1	1
" 66		(4)	(12)	(7)	(5)	28
" 67		0	0	1	0	1
" 68		0	0	1	0	1
" 69		0	0	1	1	2
" 70		0	0	1	1	2
" 71		(2)	(2)	(4)	(4)	12
" 72		0	1	0	1	2

Book VI, continued

Book V-2, continued							
$\frac{4}{4}$	Signature	Pattern	A	B	C	D	Tot.
	Rhythm 97	J J J J J J	1	0	0	0	1
"	98	x J J J J J J	0	0	1	0	1
"	99	J J J J J J	0	0	1	0	1
"	100	J J J J J J	0	0	1	0	1
"	101	J J J J J J J J	0	0	1	0	1
"	102	J J J J J J J J	0	0	1	0	1
"	103	J J J J J J J J	1	0	0	0	1
"	104	J J J J J J J J	1	0	0	0	1
"	105	J J J J J J J J	0	0	0	1	1
"	106	J J J J J J J J	0	0	1	0	1
"	107	J J J J J J J J	0	0	0	1	1
"	108	J J J J J J J J	0	0	0	1	1
"	109	J J J J J J J J	(5)	(4)	(6)	(3)	18
"	110	J J J J J J J J	(13)	(13)	(29)	(17)	72
"	111	J J J J J J J J	1	1	2	0	4
"	112	J J J J J J J J	0	0	1	0	1
"	113	J J J J J J J J	(1)	(4)	(2)	(1)	8
"	114	J J J J J J J J	0	0	1	(0)	1
"	115	J J J J J J J J	(3)	(5)	(6)	(6)	20
"	116	J J J J J J J J	1	0	0	0	1
"	117	J J J J J J J J	0	0	1	0	1
"	118	J J J J J J J J	(1)	(3)	(0)	0	4
"	119	J J J J J J J J	1	0	1	0	2
"	120	J J J J J J J J	1	0	0	0	1












$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 121		0	0	0	1	1
" 122		0	1	1	0	2
" 123		1	0	1	0	2
" 124		0	0	1	0	1
" 125		0	0	1	0	1
" 126		(0)	(0)	1	1	2
" 127		0	0	1	0	1
" 128		1	0	0	1	2
" 129		(0)	0	(0)	1	1
" 130		(1)	0	(0)	1	2
" 131		(1)	(0)	0	3	4
" 132		1	0	0	1	2
" 133		0	0	1	(0)	1
" 134		1	2	(2)	(2)	7
" 135		1	0	0	0	1
" 136		1	(0)	2	1	4
" 137		(0)	1	0	1	2
" 138		0	1	0	0	1
" 139		0	0	1	0	1
" 140		1	0	0	0	1
" 141		1	0	0	0	1
" 142		1	0	0	0	1
" 143		(1)	(2)	(1)	(1)	5
" 144		1	0	0	0	1

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 145	♪ ♪ ♪ . 7 ♪ ♪	1	1	0	0	2
" 146	♪ ♪ ♪ . ♪ ♪ ♪	0	1	0	0	1
" 147	♪ ♪ ♪ ♪	0	(0)	1	(0)	1
" 148	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	1	0	1
" 149	♪ ♪ ♪ ♪ ♪ ♪	(1)	(0)	(0)	(1)	2
" 150	♪ ♪ ♪ ♪ ♪ ♪	0	(0)	0	(1)	1
" 151	♪ ♪ ♪ ♪ ♪ . ♪	0	0	0	1	1
" 152	♪ ♪ x ♪ ♪ ♪	0	0	0	1	1
" 153	♪ ♪ ♪ x ♪ ♪ ♪ ♪	0	0	1	0	1
" 154	♪ ♪ ♪ ♪ ♪	(2)	(1)	(1)	(4)	8
" 155	♪ ♪ ♪ ♪ ♪ ♪	(5)	(5)	(8)	(6)	24
" 156	♪ ♪ ♪ ♪ ♪ ♪ ♪	(4)	(7)	(2)	(1)	14
" 157	♪ ♪ ♪ ♪ ♪ ♪ ♪	(0)	(1)	(2)	(0)	3
" 158	♪ ♪ ♪ ♪ ♪ . 7 ♪	(0)	(0)	(2)	(1)	3
" 159	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	0	0	0	1	1
" 160	♪ ♪ ♪ ♪ ♪ x	(1)	(1)	(0)	(1)	3
" 161	♪ ♪ ♪ ♪ ♪ . 7	(0)	(0)	(1)	(1)	2
" 162	♪ ♪ ♪ ♪ ♪ . ♪	(0)	(0)	(0)	(3)	3
" 163	♪ ♪ ♪ ♪ ♪ ♪ ♪ ♪	(1)	(2)	(7)	(7)	17
" 164	♪ ♪ ♪ ♪ ♪ ♪ x	0	0	1	0	1
" 165	♪ ♪ ♪ ♪ ♪ ♪ . ♪	(1)	(0)	(1)	(1)	3
" 166	♪ ♪ ♪ ♪ ♪ ♪	3	0	0	0	3
" 167	♪ ♪ ♪ ♪ ♪	1	0	0	0	1
" 168	♪ ♪ ♪ ♪ ♪ ♪ ♪	0	2	0	0	2

