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A COMPUTER-AIDED METHODOLOGY FOR THE ANALYSIS AND
CLASSIFICATION OF BRITISH-CANADIAN CHILDREN'S TRADITIONAL
SINGING GAMES

The Ohio State University

Ph.D. 1986

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**A COMPUTER-AIDED METHODOLOGY FOR THE
ANALYSIS AND CLASSIFICATION OF
BRITISH-CANADIAN CHILDREN'S TRADITIONAL SINGING GAMES**

DISSERTATION

**Presented in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy in the Graduate
School of the Ohio State University**

by

F.E. Ann Osborn, Mus.Bac., M.A.

★ ★ ★ ★ ★

**The Ohio State University
1986**

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"Folk Music Research," Notes V, 3, (September, 1980) 7-8, (Publication of the Kodály Institute of Canada).

"In Defense of the Child," Canadian Music Educators' Journal, XXII, 1, (Fall, 1980), 3-9.

"Folk Song Analysis in Canada," Bulletin of the International Kodály Society, 1981/1, 36-37.

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CHAPTER I

Introduction

This study was conceived to provide a musical rationale for the selection of song materials for an elementary school music education program for Canadian children. The elementary music education program is one based on an adaptation of the curriculum developed in Hungarian schools by colleagues of Zoltán Kodály.

In 1966, I was personally invited by Kodály to visit Hungary to study the music education program there. He had observed my teaching that year at the Summer School of the Royal Conservatory of Music in Toronto.¹ In 1967 I went to Hungary, and during three years accomplished the following: observed teachers at all educational levels from Kindergarten to teacher training at the Franz Liszt Academy and at the teacher's training college in Pécs; studied the curriculum of the Kindergarten and elementary schools; practice taught in the Kindergarten under the supervision of Katalin Forrai, and in the first three grades of the elementary school under

¹ A copy of the letter Kodály wrote in support of my application to the Canada Council for financial assistance for this study program is included in Appendix A, p. 228.

the supervision of Anna Hamvas, master teacher for the Franz Liszt Academy; was trained in solfege by Elizabeth Szönyi at the Franz Liszt Academy; learned the Hungarian language and translated portions of Kodály's *Visszatekintés* (1964); and studied methods of folk song analysis with Dr. László Vikár of the Folk Music Research Group, Hungarian Academy of Sciences. I then returned to Canada in 1970 to develop a music education program for Canadian children based on the Hungarian model.

Need For The Study

For Hungarian schools, the curriculum has been structured according to the common musical characteristics of traditional Hungarian children's songs, beginning with the simplest melodic and rhythmic elements of the song form. These elements comprise the melodic and rhythmic motives or phrases of the songs. It is the musical motive which forms the kernel upon which the entire structure of musical development is built. Therefore, before an adaptation of the curriculum could be implemented, it was necessary to know what are the common musical characteristics of the traditional songs of Canadian children.

Definitions

In this study the terms listed below are defined as follows:

variant: a version of a melody found in printed sources, in manuscript form or transcribed from taped sources of the Canadian Centre for Folk Culture Studies, National Museum of Man, Ottawa.

stressed-tone pattern: a pattern of pitches that occur on the main or strong beats of a measure.

anacrusis: the tone preceding the first beat of a measure.

gapped scale: a scale that contains less than 7 different tones. (c.f. "tone set")

tone set: the aggregate of each different tone occurring in a melody, from lowest to highest tone, inclusive.

"Sol-fa" syllables: The tonic sol-fa syllables are used in this study in the abbreviated letter form. In relation to notes of the G major scale, they are derived as illustrated:

1 2 3 4 5 6 7 8

Tonic sol-fa syllables for the degrees of the scale are:

do re me fa sol la ti do'

Abbreviated, to facilitate reading, these syllables are:

d r m f s l t d'

When syllables are sung from high "do" and above, a stroke is added to the upper right of the letter:

... d' r' m' ...

When syllables are sung below low "do" a stroke is added to the lower right of the letter:

s, l, t, ...

The representation in tonic sol-fa syllables for notes of the G major scale, notated below, is as follows:

d, r, m, f, s, l, t, d' r m f s l t d' r' ...

The tonic sol-fa system is a system of "movable do" (Apel, 1981, p. 857). The tonic of each major scale is represented by "do" or d. The tonic of the respective relative minor is represented by low "la" or l,. The abbreviated letter representation for the degrees of the scale will be used in the following discussion.

Children's Songs and Games of the British-Canadian Tradition

Since 1970 I have been compiling a collection of variants of Canadian children's traditional song literature. At first, I was skeptical that such a body of literature existed, comparable to the one that had been collected and published for Hungarian children

(Kerényi, 1951). However, with the encouragement of Kerényi, I soon discovered that such a heritage indeed existed. He had in his possession several original editions of British nursery rhymes with melodies: one of these books was Walter Crane's The baby's opera (1877). Many of the songs and games in it were variants of those I had learned in my own childhood in Canada. I soon discovered Alice Bertha Gomme's Traditional singing games of England, Scotland, and Ireland, Vols. I and II (1964/1894b, 1898). In these volumes are the more commonly known singing games, such as "The Mulberry Bush" and "Oats Peas Beans and Barley Grow", but there are many others that I had never heard, and games were described other than those existing in oral tradition at that time in Canada.

Then too, since it was believed that there was not a common stock of melodies traditionally sung to the nursery rhymes of British origin, I was quite surprised to find references, in The Oxford dictionary of nursery rhymes (Opie and Opie, 1969), to original sources that contained melodies accompanying the texts. I located many of these original sources in the Osborne Collection of Early Children's Books in the Boys' and Girls' House of the Toronto Public Library. Between the years 1971-76 I examined their entire collection of books, dating from 1476-1910, to discover all variants of singing games and of nursery rhymes with melodies. Singing games collected from oral tradition in Canada were then obtained from the personal collection of Dr. Helen Creighton in Halifax, N.S., during the years 1970-73. The folk song collections

of Dr. Creighton and Edith Fowke in the Canadian Centre for Folk Culture Studies, National Museum of Man in Ottawa, were subsequently examined for all recorded variants of children's traditional songs and singing games. Additional variants were also obtained from Edith Fowke's published work (1967). The personal collection, although not exhaustive, then contained approximately 250 variants of 63 different titles of nursery rhymes with melodies, and 300 variants of 55 different singing-games titles.

To organize all these variants, the variants of each nursery song and singing game were then collated according to title, and variants of each title were put into subgroups according to melodic similarities. This preliminary grouping and sub-grouping of variants was implemented after a study which had been made of the information contained in the original sources concerning the historical relationships of the melodies, games and texts. Melodies were then transposed to end on a common final note of G above middle C. The musical characteristics of the variants were analyzed according to scale, tone set, range, number of metric accents and number of text syllables per line of text, cadence tones, and formal structure of the melodies. Then a tabulated transcription of the grouped variants with common G final was prepared that indicated only the differences between variants. This preliminary study and analysis program occurred between 1976 and 1982: both the contents of the entire personal collection and the preliminary study and analysis program are described in detail in Chapter III.

From this preliminary study and analysis of the traditional song literature, it was revealed that the variants collected from oral tradition in Canada are derived from variants of the British tradition as they are preserved in print in sources found in Canadian libraries. The continuity of the tradition was sufficiently strong to warrant the undertaking of an additional analysis project using the computer. If the common musical characteristics of the song and game repertoire could be identified, then the structuring of a program based on the Hungarian model would be possible.

The Hungarian Model

For Hungary that the curriculum for school music education should be based on the characteristics of folk song style was no accident. The curriculum came about as a natural result of what had been initially ethnomusicological research of Kodály, Bartók, and others during the first decades of the twentieth century. After the collection and analysis of thousands of melodies, the musical characteristics of the style of Hungarian folk songs began to emerge. (Bartók, 1924, Kodály, 1952/1976) Contained within the body of collected literature were over a thousand variants of children's songs and games. These variants were analyzed, categorized according to common musical elements and published as Volume I of A Magyar népzene tára. (Kerényi, 1951) A total of seven volumes of the entire Corpus Musicae Popularis Hungaricae have been published, edited by various members of the Folk Music Research Group of the Hungarian Academy of Sciences. That the Hungarian folk song ever should have

formed the basis of a school music program was due, primarily, to historical and political circumstances.

Prior to World War II, Hungary had been under the domination of the Hapsburg Empire from the sixteenth century. This meant, in effect, that Austrian culture had been superimposed upon all facets of Hungarian cultural life, penetrating the school system as well. In 1941, Kodály described the state of music education in the Kindergarten during the 1930's. He deplored the almost total absence of "the traditional children's rhymes, games and songs which have played a principal role in the early stages of education of all cultured people." (Kodály, 1958/1964, p. 96). Part of the reason that the traditional children's lore was not known can be attributed to the lack of systematic publishing habits of collectors during the 19th century. Kodály (1958/1964, pp. 96-102) described the deficiencies of these publications: either texts only were published, because the ranges of the original melodies were thought to be in too broad a range for Kindergarten children; or new melodies were composed to the traditional texts in what was thought to be a more suitable 5-6 note range for children to sing. The result was that by the 1930's the traditional songs that had been known during the preceding centuries had not been adequately preserved. In a new publication of 1939, only one traditional song was printed. The remainder were songs written especially for Kindergarten children. Kodály strongly criticized not only the melodies, but particularly the texts of these new compositions. He said, "the rationalism of most of the texts, their educational, moral, or political tendencies, are entirely

foreign to the feeling and thinking of 3-6 year-old children." (1958/1964, p. 106). He commented further:

They do not start out from a child's soul, or his perception of the world, but the author's "self" (or being) is forced upon him. And this self is not an awakened personality ... but one of a Kindergarten teacher, a pedagogue, with their dusty conceptions, empty phrases and paper feelings. They view a child from without, describe what he is doing, and he is made to sing while doing it. All this may be very intelligent and scholarly, but it is not poetic and it is not child-like. Yet the two are more or less identical (1958/1964, p. 106).

To remedy this situation, then, to help the Hungarian people to get to know and thus to strengthen and maintain their cultural identity as a nation, it was deemed necessary that the Hungarian language and Hungarian folk songs be reinstituted in the schools. This was not possible to achieve fully until after the second world war.

Beyond the purely nationalistic aims for the infusion of the Hungarian heritage into the school curriculum, there were also cultural reasons in the broadest meaning of the term. In one sense, the quality of the musical and literary materials was seen to have intrinsic value for the education of a child. Not only do these songs preserve the traditional language with its store of images, but they are also the embodiment of the expression of a living culture. To provide a child with the opportunity to make contact with all that is "human" in the experiencing of these songs at a young age, it would then be possible for him to approach the expressive qualities of art works at a later age. The differences would be in degree, not in kind, of expressiveness.

Kodály (1958/1964) summarized the needs as follows:

Not only in superficialities and blustering flag-waving should our little world be Hungarian, but to the bottom of our hearts, because only in this way can it really become ours. The soul's depth, in particular, is the world of music. If the ruler is foreign there, then in vain do we wave flags, in vain do we shout our irredendist songs ... to foreign melodies; we are still deprived.

And for this revival we must begin from the bottom. It is in vain that the most beautiful curricula and the richest plans come from the top if there is no one who will carry them out with pleasure and conviction. Through administrative channels it is impossible to transform souls: but it is easy to administer the beauty and knowledge of a transformed soul.

It is true: for this we must change public opinion, too. They maintain that the school is one thing, life is something else. Yet the school, indeed even the Kindergarten, is real, raw life. The wounds someone gets there never heal until the day he dies. And if good seeds are made to be planted in the soul, it will flower throughout its whole life. A three year old person is a person. The more we shut him up in an imaginary world, the more difficult will it be for him to adjust later to the real world. (pp. 110-111)

In another sense, in broader cultural terms, one of the outcomes of a music education program, whose materials are derived mainly from the folk tradition, would be the creation of a national music culture. Kodály was not alone in this belief. In 1907, Cecil Sharp had already articulated the hope that the introduction of the English folk song into the elementary schools of England would serve to "effect an improvement in the musical taste of the people, and to refine and strengthen the national character" (Sharp, 1965, p. 173).

Then Sharp said:

It is not enough to "play with local colour". Brahms did not write Hungarian music when he borrowed Hungarian themes. Nor did Beethoven write Russian quartets when he made use of Russian folk song. Both Brahms and Beethoven wrote German music always, because they were Germans and had been brought up in the traditions of German music. Similarly, the English musician will not necessarily write English music simply by going to English folk music for his themes. It is highly desirable that he should do so; what effect it has upon him will be in the right direction, and it will, at least, aid in popularizing English folk song. But an English school of music is not going to be founded in that way. For that we must wait until the younger generations have been familiarized with folk song. We must leave it to them to restore English music to its rightful position - to do for our country what Glinka and his followers did for theirs. That we have lain fallow, musically speaking, for two or more centuries is all in our favour. There is nothing so fertile as virgin soil. (Sharp, 1965, pp. 169-170)

Ralph Vaughan Williams, in the dedicatory "An Appreciation", written in 1954, says that Sharp's dream has come true:

It is not mere accident that the sudden emergence of vital invention among our English composers corresponds in time with this resuscitation of our own national melody ... It is not something antique which Sharp has galvanized into a semblance of life. It is something which has persisted through the centuries, something which appeals to us here and now and, if we allow it, will continue to develop through all the changes and chances of history. (Sharp, 1965, pp. viii-ix).

Thus, the introduction of folk songs into the school curriculum was seen to be of great importance for the education of a child for human, national, and cultural reasons. Writing in 1952, Kodály summarized the situation in the following statements:

A general musical consciousness will only be found in Hungary when ... we accept the musical feeling of the ... majority of our people. If it is not built on this foundation, it will be rootlessly diffused in general world culture, or irretrievably lost in the semi-culture of internationalism (1952/1976, p. 94).

For Hungary, then, the music curriculum evolved as the result of national, personal, and cultural processes. The main focus for constructing the curriculum, once the musical materials were known, was how to incorporate these materials into a music education program. Music educators from most countries of the world usually become familiar with developments in Hungary in this respect only. The interest is primarily in the curriculum and in the structuring of the musical materials only, without taking into account the historical development and philosophical basis for such a curriculum. To do the latter is a matter of personal choice of the educator, but to ignore the historical and cultural perspective is to seriously jeopardize the success of any adaptation of the curriculum. While narrowly nationalistic fervour is rather out of fashion in today's society, the broader human and cultural goals are indeed relevant. To implement a program without these broader aims for the education of a child seriously weakens the educational endeavor.

Instructional Method

The methodology for developing literacy skills in the classroom, on the basis of this song material, is not within the scope of this dissertation to describe. However, it has been the focus of attention of music educators for the past two decades. The principles of the methodological approach have been learned and transplanted to many countries.² In itself, the methodology for teaching has made the single, and probably the greatest contribution to the development of music education programs generally during this time. What is needed, however, in order for an adaptation of the methodological approach to be implemented by educators, is first a knowledge of the musical characteristics of the traditional song literature of their own country. Second, it is necessary to modify the order of teaching the musical aspects of pitch, rhythms, scales and forms, so that the order is relevant to the traditional song literature of each particular national heritage. Third, the methodology for teaching the musical elements and concepts must be modified to suit the needs of children in each cultural context of today's modern society. Finally, a curriculum needs to be constructed whose ultimate aim for a child's entire musical education is aesthetic in purpose and musical in content and practice.

² Elizabeth Szönyi (1973) lists, in Appendix 2, almost three hundred foreign musicians and music educators who visited solfa classes at the Liszt Academy, from 1960-1972.

In the Hungarian approach, the use of pedagogical steps or stages for teaching each new concept is not original.³ However, to use melodic phrases or motives derived from traditional song literature for such purposes is unique. Many of the earlier approaches, such as Lowell Mason's (1834) began, in a manner similar to the Hungarian approach, with a period of rote singing. The purpose of this was to establish a readiness for the actual naming of the musical aspects of pitch and rhythm that had already been experienced in rote singing. The approach to learning to read pitch was to learn to read the degrees of the scale. Telstrom (1971) provides examples from Mason's The song garden, Second book (1864) for learning to read music by learning to read the notes of the scale, starting with the tonic: the first two degrees of the scale were learned and practised with rhythm patterns, then the third degree was learned and other degrees were added in succession; numbers "one, two", and so on, were sung to these notes; then the tonic sol fa syllables "do re" were sung, and so on, until every degree of the scale was mastered. A type of scale approach, derived from John Curwen's methods, was one of the earlier approaches used to teach reading of musical notation in Ontario schools (Cringan, 1907). In the Hungarian approach, there are antecedents both for the concept of developing music literacy using note patterns, and

³ See for example, the pedagogical stages for teaching musical elements as outlined in Parker, McConothy, Birge & Meissner (1916).

for the methodological practice of teaching in pedagogical stages. What is new, and a unique contribution, is the use of motives or phrases derived from traditional song literature to aid in the development of music literacy; and the ordering of musical concepts based on the common musical characteristics of the song form.

Melodic Characteristics of Hungarian Children's Songs

The variants of Hungarian children's songs were published as Volume I of A Magyar népzene tára (Kerényi, 1951), grouped on the basis of an analysis of common melodic characteristics. From this analysis, Kodály concluded that the melodies are "variants on, or smaller fragments of, one basic tune. Their scale is formed from the first six degrees of the major scale: g₁-a₁-b₁-c₂-d₂-e₂, the European hexachord." (Kodály, 1976, p. 77) The songs of the collection were grouped according to similarities of these melodic fragments that formed the nucleus of the melody within the hexachord framework. Thus, although the range of the tones or the "tone set" of a melody might be greater than the tones designated as the nucleus of that melody, variants were grouped initially according to this nucleus of common tones. Therefore many groups of variants were specified, containing, for example, a nucleus of "r-d", "m-r-d", "s-l-s-m", "s-(l)-s-d" tones, and so on. (Kerényi, 1951) Often variants were grouped according to the nucleus of the tones of the first phrase, then successively in consideration of succeeding phrases. Jardányi says that this special order had to be prepared for the children's songs because of their free structure. They had

to choose an element which was quite independent from the contingency of structure, and this element was "the nucleus of the melody, the most characteristic and generally the most frequent formula of the melody" (1965, p. 288).

When the first pedagogical materials were prepared for Hungarian schools, melodies containing "r-d" tones, then "m-r-d" tones were chosen to begin the writing and reading sequence. Kodály's 333 reading exercises (1943/1972) were prepared on this basis: the first section contains "d-r", the second "r-l,-s,", the third "r-d-s," melodies, and so on. However, melodies containing these tones were difficult for the children to learn and to sight read: melodies containing a "s-m" and "s-l-s-m" nucleus were then introduced and found to be more easily assimilated. Therefore the "s-m" nucleus is still the starting point for the music literacy program in Hungary, and it is the one that educators in other countries of the world adopt as the starting point for their music education programs. However, this is only one of many melodic patterns of Hungarian children's songs, whose basic tune is the European hexachord.

That tunes containing "s-m" and "s-l-s-m" tones have been adopted as the starting point for some music education systems is due to the almost universally accepted belief that the "s-m" interval is the most common interval of children's chanting all over the world. Moorhead and Pond (1941) found the "s-m" interval, together with its upper neighbor "l" to be the natural interval of children's chanting for their study. Specifically, the chanting occurred within the absolute pitch range of E to A above middle C, with F# the most

common tone for unexcited singing, although D seemed to be the more usual. (p. 19) Advocates of the Orff approach use the "s-m" nucleus as the initial pattern for singing and for melodic improvisation, starting with the G and E tones of the xylophone or glockenspiel. Bernstein (1976) avers that "research seems to indicate that this exact constellation of two notes (and its three-note variant) is the same all over the world, whenever children tease each other, on every continent and in every culture" (p. 16). He speaks of a "musico-linguistic universal", but in spite of Bernstein's very lengthy demonstration of the underlying structure of the music of the great composers, no evidence for children's traditional music, and folk music in general, has yet been offered for the universality of this "s-m" pattern.

On the contrary, the results of research of the folk songs of two other cultural groups reveals common patterns specific to the melodies of these cultures that are different from the results of the analysis of Hungarian children's songs.

One such study is the research (published by Jacquotte Ribière-Ravelat [1974]), of French children's songs. A selection of 500 songs was made which represents the tradition and which would be most suitable and interesting for children to learn. The melodies were grouped according to Hungarian methods described above, and published in a pedagogical order: the first group is songs comprised of "s, - d", then "d - r", "s, - d - r", "d - r - m", "s, - d - r - m", and so on, gradually approaching melodies with tones in a complete scale. There are no "s - m", or "s - l - s - m"

categories.

Nelson (1981), in an analysis of a collection of Black American folk songs, found the most common ascending and descending intervals involve the notes "d" and "l". She recommends, on the basis of analysis of the frequency of occurrence of the most common pitches or tone sets of songs, the subsequent introduction of "s", then "r", then "m". After the "d - l," tone set, the most frequent phrase tone sets are "d - r - m", "s, - l, - d", "l, - d - r - m", and "s, - l, - d - r - m". There is extreme variety in the rhythmic patterns, therefore suggesting the early introduction of a variety of complex rhythmic elements for Black American children (Nelson, 1981, p. 24).

Therefore, while the Hungarian music education program begins the musical writing and reading process with phrases or motives made up of "s-m" tones, which is only one of many common patterns of the melodies of their children's songs, it has yet to be demonstrated that this is a common pattern of children's songs of other countries. In North America there are not many children's songs containing this "s-m" nucleus, or the "s-l-s-m" nucleus. Most adaptations of both the Orff and Kodály approaches contain many composed ditties of "s-m", "s-l-s-m", "m-r-d", and so on, tones. These have been written for texts or jingles made-up for children, or to nursery rhyme texts which already have traditional melodies. This latter has been done in an attempt to make the traditional materials more appealing to children whose melodies are considered to be in too broad a range or

to be too difficult for children to learn. These ditties have been composed also in an attempt to make an adaptation of the approach in North America fit the European model. However, the use of the "s-m" nucleus can only be accepted as a compromise beginning until more is known about the contents of the traditional songs of North American children.

The Problem

The first problem in constructing a music education program on the basis of the Hungarian model is to collect traditional children's songs and games and to analyze their musical characteristics. What is necessary to know are the common melodic and rhythmic patterns of phrases, the common scales or modes, and the common formal elements of patterns of phrases and their cadences. Once these are known, then a musical plan can be formulated to develop children's skill acquisition upon the learning of music through these common elements, proceeding from the simplest patterns to the most complex. This material and its inclusion in a program are to provide a starting point for the curriculum. They are a means to an end, are meant to be the core of the curriculum through which musical learning and musical concepts can be developed. The aim of such a curriculum is to provide a musical, aesthetic education, one which will prepare children to be able to perceive and respond to the expressive qualities of all music, as performer or listener, from childhood into adult years. The structuring of such a musical program will

be possible only to devise once the characteristic musical elements of children's songs are known.

The Purpose

The purpose in this study was to develop a computer-aided methodology to analyze the tones of phrases of variants of children's songs of the British-Canadian tradition to determine what were the characteristic patterns of these melodies. What was of greatest interest to know were the characteristic patterns of opening and closing phrases of each melody, and the patterns of phrases at the mid-cadence point.

In order to determine these characteristics, it was necessary to consider the following:

1. the number of sections in each variant;
2. the number of phrases in each section of each variant;
3. and the length of each phrase of each section of a variant.

If it were possible to identify each phrase, then it was necessary to be able to isolate each phrase for each phrasal position in the variant for comparative purposes, and to keep track of the variant from which it was isolated. To compare phrases, it was necessary to consider whether all the tones of each phrase should be compared with all the tones of every other phrase in each phrasal position, or whether only some tones should be compared. If some tones were to be compared, then which tones? Then, how could tones of phrases of variants be compared with variants in different time signatures and key signatures?

Limitations

For this study, only a sample of melodies was selected from the singing game collection to test the methodology to isolate and compare patterns of phrases.

The approach to analysis was based on the methodology developed by Bartók for the analysis and classification of variants according to the "grammatical principle": variants were grouped first according to the number of phrases of the melody, and second, according to the length of each phrase. It will be demonstrated by the results of this study that this approach is applicable to the analysis of children's singing game literature. It enables a description of the musical characteristics of the collection, rather than a summary of the most frequently occurring characteristics.

This is only one approach to the study of the folk song and has not been followed generally in North America. However, much of the research concerning computer applications to the analysis and classification of folk songs has been developed in North America. Therefore, the review, which follows, of methodology developed for such a study, will reveal that there has not yet been devised the kind of computer-assisted analysis and classification system which is necessary for the purpose of this study.

CHAPTER II
THEORETICAL DISCUSSION
Introduction

There is a variety in approach to the analysis of folk songs in computer-assisted investigations. Some approaches to analysis have derived from the traditions of folk song scholarship, and others have derived from traditions and methods of analysis of both historical musicology, comparative musicology, and music theory generally. Often the boundaries overlap and it has been very difficult to evaluate the results of computer-assisted investigations. Part of the difficulty is in the use of the word "style", and, therefore, in differences in conceptual framework for investigation implied by the use of the word.

For this study, the methodology developed for analysis, based on the approach of Kodály, Bartók, and other East Europeans, is to enable the distinctive characteristics of a body of literature to be described. This is, in effect, to characterize the "styles" of the songs of a collection.

On the other hand, an examination of folk song scholarship, mainly in North America in this century, reveals other approaches, inherited chiefly from the older Western European traditions of musicological/theoretical analysis. The main thrust of these has been analytical, but this analysis has attempted to understand the common points of similarity, the structural unity, of large bodies of material and to

search for common ground for comparison between the music of all times and of all places. In studies of this type, the search for the "archetype" tune, and related "tune families" is essentially a search for "the style".

As well, the term "style" has been used to describe the idiomatic expressions or "formulae" peculiar to a region or singer, which have been superimposed upon "the tune" or "the tunes". In the analysis of strictly Western music, the search for distinguishing stylistic characteristics of a composer, or of a national group, has led to the examination on the micro level of tone sequences, among other aspects, by computer-assisted methodology. Some of this methodology has been applied to the analysis of folk songs, but with the opposite purpose, to find common grounds for comparison for all bodies of folk song literature.

With few exceptions, the comparative approach has been the theoretical position of studies adapting computer technology to the analysis of folk song melodies. The main thrust of these has been to create thematic indexes. Neither the thematic index nor the comparative approach, which are contradictory in purpose, is useful for the project at hand. However, selected studies of these types are reviewed to examine the variety of approaches to one of the major problems of analysis, which is the principle upon which variants are initially grouped to allow for subsequent processing by computer. From the review of the variety of approaches to this problem, it will be demonstrated that there is a need for a

conceptual framework for the grouping of variants which is derived from the musical structure. It is for this reason that Bartók's approach to the analysis and classification of variants according to the "grammatical principle" was selected as the basis for the computer-aided methodology developed for this study. In contrast to the purpose of analyses based on the comparative approach, the purpose of analysis according to the "grammatical principle" is to enable the distinctive characteristics of a collection to be described and the different styles to be determined.

That a conceptual framework derived from the musical structure has been lacking in studies of the comparative type may be attributed in part to an inadequate understanding by researchers of the traditions of the music being examined. Music was often encoded directly from printed sources without thorough study of the material. Transcriptions were found wanting after programs had been executed on the encoded information, when results produced confusing or "inconclusive" data. Then, too, there has been a lack of consistency in the understanding and description of the "modes" of folk song melodies. When these musical problems have been clarified, then a stronger conceptual framework for the analysis of the melodies of folk songs by computer methodology can be established.

Some of the most recent research, then, will be reviewed both to examine and clarify the theoretical position and to seek useful approaches to the application of the computer methodology for analysis purposes. This will be done in two parts: in Part A, beginning with North American research derived from the comparative

approach and methodology developed to describe common characteristics of large collections of songs; in Part B, beginning with a description of Bartók's analysis and classification systems and subsequent related research with the aid of computer technology.

PART A
THE COMPARATIVE APPROACH

The main hindrance to the development of a methodology for musical analysis in North America is that folk song scholarship has been, and still is today, concerned primarily with a study of the texts of songs. These have been classified according to type of song, whether Child ballad, broadside ballad, or other. By mid-century, in the view of Wilgus (1959) and of Bronson (1959a, 1969, 1976), this kind of study had produced only limited results. To relate ballad texts to each other on the basis of narrative theme, or by textual affiliation, or by origin had served to create only catalogues and bibliographic syllabi of sometimes overlapping and confusing categories (Wilgus, 1959). Not only were there difficulties in defining just what constituted a ballad (pp. 251-259), but also there had been "an almost total disregard of the ballad music". In Wilgus' opinion, this reflected a defect in American scholarship (p. 250).

Wilgus' summary of tune scholarship itself (pp. 326-336) reveals an emphasis on studying the technical aspects of the melodies with particular attention to the modes as a means of classification. This emphasis on the modes, beginning with the founding of the English Folk-Song Society in 1898, and strengthened by Sharp (1907), grew in the United States, culminating in the formulations of Bronson. (Wilgus, 1959, pp. 326-329)

Bertrand Bronson

Bronson's monumental contribution to folk music scholarship has been the editing and publishing of extant tunes of The traditional tunes of the Child ballads (1959-72). Child himself did not publish tunes in his work, English and Scottish ballads, (1860). Bronson, whose research for tunes began some fifty years after Child's, searched Child's repository of materials, manuscripts in print from the first quarter of the 20th century, and sound-recordings from the second quarter. Bronson's was not an attempt to duplicate Child's work, but to find in tradition as many of the ballads with tunes for the texts which Child had originally classified and published. To classify the melodies was the first problem. Bronson retained Child's classification system by text, printing variants of texts with their tunes accordingly. For the ordering of texts and tunes within each classification, Bronson devised a system based in part on historical evidence about the age of each text, and in part on evidence from oral tradition concerning the strength of a variant strain. He believed, contrary to prevailing opinion, that the tune was by far the more important aspect for study and that the processes of natural selection had been at work for many generations resulting "through unremitting pressures in most of the characteristics of the ballad-style". It is the music which has "dictated and controlled the stanzaic habits of ballads", influencing "the words, the phrase, the rhetoric, the narrative method and length, the range of character

delineation and habit of expression of the *dramatis personae*".

In Bronson's opinion, these influences have been *musical* influences, and have been felt in other kinds of song as well. "They could hardly move in the opposite direction: this is a one-way street" (Bronson, 1959a, p. ix-xii).

The Archetype

Bronson's preoccupation with the tune was a natural outcome of the then-prevailing emphasis on an examination of the melody as a whole, where the melodic contour was considered to be the most stable element. (Wilgus, 1959, p. 332). The examination and comparison of tunes revealed to Bronson, among others, resemblances in "tonal vestments" which were recognizable in apparently distant tunes. The term *tune family* was applied to these melodies. As defined by Bayard, a tune family is a group of melodies showing basic interrelation by means of constant melodic correspondence, and presumably owing their mutual likeness to descent from a single air that has assumed multiple forms through a process of variation, imitation, and assimilation (Bayard, 1950, p. 33). Bronson developed a theory of "modal correspondence" (1946) to explain the evolution of tunes and as the basis for ordering of variants (1959a). The key to the ordering system is to be found in the title of the 1976 volume - it is the *singing tradition* which has been catalogued and analyzed. "The starting point", in the evolutionary sense, "can

never be ascertained," as Bronson says: "we must start from where we happen to be" (1959a, p. xxv). The rationale for precedence, or ordering of variants, is therefore derived by Bronson as follows:

It will ordinarily be found that a large group of variants will show a numerical preference for one mode or another, but will perhaps spread to adjacent modes on either side, through gapped scales, towards statements more strongly minor or more positively major, as the case may be. In ordering our series of variants, therefore, we may give first place to the statements in the *favourite modal position*.
[Italics added] (1959a, p. xxvi)

Of the approximately 4,000 tunes of the 1976 edition:

The distribution, ballad for ballad, ranges from a single tune to as many as 250 variants or versions. Where these are sufficiently abundant, they can be arbitrarily ordered in groups, according to their sameness or difference. (1976, p. xlv).

The ordering was eventually made possible by the application of an IBM computer program (1949), which aided Bronson in establishing a tentative melodic contour for archetypes of two tune families (1951); Bronson also elicited the favourite forms of the tunes of seven of the most popular Child ballads in Anglo-American tradition (1957). The results of on-going research had enabled Bronson to conclude the following concerning The singing tradition of Child's popular ballads (1976):

There is a greater liking for the authentic range; a preference for four-phrase structures, and within these limits, for phrases that do not exactly repeat one another - A B C D as compared to recurrent phrases of whatever design [of nearly 3,500 tunes, roughly half are of this pattern], ... a preference for the major galaxy, I/Ly, II, I, I/M, a strong compulsion to end on, not off, the tonic (pp. xlii-xliv).

The main aspect to be examined in identifying variants was the contour of the melody. Bronson recognized that not all notes have equal weight in determining the character of a melody: "notes with metrical emphasis are more important," and especially the ones at the beginnings and ends of phrases. Next in importance, to the final note of a tune is the note at the mid-cadence, or at the end of the second phrase, "of an ordinary four-or-five-phrase tune of typical folk-tune of our British-American tradition" (1959a, p. xxvi). The third phrase is least stable, and the fourth phrase is "strongly conditioned by its approach to the concluding tonic, and so less individualized. It follows from these natural phenomena that tunes are likely to get themselves defined as identities by the time they have reached mid-cadence" (p. xxvii). Bronson says that the foregoing are therefore to be taken advantage of "in setting up a moderately consistent practice in the ordering of our variant copies of related tunes." (p. xxvii).

The computer program devised to relate tunes to each other, to enable families of tunes to be grouped together, was based on encoding information according to the above views (Bronson, 1949). The encoding was undertaken after analysis of the following musical elements, in the manner indicated:

range (authentic, plagal, or mixed), as "a"

"p" or "m" respectively;

modal characteristics, encoded as the first

letter of each mode, and as Π for pentatonic;

prevailing time signature, by its numbers;
number of phrases, by number, corresponding to
the number of lines of verbal text;
the nature or pattern of the refrain, with
regard to the musical phrases, whether
inset or final, and on which phrases
these elements occur;
the phrasal scheme, as A A B A, omitting the
first A, because the first phrase will
always be A;
the final, whether identical with the tonic;
the initial interval between the upbeat and
the first strong beat, by encoding the
scale step of the upbeat, as I, or II, ...;
the skeletal outline of the first and second
phrases, indicated by scale steps, as I, II,
and so on, disregarding accidentals, which
are encoded separately;
the tones of the fourth phrase, if the tune is
double-strained;
the melodic commonplaces or formulae which are
likely to occur, with more than the
stressed tone encoded;
the cadential tones of the phrases by number,
and whether masculine or feminine;

accidentals recorded separately in columns referring back to each previously encoded phrase, also to be cross-referenced to the indication of the type of mode encoded at the beginning (pp. 82-85).