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 169	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 170	♩ ♩ ♩ ♩. ♩	0	1	0	(0)	1
" 171	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 172	♩ ♩ ♩ ♩ ♩	3	(0)	2	0	5
" 173	♩ ♩ ♩ ♩	1	0	(1)	0	2
" 174	♩ ♩ ♩ ♩ ♩ ♩	1	(0)	(0)	0	1
" 175	♩ ♩ ♩ ♩. ♩ ♩ ♩	(0)	0	1	0	1
" 176	♩ ♩ ♩ ♩. ♩ ♩	0	0	1	0	1
" 177	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	(0)	1
" 178	♩ ♩ ♩ ♩ ♩ ♩ ♩	2	0	0	0	2
" 179	♩ ♩ ♩. ♩ ♩. ♩	(0)	1	0	0	1
" 180	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	(1)	0	0	1
" 181	♩ ♩ ♩ ♩. ♩	0	0	1	2	3
" 182	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 183	♩ ♩ ♩. ♩ ♩ ♩ ♩	0	0	1	0	1
" 184	♩ ♩ ♩. ♩ ♩ ♩	0	0	0	1	1
" 185	♩ ♩ ♩ ♩ ♩. ♩ ♩	0	0	0	1	1
" 186	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 187	♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 188	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 189	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 190	♩ ♩ ♩ ♩. ♩	0	1	0	0	1
" 191	♩ ♩ ♩ ♩. ♩ ♩ ♩ ♩	0	0	0	1	1
" 192	♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1


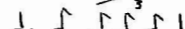

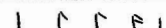
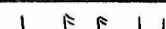
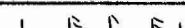
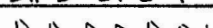
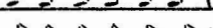
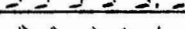
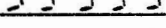
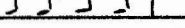

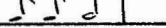


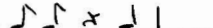


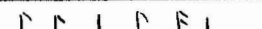
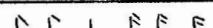
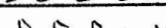
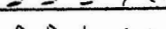
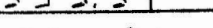
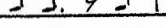
Book VI, continued

$\frac{4}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 217		0	0	1	0	1
" 218		(0)	0	1	0	1
" 219		0	0	1	0	1
" 220		(1)	1	0	0	2
" 221		0	3	1	0	4
" 222		0	0	(1)	(2)	3
" 223		0	0	0	(1)	1
" 224		1	0	0	0	1
" 225		0	0	0	1	1
" 226		0	1	0	0	1
" 227		0	1	0	0	1
" 228		0	0	1	0	1
" 229		0	0	1	0	1
" 230		0	0	0	1	1
" 231		0	0	0	1	1
Total		198	276	452	350	1276
Total new rhythms presented for first time in all series		41	40	60	37	

$\frac{3}{4}$ Signature					
Rhythm 1 	(12)	(17)	(13)	(32)	74
" 2  	(18)	(15)	(17)	(27)	77
" 3  	(1)	(5)	(6)	(4)	16
" 4   	(7)	(5)	(13)	(9)	34
" 5   	0	1	1	0	2

³ / ₄ Signature	Pattern	A	B	C	D	Tot.
Rhythm 6	♩ ♩ ♩	(0)	(1)	(2)	(2)	5
" 7	♩ ♩ ♩	0	1	0	0	1
" 8	♩ ♩	(7)	(7)	(2)	(6)	22
" 9	♩ x x	(0)	(3)	(0)	(2)	5
" 10	x x ♩ ♩	0	1	0	1	2
" 11	x ♩	0	1	0	0	1
" 12	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 13	♩ ♩ ♩	(8)	(7)	(4)	(9)	28
" 14	♩ ♩ ♩	0	0	2	0	2
" 15	♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 16	♩ ♩ ♩ ♩ ♩	(5)	(4)	(8)	(5)	22
" 17	♩ ♩ ♩ ♩	1	(2)	(1)	4	8
" 18	♩ ♩ ♩ ♩	1	0	(0)	0	1
" 19	♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 20	♩ ♩ ♩ ♩ ♩	0	1	1	0	2
" 21	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 22	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 23	♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 24	x ♩ ♩ ♩ ♩	0	1	1	(0)	2
" 25	x ♩ ♩ ♩ ♩	0	0	1	0	1
" 26	♩ ♩ ♩ ♩ ♩	0	(1)	2	2	6
" 27	♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 28	♩ ♩ ♩ ♩	0	0	0	1	1
" 29	♩ ♩ ♩ ♩	(6)	(5)	(11)	(13)	35

Book VI, continued

Signature	Pattern	A	B	C	D	Tot.
Rhythm 30		(7)	(2)	(5)	(6)	20
" 31		1	0	0	0	1
" 32		1	0	0	0	1
" 33		0	(0)	0	1	1
" 34		0	0	1	0	1
" 35		0	0	0	1	1
" 36		(2)	(4)	(5)	(5)	16
" 37		1	1	0	(0)	2
" 38		0	1	2	(0)	3
" 39		(3)	(6)	(5)	(8)	22
" 40		1	0	1	0	2
" 41		2	1	(2)	(3)	8
" 42		1	0	4	1	6
" 43		0	0	1	0	1
" 44		0	0	1	0	1
" 45		(2)	(0)	(5)	(1)	8
" 46		2	0	0	0	2
" 47		1	0	1	1	3
" 48		1	0	0	0	1
" 49		0	0	0	1	1
" 50		2	1	4	(2)	9
" 51		1	1	0	0	2
" 52		0	1	0	0	1
" 53		0	0	0	1	1

SIGNATURE						A	B	C	D	Tot.
Rhythm	54	♪ ♪ ♪				0	0	1	0	1
"	55	♪ ♪ ♪ ♪ ♪				1	0	0	0	1
"	56	♪ ♪ ♪ ♪ ♪				2	0	0	0	2
"	57	♪ ♪ ♪ ♪				1	0	0	1	2
"	58	♪ ♪ ♪ ♪ ♪				1	0	0	0	1
"	59	♪ ♪ ♪ ♪ ♪				1	0	0	0	1
"	60	♪ ♪ ♪ ♪ ♪				0	1	0	0	1
"	61	♪ ♪ ♪				(2)	(2)	(0)	(2)	6
"	62	♪ ♪ ♪				2	0	0	1	3
"	63	♪ ♪ ♪ ♪ ♪				1	0	0	0	1
"	64	♪ ♪ ♪ ♪ ♪				1	0	0	(0)	1
"	65	♪ ♪ ♪ ♪				1	(1)	0	(2)	4
"	66	♪ ♪ ♪ ♪ ♪				0	(1)	2	0	3
"	67	♪ ♪ ♪ ♪ ♪				0	1	0	0	1
"	68	♪ ♪ ♪ ♪ ♪ ♪				0	(1)	(2)	1	4
"	69	♪ ♪ ♪ ♪ ♪				0	1	1	1	3
"	70	♪ ♪ ♪ ♪ ♪				0	1	0	0	1
"	71	♪ ♪ ♪ ♪				0	(0)	(1)	0	1
"	72	♪ ♪ ♪ ♪ ♪				0	0	2	0	2
"	73	♪ ♪ ♪ ♪ ♪ ♪				0	0	0	2	2
"	74	♪ ♪ ♪ ♪ ♪				0	0	0	(1)	1
"	75	♪ ♪ ♪ ♪ ♪				0	1	0	0	1
"	76	♪ ♪ ♪ ♪ ♪				0	0	0	1	1
"	77	♪ ♪ ♪ ♪ ♪				0	0	0	1	1

Book VI, continued

















$\frac{3}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 78	$\overline{\text{J} \text{ J} \text{ J}} \text{ J} \text{ J} \text{ J}$	1	0	0	0	1
" 79	$\overline{\text{J} \text{ J} \text{ J}} \text{ J} \text{ J} \text{ J}$	1	0	1	0	2
" 80	$\overline{\text{J} \text{ J} \text{ J}} \text{ J} \text{ J}$	0	0	1	0	1
" 81	$\overline{\text{J} \text{ J} \text{ J}} \text{ J} \text{ J}$	0	0	1	0	1
Total		110	107	135	164	516
Total new rhythms presented for first time in all series		18	13	17	16	

6 8 Signature					
Rhythm 1 $\underline{\underline$					

⁶ 8 Signature	Pattern	A	B	C	D	Tot.
Rhythm 17	J. J. 4 J.	2	3	3	1	9
" 18	J. J. 4 J.	(3)	(0)	(2)	(4)	9
" 19	J. J. J. J.	(23)	(19)	(22)	(25)	89
" 20	J. J. J. J. J.	(10)	(15)	(17)	(9)	51
" 21	J. J. J.	(6)	(7)	(2)	(6)	21
" 22	J. J. J. J. J.	1	(3)	(1)	(2)	7
" 23	J. J. J.	1	0	0	0	1
" 24	J. J. J. J. J.	1	0	2	0	3
" 25	J. J. J. J. J.	(2)	(6)	(2)	(1)	11
" 26	J. J. J. J. J.	0	2	1	0	3
" 27	J. J. J. J. J.	0	0	1	0	1
" 28	J. J. J. J.	(0)	(0)	(1)	(0)	1
" 29	J. J. J. J. J. J.	0	0	1	0	1
" 30	J. J. J. J. J.	0	0	0	1	1
" 31	J. J. J. J. J.	0	0	0	1	1
" 32	x 4 J. J.	1	0	0	0	1
" 33	J. J. 4 J. J.	1	0	0	0	1
" 34	x J. J. J.	2	0	1	1	4
" 35	J. 4 x J.	5	3	(4)	2	14
" 36	J. J. J. 4	1	0	0	0	1
" 37	J. J. J. 4	1	2	0	1	4
" 38	J. 4 J. J. J.	0	1	(4)	(0)	6
" 39	J. 4 J.	0	0	2	3	5
" 40	x J. J. 4	0	0	1	0	1