The results of various kinds of comparisons are summarized in Bronson (1959b). The simplest sorting, by stressed tones of the first phrase, for example, displayed the "strength of the opening" on III I III I (p. 175). Other "points of general agreement" investigated were frequency counts of stressed tones of the first two phrases related to range (a, p, or m), to mode, mid-cadence note, to first cadence point, and to first accented note. Bronson then admitted that frequency counts are, of course, misleading, for the "sum of frequencies at any one accent point falling above and below the most favoured scale degree ... is greater than the number falling *upon* that degree" (pp. 178-179). He therefore charted the "inner dynamics" of the melodies by examining the tendencies of movement to the next accented note within each of the sub-categories. He concluded by saying that the focus of his study could indicate possibilities for further comparative investigation based on his methods.

From the results of this investigation, Bronson has:

tended more and more to discount number and scheme of phrases, and meter, and refrain elements as significant factors; but to give added weight to range (broadly distinguished as authentic, plagal and mixed), and to melodic mode, and to rhythmically determined contour, with special emphasis on cadence points (p. 176).

As Wilgus stated (1959) "Bronson's conclusions have yet to be fully interpreted" (p. 335). What Bronson provided was a method for summarizing the degree of correspondence or similarity of some aspects of the tunes of a collection. There are some limitations to the usefulness of the results of Bronson's work as a basis for future analysis. The concept of examining and comparing complete melodies, according to the principal tones of the first two phrases, only serves to create an index of those tones. Other limitations result from the initial encoding of information:

1. Stating that a melody is in a particular mode, and a particular form of the mode (whether authentic, plagal, or mixed), does not give complete information about the tones that exactly occur in a particular melody: for example, in which part of the range is the 6th tone absent? What is the actual configuration of tones of a particular melody?

2. To not encode all tones of the entire melody precludes any additional analysis which might be needed. For example, to encode accidentals separately and then attempt a later cross-reference to the name of a mode, with only stressed pitch of some phrases of the entire melody available, would produce very imprecise results.

3. Omitting the rhythmic patterns, regardless of Bronson's sweeping statements that "metrically, the iambic is the usual pattern, but other types of feet are ... freely substituted in easygoing popular verse" (1969, p. 38), prohibits further analysis of the rhythmic aspect, and a comparison of melodies with texts. There are some differences, and it is the nature of these differences that would be of interest to investigate. For, if there are differences in metrical organization between melody and text, then Bronson's theory of the influence of the melody as a determining factor in the formation of the text would have to be re-examined.

4. Further, the theory of modal correspondence itself has never been adequately challenged. To base a determination of the relative age of a variant, and its relationship to other variants, on this theoretical basis, and on the incidence of popularity of a modal structure, is to say the least, not very scientific. To subject the entire corpus of ballad melodies "in one undifferentiated mass" to this kind of analysis and comparison, without consideration of regional differences, or differences of national origin, is to render the interpretation of results extremely difficult.

5. Finally, the existence of tune families may be of interest to know, and could be the focus for additional analysis, but the "data base" created by Bronson is so narrow as to preclude any further analysis of stylistic characteristics.

The search for the archetype tune in folk song scholarship is a manifestation of the then-prevailing methods of research of literary history. Brăiloiu, among others, was highly critical of this approach for musicological research. Writing in 1939, he described one such search, and the net result. It is an attempt to find:

by means of documents going back to the sixth century, the real kernel, the birthplace, and-almost-the very author of the song arising from an event, called *Donna Lombarda* or, commonly in Germany, *The Female Poisoner*. For this, three versions were used. But as the variants, notably those from Eastern Europe, flowed in, the historic décor vanished, and all that remained were the rudiments of the human theme and the fantastic elements, originally reckoned adventitious. The further it progressed, the less enquiry led to a real piece of history, to dates, and names, to an author. *It emerged as a myth* (Brăiloiu, 1939/1984, p. 92).

However, it is the conceptual framework of the archetype which has influenced the course of subsequent research of folk song scholarship, especially in North America, and with computer applications. Many studies have been spawned that seek to look for variants, to create indexes, but there is a paucity of studies that provide for a conceptual framework for analysis and classification beyond the index.

Computer-aided Studies

Scherrer and Scherrer (1971) developed a method for determining melodic variants by comparing complete melodies to each other. With the aid of a CDC 6600 computer and Fortran IV language, they devised

a system to compute the statistical degree of correlation between two melodies. Recognizing that previous systems, namely those of Bronson, were too rigid in that they were confined to only one parameter for comparison, their contribution was an attempt to correlate melodic contour and overall rhythmic movement. Tunes were divided into phrases, all pitches were connected to numbers, with G below middle C as 1, dividing the octave into twelve semitones, and duration was expressed on the basis of the eighth note value. Thus, numbers representing these two parameters were encoded:

The number represented the pitch; each repetition denoted an eighth note value. These numbers were read and stored in an array. Then a degree of correlation of two melodies was computed.

The authors discuss one of the difficulties which could be encountered in the encoding of variants, where transcriptions had originally been written in differing time signatures, for example, in $\frac{2}{4}$ as compared with $\frac{4}{4}$. This could create a reduction of a variant which would be twice as long as the other, in the eighth-note based code. The authors suggest the problem could be overcome "by accepting Bartók's metronomic standards of rhythm" (p. 238). But these recommendations in Bartók (1951, pp. 7-12) are to the original transcriber of the melody. So when faced with these durational problems of printed transcriptions, Scherrer and Scherrer suggest that the researcher must use his own judgement, and "quickly becomes

able to reduce his melodies to consistent rhythmic bases" (1971, p. 238).

Second, the results of comparison produce a degree of correlation, but as the authors ask, "at what point does a variant cease to be a variant, at .9, at .3, or at .27568?" (p. 238). The authors then ask, why bother finding variants? They suggest that grouping of variants is a means, not an end to research. They suggest their method could be combined with techniques developed by Bronson, for sorting, and for identifying tune families; indeed could be extended to a comparison of variants from other cultures to look for corresponding tune family relationships. However, no other avenues for additional analysis, or bases for comparison, and classification, are suggested.

Steinbeck (1976) devised methods for creating an index of related tunes and for analyzing other aspects of the folk song to define the degree of similarity of these aspects. His research, while conducted in Germany, is really based on the archetype concept of tune structure.

Steinbeck investigated the German folk song, because of its homogeneity in style, being characterized by the "same 'natural', monodic, strophic, periodic and tonal-harmonic principles" (p. 287). He therefore dealt with printed melodies only, being "by their very nature unambiguous", of German folk songs which have appeared in print since the end of the eighteenth century. These restrictions

he says "are based on the need for an homogeneous base of material which avoids the philological, genetic, and folkloristic problems common to folksong research" (note 4, p. 295). However, as has been discussed above, the avoidance of such "problems" really means, in effect, an approach to the study of folk song purely from a musical-analytical viewpoint, submitting printed notes of folk songs in an "undifferentiated mass".

Steinbeck's main purpose was to create a catalogue of these melodies, and to do so he devised a method to determine the degree of similarity between melodies, to determine the basic melody types. His rationale was that because one of the most outstanding features of the German folk song is the structural simplicity - we are able to "sing along" on first hearing - that there must be certain aspects of syntactical structure which enable us to do so. Therefore, the question he asked was, which aspects? He decided that the features of the structural principles of similarity which play a central role in the determination of basic melody types are "ambitus, key, cadence notes, form, and the curve or profile of the tone sequence" (p. 289). He therefore devised a method of entering melodies directly into the computer by means of a "Klaviatur", storage of the melody, and the printout of melody segments in notational form (by the LPTN-Line-PrintTer-Notendruck, which he devised), tabulated according to type. This juxtaposition of melody segments having common "outlines, models, or schemes of configuration", "should make

evident that similarity can exist between melodies." He said that:

related types and similar forms are not, however, interdependent. Because of their individual attributes, melodies of the same type may not be similar. On the other hand, similar melodies will always belong to the same type, *although concept of melody type is admittedly problematic* [italics added] and requires a more thorough discussion than is possible here. (p. 289).

To enable melody segments to be grouped and printed out, Steinbeck constructed a system whereby the degree of similarity of attributes could be objectively determined. He used a VETTA (VErgleich der Töne pro Takt: comparison of tones for the measure) Method to examine notes on the beat of each melody segment, and to assign weighted values to these to determine the relative significance of each. First melody segments were lined-up so that bar lines corresponded: measures in all meters were standardized by transposing all time values to the lowest common denominator, and melodies were transposed to a common key (to G). Then the number of beats per measure was calculated and:

two melodies were then compared note-for note on the basis of corresponding beats within each measure. The beats of one melody segment determine the size of the field of comparison to be imposed on the second melody segment. If one or more notes within a comparison field are identical, the field receives a value of 1; if no notes are shared, 0. Because different meters necessarily produce comparison fields of unequal size, the comparison process must be repeated with the position of the respective melodies reversed. (pp. 291-293).

To obtain a "measurement of the similarity between two melody segments", the "1-values" of both comparisons were added and

expressed as a percentage between 0 and 100. "The extreme value of 0 would indicate that the two melody segments have no notes in common, i.e., that they are totally dissimilar; the extreme value of 100 would indicate that all notes falling on the beats of each measure coincide" (p. 293). The comparison, of course, only considers notes falling on the beat of any measure; there may be any number of notes between beats.

The boundary line between similarity and dissimilarity was calculated by submitting all melodies of a collection for comparison and accepting the smallest percentage of similarity as the cut-off point. The computer then located and printed out all melody segments where degree of similarity was above this cut-off point. With the VETTA Method, the structurally important notes could be assigned any desired Weight-Factor to increase or decrease their relative importance: the examples printed by Steinbeck (p. 294), of melody segments located by the computer, were assigned "a minimum similarity percentage of 86.7 and a Weight-Factor of 2 to notes falling on the beat of each measure" (p. 293). Steinbeck does not explain either how the Weight-Factor of 2 was determined or what the number represents. It appears that notes occurring on only 2 beats per measure were compared. This is deduced from Steinbeck's assertion that the correspondence of one sung note to each beat is normal in the German folk song. Thus "establishing fields of comparison on the basis of beats per measure insures that almost every note, and certainly every structurally important note, will be compared" (p. 293).

As a cataloguing procedure, Steinbeck's VETTA Method introduces a novel method of locating similar melody segments, and of printing these out for further comparison. He says it allows for a greater degree of certainty in determining basic melody types, which are characterized "not by individual details, but by certain outstanding features" (p. 289). Will his method relate tunes of the tune family type as defined by Bronson, or will tunes be related in an index through a degree of similarity of certain aspects? But what conclusions can be drawn from such results? What will actually be described in the results, beyond the degree of similarity existing between melodies? To create an indexing system is one accomplishment, but to search for a definition of certain "aspects of syntactical structure" which enable us to "sing along" with these melodies is quite another problem: the aim of this kind of analysis is quite different. Given that the style is homogeneous, it might be more fruitful to determine through live responses of listeners whether some melodies are easier to "sing along with" than others, and then to examine these melodies to discover underlying similarities which could provide the basis for further analysis.

With respect to the method of lining up and printing out melody segments to provide an index, it is not clear what advantage is to be gained from this very complicated method of comparing principle tones of melody segments over Bronson's in the initial stages. Although the notes between the principle notes in Bronson's data base are not available for future processing and analysis, these may not

be necessary for the compilation of a catalogue where it has been decided that the principle of stressed tones is a sufficiently strong attribute to allow for such comparison to group tunes in an index. For Bronson's encoding method, the encoder determines the notes that represent the structurally important stressed tones. The encoder is thus able to ensure that what is encoded is an accurate representation of the stressed-tones of a melody segment which he has defined. Steinbeck's method allows for the processing from printed music directly into the computer. If Steinbeck's assumption is correct, that one of the characteristics of German folk songs is that they are "based on the principle of corresponding paired measures" (p. 287), then his processing method would be very efficient. In other words, if the original transcriptions represent each melody in a form which enables comparison according to melody segments which are comparable, then to process notes directly from original printed sources could save a great deal of time, and the results could be expected to be meaningful. The results as represented by the printed lined-up melody segments, however, still require eyeball interpretation for future analysis.

Formulae

A secondary aspect of the search for the archetype tune and families of related tunes has been the examination of the "inner workings" of the melodic contour. This examination of melodic

formulae was considered by Bayard (1950) to be equally important with all other aspects in an examination of stylistic characteristics of the folk songs of the British-American tradition. As has been summarized above, Bronson compared, from the broader view, entire melodies on the basis of modal correspondence, and from the smaller view, the stressed tones of the melodic contour. In order to do this, he considered most of the important aspects which Bayard had suggested were necessary to analyze: tonal range, the melodic progression, the melodic line, the order (recurrence) of corresponding musical phrases, and the order for recurrence of stressed tones. Bayard also considered rhythm to be another important aspect which Bronson, however, largely ignored.

Beyond these considerations, however, is the examination of what Bronson called "common formulae", which he did encode together with the accented tones of the first two phrases. He referred to the presence of these in oral tradition (1976, note 8, p. xlii). These formulae are, in essence, at the heart of the matter of melodic variation. They are also the most difficult to analyze and classify.

Bayard was among the first to call attention to the presence of these idiomatic expressions, stereotyped features in opening and closing passages, and clusters of tones, or common or close correspondence of melodic contour, melodic intervals and recurring accented tones persisting across differences in rhythm and mode. These Bayard called "formulae". They are part of oral tradition, are used by singers with great expressiveness, and are an integral part

of the melody. (1950, pp. 7-9). Therefore, Bayard believed, the features which we try to delineate as being part of a style cannot be part of any style unless that style has a foundation in one style. If there is one archetypal tune of the British-American tradition, with several classes of tune families, then once the skeletal outline of these tune families is known, it is the "formulae", or idiomatic manner of performance, varying from region to region, or country of origin to another, which can truly be called "style." (pp. 25-36)

Computer-aided Studies

There are several computer-aided studies which adopt a more flexible approach to the problem of analyzing and classifying variants, to allow for this aspect of variability in oral tradition. These approaches range from ignoring the metrical and rhythmic aspects, to the adoption of principles of melodic analysis developed by Kolinski and other historical musicologists, to examining the melodic variations of subsequent verses of the text, and to adopting principles of computer analysis methodology from other disciplines. These studies have been grouped under the general heading of "formulae" because of this range, and because of the comparative approach of each.

Dillon and Hunter (1982) examined whether rhythm and meter are structurally important to the grouping of variants. They defined sets of five properties essential to the comparison of variants.

These properties were defined as pitches of a phrase measured and unmeasured; stressed pitches of a phrase measured and unmeasured; and all pitches of phrases. This approach then would make possible also the consideration of melodic formulae as part of the analysis.

Tunes of American shape-note hymnody were encoded in DARMS in the original key, mode, rhythm and meter, and then the National Tune Index DOREMI program of Keller and Rabson converted the melodies into digital form according to the five properties. A bibliographic processing system was adapted in which the matching operators, AND/OR, made use of any of the five properties, listed above, either singly or in combination, to define a set of acceptable variations. Each tune in the collection was compared with this definition; a successful match implied that the tune was likely to be a variant of the original.

While methodology for matching, using the Boolean expression with AND/OR operators, is an interesting concept, SNOBOL programs can accomplish the same "matching" much more directly as will be explained later in Chapter III. At the time of their writing, Dillon and Hunter were in the process of testing their digital conversion system on the complete file of over 6,000 tunes.

Great difficulty would be encountered in interpreting results, however, primarily because tones of the melody were converted, regardless of the mode, to the same number systems: i.e. the tonic of a mode was always "1" whether the mode was Major, Aeolian, Dorian, or any other. The rationale for this system is that variants that

differ only in mode, but that are identical in every other respect, would then be matched. The harmonic minor scale was given as the norm so that modal melodies could be matched automatically which vary in the 6th or 7th degree of the minor scale. (pp. 111-112). Then in looking for variants, the set pattern would look for varying combinations of pitches for the raised sixth, or lowered seventh, and so on: but the programmer would need to define these set patterns separately. The authors state that "minor melodies often exhibit variations in the pitches represented by 6 and 7" (p. 112); but there is in their system, no differentiation possible for the third degree in the minor modes - Dorian, Aeolian, Phrygian - or for any other degrees that are different in the respective modes from the degrees of the major scale. The authors state that "this encoding scheme eliminates differences among melodies that depend only on key or mode" (p. 112). This method of representation may aid in the initial grouping of variants, but it would certainly be limited in its "use effectively for research into melodic variation" (p. 107). The results would then have to be converted back to the original notation for further analysis, presumably a time-consuming operation. Although the authors concluded that perhaps an "additional field incorporating interval sequence" might improve variant matching (p. 116), they were critical of thematic indexes that match variants whose incipits have been converted to interval sequences. They say that "a thematic index for a collection of melodies, however, derived, is limited in its

effectiveness as a tool for identifying variants. When variation occurs at the beginning of two melodies, they will be separated in the index no matter how alike they are thereafter " (p. 108).

The authors also criticise Steinbeck's methods, using measures of association to group variants, claiming the results are often impractical, and there is difficulty in making sense of the results. Steinbeck poses a problem of determining an appropriate set of musical properties and their effective weighting, a necessary prerequisite in such attempts, but the authors say he does not solve it (p. 108).

Melodic Structures

Related conceptually to the study of melodic formulae are the approaches to the analysis of melodic structures developed by Kolinski. (1965a, 1965b) These will be examined next since they have influenced the present direction of the development of computer-aided methodology for the analysis of melodic variation. Other approaches to analysis of historical musicology were also adapted, but of these, Kolinski was highly critical, and at the time when such computer methodology was just being developed.

Kolinski's methods of analysis developed as an outgrowth of his early work with Hornbostel in Berlin before World War II. Like Bayard, Kolinski searched for methods of analysis that would characterize the variability of the process that created the musical

structure. His was an attempt to reveal the organic unity of a body of literature. In essence his was a search for common characteristics of the archetype, but it was in a different "mode". He examined such aspects as tempo, harmony, scale, and rhythm, as well as melodic movement, which would enable comparisons of the music of any cultural group. Although Nettl says that Kolinski's approaches and methods of analysis have not been widely followed and rarely developed further (1983, pp. 89-91), there are some computer-aided studies that have adapted his approaches to the analysis of the melodic structures of folk songs.

One of these is the method of analysing the general direction of melodic movement by determining *level formulae*: that is, numbers which give the average values of initial and final melody level. These are calculated by determining the interval, in semitones, between the initial tone and the lowest tone, expressing this interval as a percentage of the total range, and determining the interval between the lowest tone and final tone and expressing this interval as a percentage of the total range. Two values are obtained which express the level formula. Kolinski, (1965a, p. 260), describes the methodology in detail. For example, the level formula for Polish folk songs is 35%:22%. (p. 240) From these it is possible to calculate the *melody curve ratio* : that is, the proportionate ratio of the lower curve to the upper curve of a melody.

By lower melody curve is meant the sum of the initial descent maximum (expressed by the first figure of the level formula) and of the final ascent maximum (expressed by the second figure of the level formula); by upper melody curve is meant the sum of the initial

ascent maximum (equal 100 minus the first figure of the level formula) and of the final descent maximum (equal 100 minus the second figure of the level formula) (p. 257).

Thus, using the example above,

in the level formula 35%:22% for Polish folk songs, the lower melody curve is $35\% + 22\% = 57\%$, and the upper melody curve is $65\% + 78\% = 143\%$ (or simpler: 200 minus the value for the lower melody curve, that is 200% minus $57\% = 143\%$). Thus, in our example, the relation between lower and upper melody curve ratios are, of course, 0%:200% for songs starting and ending on the lowest tone, and 200%:0% for songs starting and ending on the highest one (p. 257).

Kolinski's purpose in this study was to determine whether there are significant stylistic differences between Western and non-Western music with respect to the direction of melodic movement. A survey of 34 bodies of literature "showed a consistent trend in favour of large values for the upper melody curve ratio compared to the lower one, without, however, exceeding the ratio 3:1" (p. 257). The data for 20 bodies of this literature concerned European folk songs: all melody curve ratios were concentrated within the area of 50%:150% to 78%:122% which represents merely 14.5% of the total area of 0%:200% to 200%:0%. (p. 257) The common melody curve ratio for Schubert's and Schumann's songs is 75%:125%. The upper melody curve of the remaining 12 bodies of non-European literature was larger than the lower, but to a lesser extent (pp. 257-258). For all the 34 bodies of literature, "the average melody curve ratios are contained within the area of 50%:150% to 97%:103% which represents less than one

quarter of the total area" (p. 258). Kolinski then suggested dividing the total area of from 0%:200% to 200%:0% with eight equal sub-areas to determine the percentage of songs which will fall into each area. (pp. 258-259) Then differences in the frequency distribution of level formula values can be observed.

The results of this method of analysis certainly add credence to the concept of the archetype tune. However, in order to be able to define the melodic characteristics more exactly, Kolinski developed a methodology for the classification and analysis of melodic structures (1965b). His method of describing the movement of melodic structures of from two to eight tones produced a catalogue of some 200 diagrams by which different types of movement could be classified. The analysis consisted of charting the movement according to the catalogue of possible structures in consideration of the meters, rhythmic and tonal/formal function of the tones. The result was a synthetic approach to the analysis of the melodic structure.

Kolinski commented (1965b) that this kind of analysis of the actual structure of melodic movement was hardly dealt with by existing methods at that time. He criticized the approach to the analysis of Western material, where:

the main stress was laid upon the harmonic function of melody, and in polyphonic styles, upon the mutual relationship between the different voices. For non-Western materials, analyses were generally limited to a discussion of the intervals used, the prominence of wide or narrow, ascending or descending steps, and at its best to a description of the general character and trend of the melodic line. (1965b, p. 96)

Computer-aided Studies

Such, though, has been the approach to the examination of the style of Western music by computer programs developed to analyze movement within a melodic contour. Hofstetter (1971), developed a program to examine scale degree patterns. A scale degree pattern was defined by Hofstetter as a succession of scale-degrees in a given voice which occurs at least twice. Transpositions of patterns are considered as the same pattern. A string of scale degrees is parsed from the MUSICODE-2 input data. The string is then parsed into substrings which form a set of all possible combinations of two through twenty-four consecutive pitches. Then these substrings are modulated so that they begin on C, are filed on a disk and sorted in alpha-numeric order. From this, frequencies of occurrence and the total number of different patterns can be ascertained, among other things.

Hofstetter (1974) analyzed the frequency of occurrence of melodic intervals in the works of late nineteenth and early twentieth century composers to show that there is a relationship between national origin and the particular use of melodic intervals. An analysis of the type described does provide a theoretical basis from which the musical style of a composer may be known.

Sentieri (1978) applied a similar analysis of frequency of interval occurrence of two to four note melodic patterns as well as

of two to four note rhythmic patterns to determine style changes in composers from 1600 - 1735 who were active in Venice at St. Mark's. The main purpose of the study was to test the analytical method. The results of the study demonstrate that the use of specified style details had changed over the period, although there were large numbers of differences in specific details.

The concept for analysis of both Hofstetter and Sentieri is based on Paisley's model of norms which influence the individual's own encoding process. (1964) To determine an individual's style, one needs to know how that individual deviates from the norm. That a "norm" can be determined for music of a specific period is the question here. What the results of these two studies provide is an indication of minor encoding habits which may be useful for determining the style of a particular composer. However, as has been commented upon several times above, the information obtained will not delineate the style: it only gives certain specific, very discreet information about one aspect of the style. In view of Bartók's use of the word *aspect*, to be discussed below, the "minor encoding habits" of scale-degree patterns are only one aspect of a larger *aspect*. The absence of a structural element peculiar to the style of the music which would give definition to these sets of patterns would seriously limit any future analysis.

Such is the conclusion reached by Stech (1976). He completed 26 different analyses of melodic and rhythmic patterns of from three to as many tones necessary, in original, retrograde, inversion, and retrograde-inversion forms, from the works of Varèse, Hindemith, and Dunstable. He also calculated the frequency of occurrence of intervals from the unison to the double-octave. Like Kolinski, Stech also recommended that future study into the problem of pattern perception be directed towards the development of more effective criteria for identifying other structurally important relationships in linear music, and that future investigators determine the effectiveness of these new criteria with programs such as this. (Stech, 1976, p. 130)

With Kolinski, it is possible to concur:

One might be inclined to consider the tone step as nucleus of melodic movement and therefore try to develop a detailed system of step combinations; such an approach originates, however, in the erroneous assumption that a melody can be equated to a sum of ascending and descending tone steps, and does not realize that a melody represents a more or less richly organized whole (Kolinski, 1965b, p. 96).

One study that has approached the problem of melodic analysis and pattern recognition in a more comprehensive manner is that of Brinkman. His purpose (1978) was to discern the melodic influence

of the cantus firmus on the contrapuntal voices of the chorale preludes of Bach's Orgelbüchlein, but examined similarity of contour, only, of all possible sub-sets of from three notes to the length of the phrase. Neither specific pitch nor interval was encoded. Interval size was represented by a number to indicate size only, but not quality. A plus or minus sign preceding the integer indicated the direction of movement; repeated notes and octaves by +0; and chromatic inflection of the same pitch by +1 or -1; compound intervals were reduced to the corresponding simple interval. Therefore, any melodic contour was expressed by only ten different symbols: + - 0 1 2 3 4 5 6 7.

This concept for encoding is very similar to Suchoff's, which will be described below (pp. 81-86). For analysis purposes, a phrase of any length was partitioned into all possible subsets, i.e., from six notes, to five notes, to four, and eventually to three note patterns. (p. 9) All phrases were partitioned, and a list of all patterns was made, including the frequency of their occurrence. The list was then sorted in decreasing order by the number of characters in each pattern. The prelude was encoded in the same way, and the computer created a string which also indicated the measure in which each pattern was found. Then a comparison was made between patterns from the chorale and the prelude; when a match was found,

the computer printed out the pattern along with the measure number. In order to determine which patterns had been borrowed from the cantus firmus, and which were idiomatic patterns found frequently in the style, a separate program compiled data on all patterns which occurred. In Brinkman's conclusions, some of the characteristic aspects of Bach's style are described with respect to the treatment of a cantus firmus. The first conclusion is that "an inherent organic connection" between the cantus firmus and the contrapuntal voices can be demonstrated in most of the preludes. In general, it is the "organic" connection which predominates in the summary of distinctive aspects of the relationship between the cantus firmus and the contrapuntal voices. Brinkman's fourth conclusion is that "the most frequent references to the cantus firmus are generic contours, which are related to the chorale tune by contour but not by specific interval types" (p.1913). Finally, Brinkman states that "the chorale phrase that generated the most matching contours often seems to set a key phrase of the text of the chorale. A few recurrent motives correspond exactly to important words or phrases of the text, indicating that these contours may have been chosen for their direct textual implications" (p. 1914).

One investigation which incorporates Kolinski's methods of analysis of melodic movement, and other methods of analysis, some derived from statistical models, is that of Boody and Riedel (1981).

Developed first in 1968-69 at the University of Minnesota, its purpose was to examine Ecuadorean urban music, specifically, the pasillo and to develop a statistical model of the pasillo. They adapted Kolinski's analytical approaches to analyze melodic motion in terms of level formulae, and to analyze aspects of melodic movement within a piece. For this, a count was made of the size and direction between neighboring notes; a count was made of the size of the melodic movement in one direction before a change in direction occurred; "melodic formulae" were calculated on the basis of each piece; and a matrix was produced for each section and for the total piece to indicate the number of times each note moved to any other note. The authors state that these subroutines would "provide information about melodic movement" (p. 63). The authors' use of some parts of Kolinski's methods for the analysis of melodic movement produces statistical information which will be difficult to interpret. From the earlier quotation from Kolinski's work (1965b), page 52, his intention was to provide a means of "establishing the fundamental structural elements and their merging into larger configurations of a melody"(1965b, p. 96).

The authors state that their methods of analysis of melodic movement would also provide "information leading toward definition of the scale or mode used" (p. 63). "Modes" were determined by analyzing melodies for pitch sets or tone sets. First, the number of times each note is used was tabulated and its percentage of the total number of

notes in the melody was derived by "weighing pitch occurrence against duration, and the percentage this is of the total durational length of the piece" (p. 64). Pitches were then arranged from lowest to highest. Then the pitches were compressed into pitch classes, and the two percentages were summed to find:

the most common note, which is then used as the 'lowest' note of the pitch set pattern. Notes are rejected as auxiliary to the pitch set if the sum of their use and duration percentages falls below certain constants. The resulting 'modal structure' is printed with the auxiliary notes and all associated percentages to indicate both the original pitches and the pitches transposed so that the bottom note of the mode is C_4 [or middle C] (p. 64).

This method enables grouping of melodies with the same or similar sets of pitches. However, their classification of pitch classes proved to be unsuccessful in establishing a small number of common scale patterns (p. 67). Even when the pitch sets were reorganized, with the largest interval at the top of the scale, some very unusual results were obtained, like "gapped scales", scales containing pitches not found in the eight tones of the diatonic scale, and a large number of very fragmentary patterns, suggesting that the "level of rejection of the remaining notes used in melodies was set too high" (p. 67). The authors then recommend the formulation of a working definition of a mode or scale. (p. 73) This will be seen to be also a problem of several other studies.

Finally, the authors generated, as well, interval counts of all intervals and rhythmic patterns of each measure. The first twenty pitches of each section were stored to make melodic indexes.

In addition, the following were also analyzed: phrase structure, according to rhythm, pitch, and interval pattern, and melodic outline, based on Kolinski and extended (p. 66); cadence formulae; and the first eight non-unison tones for indexing purposes. The authors say that the computer generated a prodigious amount of data[!] They concluded from the contents of pitch interval motion, and rhythm patterns, that "this music is highly redundant in its use of pitch and rhythms". Indexes made from the incipits and from the first eight non-unison tones reveal no dependence upon a group of "cantus firmi" or tune families. The indexes "do reveal a strong tendency to write melodies which circle about some basic pitch" (p. 173). The authors wonder whether other phrases may each have a "key note".

The authors state that the conclusions drawn from their data represents the first step in developing a statistical model of the pasillo.

Wenker (1970) devised a truly comprehensive method of encoding all information which an ethnomusicologist might wish to tabulate from a transcription of a folk song. Not only are all symbols provided for all the details of musical notation, including the frequency of tones in cents, tempo of performance, dynamic accentuation, ornamentation, and estimated pitch modification, but

also all information concerning the singer, the source, the language, region, the type of title, and the text. The program was intended to provide the model for the definitive representation for the ethnomusicologist, to preserve data for future reference in a form accessible to other researchers, and to make computer analysis of stylistic characteristics possible.

The latter was accomplished by Wenker (1978) in a series of programs designed to compare the style of 92 Ontario folk songs from Edith Fowke's collection with 100 negro spirituals from Maultby's dissertation (1974). The comparisons were made on the basis of sorting melodies by singer, genre (text type), origin of text, and scale. For each of these groups the following analyses were executed and results were tabulated and compared:

interval counts, ascending and descending, and the frequency of occurrence in one song or between songs, and for the complete collection;

interval patterns, sequences of from two to four tones and their frequency of occurrence, then an examination of common patterns to determine the distribution among songs;

common duration pairs, note to note, note to rest and rest to note, within each song;

scale and range analysis, the scale analysis, based on Bronson's classification of the modes; tones were analyzed according to the type of accent and to their

duration as a percentage of the total duration of a song;

phrase analysis, the first, last, highest and lowest tones of each phrase were analyzed, and were encoded together with the range of tones, the accent and duration of the first and last tone, and the total duration of the phrase; this same information was encoded for the first and last tones of the entire verse.

melodic movement, the level formula and melody curve ratio were calculated for each verse, after Kolinski's methods.

The results obtained for the Ontario collection were compared with the results of analyses of Maultby's and reveal the existence of some significant differences. Wenker also compared the results of his counts of the most common pitches used to end the first and second phrase for authentic and plagal songs with Bronson's results, noting that these were the same for the ends of the first phrase of authentic tunes, but all others were different. The results obtained by Wenker from analyses grouped according to genre, or text type, imply that the texts used have an influence on the music (p. 251).

From the results obtained, Wenker raised some very pertinent questions for future research and analysis of folk songs. One of

the limitations to the interpretation of his results, which he claims can only be inconclusive, is that the sample of songs used was too small.

One of the unique approaches Wenker did use, was to compare the results of all the analyses of tones, described above, of the melody of the first verse, with the results obtained by including all additional tones found in the variations occurring from verse to verse. Thus it was possible to encode and analyze all possible variations of the oral tradition. The comparison produced some interesting results, though, particularly with respect to the scales thus created. For some songs scales of 9 tones were analyzed, including one type in which the 7th degree was raised in the lower position and lowered in the upper position. Since five songs containing these 9-tone scales, for example, were sung by two men of Irish ancestry, Wenker's query as to whether these idiosyncrasies are due to the performance style or the songs really needs much more thorough investigation of a large collection to be able to draw more definite conclusions. However, before this question can be examined there needs to be a thorough review of the transcriptions themselves. Several years ago I had analyzed, for private study purposes, all the songs in Fowke (1965) in the format of Example 16, page 120. The melodic structure and scale of some songs were very puzzling, because of the raised and lowered tones of several different degrees of a scale. Also, it was very difficult to obtain a clear idea of the main structure of the melody because of the manner of representing in the transcription, the melody of the first verse,

followed by all variations found in subsequent verses. For some songs, it meant that the melody or a portion of the melody for all subsequent verses, was printed separately, as given in Example 1. It is the convention, especially in Eastern European transcriptions, to represent after repeated listening to all verses, a composite form of the melody as the standard, for analysis purposes, with some of the more common variations of different verses indicated in smaller note values. Having listened to the original tape of the melody (Example 1), the following transcription was made by Dr. László Vikár, of the Hungarian Academy of Sciences (Example 2). Here is a 6 note scale with the 3rd degree altered in the second phrase. All other transcriptions will need to be reviewed with the original tapes to present a clearer form of the melody for analysis purposes. It is just not possible to analyze material scientifically which has been prepared to record every variation in the singing of each verse.

The conclusion to be reached is that rather than trying to impose a theoretical bias on folk song analysis, what is needed, beyond the verification of the transcriptions, is a method of analysis which will describe the characteristics of the songs of a collection. To do this requires only the imposition of a structural framework which will enable initial grouping of variants to be made. Although Wenker criticizes Bartók's methods of classification, it is to be accepted that the publications containing Bartók's collections and explanation of his grouping principles were not widely known at that time, or available at all. Then, too, as has been observed for

Late at e'en drink-ing wine And
e'er they paid the law-in, They set a com-bat
them be-tween To fight it in the dawn-ing.

VARIATIONS:

Alternative Openings Verses 2 - 12

2. "What though you be my sis-ter's lord, We'll" (etc.)

Verse 14

14. "oh, hold your tongue, fath-er," she cried (etc.)