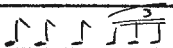
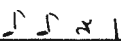
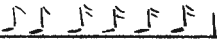

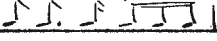

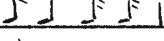
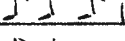
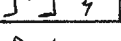
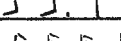
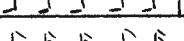
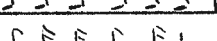
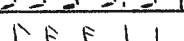
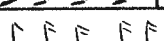
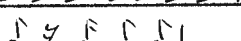
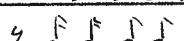


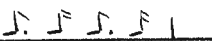
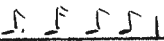
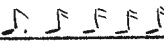
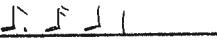


⁶ 8 Signature	Pattern	A	B	C	D	Tot.
Rhythm 41	x y f f f	0	0	1	0	1
" 42	f f f f f f	(14)	(15)	(17)	(12)	58
" 43	f f f f f f	(2)	(2)	(2)	(2)	8
" 44	f f f f y	(3)	(1)	0	(1)	5
" 45	f f f f f	(13)	(9)	(12)	(1)	35
" 46	f f f f.	(4)	(2)	(6)	(2)	14
" 47	f f f f f f	1	0	0	0	1
" 48	f f f f	2	(3)	(0)	(3)	8
" 49	f f f f f f	1	(1)	0	0	2
" 50	f f f f	1	1	0	0	2
" 51	f f f.	1	0	0	1	2
" 52	f f f f f	0	0	2	1	3
" 53	f f f f f	0	0	1	(0)	1
" 54	f f f y	1	0	0	0	1
" 55	f y y x f	0	1	1	(0)	2
" 56	f f y y f f	0	1	0	0	1
" 57	y f f f f f	0	0	1	1	2
" 58	f y f f f f	0	0	0	3	3
" 59	f y y f f f f f	0	0	1	0	1
" 60	f f f f f f f	0	0	1	0	1
" 61	f f y f f.	0	0	1	0	1
" 62	f f f f f f	0	0	1	0	1
" 63	f f f f f f	0	0	1	(0)	1
" 64	f f f f f f	1	1	1	0	3

⁶ ₈ Signature	Pattern	A	B	C	D	Tot.
Rhythm 65	♩ ♩ ♩ ♩ ♩	(5)	(6)	4	(1)	16
" 66	♩ ♩ ♩ ♩ ♩	5	3	3	1	12
" 67	♩ ♩ ♩ ♩ .	(2)	(4)	0	(0)	6
" 68	♩ ♩ ♩ ♩ x	1	0	0	0	1
" 69	♩ ♩ ♩ ♩ ♩ ♩	0	1	1	0	2
" 70	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	1	0	2
" 71	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 72	♩ ♩ ♩ ♩ ♩ ♩	0	1	1	0	2
" 73	♩ ♩ ♩ ♩ ♩ ♩ ♩	1	1	1	0	3
" 74	♩ ♩ ♩ ♩ ♩ ♩	0	0	2	0	2
" 75	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 76	♩ ♩ ♩ x ♩	0	0	0	1	1
" 77	♩ ♩ ♩ ♩ ♩ .	0	0	0	1	1
Total		176	180	202	143	701
Total new rhythms presented for first time in all series		18	15	25	22	

² ₄ Signature					
Rhythm 1 	(14)	(12)	(12)	(17)	55
" 2  	(12)	(11)	(11)	(19)	53
" 3  	(5)	(2)	(5)	(4)	16
" 4  	0	0	2	0	2
" 5   	0	0	0	1	1
" 6   	(5)	(3)	(1)	(2)	11
" 7   	(10)	(9)	(15)	(15)	49