NOTE: F# and F# are used interchangeably, as are C# and C#.

EXAMPLE 1

"The Braes of Yarrow" (Fowke, 1965)

(n)
Late at e' - en drinking wine
And e'er they paid the lawin',
(n)
They set a com-bat them be-tween
To fight it in the dawn-ing.

EXAMPLE 2

"The Braes of Yarrow" transcribed by László Vikár

many of the other research reviewed, the material submitted for analysis by computer must be thoroughly known to the analyst before the analysis program is constructed. It is not sufficient to encode information obtainable from musical notation without a thorough familiarity with the style of the melodies in the collection. Some subjective judgements will be necessary to be made, but these can be made on the basis of knowledge, with some degree of certainty, and consistently applied.

Conclusion

The conclusion of this rather lengthy examination of trends in computer applications to the study of folk song style based on the concept of the archetype, can serve two purposes. One is to illustrate the lengths to which this kind of investigation can go and the other is to reveal what is perhaps a cultural bias of such an approach. As Brăiloiu said (1959/1984, p. 90):

belief in Western primacy and the theory of progress both imply the notion of an original birthplace of culture, where a fertile germ began its glorious career that was to take it to its brilliant maturity among modern Europeans from time to time we shift a little that enigmatic place where the spark first shot forth. Far East? Near East? Central Asia? ... In the domain of technique, the same uncertainties exist and are, as a rule, just as hard to dispel. Logically enough, we have often thought, the musical theory of all the most 'advanced' peoples is necessarily the most elaborate and the most scientific. Passing over the perplexities, we have tried to force into these laws what our

researchers show as aberrant. One of the leaders of our school, however, warns us: "One easily falls into error," he says, "of taking the foundations of our music as the foundations of all music." Despite this, a contemporary, inventor of a universal melodic classification, has not hesitated to catalogue everything as major and minor and according to four rhythmic types: polka type, waltz type, mazurka type, polonaise type. So we learn that Melanesians, Mongols and Blacks all have the mazurka in their blood.

The above quoted passage of Brăiloiu's was from a paper read to the Congress of the International Musicological Society (Cologne, 1958). In the Preface to the edition of Brăiloiu's collected writings, Gilbert Rouget noted that in this address Brăiloiu showed that an ethnomusicology that excludes "the study of European musical folklore from its studies (for should it too not be classed, for the same reason as the others, among the 'primitive arts'?) will result in 'incalculable errors'" (Brăiloiu, 1959/1984, p. xii). The main thrust of Brăiloiu's address was that historical musicology would benefit from an examination of the results of ethnomusicological research. "At least", he said,

It is certain that, confronted with the illegible or the absence of any writing, the historian is turning more and more towards the sources of memory. He had mostly underestimated the powers of collective memory and has now come to bend to their evidence (Brăiloiu, 1959/1984, p. 400).

For example, he said that the musicologist:

has been obliged to recognize that some melodies noted in the fifteenth century were found in the mouths of the common people; or that in songs

collected in the nineteenth century, a common factor of such amplitude may be discovered that one could believe they come to us almost intact from feudal society.

But then,

At the same time, the oral becomes documentary and consequently historical. So we find a leading historian invoking Java, Siam and China to elucidate obscure points of European history, even going so far as to declare frankly that for the music historian, Europe represents only a partial domain.

Brăiloiu concluded by saying that:

ethnomusicologists, by the extent of their field of action, by the size of the harvest already gathered, by the light they shed, not only on the origins of music but also on its subsequent development, have opened up for musicology a veritable planetary space. (1959/1984, p. 100)

In spite of Brăiloiu's optimism, Rouget claims that,

'today', twenty-six years after the Congress ... where this paper was read, the problem of relations between musicology and ethnomusicology, so important for their respective development, remains unsolved ... It is clear that despite the efforts of some, the majority of, let us say, classical musicologists continue to ignore ethnomusicology or even more basically, musics that are not among the art musics of Europe (Brăiloiu, 1959/1984, p. xii).

Rather than solving this problem, trends in ethnomusicology since World War II, however, have been away from the comparative musicological approach of the last century: to paraphrase Bronson's words, this approach has been a "one-way street," and perhaps "it has come to a dead end". Rather, trends are more toward an

"urge to study music as fully as possible in context of its life in society, and as a process (not cut and dried but ever-changing)" (Krader, 1980, p. 277). Then too, more recent researchers are adopting approaches from the field of linguistics for the analysis of music. For example, in a paper presented at the Conference on Musical Grammars and Computer Analysis, Modena, 1982, Plenckers (1984) described a pattern recognition system that he developed to analyze a Spanish collection of monophonic songs from the thirteenth century. Both text syllables, pitch information and a symbolic form of the rhythmic information were encoded in units corresponding to the length of identified musical periods or phrases of the songs. While it was possible to search for patterns in only the pitch and rhythm information fields at that time, any pattern could be found in either or both of these fields, in any combination, using the Boolean AND/OR operators. Of course, the limitation of this search at that time, was that the patterns being sought had to be specified before the search could be done. However, there are possibilities inherent in such an approach for abstracting patterns in a more flexible manner than has been possible with some computer technology to date. There is a theoretical basis in some kind of structure which precedes the search for patterns: just what the future direction takes will depend upon the subsequent development of a conceptual framework.

Nettl maintains that today we must take a broad view of the field of ethnomusicology:

Fifty years ago, it may have been acceptable to outline one "best" method for studying the music of all cultures, but any such general prescription is no longer of great value. Each group, each society, each culture represents its own unique problems. In many respects the researcher is required to develop a tailor-made approach that suits the question he seeks to answer (1976, p. 148)

But the question still remains unanswered: if one of the purposes of the study of folk music as a scholarly endeavor is to contribute to a greater knowledge and understanding of all 'musics', then is not the domain of ethno-musicology primarily a musical one? For historical, as well as anthropological and sociological reasons, it is the study of the musical characteristics of the style of a body of literature that could make the greatest contribution to such understanding. The methodology for this kind of analysis was developed by Bartók, Kodály, and other Eastern Europeans. An undertaking of such an analysis program, based on the principles established by them, for the study of the music of other cultures, would then yield results that would be comparable. Reference has been made in Chapter I to some preliminary studies that have used a method of analysis based on the Eastern European approach. This approach will now be described in detail. It is not presented as the "one 'best' method", but is recommended for two reasons:

1. it enables a description of the musical characteristics of the styles of a body of literature; and,
2. it is the most useful approach for the ultimate purpose of this study, which is to structure, musically, a music education program based on the musical characteristics of traditional children's song literature of a particular culture.

PART B

BARTÓKIAN ANALYSIS AND CLASSIFICATION PRINCIPLES

The need for adopting a systematic method for the analysis and classification of the folk songs of the British tradition was expressed by Bartók as early as 1942 (Suchoff, 1976, p. 37):

Much American-English and British-English folk music material has already been collected and published - perhaps seven or eight thousand melodies. But a systematically scientific examination of the morphological aspects of this material is still lacking. However, only such an examination (consisting first of grouping the material according to certain methods, and then of describing the typical forms and structures thus grouped) will enable us to determine clearly the types and to draw various conclusions concerning the transformation and migration of the melodies, their connection with foreign materials, and so forth.

Several systems of grouping folk music have been developed and used in some Eastern European countries, especially in Hungary. These systems could easily be applied (with certain modifications) to Western European materials, too.

Unfortunately, and as has been demonstrated, most editors of folk music:

have not used any musical principles in grouping; the need for it did not even occur to them. They group their material according to texts or according to geographical units (villages, districts), or they do not group them in any way. (Bartók & Lord, 1951, p. 14).

Bartók did not invent the systems which he developed. What he did was to create a means of grouping variants of a collection

according to principles which were derived from the characteristics of the music itself. The first large collections to be based on these principles were published by the Finns; later others were published by the Ukrainians. Bartók adapted the method of presentation, developed by the Finn ethnomusicologist Ilmari Krohn, to represent the analysis of all *aspects* (c.f. pp. 73-76 below) of the folk song according to a symbol system. Bartók first used this system in preparation of his Rumanian collection, begun in 1905 (part of which was published in 1913, completed in 1945 and finally published in 1967), and for all subsequent collections. Bartók's The Hungarian folk song was first published in 1924, the Serbo-Croatian folk songs in 1951. This latter collection was revised and edited by Suchoff and published as Volume I of Yugoslav folk music, 1978. However, "The Krohn system" was only the base of departure for Bartók's analysis and classification system. As Bator, trustee of the Bartók estate until 1963, said:

Bartók's work is his own creation ... he used the collection's raw materials, the songs, for building out of them a Bartókian creation in which the form, the system, its structure became a unified whole with the song-content (Bartók, 1967, p. viii)

To make clear the contribution which Bartók's methods of analysis and classification can make to the present study, and to the methodology of folk song study and analysis, generally, Bartók's analysis symbols and grouping principles will be carefully examined. From this examination the need for a structural framework, which has

been lacking in folk song analysis methods described above, will become apparent. Indeed, it will be seen to be the one essential component which is lacking in computer-aided analysis programs which have sought for a methodology to enable a description of the characteristics of musical style generally.

The description of symbols developed by Bartók will be presented in order to understand the grouping of variants according to the principles which follow. These symbols have been adapted to the analysis program of this dissertation and will be discussed from this basis in Chapter III.

Symbols for Analysis

In order to compare melodies more readily, they are transposed to one pitch, giving the melodies a common final tone of g, (or G₄) To designate scale degrees, the following numbers are used:

Each section, or line of text of the melody, is examined, and the caesura or final note of each melody section is designated by the number representing the scale degree, enclosed as follows: $\square$ for the main caesura, $\square$ for the preceding section, and $\square$ for the following one. The last one is not noted because it will always be g.

(Bartók & Lord), 1951, pp. 27-28) Then the metric structure is examined. An isometric stanza structure of seven syllables is indicated by 7. If the metric structure is heterometric, then numbers will represent each line of text respectively.

The range is noted, as for example VII - 5, which indicates specifically a range from f_1 to d_2 .

The structure of the melodic content or the form is represented by capital letters, as A B B A, for example.

Bartók gives a profile of a well-known Hungarian type of melody, describing hundreds of variants as:

11 $\boxed{1}$ $\boxed{5}$ $\boxed{1}$ 1-8, A B B A (p. 16)

This is a 4 section (or 4 phrase) isometric melody, with each section (phrase) containing 11 syllables; the caesura or cadence tones of each section are $\boxed{1}$ $\boxed{5}$ $\boxed{1}$, or $\boxed{g_1}$ $\boxed{d_1}$ $\boxed{g_1}$ g_1 , (the last cadence tone will always be g_1 , and is therefore omitted); the range is 1-8, or g_1 to g_2 , and the form is A B B A.

Having completed the analysis, the main problem is the grouping of variants. Contrasting with Bronson's method of "modal correspondence" and a totalling of common features of cadence tones, range, structure, and melodic content, Bartók adapted two principles of grouping, each differing in purpose, and also in method.

Grouping of Variants

There are two principles of grouping: the "grammatical principle" enables a description of the morphological aspects of a collection; the "lexicographical principle" enables the creation of a thematic index.

Grammatical Principle

The use of the "grammatical principle" means that melodies are grouped, in order, mainly following the order of analysis outlined above: that is, seven *aspects* determine the order in which melodies are to be grouped into classes, sub-classes, and sub-groups, as follows:

- Aspects:*
- 1) section structure
 - 2) metric structure
 - 3) rhythmical character (that is whether of a free rhythm or strict)
 - 4) melodic structure (the caesura, or other significant features of the melody)
 - 5) range
 - 6) scale system
 - 7) form, or content structure. (Bartók & Lord, 1951 p. 15)

The example on page 72 contains information for all "aspects" except 3) and 6). This principle and classification of variants formed the basis of grouping for Bartók's Rumanian folk music (1967), with modifications for instrumental music, and for the Serbo-Croatian folk song (1951). To proceed through the *aspects* outlined above, Bartók gave specific instructions, for the latter collection, for the successive grouping of variants. There are five principles:

- (a) *aspect* 1: determine the number of sections, creating classes accordingly. For example,

Class A: melodies of one section

Class B: melodies of two sections

Class C: melodies with three sections. Class C contains

and D: melodies with the caesura at the end of the first section, Class D at the end of the second section.

Class E: melodies with four sections.

- (b) *aspect* 2:

Classes B, C, D, and E are divided according to,

metric structure as follows:

Subclasses: I Isometric melodies;

II Heterometric melodies

- (c) *aspect* 3:

Further grouping of Subclasses I and II:

Subclass I: Isometric melodies: first, according to the length of the section, to give melodies in groups, according to whether each section has

five syllables, six syllables and so on.

Second, according to the rhythmic structure in two sub-groups:

Subgroup 1: Isorhythmic: further divided according to the metrical structure of the rhythm: as $4 + 4 = 8$, or $3 + 2 + 3 = 8$; ordered according to most natural or frequent structures.

2: Heterorhythmic: small letters are used to indicate differences in rhythm; as "a a b a", for an isometric, heterorhythmic melody. These are arranged in order of succession.

Subclass II: Heterometric melodies. This is a much more complicated task. Generally the proportionate length of each section is represented by "Z": for example z z Z z indicates that the first, second and last sections are equal in syllabic number, but lower than the third section. This formula could represent either 5, 5, 6, 5 or 5, 5, 7, 5, and so on. Melodies with identical Z formulas are grouped according to the first, then the second syllabic number, with the 5 preceding 6.

(d) *aspect* 4: Further division of the above according to the caesura of each section, with the lower number preceding

the higher, and first according to the main caesura, the
 [] : then [] . and then [] . For example, 2] [1] [2
 preceeds [4] [b3] [4]. [4].
 preceeds

- (e) *aspect* 5: melodies are grouped into "families", if they exhibit identical symbols in a sub-division, according to their ranges: VII - 3 comes before VII - 4.

From this point, Bartók says that if "families" appear which have identical symbols, including range, then their "order will be arranged according to the circumstances, since so far no systematic method for these has been established" (Bartók & Lord, 1951, pp. 29-31).

As Bartók states, "a systematically grouped collection based on this system offers rather clear boundaries between the single melodic styles, structures, and families" (p. 15). It is possible to find single melodies, which is the purpose of the other principle of grouping, but to do so one must be familiar with the material and "have a thorough knowledge of the grouping system" (p. 15).

The use of the word "style" refers to the age and origin, generally, of a variant, which can only be determined by grouping according to the "grammatical principle". It is one of the disadvantages of grouping according to the lexicographical principle". This will be examined next, before the method for determining the "styles" is discussed.

Lexicographical principle

This principle enables the location of single melodies by comparatively simple mechanical means. As Scherrer and Scherrer have noted, even slightly different variants will have to be ordered at a distance from each other. Bartók says that a further disadvantage is that "the reader cannot very well get an idea of the different styles, structures, and even of variant groups prevailing in the materials" (Bartók & Lord, 1951, p. 15).

According to this method, the order of importance of the *aspects* outlined above is generally 1, 4, 2, and 5; 3, 6, and 7 are rarely considered in Eastern European material (Bartók & Lord, 1951, p. 15). *Aspects* 3 and 6 were not listed in the example on page 72, and *aspects* 3, 6, and 7 were not included in the recommendations for grouping according to the "grammatical principle", listed above, pages 73-76.

According to the "lexicographical principle", then, analysis and grouping proceed as follows, summarized by Suchoff:

- (a) all melodies are transposed so that the final note is g.
- (b) the caesura are identified and represented, as in the above method.
- (c) *aspect* 1: melodies are classed according to the number of sections in the tune.
- (d) *aspect* 4: melodies are grouped according to the main caesura first according to height, from lowest to highest, then according to the height of the other caesura.

- (e) *aspect* 2: the rhythmic structure is determined, and melodies are grouped according to the number of text syllables from least to greatest, with isometric melodies preceding heterometric.
- (f) *aspect* 5: melodies are grouped according to the range, with narrow range preceding wider range. (Bartók, 1924/1981, p. xxxiv)

A more detailed description of this system, similar in content, and using basically the same symbols outlined above, is described by Bartók (1924/1981, pp. 6-8). Bartók used the "lexicographical principle" to order the collection of Hungarian, Slovak, and Rumanian folk tunes, first published in The Hungarian folk song (1924). Thereafter, the "grammatical principle" was used for the analysis and grouping methods for all subsequent collections. In spite of the limitations of the "lexicographical principle" for grouping variants, it is a useful method for locating variants. The advantage of both principles is that they enable grouping of variants by means of clearly defined parameters.

Style

From these groups, defined according to the *aspects*, it was possible for Bartók, to determine the relative age of the various types of melodies of the different collections, as well as to observe influences from other cultures. Generally, the guideline followed was from simplest to complex or from primitive to complex structures.

Each of the groups formed from the successive analyses according to the *aspects* revealed distinctive characteristics which were common to older melodies, or newer. These differentiations Bartók termed as different "styles". For The Hungarian folk song (1924), there were three main groups: tunes in the old style, tunes in the new style, and tunes in neither style. Much of the differentiation was also supported by known facts concerning the customs surrounding the traditional performance of tunes.

The metric structure, *aspect* 2, was the most important for Bartók for determining subsequent sub-groups, and as a means of differentiating the "styles". First, the metric structure is to be examined to observe whether it is strict, consisting of equal values, which Bartók suggests could have evolved in connection with rhythmic body movements, such as in work, or dancing. Or the metric structure could have been a "parlando-rubato" rhythm, where, as Bartók suggests, tunes have "gradually become independent from body rhythms and have adapted more to the rhythm of the text"(Bartók, 1924/1981, pp. 8-11).

Further, Bartók's injunctions concerning the method to follow for grouping in the second *aspect* are very specific, to enable such distinctions of "style" to be made:

Variants should never be scattered in different classes (sub-classes and so forth), whatever the difference in their structures. If some or all the variants of a group differ in structure, these differences should be carefully examined; preference should be given to the structure which seems to be more ancient, or simpler or prevailing, and so forth; melodies of this selected structure should be put at

the head of the variant group, and the whole group put into the class (or subclass and so forth) indicated by the structure of this dominant variant. (Bartók & Lord, 1951, p. 16).

The problem of assembling variants begins from this basis of the metric structure, and in step-by-step consideration of all other aspects mentioned above. The metric structure is the starting point for the classification, the melodic contour being the last, all other *aspects* considered.

Such considerations certainly clarify the reason that Bartók preferred the "grammatical principle" before the "lexicographical". As he says:

The question is, which is of higher importance - to be able to locate melodies easily and almost mechanically, or to get a clear idea of their relationship? I am in favour of the "grammatical" principle, in spite of its imperfections. For it has imperfections, as well as any other conceivable system. (Bartók & Lord, 1951, p. 15).

Kodály's organization of materials in Folk music of Hungary (1952/1971) is more extensive. It includes a discussion of the analysis not only of old and new styles, but also of children's songs, laments, and instrumental music; influences of art music; and interrelations of other language groups. The work of analysis and classification of the Folk Music Research Group, Hungarian Academy of Sciences, is continuing on the basis of the work of Kodály and Bartók. Kodály's transcriptions alone, according to Suchoff, have been reported as comprising almost 50,000 melodies. These

notations, which apparently Kodaly labelled in a strictly numerical order, "were sorted in accordance with the Modified Krohn-System of classification", or the "lexicographical principle". (Bartók, 1924/1981, pp. xxxv-xxxvii)

Computer-aided Studies of Suchoff

Given the fully analyzed, annotated, printed collections of Bartók's work, Suchoff has developed computer programs to encode and analyze the melodies in order to create thematic indexes of the variants. In Suchoff (1968) is a discussion of the beginning stages of this work, using Bartók's collections of East European, Turkish, and Arab folk music. Following the analysis principles of the "lexicographical principle", melody sections were defined on the basis of text lines. Then, by encoding the first eight tones of these phrases, variants could be compared for their degree of similarity. The rationale for this method of determining variants is given by Suchoff:

I should say that variants are melodies in which the pitch relation of the various principle tones to each other shows a certain similarity, or, in other words, in which the contour line is entirely or partly similar. (Bartók & Lord, 1951, p. 17)

This is Bartók's definition of a variant. For the words "contour line" Suchoff substitutes the words "pitch contour (that is intervallic succession)" (p. 56). Bartók had preceded the above statement with the following:

Even if we succeed in locating all of them [the variants] mechanically or by memory, it remains to be determined when a melody ceases to be the variant of a kindred melody. There remains the question: What characterizes a melody as a variant of another? (p. 17)

Then after the statement of definition, Bartók continues:

But even on this basis, immense difficulties will present themselves when we deal with hundreds or even thousands of melodies belonging to a characteristically homogeneous style. In such a long chain of melodies, in which each of two neighbouring melodies can be considered beyond any doubt and at first sight as a variant of the other and the first one in the row is so entirely different from the last one that it should not be called a variant, one has to break up these melodies into two or more separate groups. Where shall one group end; where shall the new group begin? Which of the more or less similar melodies shall be considered variants; which not? Again, subjective decisions will have to guide us in the solution to all these questions (p. 17)

But these questions must be largely ignored when the purpose of classification by computer is to create a thematic index based on the first eight tones. This method of classification, also, is not based on the definition of a variant which Suchoff himself has given from Bartók.

To create the thematic index, Suchoff encoded the first eight tones of the skeletal outline which Bartók had provided either above or below transcriptions of the melodies of most of his published collections. (Suchoff, 1968) The skeletal outline consists of the main tones of the melodic contour, stripped of the ornamentation of performance practice. It is similar to the transcription of Vikár,

Example 2. Suchoff then adapted a DARMS program to encode the 8 tones to create character strings. The analysis of these tones was accomplished by a FORTRAN program, which read and converted such character strings into signed (+ or -) digits, to represent, disregarding quality, the intervallic relationship between these tones: an ascending second was represented as +2, a descending second as -2, and so on. The strings were stored in files according to the first digit, whether positive or negative, and these were sorted and displayed in vertical format using PL/1.

Suchoff did not ignore the "rhythmic" aspect. He said, "it may also require consideration either separated from or in conjunction with intervallic structure", as Kodály averred. (Suchoff, 1968, p. 57) In Suchoff's conception, the rhythmic aspect was called "rhythmic variants". A method of determining these variants of the incipits was to be treated separately, and to be adopted from Bartók's system of noting word syllable lengths of phrases for either isometric or heterometric (with Z formula) melodies. In other words, the rhythmic patterns of the metric structure (*aspect 2*) were to be classified separately, after a classification of the melodic contours was completed. Suchoff also planned to examine the "melorhythmic" structure, which would isolate "true" variants, those containing matching melodic and rhythmic patterns (pp. 57-58). All of this would be of enormous difficulty to accomplish. It means, in effect, changing the purpose of the method of classification "in mid-stream", and ignoring the ordering principles already

established by Bartók for the materials of a collection. Suchoff (1968) was in the process of developing a computer methodology for sorting all the Z formulas.

What was subsequently produced with the methodology developed for comparing data strings of incipits was to tabulate the frequency of occurrence of intervals in each position in the incipit, as well as string length distribution for Bartók's incipits. (Suchoff, 1970). Then, incipits from Bartók's Serbo-Croatian and Rumanian collections were compared with Frottole incipits, indexed by Lincoln, and with incipits from the works of Cabezone, prepared by Earl Hultberg. From the results of this comparison, Suchoff concludes that:

interesting similarities are evident, which seems to point toward folk-based, or folk-styled characteristics of the art melodies: more than half of the interval sequences begin with plus or minus 2; indeed, conjunct motion by seconds, is by far the most prevalent intervallic sequence (Suchoff, 1970, p. 202)

The results of the indexing system, GRIPHOS, are summarized in Suchoff (1971).

The lexicographical indexes of Bartók's collections are printed with the respective collections. For Bartók's Rumanian folk music, the Colinde (Carols and Christmas Songs) are ordered according to interval sequence, with the Class, melody number, and string number also stated. (Bartók, 1975, Vol. IV, pp. 560-601) Songs of Maramures County are ordered according to interval sequence, with information given for the Class, melody number, string number and Content

Structure for each incipit. (Bartók, 1975, Vol V, pp. 270-294) Here, the Content Structure or section structure (*aspect 1*) has been analyzed and interval sequences of not more than seven sequential intervals have been determined for each melody section or phrase of different content. The tabulations for this latter collection are also provided for Bartók's Turkish folk music from Asia Minor (1976, pp. 271-279); and the thematic index of Bartók's Yugoslav folk music (1978, Vol II, pp. 171-278) lists the ordered interval sequences followed by the melody number and Content Structure information. Thus, a list of all sources of each different interval sequence is provided for these collections of Bartók.

For anyone using these indexes, it will be possible to locate incipits of known interval sequences. The information concerning Content Structure could also be useful for future research to examine the occurrence of interval sequences of phrases within the formal structure of a melody, as has been suggested for this present study. However, this kind of comparison will be extremely difficult for Suchoff, because for each of Bartók's collections each of the Classes has different parameters for *aspect 2*. For example, Class I of the Turkish collection (1976, p. 36) are Parlando (in free rhythm), isometric four-section melodies, with eight syllable sections. Class I of the Yugoslav collection (1978, p. xi) are one-section melodies of from seven to thirteen syllables. Thus, by creating the thematic index first, Suchoff's analysis program

ignored not only the metric structure (*aspect 2*) but also section structure (*aspect 1*). Bartók had insisted that the metric be the starting point for ordering variants, after they had been grouped according to section structure, according to the "grammatical principle". This principle formed the basis of classification for the materials of all the collections that Suchoff analysed. This starting point, in the metric *aspect* provided a structure from which all subsequent analysis and classification could have been determined. By creating a thematic index of interval sequences, Suchoff had adopted the "lexicographical principle" *a priori*, an approach to analysis that was contrary to the principle that had already been used by Bartók for the materials he had analyzed and grouped. By examining the "Z formulas" separately, then another index would be created, but it is difficult to imagine how the two indexes could be related to each other. The kind of information Suchoff has obtained in the strings of interval sequences is like the results of Hofstetter, Sentieri and Stech. In itself, however, the thematic index can serve a useful purpose.

CHAPTER III
PART A
THE MATERIALS

Introduction

The materials for this study were selected from a personal collection, begun in 1970, of children's traditional songs and singing games.

The traditional song literature is the material most Canadian children still have in common upon entering school. It has been fashioned and modified by generations of English speaking children throughout the world. The roots of this tradition are to be found in Britain, as far back as the middle ages, and in some cases, even earlier in northern European folklore. (Opie and Opie, 1969). What is remarkable is that so many of the songs and games have survived in modern society. It is recognized that, with the influence of television and radio, it is not possible now to expect to find pure variants. For this reason, then, the material which will be analysed has been culled on the one hand from repositories in archives of folk song collections, and on the other hand, from sources published in Great Britain before World War II.

In Canada, Edith Fowke and Helen Creighton consistently have collected children's songs and singing games along with the adult folk songs. Fowke has published two books based on her research, (Fowke, 1967, 1977). Some children's songs appear in Creighton's published collections (1950, 1966) and a few are scattered in other collections. The original tapes for many of these are in the National Museum of Man in Ottawa. For these most of the words have been transcribed; many melodies have not; I have added some melodic transcriptions to this archive. What has been recorded on tape are generally singing games, and a large body of other songs which are not of the traditional nursery rhyme literature. Variants of many of these latter type of songs have been published in Fowke (1977).

There are three categories of song repertoire in Canadian collections, then: the singing games, "other" songs, and the nursery songs. The nursery songs have always been part of oral tradition, but seldom appear in folk song collections. The Opies (1969) did not print melodies, nor are many to be found in books of nursery rhymes published in the 19th century. From the books which did contain melodies, many have been located in Canadian libraries, most particularly in the Osborne Collection of Early Children's Books of the Toronto Public Library. The reason that the nursery songs have been ignored by serious folk song collectors is that it is believed that many of the tunes were composed by adults and were sung by adults to children. For this reason, this material has been

classified separately from the singing game songs. The nursery song literature of my personal collection comprises 63 titles with approximately 250 variants; the singing games total 55 titles with approximately 300 variants. I have not researched fully the "other" songs' variants. Once the features of each of these categories have been analyzed, then the results of classification can be compared to determine whether there are characteristics common to these three categories.

A list of the nursery song titles in my personal collection is in Appendix A, p. 334.

Following is a list of all titles in this collection of singing games:

1. A-Hunting We Will Go
2. Babbity Bowster
3. Bingo
4. Bluebird, Bluebird
5. Charley Over the Water
6. Dame Get Up and Bake Your Pies
7. Dinah
8. Doctor Faustus
9. Farmer in the Dell
10. Grand Old Duke of York
11. Green Grass
12. Green Gravel

13. Hark the Robbers
14. Here Come Three Sailors
15. Here's a Poor Widow of Babylon
16. How Many Miles to Babylon?
17. Humpty Dumpty
18. Hunt the Slipper
19. I Sent a Letter to my Love
20. It Snows and It Blows
21. Jenny Jones
22. Jingo-Ring
23. Jolly Miller
24. King William
25. London Bridge
26. Looby Loo
27. Lucy Locket
28. Milking Pails
29. Muffin Man
30. Mulberry Bush
31. Nuts in May
32. Oats, Peas, Beans
33. Old Dame
34. Old McDonald
35. Old Roger is Dead
36. On a Mountain
37. On the Green Carpet
38. Oranges and Lemons

39. Poor Mary
40. Queen Mary
41. Rain, Rain (The Wind)
42. Ring Around a Rosy
43. Rosy, Apple
44. Round and Round the Village
45. Sally Go Round the Sun
46. Sally Water
47. See This Pretty Little Girl of Mine
48. Swinging in the Lane
49. Thread the Needle
50. Three Dukes
51. Twelve Days of Christmas
52. Wallflowers
53. We are the English
54. We are Three Jews
55. When I was a Young Girl

From this collection of singing games, the following 11 titles were selected for the purpose of this study:

1. A-hunting We Will Go
2. Babbity Bowster
3. Bingo
4. Bluebird, Bluebird
5. Charley Over the Water
6. Dame Get Up and Bake Your Pies

7. Dinah
8. Doctor Faustus
21. Jenny Jones
25. London Bridge
39. Poor Mary

These titles were selected to develop first the methodology for encoding the pitch information of each variant, and then for encoding information about each variant that would be useful for future study and facilitate the development of the analysis program. Some titles were selected whose variants contain more than one section. Other titles were selected containing one-section variants of different numbers of phrases. Titles were selected that were in different time signatures and key signatures. Two titles, "Jenny Jones" and "Poor Mary," were selected because they contained variants of the same tune.

For the 11 titles there are 54 variants. The complete list of these titles and the variant titles encoded for this study is listed on pages 129-131. Following that list each variant is discussed in detail. The sources for variants of the entire collection are listed at the end of Chapter III, pp. 188-190. The complete list is given there since the number assigned to each source is used and encoded as data in the computer program for the variants selected for this study. The complete list of numbered sources will be used when the entire collection is submitted for computer processing. For the singing games materials there are a variety of sources. As well as the collections in the archives there are several which were published to preserve the oral tradition of the day.

One of the earliest sources is Rimbault's (1846), which contains game songs as well as nursery rhymes. Another excellent study was Gomme's (1894, 1898/1964) which, while very thorough in its description of the games and the traditions they embody, contains some uncertainties in the melodic transcriptions. These have been verified for the most part, by comparison with Sharp's Children's singing games (1909-1912) which was published with Lady Gomme and contains her materials. Two other collections providing similar sources are Kerr (date cannot be verified) and Kidson (1916). The remaining sources are books published commercially for the general public. Many include beautiful illustrations. Indeed, for some books, the illustrator's name was more prominently displayed than the editor's. During the nineteenth century, many books were published in which the nursery rhymes were set to new melodies. These will not be included for analysis. Great care has been taken to include only variants based on melodies traditionally associated with the words today or which have been designated as surviving in oral tradition by the editor of the publication.

Among the classics in this literature are Crane's The baby's opera (1877) and The baby's bouquet (1878/1974). There is now a desire to reprint some of these earlier books which at one time were rare collector's items. As stated above, the books consulted were only those found in Canadian libraries, published in Great Britain, as they could have been expected to have had some influence on the "oral tradition" in Canada at the time of publication. Collections,

both in American archives and in published sources of American authors were not included. Although many original sources and variants can be seen to be similar, enough differences exist, including songs which are not found in either the British or Canadian tradition, to warrant a separate study, whose results could be compared with the present one.

Preliminary Study and Grouping of Variants

The strength of both the singing game and nursery song tradition became evident as the collection began to form. Each variant was copied exactly from the original source and filed according to title. The initial grouping of variants for each title was aided by consulting the information concerning melodies, texts and games contained in Gomme (1894, 1898/1964), Opie and Opie (1969), and then all the other sources. Gomme (1898/1964) contains a very detailed general discussion of game types and origins, (pp. 475-512) in addition to the extensive notes accompanying each game song in the text; the bibliographic information in Opie and Opie (1969) is very thorough, tracing each text to the earliest known origin. Comments from the authors or editors of other sources for this material have provided information which has strengthened the observations of both Gomme and the Opies. From this examination, it has been possible to obtain a rather comprehensive knowledge of the

process of change and assimilation that has occurred between variants, and to make a preliminary grouping of variants, according to title, from a chronological or historical viewpoint. This principle has guided the grouping of variants for the entire collection of nursery songs and singing games.

As an example of the kind of study that was made of each variant title of the complete collection, the variants of "London Bridge" are listed, grouped, and discussed below according to the information obtained from the original sources. Six different tunes were found with altogether 13 variants: from the original sources it was possible to learn not only what the historical origins of the singing game were, but also the changes which have occurred in texts, melodies, and games in British variants and in variants surviving in oral tradition in Canada. Thus the 13 variants were grouped for six different tunes on the basis of this information.

The discussion to follow of each variant of "London Bridge" is taken from Appendix A, pp. 279-299. There will be found (pp. 232-304) a similar presentation of each variant selected for this study, including the melody and text of the first verse, additional verses, description of the GAME, and COMMENT section containing information obtained from the sources of these variants. The melodies here and in Appendix A, pp. 232-304, have been transcribed with their texts and game description exactly as they were found in the original source.

Each variant title is numbered according to the list of numbered titles on pages 89-91: "London Bridge" is numbered 25 of the complete collection of singing games and is represented as (025);

the numbers (01), (02) . . . (06) represent the six variant tunes; and letters A, B, C and so on, are the variants of each tune. This system of identifying the variants was developed for identification purpose for the computer program and is introduced here for future reference. In the examples to follow the numbered variant title is listed first. Then follow the verses for that variant, and the game description. For the examples in the appendix, the source is opposite the title.

Variants of the first tune of "London Bridge" are those normally associated with the words today. The first variant is from Gomme, who printed the tune as follows:

EXAMPLE 3

(025) London Bridge (01A)

The next verse is:

Build it up with iron bars,
 Iron bars, iron bars,
 Build it up with iron bars,
 My fair lady.