$\frac{2}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 8	1 4 1	(4)	(4)	(3)	(4)	15
" 9	1 1 4 1	(1)	(0)	(0)	(0)	1
" 10	1 4 1 1	(2)	(0)	2	0	4
" 11	1 1 1 1	1	0	0	0	1
" 12	1 1 1 1	2	0	0	0	2
" 13	1 1 1 1 1	1	(1)	0	1	3
" 14	1 1 1	(0)	0	(0)	4	4
" 15	1 1 1 1	0	0	0	3	3
" 16	1. 1	(14)	(9)	(10)	(15)	48
" 17	1. 1 1	(1)	(0)	2	(4)	7
" 18	1. 1	(1)	(2)	(2)	1	6
" 19	1 1 1	(9)	(5)	(13)	(11)	38
" 20	1 1 1	0	0	0	1	1
" 21	1 1 1 1	(33)	(22)	(23)	(38)	116
" 22	1 1 1 1	(3)	(6)	(6)	(3)	18
" 23	1 1 1 1	1	0	1	5	7
" 24	1 1 1 1 1	1	0	0	0	1
" 25	1 1 1 1 1	(3)	(1)	(2)	(1)	7
" 26	1 1 1 1	(1)	0	0	0	1
" 27	1 1 1 1	(1)	(1)	0	(2)	4
" 28	1 1 1 1 1	(1)	(7)	5	(10)	23
" 29	1 1 1 1	0	2	(0)	0	2
" 30	1 1 1 1 1	(0)	0	1	0	1
" 31	1 1 1 1 1	0	0	0	1	1

Book VI, continued

$\frac{2}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 32		0	0	0	1	1
" 33		(0)	(0)	0	(1)	1
" 34		(3)	(1)	(2)	(4)	10
" 35		1	(2)	3	1	7
" 36		0	2	0	0	2
" 37		(1)	1	(0)	(0)	2
" 38		(1)	(1)	(2)	(3)	7
" 39		(0)	(4)	(3)	(8)	15
" 40		(0)	(2)	0	(0)	2
" 41		(2)	(2)	(2)	2	8
" 42		(2)	(1)	(4)	10	17
" 43		(2)	(3)	0	(4)	9
" 44		(0)	(1)	1	0	2
" 45		0	1	0	0	1
" 46		0	1	2	2	5
" 47		0	1	0	1	2
" 48		0	1	0	0	1
" 49		0	0	1	3	4
" 50		0	0	0	1	1
" 51		(1)	(1)	(1)	(1)	4
" 52		5	(12)	(5)	(14)	36
" 53		1	0	1	0	2
" 54		(1)	(2)	(2)	2	7
" 55		1	0	0	0	1

$\frac{2}{4}$ Signature	Pattern	A	B	C	D	Tot.
Rhythm 56	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	1	0	0	1
" 57	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	0	0	2	2
" 58	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	0	0	1	1
" 59	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	2	(1)	1	1	5
" 60	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	(1)	(0)	(1)	(4)	6
" 61	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	(2)	(0)	(5)	(9)	16
" 62	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	0	0	1	1
" 63	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	(0)	(1)	(0)	0	1
" 64	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	(0)	(0)	1	1	2
" 65	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	(0)	0	1	0	1
" 66	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	0	0	1	1
" 67	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	1	1	(0)	1	3
" 68	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	2	0	0	0	2
" 69	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	(1)	2	2	(2)	7
" 70	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	(1)	(1)	2	(1)	5
" 71	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	1	1	0	2
" 72	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	1	0	0	1
" 73	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	0	1	0	1
" 74	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	0	1	0	1
" 75	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	0	1	0	1	2
" 76	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	1	1	0	0	2
" 77	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	1	1	(0)	0	2
" 78	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	1	1	1	3	6
" 79	$\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$ $\underline{\text{f}}$	1	0	0	0	1

Signature	Pattern	A	B	C	D	Tot.
Rhythm 11	♩ ♩ ♩ ♩ ♩ . ♩	0	0	0	(1)	1
" 12	♩ ♩ ♩ ♩ ♩ ♩	0	(1)	0	(0)	1
" 13	x ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 14	♩ ♩ ♩ ♩ ♩ ♩	0	(2)	0	(1)	3
" 15	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	0	(0)	1
" 16	♩ ♩ ♩ ♩ ♩ ♩	0	0	0	(2)	2
" 17	♩ ♩ . ♩	0	0	0	(1)	1
" 18	♩ ♩ ♩ x	0	0	0	(1)	1
" 19	♩ ♩ ♩ ♩	0	0	0	(1)	1
" 20	♩ . ♩ ♩ ♩ ♩	0	0	0	1	1
" 21	♩ ♩ ♩ ♩ ♩	0	1	0	(0)	1
" 22	♩ ♩ ♩ ♩ . ♩	0	1	0	(0)	1
" 23	o	0	(2)	0	(5)	7
" 24	♩ ♩ ♩ . ♩	0	(1)	0	(1)	2
" 25	♩ ♩ ♩ ♩ ♩	0	1	0	0	1
" 26	♩ x ♩	0	0	0	(1)	1
" 27	♩ . ♩ ♩ ♩ ♩ ♩	0	0	0	(1)	1
" 28	♩ ♩ ♩ ♩ ♩	0	0	0	(2)	2
" 29	♩ . ♩ ♩ ♩ ³ ♩	0	0	0	1	1
" 30	♩ ♩ . ♩	0	1	0	1	2
" 31	♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 32	♩ ♩ ♩ ♩ ♩ ♩ ♩	0	1	0	1	2
" 33	♩ ♩ ♩ ♩ ♩ .	0	2	0	0	2
" 34	♩ ♩ ♩ .	0	2	0	0	2