Then follow verses with the same refrain, beginning with:

Build it up with pins and needles.
 Pins and needles rust and bend.
 Build it up with penny loaves.
 Penny loaves will tumble down.
 Here's a prisoner I have got.
 What's the prisoner done to you?
 Stole my watch and broke my chain.
 What will you take to let him out?
 Ten hundred pounds will let him out.
 Ten hundred pounds we have not got.
 Then off to prison he must go.

(Gomme I, 1894(b), p. 333)

Gomme describes the game as follows:

Two children hold up their clasped hands to form an arch. The other children form a long line by holding to each other's dresses or waists, and run under. Those who are running under sing the first verse; the two who form the arch sing the second and alternate verses. At the words, "What has this poor prisoner done?" the girls who form the arch catch one of the line (generally the last one). When the last verse is sung, the prisoner is taken a little distance away, and the game begins again (I, 1984(b), p. 341).

This is the first of three tunes which Gomme prints; it is generally used in the English versions, and is the only one occurring in Canadian versions. The game is generally played like "Oranges and Lemons", only there is no "tug of war" at the end. The prisoner element is "unexplained by any appeal to modern life, ... is a real and not accidental part of the game". Gomme's lengthy discussion of the possible origins for the prisoner element (pp. 346-50), with some additional historical information in Opie

and Opie (pp. 273-276), suggests that "prisoners" were sought to be buried alive in the foundation of the bridge. This ancient superstition has been very widespread throughout the world, and variants of this game are found in many European traditions. The introduction of "a man to watch" in some variants approaches, in Gomme's opinion, nearer to modern facts (p. 346), although as the Opies say, a man is set to watch in Tommy Thumb's 200 year old version. Here is the earliest known text, from Tommy Thumb's pretty song book, (c. 1744):

London Bridge
Is Broken down,
Dance over my Lady Lee.
London Bridge
Is Broken down
With a gay Lady.

How shall we build
It up again,
Dance over my Lady Lee, &c.

Build it up with
Gravel, and Stone;
Dance over my Lady Lee, &c.

Gravel, and Stone,
Will wash a away,
Dance over my Lady Lee, &c.

Build it up with
Iron, and Steel,
Dance over my Lady Lee, &c.

Iron, and Steel,
Will bend and Bow,
Dance over my Lady Lee, &c.

Build it up with
Silver, and Gold,
Dance over my Lady Lee, &c.

Silver, and Gold
Will be stolen away,
Dance over my Lady Lee, &c.

Then we'll set
A man to Watch,
Dance over my Lady Lee.
Then we'll set
A Man to Watch
With a gay Lady.

(Opie and Opie, 1969,
pp. 272-273).

The end verses of the Gomme variant and the Kidson to follow, in which a prisoner stole a watch and chain and cannot pay a ransom, do not appear in 18th century versions. They are found in the game "Hark the Robbers" from which they have been attached to "London Bridge" (Opie and Opie, p. 275).

Here is Kidson's variant of the first tune:

(Broken Bridges)

The musical notation is written on four staves in G major (one sharp) and 2/4 time. The melody consists of eighth and quarter notes. The lyrics are written below the notes.

Lon-don Bridge is bro - ken down,
Bro-ken down, bro - ken down,
Lon-don Bridge is bro - ken down,
My fair La — dy.

EXAMPLE 4

(025) London Bridge (01B)

2. Build it up with iron bars
3. Iron bars will rust away
4. Build it up with pins and needles
5. Pins and needles rust and bend
6. Build it up with penny loaves
7. Penny loaves will tumble down
8. Build it up with gold and silver
9. Gold and Silver I have not got
10. Here's a prisoner I have got'
11. What's the prisoner done to you?
12. Stole my watch and broke my chain
13. What will you get to set him free?
14. One hundred pounds will set him free
15. One hundred pounds we have not got.
16. Then off to prison you must go.

(Kidson, 1916)

The Opies suggest that the building of the bridge of "silver and gold" is a "later" interpolation even as it appears in the Tommy Thumb version. (Opie and Opie, 1969, p. 275)

The three Canadian variants which follow, in examples 5 - 7, are only fragments really, of the Gomme and Kidson variants. The variant tune of these three examples is the only one surviving in Canadian oral tradition.

EXAMPLE 5

(025) London Bridge (01C)

London Bridge is half built up,
 Half built up, half built up.
 London Bridge is half built up,
 My fair lady O.

Get the keys and lock her up,
 Lock her up, lock her up.
 Get the keys and lock her up,
 My fair lady O.

London Bridge is all built up,
 All built up, all built up,
 London Bridge is all built up,
 My fair lady O.

Chop their heads off one by one,
 One by one, one by one,
 Chop their heads off one by one,
 My fair lady O.

(Fowke, 1969, p. 30)

GAME: Two children join hands and raise their arms to form an arch under which the others march. At end they lower their arms to catch one child and ask her to choose between two things previously agreed upon by the leader (i.e. Diamonds or Pearls?) When she chooses, she stands behind the leader representing that choice. This is repeated until all the children are lined up behind the leaders; then they have a tug of war. (Fowke, 1969, p. 149)

In Example 6, Creighton gives two versions of the text: the first is one sung by an adult to the tune given; the second was sung by the adult's grandchild.

The musical notation consists of four staves, each with a treble clef and a 4/4 time signature. The notes are as follows:

- Staff 1: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter).
- Staff 2: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter).
- Staff 3: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter).
- Staff 4: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter).

The lyrics are written below the notes:

- Staff 1: Lon - don Bridge is all broke down,
- Staff 2: All broke down, all broke down,
- Staff 3: Lon - don Bridge is all broke down
- Staff 4: My fair la - dy.

EXAMPLE 6

(025) London Bridge (01D)

- Sung by an Adult:
1. London bridge is falling down,
Falling down, falling down,
London bridge is falling down
My fair lady.
 2. Build it up with iron bars.
Iron bars, iron bars,
Build it up with iron bars
My fair lady.

Sung by her
Grandchild:

1. London bridge is all broke down,
All broke down, all broke down,
London bridge is all broke down
My fair lady.
2. London bridge is half built up,
Half built up, half built up,
London bridge is half built up
My fair lady.
3. London bridge is all built up,
All built up, all built up,
London bridge is all built up,
My fair lady.

(Creighton, MS 162B)

In the final variant of the first tune, the days of the week are added to the traditional text, of which this is only a fragment.

Lon-don Bridge is fall-ing down,

Fall-ing down, fall-ing down.

Lon-don Bridge is fall-ing down,

Hi Oh, Ma - der - ri - o.

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday!

EXAMPLE 7

(025) London Bridge (01E)

2. London Bridge is half built up.
3. London Bridge is all built up.

GAME: Repeat the days of the week letting the bridge fall on "Sunday". Then ask the one caught "Oranges or Lemons". They go behind the bridge corresponding to their choice. The game ends in a tug of war.
(Creighton, MS 223B-5)

The second tune (02) of "London Bridge", is listed in Example 8 as it was found in Creighton (MS 10-2). This is a variant of the third tune printed in Gomme (I, 1894(b), p. 333), only there it is in 6/8 meter. This tune is the one normally sung to "Mulberry Bush". On tape, the melody sounds more like chant than singing.

EXAMPLE 8

(025) London Bridge (02A)

2. London Bridge is all built up.
(Creighton, MS 10-2)

GAME: Tug of war at the end.

The third tune (03) of "London Bridge" has been found in four sources (A - D) as well as in Gomme: she prints it as her second tune, from Rimbault, whose variant is in Example 9. Rimbault's text is a variation of Tommy Thumb's (printed above, pp. 98-99). Although several variants of this third tune have been found in printed sources, none survive in oral tradition in Canada. Example 9 is the first variant of the third tune.

EXAMPLE 9

(025) London Bridge (03A)

2. How shall we build it up again?
3. What shall we build it up withal?
4. Build it up with iron and steel.
5. Iron and steel will bend and bow.
6. Build it up with wood and clay.
7. Wood and clay will wash away.
8. Build it up with silver and gold.
9. Silver and gold will be stolen away.
10. Then we must set a man to watch.

11. Suppose the man should fall asleep.
12. Then we must put a pipe in his mouth.
13. Suppose the pipe should fall and break.
14. Then we must set a dog to watch.
15. Suppose the dog should run away.
16. Then we must chain him to a post.
17. Build it up with stone so strong;
Dance over my Ladye Lea;
Huzza! 'twill last for ages long,
with a gay ladye.

(Rimbault, 1846, pp. 34-37)

Rimbault, in the introduction to his collection, speculates about the history and origin of this song. He says it was printed as early as c. 1784, in Ritson's Gammer gurton's garland, and in Halliwell's Nursery rhymes of England (from 1842), but "both copies are very imperfect". There were also some fragments from "magazines" from 1823: from these Rimbault made up the version printed, from "an account of the ballad having been heard sung by a woman born during the reign of Charles II, and who lived till the end of that of George II" (ca. 1685-1760). (Rimbault, 1846, ix-x; Gomme I, 1894(b), p.348-49; Opie and Opie, 1969, p. 273) The first ten verses are similar to Tommy Thumb's, although thereafter the variations on the watchman are quite elaborate in Rimbault.

The following variants are similar to each other, and seem to be based on Rimbault's, or the Tommy Thumb version of the text, except no man is set to watch, and the last verse is as Rimbault's.

MacBain (1932, p. 33) also contains Rimbault's variant, and is not printed here. It is interesting that none of the text variants of this tune contain reference to a prisoner, which was found in variant texts of the first tune. The melody of this third tune is quite different from the one "normally associated with the words today."

EXAMPLE 10

(025) London Bridge (03B)

2. How shall we build it up again?
Dance over my Ladye Lea;
How shall we build it up again?
With a gay ladye.
3. Silver and gold will be stole away,
Dance over my Ladye Lea:
Silver and gold will be stole away:
With a gay ladye.
4. Iron and steel will bend and bow,
Dance over my Ladye Lea:
Iron and steel will bend and bow:
With a gay ladye.

5. Wood and clay will wash away,
Dance over my Lady Lea:
Wood and clay will wash away:
With a gay ladye.
 6. Build it up with stone so strong,
Dance over my Lady Lea:
Huzza! 'twill last for ages long.
With a gay ladye.
- (Crane, 1878, p. 42)

EXAMPLE 11

(025) London Bridge (03C)

2. How shall we build it up again
 3. Silver and gold will be stole away
 4. Build it up with iron and steel
 5. Iron and steel will bend and bow
 6. Build it up with wood and clay
 7. Wood and clay will wash away
 8. Build it up with stone so strong
Dance o'er my Lady lee;
Huzza! 'twill last for ages long,
With a gay Lady.
- (Linley, 1860, p. 5)

EXAMPLE 12

(025) London Bridge (03D)

2. How shall we build it up again
3. Silver and gold will be stole away
4. Build it up with iron and steel
5. Iron and steel will bend and bow
6. Build it up with wood and clay
7. Wood and clay will wash away
8. Build it up with stone so strong
 Dance o'er my Lady lea;
 Huzza! 'twill last for ages long,
 With a gay Lady.

(Moffat, 1912)

The fourth tune (04) of "London Bridge" contains a melody section for each verse and response of the text. This variant was found in Plunket (1886, pp. 20-21), and is there called the "Old Version." In the introduction to the directions for the method of play, Plunket quotes comments concerning a dance, but no source is mentioned for the quotation. Example 13 is Plunket's "Old Version":

The musical notation consists of eight staves, each with a treble clef and a key signature of one flat (B-flat). The melody is written in a simple, folk-like style. The lyrics are written below each staff, with hyphens indicating syllables that span across notes. The lyrics are: "Lon - don Bridge is bro - ken down !", "Dance o'er my La - dy Lea.", "Lon - don Bridge is bro - ken down,", "With a gay La — dy.", "How shall we build it up a - gain?", "Dance o'er my La - dy Lea?", "How shall we build it up a - gain,", and "With a gay La — dy.".

Lon - don Bridge is bro - ken down !

Dance o'er my La - dy Lea.

Lon - don Bridge is bro - ken down,

With a gay La — dy.

How shall we build it up a - gain?

Dance o'er my La - dy Lea?

How shall we build it up a - gain,

With a gay La — dy.

EXAMPLE 13

(025) London Bridge (04A)

(Old Version)

The following verses were sung alternately by the chorus and the leader, and the dance ended with a shout.

3. Build it up with silver and gold
4. Silver and gold will be stolen away
5. Build it up with iron and steel
6. Iron and steel will bend and bow
7. Build it up with wood and clay
8. Wood and clay will melt away
9. Build it up with stone so strong
Dance o'er my Lady Lea;
Huzza! 'Twill last for ages long,
With a gay Lady.

GAME: A dance, and chorus of boys and girls, to which the words of the ballad gave measure. The breaking down of the bridge was announced as the dancers moved round in a circle, and the question 'How shall we build it,' etc., was chanted by the leader, while the rest stood still (Plunket, 1886), pp. 20-21).

Here we find reference to "the dance". The two tunes could be considered variants of the second tune (02), the "Mulberry Bush" tune. The text is like all the variants of Rimbault's and these all begin with what would have been the strongest elements with which to build the bridge, suggesting gradually weaker elements, until the last verse. These are all in reverse order to suggestions in the Tommy Thumb version.

References to the dance "London Bridge" in Playford's The second book of the compleat dancing master (1719) and the Dancing master (1728), (Gomme I, 1878, p. 350; Opie and Opie, 1969, p. 272) do not indicate a similarity of the tune to the "tune normally associated with the words today". (Opie and Opie, p. 272).

Plunket's is the only source in which a dance is mentioned in the instructions.

The fifth tune (05) of "London Bridge" is Plunket's "New Version" of Example 14. The tune of this variant is not found elsewhere.

EXAMPLE 14

(025) London Bridge (05A)

(New Version)

2. Build it up with penny loaves
3. Penny loaves will melt away
4. Build it up with iron and steel
5. Iron and steel will bend and bow
6. Build it up with silver and gold
7. Silver and gold I have not got

8. What did this poor prisoner do?
9. Stole my watch and broke my chain
10. How many pounds will set him free?
11. Three hundred pounds will set him free
12. The half of that I have not got
13. Then off to prison you must go.

GAME: Two of the players form an arch with their raised arms; the others march in line around and under the arch. Those in line and "the two" sing the first seven verses alternately. During the seventh verse the arch-makers lower arms and catch the child passing under. The line continues to sing verse eight. At the end, they lead the prisoner to a den; when the last child is captured they all rush out. "The two" pursue and capture another two to form the next arch.

(Plunket, 1886, pp. 22-23)

These verses correspond with Gomme's and Kidson's first variants, generally (01), and would therefore support assertions that this form of the text is the more modern version. The elements for building proceed from weakest to strongest, here.

Finally, the sixth tune (06) of "London Bridge" is Kidson's variant, called "Shootman", Example 15. It begins as follows:

Two players separate themselves and agree that each shall represent some object. It may be a "Golden Church" or a "Golden Piano", the one vying with the other in richness of imagination. They stand opposite each other holding hands joined and upraised. The other players form themselves into a sort of kite's tail by holding the back of each other's frocks or jackets. This kite's tail moving rapidly in lines and zigzags, sings quickly and loudly over and over again:-

EXAMPLE 15

(025) London Bridge (06A)

(Shootman)

The tail now passes under the upraised arms of the first two players, who stand somewhat apart. As the last child in the tail goes by they drop their arms suddenly and imprison him, allowing the others to proceed. These, taking no notice of the lopped-off part of the tail, continue their lines, and zigzags, still singing.

Shootman, Shootman, the very very last man.

The two players now sing:-

What has my poor pris'-ner done,

Pris'-ner done, pris'-ner done?

What has my poor pris'-ner done?

My fair La — dy.

2. Robbed a church and killed a man,
Killed a man, killed a man,
Robbed a church and killed a man,
My fair lady.

Tread up-on his toes, and let him go,

Let him go, let him go,

Tread up-on his toes, and let him go.

My fair La — dy.

They proceed to execute this sentence and ask him in a whisper whether he will be a "Golden Church", or a "Golden Piano"; he makes the choice and goes behind the one who represents the article or edifice of splendour. The kite-tail, having now come back again, passes beneath the upraised hands, and the same process is repeated until all are ranged behind one or other of the first two players. A tug of war between the two parties concludes the game (Kidson, 1916, pp. 44-45).

As Kidson states:

This is a particularly full and curious version of that game which is known in different districts as "Oranges and Lemons," "London Bridge is broken down," "Hark (or see) the Robbers passing through," etc. It was obtained from children in Liverpool some time ago and is apparently the complete survival of the game. (p. 45)

Although the text has altered quite considerably, it is of interest to note that the two main tunes, the second a variant of Rimbault's (03) and the third a variant of Gomme's first tune (01) have remained intact. In fact there is some embellishment of these tunes. The Gomme tune is exactly the same in phrases two and four, where the turns of phrase have been changed in all other variants of Gomme's (01) tune. (See pp. 96-104 above).

The Opies have said that "'London Bridge' is one of the few [nursery rhymes], perhaps the only one, in which there is justification for suggesting that it preserves the memory of a dark and terrible rite of past times; and the literary history of the song does not frustrate the idea of its antiquity." (1969, p. 272) There are references to the dance as early as 1659, and although no words are given in Playford's collections, "it is certain that the words were already sung. Indeed by 1725 they were already thought of as belonging to children" (1969, p. 272). With Rimbault one would agree that although it is "perhaps one of the most interesting of the old nursery ditties, ... searching out the history and origin of a ballad is like endeavouring to ascertain the source and flight of December snow" (1846, p. ix).

From an examination of these variants of the six variant tunes of the singing game "London Bridge", it can be seen that the variants existing today in Canada are the continuation of a tradition that is of great antiquity. It can also be observed that by comparison with the original sources of this singing game, the Canadian variants are almost nothing more than fragments of what was originally a very rich tradition. It is for this reason that the earlier sources of these variants can be of great value in preparing suitable materials for a music education program, in helping to restore the original content of the verses and the spirit of the play. In another respect, the references of a historical nature can provide a basis for further study of the games, of their origins, and of their relationship to the dance tradition of earlier times.

"London Bridge" is one of the singing games selected for this study. The remaining variants for the study can be found in Appendix A (pp. 232-304) where each has been transcribed, as "London Bridge", from the original sources, and where each has been similarly discussed with reference to information obtained from their sources.

Preliminary Transcription and Analysis

Once the variants of the collection had been assembled and studied with annotations in the manner described above for "London Bridge", then a transcription of each was made from the original key to the key of G, or with G above middle C as the final note of each melody. Variants of a melody which were the same or similar were transcribed together with variations from the norm noted beneath on a separate line of staff notation, to indicate the measure in which the variation occurred. In this preliminary stage of the examination of variants for the singing games collection, Gomme's variants were always transcribed first, and used as a "norm" for the main reason that hers was the most comprehensive collection of singing games from the last century, and in many instances predated the sources available for other variants.

The transcriptions were made to enable the characteristics of each variant to be analyzed. Examples 16 and 17 are an illustration of the manner in which the five variants (A - E) of the first tune (01) of "London Bridge", described above, (pp. 96-104), were transcribed for analysis purposes. Example 16 is the transcription of the first two variants, A and B of the first tune (01), (pp. 96-100 above); Example 17 is the transcription of the last three variants, C, D and E of the first tune (01), (pp. 101-104 above), of "London Bridge" (025).

TITLE: LONDON BRIDGE MODE: do hexachord
 SOURCE: GOMME I, 333 SOL-FA: drmfsl
KIDSON (Broken Bridges) RANGE: 1 — 6

VARIATIONS:

REMARKS: This is the version generally used in London.

Game: Arch. file through. Two forming the arch sing the second and alternate verses. On v. 8 arch comes down. At end prisoner is taken away. No tug of war at end.

-Prisoner incident in 5 of Gomme's 9 texts indicates an older version.

1. Build it up with iron bars
2. Build it up with pins and needles
3. Pins and needles run and bend
4. Build it up with peony leaves
5. Peony leaves will tumble down
6. Before a prisoner I have got
7. What's the prisoner done to you?
8. State my watch and break my chain
9. What will you take to let him out
10. Ten hundred pounds will let him go
11. Ten hundred pounds we have not got
12. Then off to prison he must go.

VERSE

ACCENT: 2-2-2-3

SYLLABLE NUMBER: 7-3+3-7-4

MELODY

CADENCES: 5-4-5

COUNTRY OF ORIGIN: ENGLISH FORM: A B A C

EXAMPLE 16

Preliminary transcription and analysis of variants (01A) and (01B) of "London Bridge" (025)

TITLE: LONDON BRIDGE MODE: do hexachordSOURCE: Fowke, 30 SOL-FA: d r m f s lCREIGHTON, MS 162B RANGE: 1 — 6CREIGHTON, MS 223B-5

Lon- don Bridge is fall- ing down,
(all broke down.) - 162-4
Fall- ing down, fall- ing down,
Lon- don Bridge is fall- ing down,
My fair la- dy O.

VARIATIONS: CR. 223B-5 CR. 162B CR. 223B-5 Coda.

la- dy. Hi Oh, Ma- duri- O. Monday Tuesday Wednesday Thursday Friday Saturday Sunday

REMARKS:

Game: Arch, lowered at end. Child chooses which side (e.g. diamonds or pears). At end of game - tug of war.

Also - words: "The Robbers Coming Through" - to same tune and game. Similar to words of Gomme's "London Bridge".

Creighton: both in 3/4.

223B-5 ends in tug of war

- 4-2 London Bridge is half built up
- 3- Get the keys and lock her up
- 4- London Bridge is all built up
- 5- Chop their heads off one by one!

VERSE

ACCENT: 2 - 2 - 2 - 2SYLLABLE NUMBER: 7 - 3+3 - 7 - 5

MELODY

CADENCES: 5 - 5 - 5COUNTRY OF ORIGIN: CANADA (ENGLISH)FORM: A B A C

EXAMPLE 17

Preliminary transcription and analysis of variants (01C), (01D), and (01E) of "London Bridge" (025)

All variants of the complete collection of singing games and nursery songs were transcribed in this manner, to group variant tunes together and to analyze their musical and textual characteristics. The analysis was made according to the following categories, as displayed in Examples 16 and 17:

1. In the upper right corner information was recorded with respect to:

- (a) the mode, by name, using the names of the seven note scales, such as Ionian, Aeolian, and so on, or "-chord" ending for "gapped" scales, or "-tone" ending for 5 note scales without half steps;
- (b) the tone set or "sol-fa", to indicate the exact pitches present in the melody;
- (c) the range, by numbers, as described in Bartok's symbol system above. (pp. 71-72)

These first three categories describe the same characteristic, essentially, but were to enable tabulation of information in these different forms.

2. In the bottom right hand corner, the following information describing the structure of each variant was recorded:

- (a) the metric accent, or the number of primary stresses for each line of text;
- (b) the number of text syllables for each line of text;

- (c) the cadence tones for each line of the melody, by numbers representing the degree of the cadence note in relation to the G final which was always 1: the designation of the final was therefore omitted;
- (d) the formal structure of the melody using letters A B A C, for example.

3. Space was left for additional verses to be added. The REMARKS section was used to describe the games for the singing games variants, or for comments of an analytical nature, and to note the nationality of origin of each variant. This preliminary transcription and analysis of all variants of the singing games collection was completed by 1980.

The format for such an analysis scheme is an adaptation of the card format used in Hungary by the Folk Music Research Group. The symbols for the analysis are similar to those described from Bartók above, pp. 71-72. The original purpose of this format was to provide an indexing system so that each category of analysis could be referenced easily, and tabulated. It is similar to the format developed by Bliss (1981) but is not as comprehensive, and does not contain teaching suggestions. The information contained in the above analysis format was the source for the information that was encoded in the computer analysis program as data concerning each variant.

From the musical transcriptions a second type of transcription was made. In order to make comparisons between variants more

readily, and to draw conclusions concerning the musical characteristics of the different variant melodies, each different variant melody and the text of the first verse were transcribed separately, with a common G final note; underneath were tabulated only the variations occurring in the related variants. The results of the analysis that had been obtained from the earlier format, as seen in Examples 16 and 17 above, tended to be rather confusing when so many variants were to be compared. It also became evident from a comparison of the characteristics of each variant that there were minor differences between them, which could not all be noted on the same form, and there were some discrepancies between melodies, especially in Gomme's transcriptions, with respect to the meter, the number of metric accents per line, or the duration of some notes. This is especially evident in the first variant of "London Bridge" (01) A, in Examples 3 and 16.

Example 18 contains the variants of Examples 16 and 17 transcribed according to the tabulated format. It will be noticed that each variant not only has been transcribed in the same key, with G as final note, but also standardized and transcribed in the same $\frac{2}{4}$ meter. This was to enable the bar lines to be uniformly "lined up" to facilitate visual observation and study. Some durational values were also changed to eliminate rests for the same reason. These transcriptions were used for encoding the melodies for the computer program. Such standardization of the meter and duration was not necessary for the computer analysis, except for variants for which there were not at least two main accents for each line of text, as

in Gomme's first variant (01), Examples 3 and 16. However, the G final standardization for each variant was absolutely essential for computer analysis and grouping of phrases.

Example 18 contains the five variants of the first melody of "London Bridge" (01), from Examples 16 and 17, labelled A B C D and E respectively.

In Appendix A (pp. 229-333) all variants chosen for this study are to be found transcribed in the two different manners and presented in two different sections. In the first section (pp. 232-304), following the index (pp. 229-231) listing the singing-games titles by number, each variant is printed separately, as (01), (02), and so on, grouped as A, B, C, and so on. Here each variant is presented as it was copied from the original source, preserving the original key, time signature, verse form and punctuation, and game description, as has been seen above for all the variants of "London Bridge", (pp. 96-117). For the variants obtained from tape, the melody was transcribed in the key in which it was actually sung, and any additional verses or game descriptions were obtained from the tape as well, from the written transcriptions in the National Museum collection, or from both sources. The information concerning the key used in actual performance may be useful to know for future research. There are then COMMENTS, where appropriate, about the relationship between variants of a historical or bibliographical nature based on observations concerning melody, text, or method of play, as presented above for "London Bridge" (pp. 96-117).

(025) London Bridge (01)

A

B

C

D

E

EXAMPLE 18

Tabulated variants of the first tune of "London Bridge", from Examples 16 and 17, with variations only of the A variant transcribed for B, C, D and E variants

The second section of Appendix A (pp. 306-333), contains all the variants of each variant tune transcribed in the tabulated form, like Example 18, with G final, where only the differences between variants are indicated. This tabulated form of the melodies was used for encoding the melodies for the computer analysis program. Before this program is described, a discussion of the singing games that were selected for this study for analysis by computer is necessary.

Singing Games Selected for the Computer Analysis Program

From the singing games collection, the following titles were chosen for this study, retaining the title number from the list on pp. 89-91.

1. A-Hunting We Will Go
2. Babbity Bowster
3. Bingo
4. Bluebird, Bluebird
5. Charley Over the Water
6. Dame Get up and Bake Your Pies
7. Dinah
8. Doctor Faustus
21. Jenny Jones
25. London Bridge
39. Poor Mary

Following is a list of each variant of the singing game that was selected for the computer analysis program. These are 54 variants of the titles given in the preceding list. First the title number is listed as it appears in the computer program, as (001), (002), and so on; then the title of each specific variant is listed; following is the number of the variant, listed as (01) for the variant numbers, and as A, B, C, and so on, variants of that variant number; the source for each variant is given, followed by the year of publication and page number in that source. For the variants obtained from the National Museum, the manuscript number is stated as MS followed by the tape number.

The numbering system used for each variant listed here was developed for the computer program, to identify each variant specifically. The sources for each variant are cited in full in the bibliography which appears at the end of this Chapter (pp. 188-190). There each source is also numbered to facilitate reference to the source in the computer program; the exact page number for each variant was also encoded, whereas the MS sources were encoded as 'MS' followed by the tape number.

In Appendix A, (pp. 229-304) the transcription of each variant can be located using the title and variant plus letter numbers. There the sources are also referenced. The transcription from the original source includes a complete presentation of all verses and the game description. Annotations concerning the history, melodies,

texts and games of each variant are provided in a COMMENTS section. In Appendix A, (pp. 306-333), each variant can be located in the tabulated format by title and two digit variant number. Only the melody of the first variant has been transcribed with a G final; below this, only the variations occurring in each successive variant are indicated. The capital letter at the beginning of each staff line identifies the specific variant which has been transcribed, Rimbault's "Little Bingo" is not included in this section.

List of Variants in Alphabetical Order
of Singing Games Selected for
Computer Analysis and their Sources

<u>Title # Number</u>	<u>Variant Title</u>	<u>Variant # Number</u>	<u>Source</u>	<u>Date</u>	<u>Page Number</u>
001	A-Hunting we will go	01A	Gomme I	1894(b)	243
	A-Hunting we will go	01B	Wilman	1915	55
	A-Hunting we will go	01C	Kerr	n.d.	3
	A-Hunting we will go	02A	Fowke	1969	36
002	Babbity Bowster	01A	Gomme I	1894(b)	9
	Babity Bowster	02A	Kidson	1916	20
	Bee-ba-babity	02B	Kerr	n.d.	4
	Babbity Bowster	02C	Moffat	1933	13
003	Bingo	01A	Gomme I	1894(b)	31
	Bingo	01B	MacBain	1932	29
	Bingo	01C	Kerr	n.d.	24
	Bobby Bingo	01D	Wilman	1915	8
	Bingo	01E	Kidson	1916	111
	Bingo	01F	Fowke	1969	91
	Little Bingo (not encoded)		Rimbault	1846	62

<u>Title #</u>	<u>Variant Title</u>	<u>Variant #</u>	<u>Source</u>	<u>Date</u>	<u>Page Number</u>
004	Bluebird, Bluebird	01A	Creighton	MS	83-10
	Bluebird, Bluebird	01B	Creighton	MS	30-6
	Bluebird, Bluebird	02A	Creighton	MS	L.C.150A
	Bluebird, Bluebird	02B	Creighton	MS	10-10
	Bluebird, Bluebird	02C	Fowke	1969	24
005	Charley Over the Water	01A	Crane	1878	43
	Weevily Wheat	02A	<u>Old Songs</u>	1902	14
	Johnny Over the Water	03A	Creighton	MS	10-11
006	Dame Get up and Bake Your Pies		Crane	1877	30
	Xmas Day in Ye Morning	01A	Moorat	1917	30
			MacBain	1932	22
	Dame Get up and Bake Your Pies	01B	Sommerville	1929	-
	Dame Get up and Bake Your Pies	01C	Linley	1860	12
	Dame Get up and Bake Your Pies	01D	Moffat	1912	-
	The Christmas Pudding	01E	Kidson	1916	66
007	Dinah	01A	Gomme I	1894(b)	97
008	Doctor Faustus	01A	Linley	1860	15
	Doctor Switchem	01B	Kidson	1916	70
	Doctor Faustus	01C	Crane	1877	46
021	Jenny Jones	01A	Kidson	1916	2
	Jenny Jones	01B	Gomme I	1894(a)	23
	I've Come to See Georgina	02A	Kerr	n.d.	28
	Jinny Jo	03A	Plunket	1886	24
	Jinny Jo	03B	Fowke	1969	32
	Jenny John	04A	Wilman	1915	29

<u>Title # Number</u>	<u>Variant Title</u>	<u>Variant #</u>	<u>Source</u>	<u>Date</u>	<u>Page Number</u>
025	London Bridge	01A	Gomme I	1894(a)	333
	Broken Bridges	01B	Kidson	1916	-
	London Bridge	01C	Fowke	1969	30
	London Bridge	01D	Creighton	MS	162B
	London Bridge	01E	Creighton	MS	223B-5
	London Bridge	02A	Creighton	MS	10-2
	London Bridge is Broken Down	03A	Rimbault	1846	34
	London Bridge	03B	Crane	1878	42
	London Bridge is Broken Down	03C	Linley	1860	5
	London Bridge	03D	Moffat	1912	-
	London Bridge (old version)	04A	Plunket	1886	20
	London Bridge (new version)	05A	Plunket	1886	22
	Shootman	06A	Kidson	1916	44
039	Poor Mary:				
	Poor Mary Sits A-weeping	01A	Gomme I	1894(a)	59
			Gomme II	1898	46
	Poor Jenny is A-weeping	02A	Wilman	1915	66
	Oh, What is Mary Weeping For?	03A	Kerr	n.d.	32

Reasons for Selection of Variants
for Encoding Purposes

Of the 54 variants listed, 53 were selected for computer analysis. "Little Bingo" of Rimbault was included in the preliminary study, for reasons explained on p. 246 of Appendix A, but was not encoded. The 53 variants were chosen for this study for the following reasons:

1. to develop a method of encoding information about each variant from the preliminary analysis and study program;
2. to develop a methodology of encoding the pitch information of each variant.

The first five singing-game titles were chosen initially for these reasons.

For the purpose of developing the methodology of locating phrases and comparing patterns of phrases, the remaining singing-games titles were chosen to provide data, in addition to what was available in the variants of the first five titles, for the following reasons:

- (a) to provide examples of variants that contained more than one section;
- (b) to provide examples of one-section variants that contained different numbers of phrases;
- (c) to provide examples of variants that were written in different time signatures;

- (d) to provide examples of variants that were in different key signatures.
- (e) to provide examples of variants of different titles that were known from the preliminary analysis to be variants of the same tune.

The variants that were selected to provide data for each of the conditions (a) to (e) will be briefly described. There, some of the problems will be discussed, which had been encountered in the preparation of the tabulated transcription for the entire collection, and which have directly affected the manner in which variants were encoded.

(a) Number of sections:

There are some singing games containing more than one melody section. These have evolved in this form for different reasons: one is due to a traditional method play, where different melodies are sung for specific purposes; the other is due to a decline in tradition, where melodies and texts from different singing games are combined in a variant which do not usually occur in other variants of the main text of the game in oral tradition.

An example of the former type is games of "courtship", where there was often a verse at the end which Gomme referred to as the "marriage formula". One singing game of this type in the selected list is "Poor Mary" (039). Variants containing the "marriage formula" are (01A) and (02A). This verse was sung at the end of the game when the "loved one" had been chosen, and the couple was

generally wished the usual joys of married life. These variants can be found in A-pendix A, pp. 300 and 302 respectively. Examples of the latter type, where sections have been added from other games, have been provided above in Plunket's "Old Version" of "London Bridge" (Example 13) and in Kidson's "Shootman" variant of "London Bridge" (Example 15). While it is not possible to discuss the relationships in great detail, these variants have been mentioned in order to demonstrate that there is a need to keep multi-section melodies intact for initial analysis and grouping. To do this will enable an analysis of each variant in its total structural aspect and a comparison with variants which are in similar form. Some common characteristics of the relationship between sections may emerge from an examination of these variants. Then each section could later be submitted for the same type of analysis as all other single-section variants. One of the characteristics of some of these multi-section variants, for example, is that the meters change from section to section. This occurs in four of the variants selected for this study: Kerr's variant of "Jenny Jones" (02102A), from $\frac{2}{4}$ to $\frac{3}{4}$ (p. 269 in Appendix A); Kidson's "Shootman" variant of "London Bridge" (02506A), from ϕ to $\frac{6}{8}$ to ϕ (p. 114 above); Gomme's "Poor Mary" variant (03901A), from $\frac{3}{4}$ to $\frac{4}{4}$ for "On the Carpet" and the "marriage formula" texts.

After examining in the preliminary analysis all variants like these examples, then, it was considered important for analysis purposes to examine singing-game variants containing more than one melody (or section) separately as a group. Subgroups of these will be formed according to the type of structure existing in each variant.

For this study, then, the following variants, whose sources are listed on pp. 129-131, contain more than one section:

021	Jenny Jones (I've Come to See Georgina)	02A
025	London Bridge (Old Version)	04A
025	London Bridge (Shootman)	06A
039	Poor Mary Sits A-Weeping	01A
039	Poor Mary is A-weeping	02A

(b) Number of Phrases:

Most variants of the singing games collection are one-section, 4-phrase melodies. Those variants selected for this study that contain other than 4 phrases are the following:

(i) 3-phrase variants:

003	6 variants of Bingo	01A - 01F
	("Little Bingo" not encoded)	
004	Bluebird, Bluebird	01A
004	Bluebird, Bluebird	01B

(ii) 6-phrase variants:

005	Charley Over the Water	01A
008	All 3 variants of Doctor Faustus	01A - 01C

(c) Time Signature:

One of the major problems to be solved in the comparison of phrase patterns was to develop the methodology to enable variants transcribed in different meters to be compared. For the majority of these singing games, the common time signatures in original

transcriptions were $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$, $\frac{4}{4}$, $\frac{3}{8}$, and $\frac{6}{8}$. For the majority of the original sources, there was a consistency in the transcription of each line of text into a meter which represented the two main stresses of each line of text by 2 measures of the designated meter. For transcriptions where this was not the practice, the meter was changed for the tabulated transcription with G final, from which the melody was encoded for processing. Some meters were changed from $\frac{3}{8}$ to $\frac{3}{4}$ to enable uniform representation in one meter for comparative purposes in the tabulated transcriptions, although this was not necessary for the computer program. All changes of this type are listed on page 305 in Appendix A, preceding the transcriptions for the selected variants in tabulated form.

(d) Key Signature:

With very few exceptions, the melodies of the singing game repertoire are in some form of the "major" scale. From the preliminary analysis of the mode or scale of each variant, approximately 50 of the variants of the total collection are in the seven note major scale. The remainder of the total 300 variants (with 6 exceptions) are in some form of a "gapped scale": that is, with from 1 to 3 tones missing, often the 4th or 7th, or both, and sometimes the 6th degree absent. Within this latter group of "gapped scales" there is such a variety of the possible combinations of the different tones that these variants defy manual classification by scale. For the methods of grouping as outlined by Bartok, the scale is one of the least important aspects to be considered. For these

variants of the singing game tradition, it will be most fruitful to examine the types of common phrase patterns that occur in relation to the "scale" of the melody in which these patterns occur. A computer program can be implemented to extract the scale degree configuration for each variant, and of course, to determine the frequency of occurrence of each of these "scales" for the whole collection. This will be of interest to know, but it is the "scales" of the most common phrase patterns that will be of greatest interest and contribute most to a description of the characteristics common to this body of literature.

Actually, the only variants of the entire singing games collection that are in some form of the "minor" scale are present in variants of two of the titles chosen for this study. Among the first five titles is "Charley Over the Water" (005). It was included in the singing games collection because of a seeming although weak connection with this tradition: the first, a 6-phrase variant, is acknowledged by the Opies (1969, p. 116) to be a parody of a Jacobite ditty of 1748; the second, "Weevily Wheat" (02) was danced to the figures of the Virginia Reel (Old Songs, 1902, p. 14) and the third, "Johnny Over the Water" (Creighton, MS 10-11) is the same as a formula mentioned in the Opies (1969, p. 116) for a game of tag, whereas in Fowke (1969, p. 14) only the text survives for a game of tag. Newell (1883, p. 171) describes a ring game. The connection between these variants is rather weak, and this is expected, therefore, to be demonstrated by the results of the phrase analysis. When the nursery song collection can be analyzed, there may be a

stronger relationship to characteristics of that body of literature of these variants. It is the second variant which is in the "1a pentatonic" scale. It has therefore, been transcribed to a B^b key signature with a G final.

The five other exceptions to the "major" mode norm are the variants of "Dame Get Up and Bake Your Pies" (006). These are all variants of one basic "minor" mode melody and have been transcribed in a B^b key signature with a G final. Although three of the variants contain the raised 7th degree of the scale and no 6th degree (variants A, D, and E), one the natural 7th and no 6th (variant B) and the other, both the raised 6th and 7th (variant C). This title is usually classed as a nursery rhyme and will be included with that collection for future analysis, but Kidson's variant (E) is described as a game of forfeit, and so all variants were included in the singing games collection for comparative purposes.

Therefore, the variants which were transcribed with a G final and the key signature of the relative minor mode of B^b major were:

005	Weevily Wheat	02A
006	All 5 variants of Dame Get Up and Bake Your Pies	01A - 01E

Although the collection of singing games does not consist of melodies in a great variety of different modes requiring different key signatures to accommodate a G final for all transcriptions, the

capability for future analysis is in the program statements. For purposes of future analysis, the key signatures that would be required and each respective mode, with G as tonic or final, are in Example 19, where the placement of the notes indicates the half steps.

(e) Similar Variants

For many of the titles selected there are common variants for each tune, A, B, C, D, and so on. In addition, two titles were selected that were known from the preliminary analysis to contain variants of the same tune. These two titles are "Jenny Jones" (021), and "Poor Mary" (039). The three variants of "Poor Mary" were observed to be variants of the first variant of "Jenny Jones" (01A). These titles were selected to be able to verify in the results of the analysis program that phrases would be compared of known common variants of different singing games.

Ionian (Major)

Dorian

Phrygian

Lydian

Mixolydian

Aeolian (Natural Minor)

Locrian

EXAMPLE 19

The modes and their key signatures
with a common G final note

PART B
THE METHODOLOGY
Introduction

The methodology developed to encode the singing games variants and to analyze their musical characteristics evolved from experiences of encoding and analyzing Bach Chorales as part of the requirements for two courses at The Ohio State University, from 1982 to 1984. The encoding format was adopted from a methodology developed by Hofstetter and Sentieri called MUSICODE-2. The encoding program as it exists today, called MUSICODE-A, was developed by Ann K. Blombach, based in part on Hofstetter's MUSICODE-2 and on Ford Columbia Representation (DARMS). It enables bibliographical and musical information for all 4 voices of Bach Chorales to be encoded. A shorthand method for encoding the musical information, called LAZYCODE, was developed by Tom Whitney; and a SPITBOL program translates the LAZYCODE to MUSICODE-A representation.

The adaptation for this study consisted of modifying the method of encoding, in MUSICODE-A, all the data about each variant to be used for analysis purposes, and of adapting the encoding of pitch information in LAZYCODE to single voice tunes of multi-section variants. Therefore, the basic LAZYCODE system for encoding musical information was retained, to be translated into MUSICODE-A output for analysis purposes. The program which produces the MUSICODE-A output

contains a measure and duration verification aid. For this study, then, the program was developed on the MUSICODE-A output to isolate phrases and compare patterns of phrases, using SNOBAL4 programming language, on an IBM 3081 computer at The Ohio State University. The method of encoding data for this study was developed during the year 1983-84; then, the analysis program was created and tested in stages, beginning in the summer of 1984. The entire process is described below as it was conceived.

THE ENCODING PROGRAM

The first major task in encoding was to decide what kind of information about each variant would be useful to have in a file for future reference from the preliminary analysis results, and for any type of analysis that would be desirable. Therefore, the following Information Cards or files were defined and modified from the existing MUSICODE-A encoding language for the following purposes:

Encoding of Information

On the basis of the preliminary analysis, as seen in Examples 16 and 17, it was first decided to create separate files of data for each variant that could be accessed for future study and summary. Each file was identified by a '*' followed by a capital letter, as used for the encoding of information for Bach Chorales. These files are referred to as '* cards,' a term used in the past to designate each punched card. The capital letters for each file were selected

specifically for purposes of this study. They were to be used for the following purposes:

- '*T' To encode information about each Title, including the source of each variant, either in print or from tape, the page number in the printed source, the country of origin, and the page number in Opie and Opie (1969), if relevant, which would be useful for purposes of future reference and study.
- '*A' To encode Another variant title, that was known from the preliminary analysis, to be a variant of the title being encoded. This was to serve later as a verification of the phrase analysis to check that variant titles were grouped that were known to contain the same melodic patterns.
- '*B' To record Bibliographical information culled from the annotations for each song, generally of a historical nature, to be used for future study.
- '*F' To encode the Form analysis, from the preliminary analysis, entering the letters for each phrase, such as A B A C, as data for future analysis purposes.
- '*G' To encode the Game description, so that each type could be catalogued for further study.
- '*M' To be able to locate variants containing a "Marriage formula" section and to extract the section for separate study.

'*0' To record the Other title of a variant being encoded, if it was different from the general game title.

Then an additional file was created to encode information specifically for the phrase analysis program:

'*P' To designate the end of each Phrase by encoding the beat and measure in which it occurred.

In the encoding method developed for the Bach Chorales, the first two columns contained the '*T', and so on, identification for each 'card' or file. Then followed a three digit identification number of the Chorale. In the adaptation for this study, column 3 contains a blank, then columns 4-9 contain the identification code for each variant. This is made up of the numbers and letter combination that has been referred to above in the discussion of the musical examples. Columns 4, 5, and 6 contain a three digit title number, which at present is a total of 55 singing-game titles, but could increase to more than two columns to identify. The title number for "London Bridge," for example, (025) would be entered, then the variant number, as (01), in columns 7 and 8, and next the letter, A, B, or C, in the 9th column, for the particular variant. These are the numbers and letters assigned to each variant as they are listed on pages 128-130, and as transcribed in Appendix A, both in original and tabulated forms (pp. 232-304; and pp. 306-333, respectively).

Thus, the title "card" of the first variant of "London Bridge" is encoded as: *T 02501A . Each '* card' begins with the same

information in the first 9 columns: i.e., *A 02501A or *B 02501A , and so on. If more than 72 columns are required to add additional information for each '* card,' then it is necessary to begin the next line of data by repeating the identifying information in the first 9 columns. Any number of additional lines of data can be added for each '* card.'

A blank in column 10 separates the '* card' identification code from the information that is encoded for each 'card.'

For columns 11-72 for each '* card,' following the identification code, the information becomes non-specific with respect to columns, but specific to the particular type of information encoded for each '* card.' This more flexible approach is possible when using a SNOBOL programming language because of its pattern-matching capabilities. Therefore, for each '* card,' the following information is encoded:

(a) '*T' Title Information:

In the list of sources, pp. 189-190 at the end of this chapter, each source has been numbered, from 1-31. This number is entered, beginning in Column 11, and is followed by a comma, which identifies that field. Then the page number is entered, followed by a comma, then the national origin, represented by a capital letter (as American, Canadian, English, Irish, or Scottish, and can be expanded), followed by a semi-colon. If there is more than one source for the variant, then an ampersand (&) is entered, followed by the second title number, page number, and nationality; after the semi-colon, the page number of reference in Opie and Opie (1969) is entered, if

relevant. Thus, the encoded information for the title card of the first variant of "London Bridge" is: *T 02501A 9,333,E;270 . The source for this variant is source #9, from the list on page 189, Gomme I, 1894(a), page 333. It is English in origin, and reference to "London Bridge" may be found in Opie and Opie (1969), on page 270.

(b) '*A' Another Variant:

The identifying number of a variant which is a variant of the one being encoded is entered as data as, hypothetically, '07506C' .

(c) '*B' Bibliographic Information:

This information is entered in words describing usually historical references or facts of particular interest about the variant.

(d) '*F' Form:

Letters only, representing the formal structure are entered, as A B A C .

(e) '*G' Game:

A general coding system for the various methods of play, or combinations of methods, has been developed, represented by letter and number combinations, as represented for the following game type:

Circle as C; therefore variations of circle formation are:

CS stationary; CC couples; CM moving, CK kneel;

CA arches; CSB stationary, centre blindfolded;

CMB moving, centre blindfolded.

Line as L; therefore, various forms of line games are:

LA advance and retreat;

LA2 all advance and retreat against 2;
 LPF lines, parallel, facing;
 LPF1 lines parallel, facing, one in centre;
 LPF2 parallel, facing, 2 children down centre
 and back;

VR Virginia Reel type.

Arches as A; formed by 2 children, the rest go under;

ATW arch, tug of war at the end.

Dialogue: D dialogue; D2 between 2 children.

Other symbols are used in combination with those above:

C chase; S stationary; A R advance retreat.

When the movement pattern changes in the middle of the game, the
 verse(s) for which this occurs is numbered by arabic numeral.

Additional comments may also be added.

(f) '*M' Marriage Formula:

Where appropriate, the beginning measure and beat number of the
 marriage formula section is encoded as 8/2, for example, to designate
 that a marriage formula begins in the 8th measure of the 2nd beat.

(g) '*O' Other Title:

Here the variant title, if different from the generic title of
 the game, is entered in words, as "Shootman," for example, for
 Kidson's variant of "London Bridge" (02506A).

(h) '*P' Phrase Ending:

The measure and beat number of the last note for each phrase is
 encoded as, for example: 2/2,4/2,6/2,8/2, for a 4-phrase melody, each

separated by a comma. The first number of each pair is the measure number, the second is the beat. This is to enable each phrase to be located for the analysis program.

Therefore, the information cards for the first variant of "London Bridge," (p. 96 above), are:

```
*T 02501A 9,333,E;270
*A 02501A 01301B
*B 02501A TUNE GENERALLY IS LONDON VERSION. DANCE
*B 02501A "LONDON BRIDGE" IN "SECONDE BOOKE OF THE COMPLEAT
*B 02501A DANCING MASTER", 1719, AND IN PLAYFORDS DANCING MASTER,
*B 02501A 1728 - NO WORDS.
*F 02501A A B A C
*G 02501A A, TUG OF WAR NOT IN 18TH C. - ONLY IN AMERICA
*P 02501A 2/2,4/2,6/2,8/2
```

Encoding the Music

Introduction

From the review of the literature in Chapter 2, the various methods of encoding pitch information that were described there were given serious consideration as possible alternatives for this study. However, it was decided to use the MUSICODE-A data for analysis purposes for several reasons:

First, all other methods of representing the exact pitch information, if adapted, would create more problems for encoding than they would facilitate. For example, the method of representing the pitch, as used in the designation of range in Bartok's symbol system and the preliminary analysis of these melodies, was one possibility. However, the symbols used only represent the pitch of a tone relative to the G final. To use Roman numerals for pitches

below the G final would be too cumbersome. To devise a symbol for tones above the staff, for the next octave, an underlined arabic numeral was considered, but both the number and the underline could not be typed at the same time. Chromatic alterations would need to be added.

Then, a chromatic numbering system for the twelve tones of the octave could have been adopted, but again there is the same problem of designating the next octave. Neither of these methodologies enables the encoding of the exact pitch, as does MUSICODE-A. Plus and minus digits for interval sequences were not considered useful for the purpose of this study for the same reason. For the singing games melodies, there are very few accidentals, but the exceptions already described would have to be accommodated, and the encoding system needs to be useful for adaptation to the adult folk song literature. It is necessary to be able to compare the exact pitches of patterns as they occur in a melody, in relation to the tonic and to the complete range of tones in the melody. The only remaining option was to simply encode only the letter name of the tones of each phrase which would be selected to compare with the tones of other phrases, but the same problem of designating accidentals and the octave register would still be present. Also, to undertake to encode each melody in this manner would place a tremendous burden on the encoder, to make such decisions for each melody, and the results would be susceptible to error. Such a method might just as easily continue without the aid of a computer: Patterns analyzed could be tabulated manually, but this would not be a very efficient method for the large

collections of materials. It was thus decided to use the encoded pitch information of the MUSICODE-A data, represented by the letter name, accidental, octave register and duration for each note for the analysis of phrase patterns.

Encoding Methodology

The musical information is encoded in LAZYCODE, a shorthand method to enable the representation of each pitch by as few symbols as possible. This LAZYCODE method of encoding is translated and stored as MUSICODE-A data. To encode in LAZYCODE the following steps are taken:

Identification Field

This field is encoded immediately following the '* cards,' on the next line of data. For the single melody of the singing games collection, this field is represented by %0 in the first two columns, followed by the 6 column variant number, and a blank. Then the following default values are set by "switches":

%V followed by the voice number. For this data the voice number is 1.

%R followed by an octave register code. The number 4 represents notes in the range from middle C to B above.

%T followed by a note-value code. This is a letter representing a durational value: these are mnemonic, as W = Whole note, H = Half note, Q =

Quarter note, and so on. Thus '%TE' would set the durational default value for all eighth notes.

% followed by a letter name and accidental code.

There is a blank after the default value, before the next '%' sign. Thus, the identification field for the first variant of "London Bridge" is %0 %V1 %R4 %TE %F#, with default values set for voice 1, the 4th octave register, eighth note duration, and all F note values sharpened (c.f. Example 20, for the musical transcription, p. 152).

Dollar Sign Field

Then follows a dollar sign field which consists of four components, separated by commas. These components are the name of the voice, the clef, the key signature, and the time signature. For the singing games data, the first component is null, as all are in the "soprano" voices; the second component is null, because all are in the treble clef; the third component will be represented by a letter name and accidental code; the fourth component by the time signature represented by the two numbers separated by a hyphen.

Thus, for the first variant of "London Bridge," the dollar sign field is: \$,,F#,2-4\$.

Immediately following the information '* cards' encoded above, the identification and dollar sign fields are encoded together as:

%002501A %V1 %R4 %TE %F# \$,,F#,2-4\$

Pitch Information

Then follows the information to encode the notes. A blank precedes each note, notes are separated by a bar line represented as

'/', a double bar line, as '//', ends each variant and section of a variant of multi-section variants.

Each note, when it is represented in MUSICODE-A data, consists of a blank followed by the name of the pitch in the next three columns: first the letter name, 'A-G'; second, the accidental, '#', '-', 'N', for sharp, flat, and natural, respectively, or 'X' or 'D' for double sharp and double flat; and third, the octave register. If there is a rest, then 'RRR' is encoded. Then the note-value is coded mnemonically, from 'WW' for double whole note to 'X' for sixty-fourth; dotted notes require the code value plus a dot, notes can be double dotted, and can be encoded as triplets with the usual code plus a 'T'.

However, with default values set, the encoding in LAZYCODE is considerably shortened. For the first variant of "London Bridge," which is reproduced in transcription in Example 20 for convenience, the LAZYCODE is given first, following the identification and dollar sign fields, then the representation in MUSICODE-A data.

EXAMPLE 20

The first variant of "London Bridge,"
transcribed to G final for encoding purposes,
from Appendix A, p. 325

Encoded in LAZYCODE, the identification, dollar sign field and notes are represented as:

```
%002501A %V1 %R4 %TE %F# $,,F#,2-4$
D5 E5 D5 C5/ B C5 D5Q/ A B C5Q/ A B C5Q/
D5 E5 D5 C5/ B C5 D5Q/ GQ BQ/ AQ GQ//
```

Because the octave register '4', eighth note 'E', and 'F#' default values are set, it was necessary to encode only the information which is not defined. If a rest occurs, RRR must be encoded, followed by the duration code. The time signature, as defined in the '\$' field enables the measures to be checked to verify that the notes between encoded barlines contain the correct number of temporal values for that time signature. To execute this check, each durational value is examined and added, in the program which translates the LAZYCODE data to MUSICODE-A data, to ensure that each measure contains a total durational value of 96, for this variant. Each possible duration has been assigned a value where the eighth note = 24. When the durations have been verified, then the MUSICODE-A output data is stored. This is the data for the first variant of "London Bridge":

```
02501A01$,,F#,2-4$
02501A02 DN5E EN5E DN5E CN5E/ BN4E CN5E DN5Q/ AN4E BN4E CN5Q/
02501A03 AN4E BN4E CN5Q/ DN5E EN5E DN5E CN5E/ BN4E CN5E DN5Q
02501A04 GN4Q BN4Q/ AN4Q GN4Q//
```

The dollar sign '\$' field has been saved in this output for purposes of analysis.

The complete encoding of the first variant of "London Bridge" in MUSICODE-A data is:

```
*T 02501A 9,333,E;270
*A 02501A 01301B
*B 02501A TUNE GENERALLY IS LONDON VERSION DANCE
*B 02501A "LONDON BRIDGE" IN "SECONDE BOOKE OF THE COMPLEAT
*B 02501A DANCING MASTER", 1719, AND IN PLAYFORDS DANCING MASTER,
*B 02501A 1728 - NO WORDS.
*F 02501A A B A C
*G 02501A A TUG OF WAR NOT IN 18TH C. - ONLY IN AMERICA
*P 02501A 2/2,4/2,6/2,8/2
02501A01$,,F#,2-4$
02501A02 DN5E EN5E DN5E CN5E/ BN4E CN5E DN5Q/ AN4E BN4E CN5Q/
02501A03 AN4E BN4E CN5Q/ DN5E EN5E DN5E CN5E/ BN4E CN5E DN5Q/
02501A04 GN4Q BN4Q/ AN4Q GN4Q//
```

Appendix B, p. 338, contains the LAZYCODE representations for all variants of "London Bridge" for this collection. The MUSICODE-A output for each of these is in Appendix B, pp. 341-343. For this study, all variants transcribed in Appendix A were encoded in LAZYCODE and translated to MUSICODE-A data for analysis purposes.

THE ANALYSIS PROGRAM

Section Analysis

Introduction

According to Bartók's "grammatical principle", variants containing the same number of sections are to be grouped first in the same class. Since it was observed from the preliminary analysis program that the majority of all singing-games variants are one-section melodies, it was decided to develop the phrase analysis program to analyze one-section melodies. Second, since the most common number of phrases of one-section variants was observed from the preliminary analysis program, to be 4 phrases, it was decided to develop a program to examine the MUSICODE-A data to determine the number of phrases in each variant, and to reserve variants that were one-section, 4-phrase variants for further analysis.

The decision to analyze the patterns of phrases of 4-phrase melodies was arrived at for musical as well as practical reasons. If Bartók's method of grouping were to be ignored, and the main purpose of the analysis were to be only a search for common patterns of opening and closing phrases, or of phrases at the mid cadence, then how could variants containing different numbers of phrases be compared? In a three-phrase melody it would need to be determined where the mid-point cadence occurred, in order to know in which group to put the second phrase for comparative purposes. How could five-and six-phrase melodies be analyzed? Using the method of representing the musical transcription as MUSICODE-A data, it would be very difficult to write a program to extract the pitches of each

phrase of a variant, one variant after the other, to direct each phrase as it was processed to the correct group of all first phrases, all mid-cadence phrases, and so on. Therefore, it was decided to analyze first only all 4-phrase melodies, leaving other phrase-number combinations for future analysis and grouping. Thus Bartók's first grouping principle, according to the number of phrases contained in each variant, was arrived at for this study to be able to develop a methodology of analysis that was appropriate to the structural characteristics of the variants.

The Analysis

To determine the number of phrases in a variant, the '*P card' information, which had been entered as data, and which was printed out in MUSICODE-A data, was examined. Program statements were written to count the number of designated bar lines in the '*P card': for example, in *P 2/2,4/2,6/2,8/2, four bar lines are found. The identification field, dollar sign field and pitch information of this variant are then located and saved for further processing. When all the '*P cards' have been searched, then the first set of output statements contains all the '* cards' of each variant. Only the '* cards' alone of 4-phrase variants are printed; for variants containing other than 4-phrases, the '* cards' are printed as well as a statement indicating that "'x' number of phrases was found, not 4."

From the list of 53 variants selected (pp. 129-131), the following 36 variants were analyzed as four-phrase variants. These are numbered and titled for reference, followed by the variant

identification number, and the tabulated transcription page number. The variants are listed in the order in which they were encoded and analyzed.

Variants Analyzed
as
Four-Phrase Variants

<u>Number</u>	<u>Variant Title</u>	<u>Variant Number</u>	<u>Tabulated Transcription Page Number</u>
1.	A-hunting we will go	00101A	306
2.	A-hunting we will go	00101B	306
3.	A-hunting we will go	00101C	306
4.	A-hunting we will go	00102A	307
5.	Babbity Bowster	00201A	308
6.	Babity Bowster	00202A	309
7.	Bee-ba-babity	00202B	309
8.	Babbity Bowster	00202C	309
9.	Bluebird, Bluebird	00402A	312
10.	Bluebird, Bluebird	00402B	312
11.	Bluebird, Bluebird	00402C	312
12.	Weevily Wheat	00502A	314
13.	Johnny Over the Water	00503A	315
14.	London Bridge	02501A	325

<u>Number</u>	<u>Variant Title</u>	<u>Variant Number</u>	<u>Tabulated Transcription Page Number</u>
15.	Broken Bridges	02501B	325
16.	London Bridge	02501C	325
17.	London Bridge	02501D	325
18.	London Bridge	02501E	325
19.	London Bridge	02502A	326
20.	London Bridge is Broken Down	02503A	327
21.	London Bridge	02503B	327
22.	London Bridge is Broken Down	02503C	327
23.	London Bridge	02503D	327
24.	London Bridge (new version)	02505A	329
25.	Jenny Jones	02101A	321
26.	Jenny Jones	02101B	321
27.	Jinny Jo	02103A	323
28.	Jinny Jo	02103B	323
29.	Jenny John	02104A	324
30.	Dame Get Up and Bake Your Pies Xmas Day in Ye Morning	00601A	316
31.	Dame Get Up and Bake Your Pies	00601B	316
32.	Dame Get Up and Bake Your Pies	00601C	316
33.	Dame Get Up and Bake Your Pies	00601D	316
34.	The Christmas Pudding	00601E	316
35.	Dinah	00701A	317
36.	Oh, What is Mary Weeping For?	03903A	333

The remaining 17 variants were analyzed as containing the number of phrases indicated below. The variants are numbered and titled for reference, followed by the variant identification number, the number of phrases, and the tabulated transcription page number. They are listed in the order encoded.

Variants Analyzed
as
'x'-Phrase Variants

<u>Number</u>	<u>Variant Title</u>	<u>Variant Number</u>	<u>'x' Number of Phrases</u>	<u>Tabulated Transcription Page Number</u>
1.	Bingo	00301A	3	310
2.	Bingo	00301B	3	310
3.	Bingo	00301C	3	310
4.	Bobby Bingo	00301D	3	310
5.	Bingo	00301E	3	310
6.	Bingo	00301F	3	310
7.	Bluebird, Bluebird	00401A	3	311
8.	Bluebird, Bluebird	00401B	3	311
9.	Charley Over the Water	00501A	6	313
10.	London Bridge (Old)	02504A	8	328
11.	Shootman	02506A	12	330
12.	I've Come to See Georgina	02102A	8	322
13.	Doctor Faustus	00801A	6	318
14.	Doctor Switchem	00801B	6	319
15.	Doctor Faustus	00801C	6	320

<u>Number</u>	<u>Variant Title</u>	<u>Variant Number</u>	<u>'x' Number of Phrases</u>	<u>Tabulated Transcription Page Number</u>
16.	Poor Mary Sits A-Weeping	03901A	10	331
17.	Poor Jenny is A-Weeping	03902A	15	332

The output statements of this first stage of the analysis program enable verification that all 4-phrase variants have been identified. The variants containing other numbers of phrases may be verified with the lists above (p. 135). When all the singing games variants are processed for analysis, then sub-routines will be written to locate each of these different phrase numbers for grouping and analysis according to the respective number of phrases.

Phrase Analysis

Introduction

To locate each phrase of melody, the possibility was considered, in the LAZYCODE encoding stage, of inserting a symbol after the last note of each phrase. However, to rewrite the program to translate this data to MUSICODE-A output would have been an enormously complicated task. Therefore, in order to be able to compare phrases, it was decided to first extract the pitch information of each phrase from the MUSICODE-A data, and to print out the pitch information of each phrase exactly as it was encoded in MUSICODE-A data, followed by the variant identification number and time signature. Thus all encoded information of each phrase is saved for further analysis.

Analysis and Identification of Phrases

This process can be illustrated by reference below to the encoded MUSICODE-A data of the first variant of "London Bridge." The data to be analyzed, printed out in the first stage of the analysis program, is the '*P card' information, and the dollar sign field and MUSICODE-A data which had been retained for further analysis of 4-phrase variants. For purposes of illustration, the data to be analyzed to locate and identify each phrase of the first variant of "London Bridge" is:

*P 2/2,4/2,6/2,8/2

```
02501A01$,,F#,2-4$
02501A02 DN5E EN5E DN5E CN5E/ BN4E CN5E DN5Q/ AN4E BN4E CN5Q/
02501A03 AN4E BN4E CN5Q/ DN5E EN5E DN5E CN5E/ BN4E CN5E DN5Q/
02501A04 GN4Q BN4Q/ AN4Q GN4Q//
```

First the identification field is examined and assigned to a variable so that it can be added in the output to the end of each extracted MUSICODE-A phrase. The identification field of the above variant is found in the first 6 columns of the first line of data, that is, '02501A'. From the dollar sign field, which follows the line number, '01', the length of each phrase can be determined.

To locate the end of each phrase, it is first necessary to determine the durational value of the measure of each variant being processed. In the dollar sign field, the two numbers representing the top and bottom numbers of the time signature are found. The bottom number is examined to determine the value of the beat in a measure: for example, if the bottom number is 4, or a quarter note,

then the 'BEAT' value is stated to be 48, if the bottom number is an 8, or an eighth note, then the 'BEAT' value is stated to be 24. The total durational value for the 'MEASURE' is calculated by multiplying the 'BEAT' value by the top number of the signature: that is, for $\frac{2}{4}$, the total durational value of a 'MEASURE' would be $2 \times 48 = 96$, which is the value of the 'MEASURE' of this variant of "London Bridge". For $\frac{6}{8}$ time signature, the total durational value of a measure would be $6 \times 24 = 144$.

Once the durational value of one 'MEASURE' is determined, then the '*P' information is examined to determine the measure and beat in the measure where each phrase ends. For this variant, the end of the first phrase is represented as 2/2, indicating that the end is in the second measure on the second beat. With reference to the two numbers that represent the end of the phrase, the total durational value for the phrase is calculated. Then the pitch information is searched to each consecutive bar line. For each pitch encoded to a bar line, the durational value is added until the total number for the time signature value of one 'MEASURE' has been obtained. While the durational values of each pitch are being added, the pitch information for each pitch is put into a string which is printed out. Then the pitch information to the next bar line is extracted, the durational values of each pitch are added, the pitch information is printed in the output beside the previous pitches. The addition of duration 'STOPS' when the total durational value equals two measures: the end of the phrase has been reached. For this variant, the end of the first phrase is the second beat of the second measure, so that the last durational value to be added is 'DN5Q/'.

This part of the program has been described using the example of "London Bridge." In this variant there is no anacrusis. However, phrases containing the anacrusis are able to be located by the same methodology just described: by using the phrase ending designated in the '*P card' to determine the measure and beat for the end of the phrase, and by calculating the total durational value for two complete measures. The methodology succeeds in printing out the pitch information of all phrases of all variants correctly.

Identification of Phrasal Position

For the purpose of additional analysis and comparison of phrases, each phrase extracted by the methodology described above was put into a separate group according to its phrasal position. Therefore, the output of this stage of the analysis program states each phrase in a string of all phrases for that position in the variant melody. The output for the analysis of the first phrase of "London Bridge" just described is:

PHRASE 1: DN5E EN5E DN5E CN5E/ BN4E CN5E DN5Q\$2-4,02501A@

Appended to the original MUSICODE-A data is a dollar sign, and time signature and variant identification number. The symbol '@' separates this phrase from the next first phrase to be added. In the program described above, the second phrase is extracted from the MUSICODE-A data, printed as 'PHRASE 2' data, then 'PHRASE 3' and 'PHRASE 4'. Then the data of the next 4-phrase variant is searched and processed until all 4-phrase variants have been analyzed. The final output of this stage of analysis contains strings of all 'PHRASE 1' data, all 'PHRASE 2' data, and so on. The time signature and song

number of each phrase are added for future reference and analysis to the end of each phrase of data.

Comparison of Patterns

Introduction

Comparison of Phrases

The purpose of comparing each phrase of a 4-phrase melody is to determine the characteristic patterns of each phrase in the phrasal position. This is not meant as an attempt to develop a methodology for creating a thematic index, by simply locating and then ordering all phrase patterns. Rather, the purpose is to describe the common patterns of phrases in each phrasal position in order to determine the general melodic patterns of different melody types. This description would then be useful in the structuring of a music education program, to develop music literacy, by incorporating melodies containing common patterns of phrases into the writing and reading program.

The first consideration in the comparison of phrases is the length of each phrase. During the preliminary study and analysis program, variants had been transcribed in the tabulated transcription format, used for encoding purposes, so that the tones of each phrase were transcribed in metric and durational values that would represent at least two main stresses or two measures of duration, for each line of text. (see pp. 123; 135-136)

There it was observed that the time signatures of some of the original versions were not the same from variant to variant of the

same melody. In some of the variants, there was a discrepancy between $\frac{4}{4}$ and $\frac{2}{4}$ time signatures. Where the majority of variants of a melody were in $\frac{2}{4}$, all variants were transcribed in the tabulated form in the same time signature: $\frac{2}{4}$. This standardization was an aid to a visual study and comparison of variants, although not necessary for the analysis of phrase patterns. The main difficulty was in the comparison of phrases of variants which had been transcribed originally in either $\frac{3}{4}$, $\frac{3}{8}$, or $\frac{6}{8}$ meters. The solution had been sought by examining the texts first to determine the length of each line of text, second, to determine the length of the corresponding musical phrase. Then transcriptions in tabulated form were made so that, for example, two measures of $\frac{6}{8}$ were comparable to two measures of $\frac{3}{4}$. Variants in $\frac{3}{8}$ were transcribed in $\frac{3}{4}$ in the tabulated form for comparative purposes.

The one singing game in the selected list which is an example of these latter kinds of problems is "Jenny Jones" (021). The first variant of Kerr's (01A) and Gomme's (01B), is in $\frac{3}{4}$. Kerr's variant is in Example 21.

We've come to see poor Jenny Jones ,
poor Jen-ny Jones, poor Jenny Jones,
We've come to see poor Jenny Jones,
And how is she to - day?