Signature	Pattern	A	B	C	D	Tot.
Rhythm 35	♩ ♩ ♩ ♩	0	1	0	1	2
" 36	♩ ♩ ♩ ♩	0	0	0	1	1
" 37	♩ ♩ ♩ ♩ ♩ ♩	0	1	0	0	1
Total		0	2	0	2	4
Total new rhythms presented for first time in all series		0	1	0	1	2

$\frac{9}{8}$ Signature					
Rhythm 1 ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 2 ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 3 ♩ ♩ ♩ ♩ ♩	1	0	1	0	2
" 4 ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 5 ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 6 ♩ ♩ ♩ ♩ ♩ ♩	0	0	1	0	1
" 7 ♩ ♩ ♩ ♩	0	0	1	0	1
" 8 ♩ . x ♩	0	0	1	(0)	1
Total	5	0	4	0	9
Total new rhythms presented for first time in all series	5	0	3	0	

$\frac{3}{2}$ Signature						
Rhythm 1	d. d d d	1	0	0	0	1
" 2	d d d d d d	1	0	0	0	1
" 3	o d	0	(0)	2	(0)	2
" 4	d d d d d d	(0)	(0)	1	(0)	1
" 5	o d d	0	0	1	(0)	1







12 8 Signature						
Rhythm	1 — . x x x x	1	0	0	0	1
"	2 x x x x x x x	1	(0)	0	0	1
"	3 x x x x x x x x	1	(0)	0	0	1
"	4 x x x x x x x x	1	(1)	0	0	2
"	5 x x x x x x x	1	(0)	0	0	1
"	6 x x x x x x x x	1	0	0	0	1
"	7 x x x x x x x x x	1	0	0	0	1
"	8 x x x x x x x	0	1	0	0	1
"	9 x x x x x x x x x	0	1	0	0	1
"	10 x x x x x x x x	0	1	0	0	1
"	11 x x x x x x x x x	0	1	0	0	1
"	12 x x x x x x x x	0	(0)	1	0	1
"	13 x x x x x x x	0	0	1	0	1
"	14 x x x x x x x x	0	0	1	0	1
"	15 x x x x x x x x x	0	1	0	0	1
"	16 x x x x x x x x	0	1	0	0	1






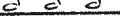

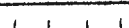

Book VI, continued

¹² ₈ Signature	Pattern	A	B	C	D	Tot.
Rhythm 17	1. 1 1 1. 1 1	0	1	0	0	1
" 18	1. 1 1 1. 1 1 1	0	1	0	0	1
" 19	1. 1 1 1 1 1 1	0	1	0	0	1
Total		7	10	3	0	20
Total new rhythms presented for first time in all series		3	9	3	0	

² ₂ Signature					
Rhythm 1	0	0	2	1	(2) 5
" 2	1 1	0	1	1	(1) 3
" 3	1. 1 1	0	1	0	1 2
" 4	1 1 1 1	0	2	1	(0) 3
" 5	1. 1	0	2	1	(1) 4
" 6	1 1 1 1 1	0	2	0	0 2
" 7	1 1 1 1 1 1	0	1	0	0 1
" 8	1 1 1 1 1	0	1	0	0 1
" 9	1 1 1 1 1 1	0	1	0	0 1
" 10	1 1 1 1 1	0	1	0	0 1
" 11	1 1 1 1 1 1	0	1	0	0 1
" 12	1 1 1 1.	0	1	0	0 1
" 13	1 1. 1 1. 1	0	1	0	0 1
" 14	1 1 1	0	2	1	0 3
" 15	1 1 1	0	2	0	0 2
" 16	1 1 1	0	1	0	0 1
" 17	1 1 1. 1	0	1	0	1 2

$\frac{4}{8}$ Signature	Pattern	A	B	C	D	Tot.
Total		3	0	5	5	13
Total new rhythms presented for first time in all series		3	0	5	5	

$\frac{2}{8}$ Signature					
Rhythm 1 	0	2	0	0	2
" 2 	0	2	0	0	2
" 3 	0	2	0	0	2
" 4 	0	1	0	0	1
" 5 	0	1	0	0	1
" 6 	0	1	0	0	1
Total	0	9	0	0	9
Total new rhythms presented for first time in all series	0	6	0	0	