EXAMPLE 21

"Jenny Jones" (021), variant (01A)
from Kidson (1916, p. 2)

The second variant of "Jenny Jones" (02102A) was not processed because it contains two sections. The first section is produced in Example 22. It is in $\frac{2}{4}$. Although it will be observed to be a variant of the next two examples, it was transcribed separately as it contains two sections.

I've come to see Geor-gi - na,
Geor - gi - na, Geor-gi - na,
I've come to see Geor-gi - na,
And how is she to - day?

EXAMPLE 22

"Jenny Jones" (021), variant (02A)
from Kerr (n.d., p. 28)

Example 23 is Plunket's variant (03A) of "Jenny Jones" (021). It is in $\frac{3}{8}$ meter.

The musical score consists of four staves of music in 3/8 meter, with lyrics written below each staff. The key signature has one sharp (F#). The lyrics are: "I've come to court Jin - ny Jo, Jin - ny Jo, Jin - ny Jo, I've come to court Jin - ny Jo, Is she at home?"

I've come to court Jin - ny Jo,
Jin - ny Jo, Jin - ny Jo,
I've come to court Jin - ny Jo,
Is she at home?

EXAMPLE 23

"Jenny Jones" (021), variant (03A)
from Plunket (1886, p. 24)

Example 24 is Fowke's variant of "Jenny Jones" (02103B). Each line of text has been transcribed originally in one measure of $\frac{6}{8}$.

EXAMPLE 24

"Jenny Jones" (021), variant (03B)
from Fowke (1969, p. 32)

In tabulated form, the above variants, with the exception of the first section of (02A) which is in $\frac{2}{4}$, were each transcribed in 2 measures of $\frac{3}{4}$ meter per line of text. These are reproduced in Example 25.

(021) Jenny Jones (01) (021) Jenny Jones (02) (021) Jenny Jones (03) (039) Poor Mary (03)

EXAMPLE 25

Tabulated variants of "Jenny Jones,"
transcribed from Examples 21-24 above, and
"Poor Mary" from Example 26 below

From the preliminary analysis, it had been observed that the variants of "Poor Mary" (039) were variants of the first variant of "Jenny Jones" (021). The first two variants of "Poor Mary" (01A) and (02A) were not analyzed because they contain more than one section. However, the melodies of the first section of each of these is a variant of (02101A) above. The third variant of "Poor Mary" (03903A), from Kerr (n.d. p. 32) is in $\frac{4}{4}$ meter, and is also a variant of "Jenny Jones," (02101A). It is in Example 26.

EXAMPLE 26

"Poor Mary" (039), variant (03A)
from Kerr, (n.d., p. 32)

The computer analysis program, then, should be capable of isolating and comparing the patterns of phrases of variants (02101A), (02101B),

the first two variants in Example 25, and (03903A), Example 26, the last variant in Example 25. The first two variants are in $\frac{3}{4}$ meter, the third in $\frac{4}{4}$ meter. For the convenience of the reader, all of the changes in meter and durational values from the original transcription to the tabulated form for all variants in the collection are listed in Appendix A, p. 305.

Therefore, the variants in the tabulated transcription format had been "lined-up" so that there were an equal number of measures of durational value for the length of each line of text, regardless of time signature. The minimum length of phrase was two measures. The two-measure phrase was observed from this preliminary study to be the most common length of phrase for the singing games repertoire. Other phrase lengths do occur: while any number of measures of a phrase can be analyzed by the methodology to be described, the discussion will be limited to the two-measure phrase length for purpose of illustration.

The next consideration in comparing the phrases was to develop a method to compare phrases of differing time signature. Again, a different kind of encoding method for the duration of tones was considered to enable the possibility of comparing tones on a base of equal value in duration. Such was the comparison method in Steinbeck (1976), and in Scherrer and Scherrer (1981). But then, since melodies in the tabulated transcription are already in a sense comparable by means of the measure structure, where the bar lines are already "lined-up," all that would be necessary would be to devise a computer program to compare measures as units. It was necessary,

therefore, to develop a methodology to compare phrases of these melodies regardless of time signature.

Comparison of Tones of Phrases

In order to compare phrases to look for common patterns, the most difficult problem, finally, was to determine which tones of a phrase could be compared in a uniform manner for each time signature. After examining the tabulated format of each variant, it was observed that the similarities between variants occurred on the stressed beats of each measure, regardless of time signature, and that differences occurred between the stressed tones. These are the same conclusions reached by Bronson, but the purpose of analysis is different: for this study, all pitches are encoded; the analysis of stressed tones occurs for all four phrases; and the result of this analysis will be compared with results of other analyses to determine the structural relationship of the patterns of phrases to other musical and textual characteristics.

Steinbeck (1976) considered that "the notes falling on the beats within a measure are invariably those which give the melody its structural framework" (p. 293). To determine the degree of similarity between melody segments of different meters, elaborate methods of analysis and Weight Factors were devised and used to analyze melody segments and to create a thematic index. The purpose of Steinbeck's analysis was therefore different from that of the present study. The advantage of the method to be described for the comparison of stressed tones of phrases resides in the fact that

the encoded tones of each phrase are examined once to extract the stressed tones of each respective meter: if the stressed tones within the measure are to be chosen for comparative purposes, then that fact in itself is a sufficient rationale for the analysis. If, as in Steinbeck's system, a so-called Weight Factor is to be applied, so that tones between the stressed beats are also to be examined together with the stressed tones, then different kinds of results will be obtained, and the grouping will be different. Having observed, with Steinbeck, that the stressed tones of each phrase are structurally the more important tones, then an analysis and comparison of stressed-tone patterns alone should group phrases containing common structural characteristics.

Comparison of Stressed Tones of Phrases

To locate the stressed tones, then, in two measure phrases of either $\frac{2}{4}$ or $\frac{4}{4}$ meter, it was only necessary to locate the pitches on the two strong beats of each measure. The $\frac{3}{4}$ and $\frac{6}{8}$ meters each posed a different problem. The problem for each was solved by examining the tabulated transcriptions of the variants. From the examples above, and others like them, it was observed that for $\frac{6}{8}$ meter, the tones of beats 1 and 4 of each measure were comparable to the two stressed tones of $\frac{2}{4}$ or $\frac{4}{4}$ meters. In $\frac{3}{4}$ meter, the tones of beats 1 and 3 of each measure were comparable to the two stressed-tones of $\frac{2}{4}$ or $\frac{4}{4}$ meter. For each variant, then, the diagram in Figure 1 will indicate the position of the stressed tones in a measure which were identified for each phrase of the respective time signature. The unstressed-tone beat is bracketed.

Time
Signature

$\frac{2}{4}$	1		2		/	1		2		/				
$\frac{4}{4}$	1	(2)	3	(4)	/	1	(2)	3	(4)	/				
$\frac{6}{8}$	1	(2)	(3)	4	(5)	(6)	/	1	(2)	(3)	4	(5)	(6)	/
$\frac{3}{4}$	1		(2)		3		/	1		(2)		3		/

FIGURE 1

Stressed-tone beats of each
time signature in a 2 measure phrase,
unstressed beats bracketed

If this method of locating the stressed tone is appropriate for this body of literature, then the results of the analysis of the stressed tones of each phrase of each respective meter should group variant phrases of common stressed tone patterns and of equal phrase length.

The unbracketed numbers in Figure 1 represent the position of the notes of each measure which were extracted from the MUSICODE-A data and printed out in the final results of the computer program. The discussion to follow will illustrate the steps that were executed to obtain the final results of analysis.

Analysis of Patterns

The next stage of the program was planned to make a comparison of phrases possible for any durational values of pitches of phrases of any time signature, and of phrases with or without the anacrusis. In Figure 1, page 174 the model was presented of how the stressed-tone pattern for each metre was determined. In order to finally obtain this stressed-tone pattern from each phrase of MUSICODE-A data and to compare each stressed-tone pattern in its phrasal position, a method of tabulating the phrases was devised.

Comparison of Phrases

First, to compare phrases, a methodology had to be developed so that the first beat of each measure of each phrase would be "lined up." This meant that the pitch information had to be put into a grid so that there was a column for each stressed pitch of a phrase, with or without the anacrusis. A column was necessary for both the song number and the time signature of each phrase. It was also necessary to create 4 separate grids, one for all this information for each phrasal position in a 4 phrase melody. Rather than to put only the stressed tones of each phrase into such a grid, it was considered necessary to put in also the anacrusis pitches, and the unstressed pitches as well. It would then be possible in the future to examine the anacrusis pitches for further analysis of their frequency of occurrence, and to examine also the patterns of phrases in the larger context of stressed and unstressed pitches.

To be able to analyze the data to identify all unstressed pitches, the grid in Figure 2a was created to understand how the durations of each measure of each time signature could be compared and tones eventually tabulated.

Time
Signature

$\frac{2}{4}$	1	&	2	&	/	1	&	2	&	/				
$\frac{4}{4}$	1	2	3	4	/	1	2	3	4	/				
$\frac{6}{8}$	1	(2)	3	4	(5)	6	/	1	(2)	3	4	(5)	6	/
$\frac{3}{4}$	1	2	3	&	/	1	2	3	&	/				

FIGURE 2a

Stressed and unstressed beats of each
time signature identified for preliminary
comparison of phrases, without anacrusis

The sub-divisions indicated for $\frac{6}{8}$ and $\frac{3}{4}$ meters of variants were observed in the tabulated transcriptions to contain the structurally important melodic information, when compared with stressed-tones of the same tune in $\frac{4}{4}$ or $\frac{2}{4}$. (See Example 25 for variants of "Jenny Jones," p. 169.) In Figure 2a above, 4 tones of each measure were identified which could be compared, regardless of time signature.

This scheme was then expanded to include the possible occurrence of an anacrusis. According to this scheme, one more

column needed to be added for each time signature. Except for $\frac{3}{4}$, the longest durational value of the anacrusis is a quarter note.

Therefore, two columns would be needed for the tones of an anacrusis in $\frac{3}{4}$. Thus the scheme of the grid would need to be expanded accordingly, as in Figure 2b.

Time Signature																
$\frac{2}{4}$	&	/	1	&	2	&	/	1	&	2	&	/				
$\frac{4}{4}$	4	/	1	2	3	4	/	1	2	3	4	/				
$\frac{6}{8}$	6	/	1	(2)	3	4	(5)	6	/	1	(2)	3	4	(5)	6	/
$\frac{3}{4}$	3	&	/	1	2	3	&	/	1	2	3	&	/			

FIGURE 2b

Stressed and unstressed beats of each time signature identified for preliminary comparison of phrases, with anacrusis

In this scheme, phrases without any anacrusis would begin on the first stressed beat and end at the second bar line. Phrases beginning with an anacrusis would begin before the first bar line and end before or at the second bar line, depending on whether the next phrase also began with an anacrusis.

To compare stressed and unstressed tones of all phrases, with or without anacrusis, for any time signature listed, program

statements were written to create strings of the above designated tones of each time signature for each phrase. In other words, the MUSICODE-A data of each phrase was reduced to the unstressed-beat durational value for each respective time signature.

This reduction was accomplished as follows: first the time signature at the end of the MUSICODE-A parsed phrase output was examined to determine the value of the beat for the respective time signature of the phrase; second, the durational value of the unstressed "beat" as represented in Figure 2b was determined (this procedure will be explained below); third, the durational values of the pitch information of the phrase being processed were examined according to the unstressed "beat" value, printing out the pitch in units of unstressed "beat" value; fourth, the time signature and identification number were appended to the end of this new string of pitches, then the '@' symbol, and this new string was printed out; fifth, the procedures were repeated for the next phrase of MUSICODE-A data. These procedures were executed on each phrase of all Phrase 1, Phrase 2, and so on: the output contains only a string of pitches for each phrase without bar lines, except when there is an anacrusis. It is identified by a bar line following the anacrusis pitch information.

To obtain the unstressed "beat" sub-divisions of each time signature as represented in Figure 2b, the values of the unstressed "beats" were calculated as follows: Each number of the respective time signature was added; since the total of the two numbers of each time signature is different, then a separate value for the unstressed

"beat" of each time signature could be specified. Thus, for each time signature, the following values were identified for each unstressed "beat":

for $\frac{2}{4}$ meter, the "beat" is 24 or ♩ value

for $\frac{4}{4}$ meter, the "beat" is 48 or ♩ value

for $\frac{6}{8}$ meter, the "beat" is 24 or ♩ value

for $\frac{3}{4}$ meter, the "beat" is 24 or ♩ value

These values are the smallest values necessary for each time signature to make it possible in the next stage of analysis to extract, ultimately, the stressed pitches which were identified in Figure 1 for each phrase. The values for the duration (♩ or ♩) of the unstressed "beat" are the same values as were defined at the beginning of the program description for these durations, as 'Q' or 'E', which originally were used to extract each phrase from the MUSICODE-A data.

Each string of pitches for each phrases reduced to the unstressed-beat value for its time signature, is printed in output statements. It follows the same format of the previous phrase output of MUSICODE-A phrases: Phrase 1 patterns are labelled 'STRB1' (strong beat pitches for phrase 1); following is the string of pitches of the first 4-phrase variant in unstressed-beat values, followed by the dollar sign, time signature and variant number, and an '@' symbol to end the string for identification purposes. Then the string of Phrase 2 unstressed-beat-value pitches are printed in 'STRB2' output, and so on, until all phrases of the 36 4-phrase variants have been processed.

As an illustration, Example 27 contains the musical transcription of 4 of the 36 variants analyzed.

(001) A - Hunting We Will Go. (01)

A - hunting we will go, A - hunting we will go. We'll catch the fox and put him in a box And never let him go.

(025) London Bridge (01)

London Bridge is broken down, Broken down, broken down, London Bridge is broken down, My fair Lo - dy.

(025) London Bridge (03)

London Bridge is bro - ken down; Don't o - ver my Lodge Low; Lon - don Bridge is broken down, With a gay lo - dy.

(021) Jenny Jones (01)

Whe come to see poor Jenny Jones, poor Jenny Jones, poor Jenny Jones, Whe come to see poor Jenny Jones, And how is she to - day?

EXAMPLE 27

Transcriptions of variants for comparison
with Figure 2c.

The output of the first phrase of each variant in Example 27 is as follows, with the ♩ note duration as the value of the unstressed "beat":

"A-Hunting," with an anacrusis, in $\frac{2}{4}$,

DN4/ GN4 GN4 GN4 GN4 GN4 GN4 GN4\$2-4,00101B@

"London Bridge," with no anacrusis, in $\frac{2}{4}$,

DN5 EN5 DN5 CN5 BN4 CN5 DN5 DN5\$2-4,02501B@

"London Bridge," with no anacrusis, in $\frac{6}{8}$,

GN4 GN4 GN4 AN4 AN4 BN4 CN5 CN5 BN4 AN4 AN4 AN4\$6-8,02503A@

"Jenny Jones," with an anacrusis, in $\frac{3}{4}$,

DN4 DN4/ GN4 GN4 GN4 AN4 BN4 CN5 DN5 DN5 BN4 BN4\$3-4,02101A@

Note that the durational value of each pitch is no longer necessary for this output as all the pitches are expressed in units of eighth note value. For a variant in $\frac{4}{4}$, there would be the same number of pitches in this output as there are in $\frac{2}{4}$, only the value is a quarter note (♩) value for the unstressed "beat" in $\frac{4}{4}$.

Comparison of Pitches

The next step is to then "line up" the pitches in a grid so that all stressed and unstressed pitches, as identified in the grid in Figure 2a for each time signature, may be compared. As well as columns for the pitches, including one for the anacrusis, a column is necessary for the variant identification number, and for the time

signature. To create such a grid, statements to create an ARRAY are written, so that columns are numbered from 1-11, rows are numbered for each variant phrase so the data can be entered in each column, and a title is given to the grid for each phrasal position in the variant. Four grids must be created, therefore: each grid 'x', entitled Phrase 1, Phrase 2, Phrase 3, or Phrase 4, containing 'y' numbers of rows in 'z' number of columns. The "three-dimensional" array would look like the table in Figure 2c. The row number listed before the song identification number is the number produced in the output for the number of variants processed. The 36 variants of 53 that were identified as 4-phrase variants on pages 157-158 above were numbered according to the row number produced in the output.

Column Number (<i>'z'</i>)	Phrase 1 (<i>'x'</i>)										
	1	2	3	4	5	6	7	8	9	10	11
	Song Number	Time Signature	Ana- crusis	1st Stress- tone	Unstressed tone	2nd Stress- tone	Unstressed tone	3rd Stress- tone	Unstressed tone	4th Stress- tone	Unstressed tone
	1. 00101B	2-4	DN4	GN4	GN4	GN4	GN4	GN4	GN4	GN4	
	13. 02501A	2-4	*	DN5	EN5	DN5	CN5	BN4	CN5	DN5	DN5
	20. 02503A	6-8	*	GN4	GN4	AN4	BN4	CN5	BN4	AN4	AN4
	30. 02101A	3-4	DN4	GN4	GN4	BN4	CN5	DN5	BN4		
Row Number (<i>'y'</i>)											

FIGURE 2c

Representation of analyzed pitch information
of stressed and unstressed tones of phrases,
with and without the anacrusis

To put all the data in the correct grid, in the correct row and column, program statements were written for the strings of data for each phrase in the output, like the examples listed above on page 180 for the four variants transcribed in Example 27. This output is listed again below with the "beats" underlined that were put into the table in Figure 2c:

"A-Hunting," with an anacrusis, in $\frac{2}{4}$,

DN4/ GN4 GN4 GN4 GN4 GN4 GN4 GN4\$2-4,00101B@

"London Bridge," with on anacrusis, in $\frac{2}{4}$,

DN5 EN5 DN5 CN5 BN4 CN5 DN5 DN5\$2-4,02501B@

"London Bridge," with no anacrusis, in $\frac{6}{8}$,

GN4 GN4 GN4 AN4 AN4 BN4 CN5 CN5 BN4 AN4 AN4 AN4\$6-8,02503A@

"Jenny Jones," with an anacrusis, in $\frac{3}{4}$,

DN4 DN4/ GN4 GN4 GN4 AN4 BN4 CN5 DN5 DN5 BN4 BN4\$3-4,02101A@

Statements were written separately for each time signature to extract the underlined pitches of each phrase, as shown above. The underlined unstressed "beat" in each phrase corresponds to the beat-subdivisions of stressed and unstressed tones identified in Figure 2b as necessary to analyze to enable a comparison of the stressed tones. It is the underlined pitches which are put into the three-dimensional array, represented by Figure 2c. When there is no anacrusis, a '*' is put in that column.

Identification of Stressed-tone Patterns

Finally, then, the stressed-tone patterns of each phrase may be located by referring to the appropriate columns in the array for each row of variant pitches for each phrasal position. This means, in effect, to refer to each phrasal position ('x'), variant phrase ('y') and appropriate ('z') columns. In other words, the array is referenced by incrementing each of the 'x', 'y', and 'z' variables as follows: For 'x', 'y' and 'z' = 1, the first 'song number' in 'row' 1 of Phrase 1 will be found: i.e., 00101A . To reference the time signature of this variant, then the column variable ('z') is incremented by 1. To find the time signature of the first phrase of the first song, then 'z' = 2. To reference the stressed tones in row one, 'z' must be referenced in columns 4, 6, 8, and 10. For each stressed-tone pattern ('S') of pitches from columns 4, 6, 8, 10, each row of data ('y') was searched successively until there was no more data for all Phrase 1 ('x'). Then a similar procedure was executed for all rows ('y') of Phrase 2 ('x') data, and so on.

Comparison of Stressed-tone Patterns

In the final program statements, the stressed-tone patterns were printed out and variants containing this stressed-tone pattern were identified at the same time. This was accomplished by creating a Table (in 2 dimensions) to print out each stressed-tone pattern of 4 pitches ('S'), to match patterns that were the same, and to indicate the song number and time signature of each pattern. First each ('S')

pattern was found, as for example:

GN4 GN4 GN4 GN4 = 'S'

for the first row ('y') of the first phrase ('x'). The ('S') pattern was put in the first column. Then its source, 'x' 'y', was put in the column beside it. The table would contain two columns, one for 'S' data, the other for 'x' 'y' data:

'S'	'x', 'y';
-----	-----------

All ('S') patterns are extracted from columns 4, 6, 8 and 10 of the array (as in Figure 2c) for each row of each phrase. If any other phrasal position row contained the same ('S') pattern, then the pattern would not be printed again, but the phrasal position ('x') and the source row ('y') would. For example, the ('S') pattern is found in the following ('x') first phrase variants or rows ('y'):

GN4 GN4 GN4 GN4	1,2;1,3;1:4;4,12;
-----------------	-------------------

Each time this pattern is found, then the source reference is added to the information in the second column. In this manner, all stressed-tone patterns are printed out; if more than one variant contains this same pattern of stressed tones, then reference is made to that source. The above pattern, for example, is found according to the first number of each pair of numbers above, i.e., '1,1;', in the first phrase of three variants, and the fourth phrase of one variant. The variant identification number and time signature can be found from the second number above, for the 2nd, 3rd, 4th, and 12th variant processed. The second number ('y') refers to the row number or variant that was processed. The numbered variants that were processed are listed on pp. 157-158.

Therefore, as the results will show, all common stressed-tone patterns of four phrase melodies have been analyzed and grouped and their phrasal position in the variant has been stated.

SOURCES
for
SINGING GAMES & NURSERY SONGS

- *1.¹ BORRAIN, Madame. (1868). The children's musical gem.
London: Frederick Warne, & Co., New York: Scribner,
Welford, and Co.
2. CRANE, L. (1877). The baby's opera: A book of old rhymes
with new dress. The music by the earliest masters.
London & New York: George Routledge and Sons.
3. CRANE, L. (1974). The baby's bouquet: A fresh bunch of old
rhymes and tunes. London: Pan Books Ltd., (Original
work published 1878).
4. CREIGHTON, H. (Collector). Ottawa, ON: Canadian Centre for
Folk Culture Studies, National Museum of Man.
5. CREIGHTON, H. & Senior, D. (1950). Traditional songs from
Nova Scotia. Toronto: Ryerson Press.
- *6. DOUGLAS, R.C., & Briggs, K. (n.d.) Traditional singing games
from Scotland and the border. London: The Golden Vista
Press.
7. FOWKE, E. (1969). Sally go round the sun: 300 songs, rhymes,
and games of Canadian children. Toronto: McClelland and
Stewart Limited.
- *8. GOMME, A.B. (1894a). Children's singing games with the tunes
to which they are sung (Vol. 1). (second series)
London: David Nutt.

¹ The numbers refer to the source number in the MUSICODE-A data.

* volumes in the Osborne Collection of Early Children's Books,
Toronto Public Library, Toronto, Canada.

9. GOMME, A.B. (1964). The traditional games of England, Scotland and Ireland (Vol. 1). New York: Dover Publications, Inc. (Original work published 1894b)
10. GOMME, A.B. (1964). The traditional games of England, Scotland and Ireland (Vol. 2). New York: Dover Publications, Inc. (Original work published 1898).
- *11. KERR, J.S. (n.d.) Kerr's guild of play: Containing 49 singing games. Glasgow: James S. Kerr.
- *12. KIDSON, F. (1916). 100 singing games. London: Bayley & Ferguson.
- *13. LINLEY, G. (1860). Nursery rhymes of England. London: Brewer & Co.
- *14. MacBAIN, J.M. (1932). The standard book of traditional songs and tunes for little folk. London: Evans Brothers Ltd.
- *15. MOFFAT, A. (1901). The minstrelsy of England. London and Glasgow: Bayley & Ferguson.
- *16. MOFFAT, A. (1911). Our old nursery rhymes. London: Augener Ltd.
- *17. MOFFAT, A. (1912). Little songs of long ago: More old nursery rhymes. London: Augener Ltd.
- *18. MOFFAT, A. (1933). Fifty traditional Scottish nursery rhymes. London: Galliard Ltd., and New York: Galaxy Music Corp.
- *19. MOORAT, J. (1917). Thirty old-time nursery songs. Chicago and New York: M.A. Donahue & Co. (incomplete).
20. NEWELL, W.W. (1963). Games and Songs of American children. New York: Dover Publications Inc. (Original work published 1883).
- *21. Old nursery rhymes with the old tunes. (1874). London: G. Routledge and Sons.
- *22. Old songs for young England. (1902). London: J.M. Dent & Co.
23. OPIE I. & OPIE, P. (Eds.) (1969). The Oxford dictionary of nursery rhymes. London: Oxford University Press.
- *24. PLUNKET, Hon. E.M. (1886). Merrie games in rhyme from ye olden times. London: Wells, Gardner, Darton, & Co.

- *25. RIMBAULT, E.G. (1846). Nursery rhymes with the tunes to which they are still sung in the nurseries of England: Obtained principally from oral tradition. London: Cramer, Beale, & Co.
- *26. ROBERTSON, S. & Dieudonne, A. (1927). Ding dong bell. Paris: Adrien Sporck.
- 27. SHARP, C.J. (1930). Seventeen nursery songs. London: Novello and Company Limited.
- 28. SHARP, C.J. (1932). English folk songs from the southern Appalachians. London: Oxford University Press.
- 29. SHARP, C.J. & GOMME, A.B. (1909-1912). Children's singing games. (Parts 1-5). London: Novello and Company Ltd.
- *30. SOMMERVILLE, A. (1920). Thirty-five nursery rhymes with their old tunes. London: Boosey & Company.
- *31. WILMAN, S.W. (1915). Games for playtime and parties with and without music for children of all ages. London: T.C. and E.C. Jack Ltd.

CHAPTER IV

RESULTS

On the basis of a preliminary analysis and study program of 300 variants of 55 singing-games titles of the British-Canadian tradition, and a transcription of the 300 variants to a common G final in tabulated format, 53 variants of 11 titles were selected for computer analysis. The purpose of this analysis was to identify common patterns of the phrases of these variants. Bartók's "grammatical principle" for the analysis and grouping of variants was chosen as the method for this analysis. According to this principle, variants are to be grouped first according to the number of phrases and second according to the length of each phrase. For this purpose, the 53 variants were chosen for analysis of the number of phrases in each, and to provide examples of different numbers of phrases. From this initial analysis, 36 variants were identified as being one-section 4-phrase variants and are listed in Chapter III, pp. 157-158. The 36 variants were analyzed further to isolate and compare the stressed-tone pattern of each phrase in a phrasal position, regardless of the time-signature or key signature of the variant.

The stressed-tone patterns of the 36 variants that were processed as 4-phrase melodies were printed out in the order in which they were encoded in MUSICODE-A data and analyzed as the result of the computer program. The output states the stressed-tone pattern

that was analyzed followed by a pair of coded numbers that designate the phrasal position of the analyzed stressed-tone pattern in the 4-phrase variant and the variant that was analyzed. The following is the final output of the computer analysis program. The stressed-tone pattern that was analyzed is stated, followed by the coded numbers, as '1,1;' for the phrasal position and the variant number, respectively. The semi-colon separates each phrase and variant in which the stressed-tone pattern was found. A photocopy of these results is in Appendix B, (p. 344.)

Output of the Computer

Analysis Program

<u>Stressed-Tone Pattern</u>	<u>Phrasal Position and Variant Number</u>
GN4 BN3 GN4 GN4	1,1;
GN4 GN4 GN4 GN4	1,2;2,3;2,4;4,12;
GN4 GN4 DN5 GN4	1,5;1,19;3,5;3,19;
CN5 BN4 AN4 DN4	1,6,1,7;1,8;3,6;3,7;3,8;
DN5 DN5 DN5 DN5	1,9;1,10;1,11;3,4;3,9;3,10;3,11;
B-4 B-4 B-4 B-4	1,12;
GN4 GN4 EN4 DN4	1,13;
DN5 DN5 BN4 DN5	1,14;1,15;1,16;1,17;1,18;3,14,3,15;3,16;3,17;3,18;
GN4 AN4 CN5 AN4	1,20;1,21;1,22;1,23;3,20;3,21;3,22;3,23;
DN4 F#4 AN4 GN4	1,24;3,24;
GN4 BN4 DN5	1,25;3,25;
GN4 BN4 DN5 BN4	1,26;1,36;3,26;3,36;

DN5	DN5	BN4	GN4	1,27;1,28;3,27;3,28;4,6;4,8;
DN5	BN4	CN5	AN4	1,29;3,29;
B-4	B-4	CN5	AN4	1,30;1,31;1,32;1,33;1,34;3,30;3,31;3,32;3,33;3,34;
GN4	GN4	DN5	DN5	1,35;3,35;
AN4	AN4	AN4	AN4	2,1;2,2;2,3;
BN4	BN4	BN4	BN4	2,4;
AN4	AN4	F#4	DN4	2,5;2,19;
GN4	BN4	GN4	BN4	2,6;2,7;2,8;
CN5	CN5	CN5	CN5	2,9;2,10;
CN5	CN5	CN5	DN5	2,11;
FN4	FN4	FN4	FN4	2,12;
F#4	F#4	F#4	F#4	2,13;
AN4	CN5	AN4	CN5	2,14;
AN4	CN5	BN4	DN5	2,15;2,16;2,17;2,18;
BN4	GN4	F#4	DN4	2,20;2,22;2,23;
BN4	AN4	F#4	DN4	2,21;
GN4	AN4	BN4	GN4	2,24;
CN5	AN4	BN4		2,25;
CN5	AN4	BN4	GN4	2,26;2,29;2,36;
AN4	DN4	BN4	GN4	2,27;2,28;
B-4	GN4	F#4	DN4	2,30;2,32;
B-4	GN4	FN4	DN4	2,31;
B-4	GN4	AN4	DN4	2,33;2,34;
GN4	BN4	EN4	DN4	2,35;
BN4	BN4	CN5	CN5	3,1;3,2;3,3;

DN5 DN5 FN5 DN5 3,12;
 F#4 EN4 F#4 DN4 3,13;
 BN4 AN4 GN4 GN4 4,1;4,2;4,3;4,4;
 AN4 DN4 GN4 GN4 4,5;4,19;
 DN5 CN5 GN4 GN4 4,7;
 GN5 DN5 BN4 GN4 4,9;
 GN5 DN5 AN4 GN4 4,10;
 GN5 BN4 AN4 GN4 4,11;
 F#4 F#4 GN4 GN4 4,13;
 GN4 BN4 AN4 GN4 4,14;
 AN4 DN5 BN4 GN4 4,15;4,16;4,17;4,18;
 DN5 AN4 GN4 GN4 4,20;4,21;4,22;
 DN5 F#4 GN4 GN4 4,23;
 EN4 AN4 GN4 GN4 4,24;
 CN5 F#4 GN4 4,25;4,26;
 AN4 DN4 GN4 4,27;
 AN4 F#4 GN4 GN4 4,28;
 GN4 AN4 GN4 4,29;
 B-4 AN4 GN4 GN4 4,30;4,31;
 B-4 F#4 GN4 GN4 4,32;4,33;4,34;
 AN4 BN4 GN4 GN4 4,35;
 CN5 F#4 GN4 GN4 4,36;

The blanks that occur in five of the patterns listed in the output above are not errors. As will be seen from the translation of the coded numbers and statements of the variant number and time signature for each pattern listed below, these blanks occur in variants which are in $\frac{3}{4}$ meter. The fourth stressed-tone of each of these five patterns was not stated, because the tone which would be in this position is an anacrusis tone for the next phrase. These patterns are discussed below in reference to the variants in which they occur. (c.f. p. 206-207)

In order to examine the results of the analysis program, the stressed-tone patterns stated in the output are listed below, followed by the number designating the phrasal position that was coded in the output. Following the phrase number is the variant identification number, obtained from the list of titles (pp. 157-158 above), then the time signature of the variant, obtained from the encoded MUSICODE-A data. The variant identification number and time signature have been added manually. When all variants of the singing games collection have been processed, then this information will be provided by the computer program.

The stressed-tone patterns are listed below with the above information and in groups for each phrasal position as they were analyzed. For purposes of comparison and interpretation, the patterns within each phrasal position group have been listed in ascending order, from the lowest to the highest pitch of the first, then second, and so on, note of each stressed-tone pattern.

The ordered list of stressed-tone patterns begins with all

patterns that were the same as 'Phrase One' patterns, then all remaining 'Phrase Two' patterns, all remaining 'Phrase Three' and remaining 'Phrase four' patterns. Beside the stressed-tone pattern is the phrase number (P#), the variant number (V#), the time signature (T.S.), information of each variant in which that pattern was found.

Stressed-Tone Patterns
of
36 Analyzed
4-Phrase Variants

Phrase One

<u>Stressed-Tone Pattern</u>				<u>P.#</u>	<u>V.#</u>	<u>T.S</u>	<u>P.#</u>	<u>V.#</u>	<u>T.S</u>	<u>P.#</u>	<u>V.#</u>	<u>T.S</u>
DN4	GN4	EN4	DN4	(1)	00503A,	$\frac{6}{8}$,						
DN4	F#4	AN4	GN4	(1)	02504A,	$\frac{2}{4}$;	(3)	02505A,	$\frac{2}{4}$;			
GN4	BN3	GN4	GN4	(1)	00101A,	$\frac{2}{4}$;						
GN4	GN4	GN4	GN4	(1)	00101B,	$\frac{2}{4}$;	(1)	00101C,	$\frac{2}{4}$;	(1)	00102A,	$\frac{2}{4}$;
				(4)	00502A,	$\frac{6}{8}$;						
GN4	GN4	DN5	GN4	(1)	00201A,	$\frac{6}{8}$;	(1)	02502A,	$\frac{2}{4}$;	(3)	00201A,	$\frac{6}{8}$;
				(3)	02502A,	$\frac{2}{4}$;						
GN4	GN4	DN5	DN5	(1)	00701A,	$\frac{2}{4}$;	(3)	00701A,	$\frac{2}{4}$;			
GN4	AN4	CN5	AN4	(1)	02503A,	$\frac{6}{8}$;	(1)	02503B,	$\frac{6}{8}$;	(1)	02503C,	$\frac{6}{8}$;
				(1)	02503D,	$\frac{6}{8}$;						

Stressed-Tone Pattern	P.#	V.#	T.S	P.#	V.#	T.S	P.#	V.#	T.S
	(3)	02503A,	$\frac{6}{8}$;	(3)	02503B,	$\frac{6}{8}$;	(3)	02503C,	$\frac{6}{8}$;
	(3)	02503D,	$\frac{6}{8}$;						
GN4 BN4 DN5 (BN4)	(1)	02101A,	$\frac{3}{4}$;	(3)	02101A,	$\frac{3}{4}$;			
GN4 BN4 DN5 BN4	(1)	02101B,	$\frac{3}{4}$;	(1)	03903A,	$\frac{4}{4}$;			
	(3)	02101B,	$\frac{3}{4}$;	(3)	03903A,	$\frac{4}{4}$;			
B-4 B-4 B-4 B-4	(1)	00502A,	$\frac{6}{8}$;						
B-4 B-4 CN5 AN4	(1)	00601A,	$\frac{6}{8}$;	(1)	00601B,	$\frac{6}{8}$;	(1)	00601C,	$\frac{6}{8}$;
	(1)	00601D,	$\frac{6}{8}$;	(1)	00601E,	$\frac{6}{8}$;			
	(3)	00601A,	$\frac{6}{8}$;	(3)	00601B,	$\frac{6}{8}$;	(3)	00601C,	$\frac{6}{8}$;
	(3)	00601D,	$\frac{6}{8}$;	(3)	00601E,	$\frac{6}{8}$;			
CN5 BN4 AN4 DN4	(1)	00202A,	$\frac{6}{8}$;	(1)	00202B,	$\frac{6}{8}$;	(1)	00202C,	$\frac{6}{8}$;
	(3)	00202A,	$\frac{6}{8}$;	(3)	00202B,	$\frac{6}{8}$;	(3)	00202C,	$\frac{6}{8}$;
DN5 BN4 CN5 AN4	(1)	02104A,	$\frac{3}{4}$;	(3)	02104A,	$\frac{3}{4}$;			
DN5 DN5 BN4 GN4	(1)	02103A,	$\frac{3}{4}$;	(1)	02103B,	$\frac{3}{4}$;			
	(3)	02103A,	$\frac{3}{4}$;	(3)	02103B,	$\frac{3}{4}$;			
	(4)	00202A,	$\frac{6}{8}$;	(4)	00202C,	$\frac{6}{8}$;			
DN5 DN5 BN4 DN5	(1)	02501A,	$\frac{2}{4}$;	(1)	02501B,	$\frac{2}{4}$;	(1)	02501C,	$\frac{2}{4}$;
	(1)	02501D,	$\frac{2}{4}$;	(1)	02501E,	$\frac{2}{4}$;			
	(3)	02501A,	$\frac{2}{4}$;	(3)	02501B,	$\frac{2}{4}$;	(3)	02501C,	$\frac{2}{4}$;

Stressed-Tone Pattern				P.#	V.#	T.S	P.#	V.#	T.S	P.#	V.#	T.S
				(3)	02501D,	$\frac{2}{4}$	(3)	02501E,	$\frac{2}{4}$			
DN5	DN5	DN5	DN5	(1)	00402A,	$\frac{2}{4}$	(1)	00402B,	$\frac{2}{4}$	(1)	00402C,	$\frac{2}{4}$
				(3)	00102A,	$\frac{2}{4}$	(3)	00402A,	$\frac{2}{4}$	(3)	00402B,	$\frac{2}{4}$
				(3)	00402C,	$\frac{2}{4}$						

Phrase Two

FN4	FN4	FN4	FN4	(2)	00502A,	$\frac{6}{8}$						
F#4	F#4	F#4	F#4	(2)	00503A,	$\frac{6}{8}$						
GN4	AN4	BN4	GN4	(2)	02505A,	$\frac{2}{4}$						
GN4	BN4	EN4	DN4	(2)	00701A,	$\frac{2}{4}$						
GN4	BN4	GN4	BN4	(2)	00202A,	$\frac{6}{8}$	(2)	00202B,	$\frac{6}{8}$	(2)	00202C,	$\frac{6}{8}$
AN4	AN4	F#4	DN4	(2)	00201A,	$\frac{6}{8}$	(2)	02502A,	$\frac{2}{4}$			
AN4	AN4	AN4	AN4	(2)	00101A,	$\frac{2}{4}$	(2)	00101B,	$\frac{2}{4}$	(2)	00101C,	$\frac{2}{4}$
AN4	CN5	AN4	CN5	(2)	02501A,	$\frac{2}{4}$						
AN4	CN5	BN4	DN5	(2)	02501B,	$\frac{2}{4}$	(2)	02501C,	$\frac{2}{4}$	(2)	02501C,	$\frac{2}{4}$
				(2)	02501E,	$\frac{2}{4}$						
AN4	DN4	BN4	GN4	(2)	02103A,	$\frac{3}{4}$	(2)	02103B,	$\frac{3}{4}$			
B-4	GN4	F#4	DN4	(2)	00601A,	$\frac{6}{8}$	(2)	00601C,	$\frac{6}{8}$			

<u>Stressed-Tone Pattern</u>	<u>P.#</u>	<u>V.#</u>	<u>T.S</u>	<u>P.#</u>	<u>V.#</u>	<u>T.S</u>	<u>P.#</u>	<u>V.#</u>	<u>T.S.</u>
B-4 GN4 FN4 DN4 (2) 00601B,			$\frac{6}{8};$						
B-4 GN4 AN4 DN4 (2) 00601D,			$\frac{6}{8};$	(2) 00601E,		$\frac{6}{8};$			
BN4 GN4 F#4 DN4 (2) 02503A,			$\frac{6}{8};$	(2) 02503C,		$\frac{6}{8};$	(2) 02503D,		$\frac{6}{8};$
BN4 AN4 F#4 DN4 (2) 02503B,			$\frac{6}{8};$						
BN4 BN4 BN4 BN4 (2) 00102A,			$\frac{2}{4};$						
CN5 AN4 BN4 (2) 02101A,			$\frac{3}{4};$						
CN5 AN4 BN4 GN4 (2) 03903A,			$\frac{4}{4};$	(2) 02101B,		$\frac{3}{4};$	(2) 02104A,		$\frac{3}{4};$
CN5 CN5 CN5 CN5 (2) 00402A,			$\frac{2}{4};$	(2) 00402B,		$\frac{2}{4};$			
CN5 CN5 CN5 DN5 (2) 00402C,			$\frac{2}{4};$						

Phrase Three

F#4 EN4 F#4 DN4 (3) 00503A,		$\frac{6}{8};$
BN4 BN4 CN5 CN5 (3) 00101A,	$\frac{2}{4};$	(3) 00101B, $\frac{2}{4};$ (3) 00101C, $\frac{2}{4};$
DN5 DN5 FN5 DN5 (3) 00502A,		$\frac{6}{8};$

Phrase Four

EN4 AN4 GN4 GN4 (4) 02505A,	$\frac{2}{4};$
F#4 F#4 GN4 GN4 (4) 00503A,	$\frac{6}{8};$
GN4 AN4 GN4 (4) 02104A,	$\frac{3}{4};$

<u>Stressed-Tone Pattern</u>	<u>P.#</u>	<u>V.#</u>	<u>T.S</u>	<u>P.#</u>	<u>V.#</u>	<u>T.S</u>	<u>V.#</u>	<u>T.S</u>
GN4 BN4 AN4 GN4	(4)	02501A,	$\frac{2}{4}$;					
AN4 DN4 GN4	(4)	02103A,	$\frac{3}{4}$;					
AN4 DN4 GN4 GN4	(4)	00201A,	$\frac{2}{4}$;	(4)	02502C,	$\frac{2}{4}$;		
AN4 F#4 GN4 GN4	(4)	02103B,	$\frac{3}{4}$;					
AN4 BN4 GN4 GN4	(4)	00701A,	$\frac{2}{4}$;					
AN4 DN5 BN4 GN4	(4)	02501B,	$\frac{2}{4}$;	(4)	02501C,	$\frac{2}{4}$;	(4)	02501D, $\frac{2}{4}$;
	(4)	02501E,	$\frac{2}{4}$;					
B-4 F#4 GN4 GN4	(4)	00601C,	$\frac{6}{8}$;	(4)	00601D,	$\frac{6}{8}$;	(4)	00601E, $\frac{6}{8}$;
B-4 AN4 GN4 GN4	(4)	00601A,	$\frac{6}{8}$;	(4)	00601B,	$\frac{6}{8}$;		
BN4 AN4 GN4 GN4	(4)	00101A,	$\frac{2}{4}$;	(4)	00101B,	$\frac{2}{4}$;	(4)	00102A, $\frac{2}{4}$;
	(4)	00101C,	$\frac{2}{4}$;					
CN5 F#4 GN4	(4)	02101A,	$\frac{3}{4}$;	(4)	02101B,	$\frac{3}{4}$;		
CN5 F#4 GN4 GN4	(4)	03903A,	$\frac{4}{4}$;					
DN5 F#4 GN4 GN4	(4)	02503D,	$\frac{6}{8}$;					
DN5 AN4 GN4 GN4	(4)	02503A,	$\frac{6}{8}$;	(4)	02503B,	$\frac{6}{8}$;	(4)	02503C, $\frac{6}{8}$;
DN5 CN5 GN4 GN4	(4)	00202B,	$\frac{6}{8}$;					
GN5 BN4 AN4 GN4	(4)	00402C,	$\frac{2}{4}$;					
GN5 DN5 AN4 GN4	(4)	00402B,	$\frac{2}{4}$;					
GN5 DN5 BN4 GN4	(4)	00402A,	$\frac{2}{4}$;					

Variant Structure

The ordered list of patterns (pp. 196-200) reveals that the methodology used groups all patterns that are the same as 'Phrase One,' then all other 'Phrase Two,' 'Phrase Three,' and 'Phrase Four' patterns. In the 'Phrase One' group, the first phrase of all 36 variants is listed. There are also 31 third-phrase patterns and 3 fourth-phrase patterns grouped with the 'Phrase One' patterns. In the 'Phrase Two' list there are 36 variants: no second-phrase patterns are listed with those in 'Phrase One.' There are 5 variant patterns listed for 'Phrase Three,' and they are all third-phrase patterns. In the 'Phrase Four' list there are 31 variant patterns. This grouping of phrases by phrasal position represents one of the common formal structural characteristics of these variants, which is A B A C. This formal structure is revealed by first examining all 'Phrase One' patterns, to observe that almost all patterns are listed here as belonging to the first and third phrase of a variant. There are five variants which are listed as a first-phrase pattern alone: their third phrase is in the 'Phrase Three' list and these are the only patterns in the 'Phrase Three' list. Therefore, the structure of these five melodies is A B C D. Only second-phrase patterns are listed for Phrase Two, and only fourth-phrase patterns for 'Phrase Four.'

Of the five variants in the 'Phrase Three' list of A B C D structure, two are variants of "Charley Over the Water" (00502A and

00503A): the first variant is a "1a" pentatonic melody. The second is Creighton's variant of the same title. The other three variants are variants of "A-Hunting" (00101A-C). These three variants were grouped originally in the preliminary analysis stage for encoding purposes, because they exhibit a similar form of the melody for this title. There are two variant types of the melody for this title: the second one is in Fowke's variant (00102A). The third phrase of this variant is grouped in the 'Phrase One' list for DN5 DN5 DN5 DN5 pattern, with phrase one and three variants of Creighton's and Fowke's variants of "Bluebird, Bluebird" (00402A-C). No other analyzed variants are listed for this DN5 DN5 DN5 DN5 pattern. The two variant forms of the tune of "A-Hunting" (001) are also found with the singing game, "The Grand Old Duke of York" (010). The variants for this game are also of the same two types: all the variants from British sources have the same tune as the first three "A-Hunting" (00101A-C) variants. The Canadian variants from Creighton and Fowke of "The Grand Old Duke of York" are grouped together and are the same tune variant as in Fowke's "A-Hunting" variant. In other words, in the British sources for "A-Hunting" and "The Grand Old Duke of York," the same melody is found; the other melodic variant is found in Canadian sources, only, for these two singing games. The tune of these Canadian variants of "A-Hunting" and the "Grand Old Duke of York" is a variant of "The Farmer in the Dell" melody.

In the 'Phrase One' list, the three phrase-four patterns listed are from the following variants: the first is the "1a"

pentatonic variant of "Charley Over the Water" (00502A) whose formal structure is A B C D; the second and third are variants of "Babbity Bowster," (00202A) and (00202C) and the formal structure of these is A B A C. The variants (00202A-C) of this singing game are all Scottish in origin. Gomme notes that "'Bab at the Bowster' is a very old Scottish dance that was formerly the last dance at weddings or parties" (I, 1894(b), p. 11).

Therefore, the result of the methodology used in the computer program is not only the grouping of patterns that are the same, but also the organizing of the structural relationship of the patterns of the sample. Additional data will enable the results to be interpreted more specifically to indicate future grouping procedures.

From the small sample of data, it is an unexpected result that the differences on the level of the formal structural relationship of phrases could be by their national origin. The Canadian variants discussed above exhibit different melodic and formal characteristics compared with British variants. From a historical perspective, the differences could be attributed to a decline in the tradition only. The musical characteristics of all Canadian variants need to be examined to determine whether they exhibit common features which are different from those of British variants. One indication of decline is in the borrowing of tunes from one singing game for another text. This can be seen, for example, in the grouping of one other Canadian variant in the 'Phrase' output. This is Creighton's variant of "London Bridge" (02502A). It is the

only variant of the 13 "London Bridge" variants processed which is different. The others fall into two tune-groups. Creighton's tune is a variant of the "Mulberry Bush" tune. In the 'Phrase One' list, this variant also is grouped with Gomme's tune for "Babbity Bowster" (00201A), and which is different from the Scottish versions of this singing game.

Finally, it is concluded from the above examination of results of grouping of phrase patterns in the output that the methodology of grouping also results in the creation of a thematic index. By the grouping of variant patterns in the 'Phrase One' list, the various melody types are distinguished and ordered. Anomalies which were discussed in Chapter Three are revealed: for example, the four phrases of Gomme's "Dinah" (00701A) are not grouped with any other patterns; the "Charley Over the Water" variants (00502A and 00503A) are listed separately. It was remarked that for historical reasons these variants were suspect as belonging to the singing-games' oral tradition. However, more data need to be processed to support these reservations.

The phrase patterns for Wilman's variant of "Jenny Jones" (02104A) are entirely different from all other "Jenny Jones" variants, except for the second phrase pattern, which is the same as the "Jenny Jones (02101B) and "Poor Mary" (03903A) variant patterns for phrase two. Therefore, the original encoding of Wilman's (02104A) "Jenny Jones" as a different variant is substantiated by the 'Phrase One' analysis results. The

relationship of the second phrase only of these melodies suggests that patterns of other phrasal positions may be structurally important in determining variant relationship as well. Future analysis of all variants of the collection may enable a refinement of grouping procedures according to stressed-tone patterns of all phrases.

In the preliminary analysis of the collection it was observed that the variant of "Poor Mary" (03903A) is a variant of "Jenny Jones" variants (02101A&B). These were tabulated in Example 27. These three variants have been so grouped by the analysis program in all phrasal positions. The "Poor Mary" variant (03903A) is in $\frac{4}{4}$, the "Jenny Jones" variants (02101A&B) are in $\frac{3}{4}$. The grouping of these three variants would seem to support the determination in the analysis program of beats 1 and 3 as the stressed-tones of a measure of $\frac{3}{4}$ meter. Therefore, that the methodology also groups variants and analyzes their stressed-tone patterns regardless of time signature can be observed for additional patterns that have been matched from different singing games. For example, the 'Phrase One' variants of GN4 GN4 GN4 GN4 are in $\frac{6}{8}$ and $\frac{2}{4}$; the 'Phrase One' variants of DN5 DN5 BN4 GN4 pattern are in $\frac{3}{4}$ and $\frac{6}{8}$.

The grouping of patterns of different time signatures not only indicates that the appropriate stressed-tone subdivisions were used in the analysis program for each meter, but also indicates that the variants that were analyzed were encoded correctly as 4-phrase variants of two measures each. The 4-phrase structure of

two-measure phrases is also clearly delineated in the output by the distribution of patterns in each phrasal position. The assumption that the variants that were encoded and analyzed as 4-phrase variants do contain 4 phrases is supported by the output for 'Phrase Two' and 'Phrase Four' patterns. Each of these groups contains discrete patterns.

With respect to key signature, the patterns of the "minor mode" variants were grouped separately from all other patterns. Because of the encoding and analysis procedures, all accidentals are simply a component of the pitch information code of a tone: patterns are analyzed for all notes of a chromatic scale. The only variants encoded that are in another key than some form of the G major scale are the variants of "Dame Get Up and Bake Your Pies" (00601-E). All first and third phase patterns of these are the same pattern: B-4 B-4 CN5 AN4. There are three different 'Phrase Two' patterns and two different 'Phrase Four' patterns: the only tone that is different is the stressed-tone before the cadence tone, which is either F#4, FN4 or AN4.

What appears, at first glance, to be an error in the output is the missing fourth tone of five stressed-tone patterns. This occurs for all 4 phrases of (02101A) variant of "Jenny Jones" and in the fourth phrase only of three other variants. These variants are all in $\frac{3}{4}$ meter. In the (02101A) variant, each phrase begins with an anacrusis, which is one quarter note duration. Therefore, the phrase-pattern output correctly represents the stressed tones

of each phrase: the stressed-tone of the fourth position of each pattern was not printed, because it is the anacrusis of the next phrase. The manual order of the patterns does group the four phrases of this variant with other variants containing the same patterns, from which the cadence tones can be determined. In this variant, the first three phrases have a feminine ending as the cadence is on the second beat of the measure. For the three other variants, in which the fourth stressed-tone is missing in the output for Phrase Four, the cadence occurs on the first beat of the last measure, and the first note of the variant is an anacrusis.

Finally, the methodology used to isolate stressed tones and compare the stressed tones of each phrase also successfully groups phrases of the same length. This has been seen in the output where all but five phrases contain four stressed tones, the remaining five phrases in $\frac{3}{4}$ meter contain three stressed tones. Any length of phrase may be processed by the methodology used to isolate phrases, to determine the base value of stressed- and unstressed-beats for each time signature, and to isolate the stressed tones of each phrase: the "z" dimension of the array, Figure 2c, can be labelled to contain any number of elements. Therefore, melodies of any time signature, containing three-measure, four-measure, or any number of measures in a phrase, may be successfully processed by the methodology developed for this study.

With respect to the melodic patterns that have been produced in the output according to the stressed-tone analysis, the sample of variants is not sufficiently large to be able to draw any specific

conclusions concerning their characteristics. For the variants analyzed, however, some general observations can be made. The 'Phrase One' and 'Phrase Three' patterns begin either on DN4, GN4 or DN5 for melodies in the major key; the patterns beginning on GN4, the tonic of the key, are generally ascending patterns. There is great variety in 'Phase Two' patterns; 5 of the 19 patterns analyzed contain the same repeated stressed-tone: these are FN4, F#4, AN4, BN4, and CN5 respectively. There is also great variety in 'Phrase Four' patterns. The cadence tone of 14 of the 18 patterns occurs on the third stressed-tone, GN4: of the 4 patterns in which the final cadence does not occur until the fourth stressed-tone, the first is Gomme's variant of the first tune of "London Bridge", (02501A), which she had transcribed originally (Example 3) in double time values, as compared with other variants of the same tune; the other 3 patterns are from Creighton's 3 variants of "Bluebird, Bluebird" (00402A, B, and C). This singing game has only been found in Canadian oral tradition among the sources referenced for the initial stages of this study. When the entire collection of singing games is processed, it is expected that the characteristics of the patterns observed from the analysis of this small sample will be strengthened.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Need

This study was conceived to determine the common musical characteristics of children's traditional song literature to be able to structure a music education program based on the Kodály concept. Generalized methods of analysis of songs of Hungarian, French, and Black American children revealed certain tone sets common to each of these groups of children's literature, but have not been able to identify clearly the common melodic patterns of phrases of these songs. Other studies of the style of folk song literature have revealed specific characteristics which are common to large collections, but have been unable to provide an analytical method suitable for the purpose of this study.

Purpose

The purpose in this study was to develop a computer-aided methodology to analyze the tones of phrases of variants of children's songs of the British-Canadian tradition to determine what were the characteristic patterns of these melodies. What was of greatest interest to know were the characteristic patterns of opening and closing phrases of each melody, and the patterns of phrases at the mid-cadence point.

From a personal collection of approximately 300 variants of 55 singing-games titles of the British-Canadian tradition, 11 titles were selected, with 53 variants, for analysis purposes. These 53 variants were selected to develop a methodology to isolate and compare patterns of phrases of variants in consideration of:

1. the number of sections in each variant;
2. the number of phrases in each section;
3. the length of each phrase of each section of a variant;
4. the time signature of each variant;
5. the key signature of each variant.

Procedure

A computer program was developed on the basis of preliminary analysis and study of the 300 variants in the personal collection of singing games. These variants had been collated from sources in print that were found in Canadian libraries published before the second World War and from manuscript collections in the Canadian Centre for Folk Culture Studies, National Museum of Man, Ottawa. The variants had been grouped by title first, then according to sub-groups of similar variants for each title. A study was made from the sources of the singing games of the historical relationship of games, texts and melodies to aid in this preliminary grouping. The musical characteristics of these variants were analyzed according to scale, tone set, range, number of metric accents, number of text syllables, cadence tones, and formal structure. Then a tabulated transcription of the grouped variants was prepared with all variant melodies

transposed to a common G final. Eleven singing games with 53 variants were selected from the collection to analyze the variants according to the five conditions stated above: some of these 53 variants were multi-sectioned, others contained from three to six phrases; variants also were selected whose meter and key signature were different.

Initially, variants were selected to develop an adaptation of the LAZYCODE encoding system, which had been developed at The Ohio State University, to encode all four voices of Bach Chorales. Data for the singing games were encoded so that all of the information obtained from the preliminary analysis program could be encoded for analysis by computer. The data were encoded in LAZYCODE from the prepared tabulated transcriptions so that all variants had a common G final. The LAZYCODE was translated to and stored as MUSICODE-A data, by a preprogrammed version of SPITBOL, for the single-voice melodies.

The approach to analysis was based on the methodology developed by Bartók to analyze and group variants according to the "grammatical principle." Variants are grouped first according to the number of phrases, and second according to the length of each phrase.

For this purpose, programs were written in SNOBOL4 programming language to:

- (a) identify one-section, four-phrase variants;

To isolate and compare patterns of phrases, programs were written to:

- (b) identify each phrase of the four phrase variant, extract the MUSICODE-A data for each phrase, and sort each phrase according to its phrasal position;
- (c) translate the data of each phrase into coded pitch information (of letter name, accidental and octave register) representing the equal durational value of the stressed- and unstressed-beats of each measure: of an eighth-note beat value for $\frac{2}{4}$, $\frac{3}{4}$, and $\frac{6}{8}$ meters, and quarter-note beat value for $\frac{4}{4}$ meter;
- (d) tabulate in an array, for each phrasal position, these coded pitches, to line up all stressed- and unstressed-beat pitches of each time signature;
- (e) locate the variant identification number and the stressed-tones from each tabulated phrase of each phrasal position;
- (f) compare each phrase with every other phrase;
- (g) print out each stressed-tone pattern of each phrase followed by the coded phrasal position number and processed variant number of the variant in which the phrase was found.

Results

From the 53 variants selected for computer processing, 36 were identified as one-section variants containing 4 two-measure phrases. The remaining 17 variants were not processed further and were saved for future analysis because they contained more than 4 phrases.

The variants not processed are classed in two groups. One group is the variants containing more than one section. The variants are: Kerr's "Jenny Jones" (02102A) variant, containing two sections of 4 phrases each; Plunket's "Old Version" of "London Bridge" (02504A), containing a melody section for each alternate verse, of 4 phrases each; Kidson's "Shootman" version of "London Bridge" (02506A), containing three melody-sections, with 4 phrases each; Gomme's "Poor Mary" (03901A) variant, containing a 4-phrase verse and a 6-phrase "marriage formula"; and Wilman's "Poor Mary" (03902A), containing the 4-phrase verse, the 5-phrase "On the Carpet" verse, and the 6-phrase "marriage formula."

The second group of variants not containing 4 phrases consists of one section melodies as follows: all the variants of "Bingo" (00301A-F) and Creighton's (00401A&B) variants of "Bluebird, Bluebird," which contain 3 phrases; Crane's (00501A) variant of "Charley Over the Water," and all the variants of "Doctor Faustus" (00801A-C), which contain 6 phrases. A list of the 36 variants analyzed as one-section, 4-phrase variants is on pp. 157-158. A list of the 17 variants containing other than 4 phrases is on pp. 159-160. The number of phrases of these latter variants is also listed there.

The stressed-tone patterns of the 36 variants whose phrases were analyzed is printed in the output of the computer program. (Appendix B, p. 344) There, and in the reproduction (pp. 192-195) is listed each different stressed-tone pattern followed by the phrase number and processed variant number in which it was found. All patterns that are the same as 'Phrase One' pattern are listed with 'Phrase One' patterns; all other patterns are compared in succession with 'Phrase Two' patterns, then 'Phrase Three,' then 'Phrase Four' patterns. A manual sorting of the patterns in ascending order of pitch, from lowest to highest, of the first note of the pattern, then the second pitch, and so on, was made and listed pp. 196-200. Then the phrase number, variant number and time signature of the variant in which the pattern was found was listed for each pattern.

Conclusions

From the results of the analysis of the variants of the British-Canadian singing-games, the following conclusions can be stated:

1. The computer-aided methodology developed for this study was successful in analyzing the selected variants of the British-Canadian tradition. The computer-aided methodology based on Bartók's "grammatical principle" for the analysis and grouping of variants has grouped variants containing the same number of phrases and has analyzed phrase patterns of equal length.

Each phrase of the 36 variants processed as 4-phrase variants was isolated and the stressed-tone patterns of each phrase were

compared. This has been verified by examining the number in the output statements and the patterns in comparison with the tabulated transcriptions of each processed variant in Appendix A. That these variants were correctly encoded as 4-phrase melodies can be deduced from the fact that the 'Phrase Two' and 'Phrase Four' lists each contain discrete patterns. All except 5 patterns of the third phrase were grouped in the 'Phrase One' list. Phrases of the same length were analyzed from these 36 4-phrase variants as 4 stressed-tones were isolated from each phrase.

2. The computer-aided methodology of identifying stressed- and unstressed-beats of a variant, and the isolation of stressed-tone patterns of each phrase for the comparison of phrases was conceptually conceived correctly. Stressed-tone patterns of phrases of different time signatures were compared, grouping variant melodies from different singing games that were known from the preliminary analysis to be variants of the same melody.

3. Common patterns of phrases were identified by the methodology developed for isolating and comparing stressed-tone patterns.

4. Common patterns of phrases were identified for the sample analyzed regardless of the key signature of the variants analyzed.

There are three additional advantages gained from the computer-aided methodology used to compare stressed-tone patterns of phrases:

1. The output produces a thematic index of the variants according to the tones of the first phrase.
2. The listing in the output of all patterns as 'Phrase One' patterns, 'Phrase Two' patterns, and so on for each phrasal position, reveals the formal structure of each variant.
3. Listing each phrase according to its phrasal position enables the characteristic patterns of each phrasal position in a melody to be determined. When the complete collection of singing-games variants is analyzed, the characteristic patterns of opening and closing phrases, and of the phrases at mid-cadence point, will be revealed.

Therefore, the adaptation of Bartók's "grammatical principle" for the initial grouping of variants for analysis, according to the number of phrases and the length of each phrase, is an appropriate method for the analysis of this collection. The methodology developed for computer-aided analysis of the patterns of phrases, so defined, is appropriate for the purpose of this study.

Recommendations for Further Research

From the results of this study, it is recommended:

1. that the method of encoding in MUSICODE-A data developed for this study be adopted by other researchers for the encoding of folk song melodies. The advantage of this method is that by encoding melodies exactly from transcription, then any type of analysis program may be executed on this data base, and the data need to be encoded only once. Since all pitches are encoded exactly as they

occur in transcription, accidentals that might occur are encoded at the same time as the letter name, octave register, and durational value. This encoded information makes it possible to develop future analysis programs, to examine cadence tones, durational patterns, and the scale or tone set of each melody. This is seen to be an advantage over Bronson's encoding method. For example, for the analysis of the scale or tone set of each variant, the exact notes of each tone set can be determined. These tone sets could then be compared and the most common ones identified, rather than simply naming the mode, as Bronson did, and grouping variants according to a theoretical "correspondence" of modes for further analysis.

2. that the computer-aided methodology developed to group variants based on Bartók's "grammatical principle" for the analysis and grouping of variants of folk songs be adapted by other researchers as a means of providing a description of the musical characteristics of a collection. This would mean that rather than analyzing and grouping variants by modal correspondence, as did Bronson, or by intervallic sequences, as did Suchoff, that analysis start with the section structure, then metric structure of variants for additional grouping of variants into sub-groups. Not only does the analysis and comparison of stressed-tone patterns reveal common patterns of phrases and create a thematic index of first phrase tones, but based on further examination, the methodology of analysis would offer possibilities of grouping variants that have the same or similar rhythmic structure. Based on observations described in the discussion below, from a further examination of the program output

results, there is the possibility that patterns grouped according to common stressed tones may also be so grouped according to Bartók's aspect 3 by the same methodology.

In the preliminary analysis of all variants, the number of text syllables for each line of text was analyzed as in Examples 16 and 17. The rhythmic structure of the texts of all the variants selected for this study is heterometric. In fact, the rhythmic structure of all but a few of the singing-game-variant texts is heterometric. The isometric texts are found in some variants of "The Farmer in the Dell" (009), "I Sent a Letter to My Love" (019), "Mulberry Bush" (030), "Rosy Apple" (043), "Round and Round the Village" (044), which are all 4-phrase melodies, and in 2-phrase and 3-phrase variants of "We Are Three Jews" (054).

Having listed manually the rhythmic structure numbers beside the stressed-tone patterns of each phrasal position as grouped and listed in the output, it has been observed that there are similarities in the "Z formula" patterns of variants that have been listed as having the same stressed-tone pattern for phrases one and three. For example, the first- and third-phrase stressed-tone pattern of "Babbity Bowster" (00201A), in $\frac{6}{8}$, and "London Bridge" (02502A), in $\frac{2}{4}$, is GN4 GN4 DN5 GN4. Their "Z formula" patterns are 6 3+3 6 7 and 7 3+3 7 5 respectively. The "Z formula" patterns of "Jenny Jones" (02101B), in $\frac{3}{4}$, and "Poor Mary" (03903A), in $\frac{4}{4}$, are 8 3+3 8 4 and 8 4+4 8 7, respectively, for the stressed-tone pattern of GN4 BN4 DN5 BN4 of phrases one and three. The second phrase of each of these "Z formula" patterns is listed as 3+3 or 4+4 because

there are repeated words in the text line of an equal number of syllables. There are many similar types of "Z formula" patterns and of repeated-word-patterns in second phrases of variants grouped according to the same stressed-tone melodic pattern.

Therefore, the methodology of grouping stressed-tone patterns of pitches of the variants may, at the same time, group variants whose rhythmic structure is the same or similar. If this were to be established for the entire collection, there would be, then, three additional outcomes expected from the results of the analysis program developed for this study. One is that variants will be able to be analyzed and grouped, by stressed-tone pattern alone, according to Bartók's "grammatical principle," for aspects 1 to 3, which includes the rhythmic aspect. Then the analysis of cadence tones for further grouping of variants could be undertaken, and finally an analysis of the range (aspects 4 and 5).

The purpose of these grouping procedures is to reveal the characteristics of the different styles. To determine the different styles or age of variants, it is the metric structure that must be considered first, as discussed in Chapter 2, pp. 78-80. The predominant structure of all variants of the singing games collection is heterometric. From the analysis of the stressed-tone patterns of 4-phrase variants selected for this study, it was observed in Chapter 4, pp. 201-204, that variants seemed to be differentiated at this level of analysis according to style or age. It is therefore expected that future analysis of the stressed-tone patterns of phrases of the entire collection will separate variants into groups,

and that characteristics of the cadence tones and the range of the variants so grouped will also be revealed that are common to these style or age groups.

The second expected outcome of the results of the stressed-tone-pattern analysis methodology is that the pitch stressed-tone patterns, or the melodic patterns of phrases will be shown to have been formed by the metric and rhythmic structure of the texts. Therefore, Bartók's "grammatical principle," based on textual organization and structure, rather than on tones occurring in the melody, as in the "lexicographical principle," will be shown to be the most suitable method for determining the musical characteristics of the variants of a collection.

Third, it is to be expected, then, that the pitch patterns of the traditional songs of different cultures will embody the metric and rhythmic structures of the particular language structure, and that these pitch pattern characteristics will be different, accordingly.

Finally, then, it is recommended:

3. that researchers in other countries adopt the computer-aided methodology of analysis developed in this study to analyze the musical characteristics of their children's songs. This would enable not only results of analyses to be compared, but also facilitate the structuring of an elementary music education program, based on the Hungarian model, according to the common musical characteristics of their children's songs.

4. that scholarly editions of children's songs of each language culture be prepared which are the result of the analysis and grouping procedures developed for this study.

5. that researchers test the educational value of including traditional song materials in their elementary music education programs.

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APPENDIX A

STONE STUDENT CENTER

NATIONAL MUSIC CAMP
AND
INTERLOCHEN ARTS ACADEMY
INTERLOCHEN, MICHIGAN

Gentlemen,

25.8.1966.

in our recent trip to Toronto we had the experience that there is a great interest in Canada for the Hungarian system for music education in schools.

To know it thoroughly it is desirable to observe it in practice on the spot, and to send somebody to our country.

We made acquaintance of Miss Ann Osborne and think that she would be a most suitable person for this work.

We would be glad to have her in Hungary for a year and I would supervise her study.

Yours sincerely

László Kodály

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(001) A-Hunting We Will Go (01)

(Gomme I, 1984(b),
pp. 243-44)

A

The musical notation consists of four staves, each with a treble clef and a common time signature (C). The notes are as follows:

- Staff 1: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (half).
- Staff 2: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (half).
- Staff 3: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (half).
- Staff 4: C4 (quarter), D4 (quarter), E4 (quarter), F4 (quarter), G4 (quarter), A4 (half).

The lyrics are written below the notes:

O have you seen the Shah,
O have you seen the Shah?
He lights his pipe on a starlight night,
O have you seen the Shah?

For a-hunting we will go,
A-hunting we will go;
We'll catch a fox and put him in a box,
A-hunting we will go.

GAME: The children range themselves in double rank at one end of the room or playground, and march down to the other end hand in hand. At the bottom they loose hands and divide, the first rank turning right, the second left, and march back in two single files to the other end again, where they re-form as at first, and repeat their manoeuvre, singing the verses alternately.

(001) A-Hunting We Will Go⁽⁰¹⁾
 (Wilman, 1915, p. 55)

B

And never let him go.

And if he's in, he's in,
 And if he's out, he's out;
 But when we've got him fairly in,
 We'll never let him out.

GAME: The players form up in two lines, as though going to march. Each pair join hands, and one player is in front, being known as the "Fox". The Fox begins to run, and is pursued by the other players, who keep step to the music, and sing. When the Fox is caught, the players form a ring, and put him inside. The singing continues, and the Fox endeavours to escape from the "box" by passing beneath the arms of the players. To prevent him doing so, the ring closes up towards this point. When the Fox manages to escape, he may choose the next Fox, and the play recommences.