$\frac{6}{4}$ Signature					
Rhythm 1 	1	0	0	0	1
" 2 	1	0	0	0	1
" 3 	1	0	0	0	1
" 4 	1	0	0	0	1
" 5 	1	0	0	0	1
" 6 	1	0	0	0	1
" 7 	1	0	0	0	1
" 8 	1	0	0	0	1
" 9 	1	0	0	0	1
Total	9	0	0	0	9
Total new rhythms presented for first time in all series	9	0	0	0	

⁴ / ₂ Signature	Pattern	A	B	C	D	Tot.
Rhythm 1	1 o d d	0	0	1	0	1
" 2	1 o d d d	0	0	1	0	1
" 3	1 o d d d	0	0	1	0	1
" 4	1 o d d d d	0	0	1	0	1
" 5	1 d d d d	0	0	2	0	2
" 6	1 d d d d d	0	0	1	0	1
" 7	1 o . d	0	0	1	0	1
Total		0	0	8	0	8
Total new rhythms presented for first time in all series		0	0	7	0	

⁵ / ₄ Signature					
Rhythm 1 ♩ ♩ ♩ ♩ ♩ ♩ ♩	1	0	0	0	1
" 2 ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 3 ♩ ♩ 0	0	0	0	1	1
" 4 ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 5 — 7 ♩	0	0	0	1	1
" 6 ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 7 ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 8 ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
" 9 ♩ ♩ ♩ ♩ ♩ ♩ ♩	0	0	0	1	1
Total	1	0	0	8	9
Total new rhythms presented for first time in all series	1	0	0	8	
Total number of rhythms in Book VI--639					
Total new rhythms in Book VI presented for first time in all books	147	160	167	147	

TABLE I

TABULATION OF RHYTHMS FOUND IN BOOKS IV
SHOWING TOTAL FREQUENCIES

Time Signature	Rhythmic Patterns	Frequencies				
		A	B	C	D	Tot.
$\frac{4}{4}$	103	153	214	327	304	998
$\frac{3}{4}$	40	151	157	141	190	639
$\frac{6}{8}$	70	120	232	85	131	568
$\frac{2}{4}$	64	156	240	170	159	725
ϕ	64	0	90	0	121	211
$\frac{3}{8}$	6	0	8	8	0	16
$\frac{3}{2}$	7	0	0	0	7	7
Total	354	580	941	731	912	3164

TABLE II
TABULATION OF RHYTHMS FOUND IN BOOKS V
SHOWING TOTAL FREQUENCIES

Time Signature	Rhythmic Patterns	Frequencies				
		A	B	C	D	Tot.
$\frac{4}{4}$	182	162	254	344	344	1104
$\frac{3}{4}$	60	172	190	232	198	792
$\frac{6}{8}$	74	148	186	139	189	662
$\frac{2}{4}$	95	202	303	122	158	785
$\frac{4}{4}$	48	0	18	0	96	114
$\frac{3}{8}$	4	6	0	0	0	6
$\frac{3}{2}$	9	0	9	0	0	9
$\frac{9}{8}$	9	0	0	0	9	9
$\frac{12}{8}$	10	0	10	0	0	10
$\frac{2}{2}$	21	0	0	0	23	23
$\frac{2}{8}$	4	4	0	0	0	4
$\frac{6}{4}$	10	0	0	0	10	10
Total	526	694	970	837	1027	3528

TABLE III

TABULATION OF RHYTHMS FOUND IN BOOKS VI
SHOWING TOTAL FREQUENCIES

Time Signature	Rhythmic Patterns	Frequencies				
		A	B	C	D	Tot.
$\frac{4}{4}$	231	198	276	452	350	1276
$\frac{3}{4}$	81	110	107	135	164	516
$\frac{6}{8}$	77	176	180	202	143	701
$\frac{2}{4}$	89	162	155	167	256	740
ϕ	37	8	24	0	51	83
$\frac{3}{8}$	14	3	24	0	11	38
$\frac{3}{2}$	9	2	0	10	0	12
$\frac{9}{8}$	8	5	0	4	0	9
$\frac{12}{8}$	19	7	10	3	0	20
$\frac{2}{2}$	31	0	27	8	18	53
$\frac{2}{8}$	6	0	9	0	0	9
$\frac{6}{4}$	9	9	0	0	0	9
$\frac{4}{8}$	12	3	0	5	5	13
$\frac{4}{2}$	7	0	0	8	0	8
$\frac{5}{4}$	9	1	0	0	8	9
Total	638	684	812	994	1006	3496

TABLE IV

TABULATION OF NEW RHYTHMS PRESENTED FOR THE FIRST TIME
IN BOOKS V AND VI OF EACH SERIES ANALYZED

		A	B	C	D
Total Rhythms	Book IV	129	250	153	196
Total New Rhythms	Book V	135	111	83	160
Total New Rhythms	Book VI	147	160	167	147
Total		411	521	403	503

TABLE V

TABULATION OF NEW RHYTHMS PRESENTED FOR
THE FIRST TIME IN ALL SERIES

	A	B	C	D
Book V	93	94	64	136
Book VI	119	131	140	129

CHAPTER V

SUMMARY AND CONCLUSIONS

The sense of rhythm is inborn. The response to rhythmic stimuli is instinctive whether the nervous system receives the stimulus orally, visually, or kinaesthetically. Music is built on a rhythmic foundation, and since the desire for rhythmic motion is inborn, it is logical that a successful music program in the public schools should develop this foundation for musical growth.

It was the purpose of this study to review authoritative opinions and findings on rhythm--its importance in life as well as in music, its historical development, and its psychological effects. An analysis of the state adopted textbooks for music was made. The purpose of the analysis was to bring to a focus the rhythms of the music designated for the fourth, fifth, and sixth grades; to show the growth in the development of rhythmic patterns; and to show agreement or disagreement of the editors of the texts on the variety and extent of rhythms presented for elementary children.

The term rhythm suggests the lawful periodicity of every phase of our lives, without which existence would seem chaotic, and we would not be able to sense the facts that go to make up the whole. There are evidences of rhythm in the cosmos, in nature, civilization, everyday life, speech, and human growth.

Authorities agree that rhythm in music is a result of the division of musical time in strictly proportioned parts, and that in rhythm we may distinguish three qualities: pulsation, accent, and duration. The time signature marks the division of time and the unit of the beat; the arrangement of notes determines the accent and duration. Rhythmic patterns in use today are the result of the development of music from primitive man's beating to the experimental rhythms of twentieth century composers.

Every child has a natural feeling for and a love of rhythm. The natural reaction to rhythm is muscular. Rhythm depends on the motor-consciousness--the feeling of the play of our musculature. Authorities point out that the psychologically correct approach to the development of the rhythmic sense is by way of bodily response, and through these responses rhythmic consciousness is developed.

The fields of psychology and education proved to be the principle sources of authoritative evidences of effects and influences of rhythm. Empirical and experimental studies show that rhythm is instinctive, that it stimulates and lulls, and that the whole organism is involved in rhythmic response. Authorities agree that the mastery of rhythm in perception and action is progressive.

The development of many rhythmic styles in American music had its origin in the Afro-American music in the South

of the United States. The influence of these rhythmic styles is often evident in the music of other nations and in the development of percussive instruments.

Rhythm as the control element in music commands a place of importance in the music program of the school, and rhythm as a basis of life commands a place of importance in the development of the individuality.

Several authorities point out a laxity in rhythmic training, and they agree in that it is the responsibility and the duty of the music teacher to provide for a development of the rhythmic sense.

Some conclusions that may be made following the analysis of the rhythmic patterns found in the four series of music text books are:

1. The editors of all four series gave consideration to the developmental aspect of rhythmic perception.

2. The greatest number of patterns were simple and basic rhythms, thus providing for maximum enjoyment because of familiarity.

3. The frequency of occurrence of simple rhythms showed little variance in the books for each level. The increase and decrease in the use of rhythms ran parallel in the four series.

4. In Books V and VI, the greatest number of simple rhythms was found in songs written for two-part singing.

5. More complex rhythms, as a general rule, were presented frequently enough to insure an understanding of the pattern at the level of presentation. Repetition of these complex rhythms at the next level provided familiarity with the patterns.

6. Some intricate patterns were presented in Book IV, omitted in Book V, and presented again in Book VI. This seems to indicate that the editors might have felt there was a readiness for such patterns in rote singing at fourth grade level, while reading ability for such patterns occurs later.

7. There was a noticeable variance in frequencies occurring in the introduction of new rhythms. Frequencies seldom coincided here.

8. Some frequencies were identical. In some instances this was a result of the appearance of identical songs, but in others it seemed to be evidence of planned development.

9. The number of time signatures increased at each level; seven appeared in Book IV, twelve in Book V, and fifteen in Book VI.

10. An indication of the potential rhythmic experience provided in the series was pointed up in Book V-D in which two songs in $\frac{2}{2}$ time presented twenty-one (21) patterns.

11. The four series presented a total of 1516 rhythmic patterns, the majority of which were necessary repetitions. Books V of the four series presented an average of 40.75 new

rhythms per book, while the average for Books VI was 51.71 per book.

12. The writer feels that this study offers evidence that the adopted music text books of Texas provide orderly, cumulative rhythmic experiences for children of the fourth, fifth and sixth grades.

As a result of this research, the writer feels that research is necessary in the following fields: the normal age levels for perception of advancing intricate patterns; the age level of the aesthetic response to music; the variety of melodic intervals in music text books; and harmonic structures of two and three part songs in music text books.

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