(001) A-Hunting We Will Go (01)

(Kerr, n.d. p. 3)

C

And a - hunting we will go,

And a - hunting we will go,

We'll catch a little fox and we'll put him in a box,

And a - hunting we will go.

GAME: One boy is in the centre, to represent the Miller, children dance around in couples, the boys to the inside, and sing "The Jolly Miller" (below). Then boys and girls move in opposite directions until the finish of the verse, at which point the "grab" for partners takes place.

There was a Jolly Miller and he lived by himself,

As the wheel went round he made his wealth,

With one hand on the hopper and the other on his bag,

As the wheel went round he made his grab.

(001) A-Hunting We Will Go (02)

(Fowke, 1969, p. 36)

A

A - hunting we will go!

A - hunting we will go!

We'll catch a little fox and put him in a box,

And ne - ver let him go.

GAME: Children march across the room in pairs, separating at the end, one line going right and the other left, back to the other end where they meet and march down the centre together again.

(002) Babbity Bowster (01)

(Gomme I, 1894(b),
p. 9)

A

My minnie learned me to dance,
Me to dance, me to dance;
My minnie learned me to dance
Babbity Bowster brawly.

Wha ga'e you the keys to keep,
Keys to keep, keys to keep?
Wha ga'e you the keys to keep,
Babbity Bowster brawly?

My minnie ga'e me the keys to keep,
Keys to keep, keys to keep;
My minnie ga'e me the keys to keep,
Babbity Bowster brawly.

One, twa, three, B, ba, Babbity,
Babbity Bowster neatly;
Kneel down, kiss the ground,
An' kiss your bonnie lassie (or laddie).

GAME: The dance took place at the end of a country ball. The lads all sat on one side and the girls on the other. It began with a boy taking a handkerchief and dancing before the girls, singing the first verse. Selecting one of the girls, he threw the handkerchief into her lap, or put it round her neck, holding both ends himself. Some spread the handkerchief on the floor at the feet of the girl. The object in either case was to secure a kiss, which, however, was not given without a struggle, the girls cheering their companion at every unsuccessful attempt which the boy made. The girl then took

the handkerchief, singing the next verse and having thrown the handkerchief to one of the boys, she went off to her own side among the girls, and was pursued by the chosen boy. When all were thus paired, they formed into line, facing each other, and danced somewhat like the country dance of Sir Roger.

COMMENT: "To bab", in Lowland Scottish, means "to play backward and forward loosely; to dance. Bab at the bowster, or Bab wi' the bowster, a very old Scottish dance, is now almost out of use." It was formerly the last dance at weddings and merry-makings. A bolster or pillow was at one time always used, but now it is danced with a handkerchief. "Minnie" is "Mother".

(002) Babity Bowster (02)

(Kidson, 1916,
pp. 20-21)

A

Wha learned ye tae dance,
Ye tae dance, ye tae dance?
Wha learned ye tae dance,
Ba-bi-ty Bow - ster braw — ly?

GAME: The children join hands in a circle and move round, while one of their number dances in the centre with a cushion in his or her hand.

Children in circle sing first verse:

Child in centre sings: Mither learned me tae dance,
Me tae dance, me tae dance,
Mither learned me tae dance,
Babity Bowster brawly.

Children in circle sing: Kneel down, kiss the crown,
Kiss the crown, kiss the crown,
Kneel down, kiss the crown,
Kiss a bonnie wee {lassie}
 {laddie}

Child in centre sings: I would-na' ha'e a {lassie} 0,
 {laddie}
A {lassie} 0, a {lassie} 0,
 {laddie}
I would-na' ha'e a {lassie} 0,
 {laddie}
I'd rather ha'e a wee {laddie}
 lassie .

The child in the centre lays the cushion on the ground in front of the boy or girl chosen and both children kneel on it and kiss each other. The second child then goes into the centre with the cushion.

(002) Bee-Ba-Babity or Bab at the Bowster (02)

(Kerr, n.d.
p. 4)

B

Kneel down, kiss the ground,
 Kiss the ground, kiss the ground,
 Kneel down, kiss the ground,
 Kiss a bonny wee {lassie}
 {laddie}.

I wouldna ha'e a {laddie}
 {lassie} Oh,
 A {laddie} oh, a {laddie} Oh,
 {lassie} {lassie}
 I wouldna ha'e a {laddie} Oh,
 {lassie}
 I'd rather ha'e a wee {lassie}
 {laddie} .

GAME: In this familiar old Scottish singing game, players join hands and dance in a ring around one of their number. At the words, "Kneel down, kiss the ground," the player in the centre kneels until the conclusion of the song, when he or she spreads a handkerchief in front of the partner chosen, on which they both kneel and kiss. The game then goes on with the new player occupying the centre of the circle.

(002) Babbity Bowster (02)

(Moffat, 1933, p. 13)

C

Who learned you to dance,

Bab-bi-ty Bow-ster, Bab-bi-ty Bow - ster,

Who learned you to dance,

Bab-bi-ty Bow-ster Braw — ly.

My minnie learned me to dance,
 Babbity Bowster, Babbity Bowster,
 My minnie learned me to dance,
 Babbity Bowster brawly.

Who gi'ed you the keys to keep,
 Babbity Bowster, Babbity Bowster,
 Who gi'ed you the keys to keep,
 Babbity Bowster brawly.

My minnie gi'ed me the keys to keep,
 Babbity Bowster, Babbity Bowster,
 My minnie gi'ed me the keys to keep,
 Babbity Bowster brawly.

GAME: As previous

(003) Bingo (01)

(Gomme I, 1894(b), pp. 31-32)

A

There was a farmer had a dog, His name was Bobby Bin - go.

B - i - n - g - o, B - i - n - g - o,

B - i - n - g - o, His name was Bobby Bin - go.

GAME: One child represents the Farmer. The rest of the children stand round in a circle, with the Farmer in the centre. All dance round and sing the verses. When they come to the spelling part they stop, the one in the middle points to five of the others in turn, who have to say the letters forming "Bingo", while the one to whom the O comes has to sing it on the note on which the others left off. Anyone who says the wrong letter, or fails to sing the O right, takes the place of the middle one.

Comment: Gomme prints eight different text versions; the games are all similar to the above. In one only, the children clap while the letters are being spelled, turn around at the last line, join hands and begin again. Of the 5 tunes given by Gomme, two are similar to the above, one is a variant of "Yankee Doodle", and the last is a fragment of the "Mulberry Bush" tune. Gomme and the Opies (1969) refer to a version, collected by Rimbault (1846) from oral tradition, a "primitive ballad", called "Little Bingo". It is reprinted below (p. although not encoded for analysis purposes. One of Gomme's versions includes additional verses, as Rimbault's 2nd and 3rd verses, another contains the second verse only. Rimbault's tune is not similar to any recorded by Gomme, although "there is a certain similarity", (Gomme I, 1894, p. 33; Opie and Opie 1969, p. 155).

(003) Bingo (01)

B

(MacBain, 1932,
p. 29)

There was a farmer had a dog, And Bingo is his name O.

B I N G O, B I N G O,

B I N G O, And Bingo is his name O.

GAME: The children dance around in a circle with a child in the centre. When the letters are spelled, the child in the centre sings the first B, then points to a child for I, then continues pointing to the left until all the letters are spelled. The last child goes into the centre and the game begins again.

(003) Bingo (01)

(Kerr, n.d., p. 24)

C

The farmer's dog's at our back door, And Bingo is his name O.

B I N G O B I N G O

B I N G O, And Bingo is his name O.

GAME: As MacBain, above

(003) Bingo (01)

(Wilman, 1915, p. 8)

D

Melody the same as Kerr (C)

Text: There was a farmer had a dog
 His name was Bobby Bingo.
 BINGO, BINGO, BINGO,
 His name was Bobby Bingo.

(003) Bingo (01)

(Kidson, 1916, p. 111)

E

GAME: The children join hands in a ring and dance round from left to right singing. One of their number, the "Schoolmaster" stands in the centre. When the spelling of the name Bingo begins, he says the first B, then points to one of the children who must sing the I. N, G, O, are sung in succession by the children to the left of this one, the Schoolmaster always pointing to the child who is to sing the required letter. He who sings the last O of the three times spelled name becomes the Schoolmaster.

ALL	The farmer's dog's at our back door
	And Bingo is his name O
SCHOOLMASTER, B,	
FIRST CHILD	I,
SECOND ..	N,
THIRD ..	G,
FOURTH ..	O,
FIFTH ..	B,
SIXTH ..	I,
SEVENTH ..	N,
EIGHTH ..	G,
NINTH ..	O,
TENTH ..	B,
ELEVENTH ..	I,
TWELFTH ..	N,
THIRTEENTH	G,
FOURTEENTH	O.
ALL	And Bingo is his name O.

(003) Bingo (01)

(Fowke, 1969, p. 91)

F

Farmer Brown, he had a dog, And Bingo was his name.

B I N G O, B I N G O,

B I N G O, And Bingo was his name, sir.

GAME: Repeat the song, replacing each letter, consecutively, by a clap, beginning with O:

Farmer Brown, he had a dog,
 And Bingo was his name.
 B-I-N-G (*clap*), B-I-N-G (*clap*), B-I-N-G (*clap*),
 And Bingo was his name, sir.

COMMENT: Although collected as a clapping game, Fowke says this was formerly a singing game. (p. 153)

Little Bingo

(Rimbault, 1846, pp. 62-63)

(not encoded)

A far-mer's dog leap'd o-ver the stile,

His name was lit - tle Bin - go:

There was B with an I, I with an N,

N with a G, G with an O,

There was B I N G O,

and his name was lit - tle Bin - go.

The farmer loved a cup of good ale,
 And called it very good STINGO:
 There was S with a T,
 T with an I, &c.

The farmer loved a pretty young lass,
 And gave her a wedding RING-O:
 There was R with an I,
 I with an N, &c.

Now is not this a nice little song?
 I think it is, by JINGO:
 Here is J with an I,
 I with an N, &c.

COMMENT: The Opies refer to an old folk-song with this text, sung at the Theatre Royal c. 1780. (Opie and Opie, 1969, p. 155)

(004) Bluebird Bluebird (01)
(Creighton, MS 83-10)

A

Blue-bird, blue-bird, through my win - dow.

Blue-bird, blue-bird, through my win - dow,

Oh, John-ny, I am tir - ed.

The image shows three staves of musical notation in G major (one sharp) and 2/4 time. The first two staves are identical and represent the first and second verses. The third staff is the final line of the song. The lyrics are written below each staff.

Take a little girl and tap her on the shoulder,
Take a little girl and tap her on the shoulder,
Oh, Johnny, I am tired.

GAME: During the first verse, children stand in a circle, hands joined and raised to form arches for a window. A child goes in and out around the circle during the singing of the first verse. Then the child chooses someone and taps her on the shoulder while the other children clap to the singing of the second verse. The game continues with two bluebirds going in and out until all have been chosen.

(004) Bluebird Bluebird (01)

(Creighton, MS 30-6)

B

Blue-bird, blue-bird, through my win - dow,
Blue-bird, blue-bird, through my win - dow,
Oh, John-ny, I'm tir - ed.

The musical score consists of three staves of music in a single system. The first two staves are identical and each contains the lyrics 'Blue-bird, blue-bird, through my win - dow,'. The third staff contains the lyrics 'Oh, John-ny, I'm tir - ed.' and ends with a double bar line. The music is written in a simple, folk-like style with a key signature of one flat and a 2/4 time signature.

Take a pretty girl and tap her on the shoulder,
Take a pretty girl and tap her on the shoulder,
Oh, Johnny I'm tired.

Bluebird, bluebird, through my window,
Bluebird, bluebird, through my window,
Oh, Johnny, I'm tired.

GAME: As previous

(004) Bluebird Bluebird (02)

(Creighton, L.C. 150A)

A

Blue-bird, blue-bird, through my win - dow,

Blue-bird, blue-bird, through my win - dow,

Blue-bird, blue-bird, through my win - dow,

Oh, Johnny, I am ti — red.

Take a pretty girl, tap her on the shoulder,
 Take a pretty girl, tap her on the shoulder,
 Take a pretty girl, tap her on the shoulder,
 Oh, Johnny, I am tired.

Bluebird, bluebird, through my window,
 Bluebird, bluebird, through my window,
 Bluebird, bluebird, through my window,
 Oh, Johnny, I am tired.

GAME: As previous

(004) Bluebird, Bluebird (02)

(Creighton, MS 10-10)

B

Blue-bird, blue-bird, through my win - dow.

Blue-bird, blue-bird, through my win - dow.

Blue-bird, blue-bird, through my win - dow.

Oh, John-ny, I'm ti — red.

The musical score consists of four staves of music in 2/4 time, key of G major. The melody is simple and repetitive, with lyrics written below each staff. The first three staves are identical, and the fourth staff ends with a double bar line.

Take a little girl and tap her on the shoulder,
 Take a little girl and tap her on the shoulder,
 Take a little girl and tap her on the shoulder,
 Oh, Johnny, I'm tired.

GAME: As previous

(004) Bluebird, Bluebird (02)

(Fowke, 1969, p. 24)

C

Blue-bird, blue-bird, through my win - dow,

Blue-bird, blue-bird, through my win - dow,

Blue-bird, blue-bird, through my win - dow:

Oh, John-ny, I am ti — red!

Take a little girl and tap her on the shoulder,
 Take a little girl and tap her on the shoulder,
 Take a little girl, and tap her on the shoulder:
 Oh, Johnny, I am tired!

Bluebird, bluebird, through my window,
 Bluebird, bluebird, through my window,
 Bluebird, bluebird, through my window:
 Oh, Johnny, I am tired!

GAME: Children form a ring with hands clasped and raised over their heads. One child walks around the ring on the outside and enters under a pair of arched arms. She chooses another who follows her out of the ring and then takes her place.

(005) Charley Over The Water (01)
(Crane, 1878, p. 43)

A

O-ver the water and o-ver the lea,
And o-ver the water to Char - ley;
And Char - ley loves good ale and wine,
And Char - ley loves good bran - dy,
And Char - ley loves a pret - ty girl
As sweet as su - gar can - dy.

Over the water and over the sea
And over the water to Charley;
I'll have none of your nasty beef,
Nor I'll have none of your barley,
But I'll have some of your very best flour
To make a white cake for my Charley.

COMMENT: The three variants of this song are all different from each other. This variant is a parody of a Jacobite ditty of 1748 (Opie & Opie, 1969, p. 116).

(005) Weevily Wheat (02)

(Old Songs, 1902,
pp. 14-15)

A

The musical notation is written on four staves in G major (one sharp) and 6/8 time. The melody is simple and folk-like, with lyrics written below each staff. The first staff begins with a treble clef and a key signature of one sharp (F#). The notes are: G4, A4, B4, A4, G4, F#4, E4, D4. The second staff continues: C4, B3, A3, G3, F#3, E3, D3. The third staff continues: C3, B2, A2, G2, F#2, E2, D2. The fourth staff continues: C2, B1, A1, G1, F#1, E1, D1. The lyrics are: 'I won't have none of your wee - vi - ly wheat, I won't have none of your bar — ley; I must have some of your best of wheat To bake a cake for Char — ley.'

I won't have none of your wee - vi - ly wheat,

I won't have none of your bar — ley;

I must have some of your best of wheat

To bake a cake for Char — ley.

O, Charley he's a nice young man!
O, Charley he's a dandy!
And Charley likes to kiss the girls
Whenever it comes handy.

GAME: Danced with the figures of a Virginia Reel.

(005) Johnny Over The Water (03)
 (Creighton, MS 10-11)
 A

COMMENT: The Opies (p. 116) give this formula (with Charley) for a game of catch. Newell (1883, p. 171) describes a ring game, in which the melody is sung on one note, with a shriek to conclude. In Fowke's variant, only the words are recorded. She says it is now used for tag.

(Fowke, 1969, p. 14)

Charley on the water,
 Charley on the sea,
 Charley catch the catbird,
 But can't catch me.

(006) Dame Get Up And Bake Your Pies (01)

(Crane, 1877, p. 30;
Moorat, 1917, p. 30;
MacBain, 1932, p. 22)

A

(Xmas Day in Ye Morning)

The musical notation is written on four staves in G major (one sharp) and 6/8 time. The melody is simple and folk-like. The lyrics are written below the notes.

Dame, get up and bake your pies,
Bake your pies, bake your pies;
Dame, get up and bake your pies,
On Christ - mas - day in the mor - ning.

2. Dame, what makes your maidens lie,
Maidens lie, maidens lie?
Dame, what makes your maidens lie,
On Christmas-day in the morning?
3. Dame, what makes your ducks to die,
Ducks to die, ducks to die?
Dame, what makes your ducks to die,
On Christmas-day in the morning?
4. Their wings are cut, they cannot fly.
Cannot fly, cannot fly;
Their wings are cut, they cannot fly,
On Christmas-day in the morning.

COMMENT: All these variants agree with the text in Opie and Opie (pp. 141-42). The following three variants contain the same verses, with only slight variation in the melody, which alone is reproduced below. No method of play is suggested for any of these, but Kidson's variant describes a game of forfeit. All the variants are thus included for comparative purposes.

(006) Dame Get Up And Bake Your Pies (01)
(Sommerville, 1929)

B

Dame, get up and bake your pies,
Bake your pies, bake your pies.
Dame, get up and bake your pies,
On Christ-mas-day in the mor-ning.

C

(Linley, 1860, p. 12)

Dame, get up and bake your pies,
Bake your pies, bake your pies.
Dame, get up and bake your pies,
On Christ-mas-day in the mor-ning.

(006) Dame Get Up And Bake Your Pies (01)

(Moffat, 1912)

D

The musical score is written on four staves in G major (one sharp) and 6/8 time. The melody is simple and repetitive, with lyrics written below each staff. The first staff contains the lyrics 'Dame, get up and bake your pies'. The second staff contains 'Bake your pies, bake your pies.' with a repeat sign at the end. The third staff contains 'Dame, get up and bake your pies'. The fourth staff contains 'On Christ-mas-day in the mor — ning.' with a long dash under 'mor'.

Dame, get up and bake your pies

Bake your pies, bake your pies.

Dame, get up and bake your pies

On Christ-mas-day in the mor — ning.

(006) The Christmas Pudding (01)

(Kidson, 1916, p. 66)

E

Christ - mas comes but once a year,
So Dame get up and bake your pies,

And when it comes it brings good cheer,
Bake your pies, bake your pies,

It brings us puddings, it brings us pies,
So Dame, get up and bake your pies,

It brings us ev — ery thing that's nice.
On Christ - mas day in the mor — ning.

Here we're making the plum pudding,
And stirring it merrily while we sing,
And every one shall have a slice
It's better than suet, or even rice.
So Dame get up and bake your pies,
Bake your pies, bake your pies,
So Dame get up and bake your pies
On Christmas day in the morning.

GAME: The children agree each to represent a component part of the plum pudding. One is raisins, one sugar, one flour and so on. All this is arranged without the knowledge of the "Cook" (otherwise the "Dame"). The children join hands in a ring and sing the two verses, finally making a general crowd or group. The Cook threads in and out of this, pushing one here and one there and by this mixes, or stirs the pudding. She now stops and proclaims that there is too much "salt" or suet or flour, or any other material in it. If the cook names an article which is unrepresented she pays a forfeit and is deposed, the game beginning again with a fresh "Dame".

COMMENT: Kidson comments that the melody is a version of the 16th century tune "Greensleeves", as are the other variants. The Opies also make reference to this (p. 143).

(007) Dinah (01)

(Gomme I, 1894(b), p. 97)

A

No one in the house but Din - ah, Din - ah,

No one in the house I know, I know;

No one in the house but Din - ah, Din - ah,

Playing on the old ban - jo.

GAME: A ring is formed, and a girl stands blindfolded inside. As the verse is sung and finished, Dinah goes to any one in the ring, and, if successful in guessing her name, takes her place, the other taking the place of Dinah, the game going on as before.

COMMENT: Gomme says that "Dinah" was a Christy Minstrel song in the "fifties". The game resembles "Buff" and "Muffin Man".

(008) Doctor Faustus (01)

(Linley, 1860, p. 15)

A

(Doctor Faustus Was A Good Man)

Doc - tor Faustus was a good man,

He whipt his scholars now and then;

When he whipp'd then he made them dance

Out of Scot-land in - to France.

Out of France in - to Spain,

And then he whipp'd them back a - gain.

COMMENT: The Opies remark that the earliest recording found is a variant of the text used for a counting out rhyme, from 1795. The original rhyming ending to the second line, "than", now occurs only in dialect. (1969, p. 168)

(008) Doctor Faustus (01)

(Kidson, 1916, p. 70)

B

(Doctor Switchem)

Doc-tor Swit-chem is a good man,

He whips his scho - lars now and then.

When he whips, he makes them dance,

Out of Eng - land in - to France,

Out of France, in - to Spain,

Then he whips them back a - gain.

GAME: Dr. Switchem's school is formed by a group of children, joining hands in ring form. The Doctor stands in the middle, armed with a few twigs to give the idea of an old fashioned birch rod, while one of his scholars stands outside the circle. The ring goes round, all singing. After the verse has been sung twice, Dr. Switchem breaks through the ring, and chases the scholar round and through it. The ring meanwhile sings the verse several times over. At the end of each repetition, the Doctor must be within the ring and the scholar without, under the penalty of a forfeit. The scholar may at the end of any repetition of the verse, quickly change places with any child in the ring, and the game goes on until all the scholars have been chased.

(008) Doctor Faustus (01)

(Crane, 1877, p. 46)

C

Doc-tor Faus-tus was a good man,
He whipped his scho-lars now and then;
When he whipped he made them dance
Out of Eng-land in - to France;
Out of France, in - to Spain,
And then he whipped them back a - gain.

(021) Jenny Jones (01)
(Kidson, 1916, pp. 2-3)

A

The musical notation is written on four staves in G major (one sharp) and 2/4 time. The melody is simple and repetitive. The lyrics are written below the staves.

We've come to see poor Jenny Jones ,
poor Jen-ny Jones, poor Jenny Jones ,
We've come to see poor Jenny Jones ,
And how is she to - day ?

GAME: Two children represent Jenny Jones and her Mother. The others join hands and form a line. The Mother faces them at some little distance, while Jenny kneels behind her and hides her face in her Mother's frock. During the singing of the first three lines of the first verse, the children in line advance, retire, and advance again. After the fourth line they stand still and let go hands.

Mother sings (suiting actions to words.):—

Poor Jenny is a-washing,
A-washing, a-washing,
Poor Jenny is a-washing,
She can't see you to-day.

Children in line turn their backs on the Mother and dance away from her while they and she sing:—

So fare ye well my ladies,
My ladies, my ladies,
So fare ye well my ladies,
And gentlemen too.

These three verses are repeated seven times, the Mother varying her answers as follows:-

2. Poor Jenny is a-drying, etc.	}	suited
actions to
words
3. Poor Jenny, she is starching, etc.		
4. Poor Jenny, she is ironing, etc.		
5. Poor Jenny, she is folding,
Is folding, is folding,
Poor Jenny, she is folding,
And putting away.		
6. Poor Jenny, she is ailing, etc.		
7. Poor Jenny is a-dying, etc.		(shaking head
sadly)
8. Poor Jenny, she is dead, etc.		(sobbing)

At this announcement, Jenny falls down on the ground, where she lies on her back with closed eyes and hands crossed on her breast. The Mother kneels beside her weeping, while the other children range themselves in a circle round the two, singing mournfully:-

So fare ye well, my ladies, etc.

The children kneel and sing:-

What shall we dress poor Jenny in,
Poor Jenny in, poor Jenny in?
What shall we dress poor Jenny in,
In red or in blue?

O red is what the soldiers wear,
The soldiers wear, the soldiers wear,
And blue is what the sailors wear,
So that will not do.

What shall we dress poor Jenny in, etc.
In green or in grey?

O green is what the fairies wear,
The fairies wear, the fairies wear,
And grey is what the people wear
So that will not do.

What shall we dress poor Jenny in, etc.
In pink or in black?

O pink is what the babies wear,
The babies wear, the babies wear,
And black is what the mourners wear,
So that will not do.

What shall we dress poor Jenny in, etc.
In purest of white?

O white is what the angels wear,
The angels wear, the angels wear,
O white is what the angels wear,
And so that will do.

The children now form a procession headed by the Mother. Two children carry Jenny and the others walk behind two and two. When they have gone a few steps, the two children carrying Jenny suddenly lay her on the ground crying "Jenny Jones is alive again". The children all run away and Jenny jumps up and pursues them. The first or last to be caught (as agreed upon) becomes Jenny while the former Jenny takes the place of the Mother.

(021) Jenny Jones (01)

B

(Gomme I, 1894(a),
(pp. 23-27))

We've come to see poor Jenny Jones ,

Jenny Jones , Jenny Jones ,

We've come to see poor Jenny Jones ,

How is she now?

2. Oh, Jenny is washing,
washing, washing,
Oh, Jenny is washing,
You can't see her now.
3. We've come to see poor Jenny Jones,
Jenny Jones, Jenny Jones,
We've come to see poor Jenny Jones,
How is she now?
4. Oh, Jenny is starching
6. Oh, Jenny is ironing
8. Oh, Jenny is ill
10. Oh, Jenny is dying
12. Oh, Jenny is dead.

GAME: Several children can play at this game. A small number is as well, or better, than a larger.

Two children stand on one side; one personates the Mother, who stands still and holds out the skirts of her dress with both hands; the other personates Jenny Jones, and kneels or stoops down in a crouching attitude behind her companion's extended dress. The other players form a line by joining hands. They sing the first, third and every alternate verse, advancing and retiring in line while doing so. The Mother sings the answers to their questions (second, fourth and alternate verses), standing still and hiding Jenny Jones all the time from view. When all the verses but the last one are sung, Jenny lies down as if dead, the Mother stands aside, and two of the other players then take up Jenny Jones, one by the shoulders and the other by the feet, and carry her a little distance off, where they lay her on the ground. They then straighten her dress, place her arms by her sides, or across her breast, she lying still and closing her eyes. All the players follow, generally two by two, with their handkerchiefs at their eyes and their heads lowered, as if in grief. Then they form a circle, join hands, and stand round the prostrate Jenny Jones, the Mother at her head, and then sing with their heads lowered, and in slow, mournful tones, the last verse. The game then begins again, with two other children as Mother and Jenny Jones, the former two joining the line.

COMMENT: Of the 17 text variants printed (Gomme I, 1894(b), pp. 260-77), almost all are sung to the melody printed above. The variations occur as are represented in the Kidson (A) and Gomme (B) variants. One difference is in the method of play which has influenced the text. Gomme believes the older form of play was line-by-line action, and that of a lover wooing, probably of Scottish origin. The verse "Fare ye well ladies", or as in the English variant, "Very well, ladies", is a remnant of the earlier custom. The Scottish versions make the opening incident that of a lover coming to the house of a loved one, then proceed to the domestic occupation, and finally to the death incident. In the English versions it is the idea of village friends coming to call on a favourite companion, and subsequently attending her funeral. The more modern method of play is mother-and-line action, as in these two variants. The restoration of the dead occurs in either Scottish or English versions.

The colors mentioned are significant: in some variants, the colors are for the mourners, in which case, black is acceptable; in other variants, the colors are for Jenny, and white is the most suitable. The four colors used in most of Gomme's versions are red, blue, white, and black.

(021) Jenny Jones (02)

(Kerr, n.d. p. 28)

A

(I've Come To See Georgina)

GAME: With the tallest girl as the Mother in centre, players range themselves in line on either side of her, leaving two of their number - a girl and a boy, usually - to play the parts of Georgina and the Caller. The former hides behind the line of players during the first part of the game, while the latter advances and retires before them as he sings; and the replies are sung in this part by the Mother alone. As the Caller concludes the third, sixth, and ninth verses, he retires a little further than usual, to resume as before with the singing of the verses following.

1. (First Caller)
 I've come to see Georgina,
 Georgina, Georgina,
 I've come to see Georgina,
 And how is she to-day?
2. (Mother)
 She's up the stair washing,
 Washing, washing,
 She's up the stair washing,
 And you can't see her to-day.
3. (First Caller)
 Oh very well ladies
 Ladies, ladies.
 Oh very well ladies
 I'll call another day.

4. (First Caller)
I've come to see Georgina,
5. (Mother)
She's up the stair ironing,
6. (First Caller)
Oh very well ladies,
7. (First Caller)
I've come to see Georgina,
8. (Mother)
The iron fell on her big toe,
9. (First Caller)
Oh very well ladies,
10. (First Caller)
I've come to see Georgina,
11. (Mother)
She's up the stair dead Sir,

After verse 11 has been sung by the Mother, Georgina is brought to the front of the line of players, and the music changes to 3/4 time. The Caller now begins again at verse 12, the replies being sung in alternate verses by the Mother and the others together.

12. (First Caller)

Oh what shall we dress her in,

Dress her in, dress her in?

What shall we dress her in,

Shall it be red?

13. (Mother and Others)

Oh red's for the soldiers,
The soldiers, the soldiers,
Oh red's for the soldiers,
And that will not do.

14. Oh what shall we dress her in, etc.
Shall it be blue.

15. Oh blue's for the sailors, etc.
And that will not do.

16. Oh what shall we dress her in, etc.
Shall it be black.

17. Oh black's for the mourners, etc.
And that will not do.

18. Oh what shall we dress her in, etc.
Shall it be white.

19. Oh white's for the angels (or dead-folk), etc.
An that will do.

COMMENT: This is a variation of the Scottish method of play described by Gomme (I, 1894(b), p. 279). It includes the "Oh very well ladies" verse, usually found in versions of the "wooing" type, but also includes the burial. The melody of both sections is a variant of "Did you ever see a Lassie". The change in the melodies, from duple to triple metre, is a possible influence from the dance.

(021) Jenny Jones (03)
(Plunket, 1886, pp. 24-25)

A

(Jinny Jo)

GAME: One child as the Mother, hides Jinny Jo's face from the suitors, who advance and sing the first verse.

The Mother, still hiding Jinny Jo's face, sings in answer:-

She's upstairs washing clothes,
Washing clothes, Washing clothes,
She's upstairs washing clothes,
All the day long.

The Suitors listen attentively, and then retire, singing:-

Then fare you well, ladies all,
Ladies all, Ladies all;
Then fare you well, ladies all,
I'll call again.

They pause for a moment and then advance singing:-

I've come to court Jinny Jo,
Jinny Jo, Jinny Jo;
I've come to court Jinny Jo,
Is she at home?

Mother: She's upstairs baking bread, &c.
 All the day long.

Suitors retire and advance, singing as before.

Mother: She's upstairs sick in bed, &c.
 All the day long.

Suitors retire and advance, singing as before.

Mother: Oh! poor Jinny Jo, &c.
 Jinny Jo's dead.

Suitors: Then fare you well, ladies all, &c.
 Never, O never will I call again.

At the end of this verse Jinny Jo jumps up and runs after the
Suitors. The one she catches must act as Jinny Jo.

COMMENT: The structure of the verse is similar to the earlier
Scottish form of wooing game, but in this variant, the mother is
against the line. There is no burial here, but Jinny Jo does come
back to life. This exact rendering of the verses, with the revival
of Jinny Jo, is also mentioned by Gomme as common to the Scottish
versions. (I, 1894(b), p. 282)

(021) Jenny Jones (03)

(Fowke, 1969, p. 32)

B

(Jinny Jo)

GAME: Two children representing Jinny Jo and her mother stand still while the rest form a single line that advances and retreats, singing the verses in dialogue with the mother.

Come to see Jinny Jo, Jinny Jo, Jinny Jo.
Come to see Jinny Jo. Is she within?

Jinny Jo's ironing clothes, ironing clothes, ironing clothes.
Jinny Jo's ironing clothes. Can't see her today.

REFRAIN:-

Come to see Jinny Jo, Jinny Jo, Jinny Jo.
Come to see Jinny Jo. Is she within?

Jinny Jo's dead and gone, dead and gone, dead and gone.
Jinny Jo's dead and gone. Can't see her today.

REFRAIN

What shall we dress her in, dress her in, dress her in?
What shall we dress her in? Shall it be red?

Red is for soldiers, the soldiers, the soldiers.
Red is for the soldiers, so that will not do.

REFRAIN

What shall we dress her in, dress her in, dress her in?
What shall we dress her in? Shall it be blue?

Blue is for the sailors, the sailors, the sailors.
Blue is for the sailors, so that will not do.

REFRAIN

What shall we dress her in, dress her in, dress her in?
What shall we dress her in? Shall it be black?

Black is for the mourners, the mourners, the mourners.
Black is for the mourners, so that will just do.

REFRAIN

COMMENT: This is the more modern method of play, although retaining the "Fare you well ladies" verse. The activities are shortened, and the colors for mourners, black, "will just do" for Jinny Jo. The tune is a variant of "A" version.

(021) Jenny Jones (04)

(Wilman, 1915, pp. 29-30)

A

(Jenny John)

GAME: One player acts the part of the "Mother", and standing in a corner, hides a second player, called Jenny John, behind her. The other players then approach and sing:

Visitors: We've come to see Jenny John
Jenny John, Jenny John,
Come to see Jenny John,
How does she do?

Mother: Oh, Jenny John's washing
She's washing, she's washing,
Oh, Jenny John's washing,
You can't see her now.

Visitors (departing):
We'll see her to-morrow,
To-morrow, to-morrow,
We'll see her to-morrow,
If that will suit you.

Visitors (approaching again):
We've come to see Jenny John,
etc.

Mother: Oh, Jenny John's ironing,
She's ironing, etc.

Visitors (departing):
We'll see her to-morrow, etc.

Visitors (approaching again):
We've come to see Jenny John,
etc.

Mother: Oh, Jenny John's burnt herself,
etc.

Visitors (departing):
We'll see her to-morrow, etc.

Visitors (approaching again):
We've come to see Jenny John,
etc.

Mother: Oh, Jenny John's dying, etc.

Visitors (turning away and weeping):
We'll see her to-morrow, etc.

Visitors (approaching once more):
We've come to see Jenny John,
etc.

Mother: Oh, Jenny John's dead, etc.

Visitors: We'll come to her funeral,
Her funeral, her funeral,
We'll come to her funeral,
We can't see her now.

Visitors: What shall we dress her in,
Dress her in, dress her in?
What shall we dress her in?
We'll dress her in red.

Mother: Oh, red is for soldiers . . .
So that will not do.

Visitors: What shall we dress her in? . . .
We'll dress her in blue.

Mother: Oh, blue is for sailors . . .
So that will not do.

Visitors: What shall we dress her in? . . .
We'll dress her in black.

Mother: Oh, black is for mourning . . .
So that will not do.

Visitors: What shall we dress her in? . . .
We'll dress her in white.

Mother: Oh, white is for angels . . .
And that will just do.

Then six children carry Jenny John to a burial, while the others follow weeping. Then Jenny John is laid down, and, after a slight pause, suddenly starts up and endeavours to catch another player, who must then become Jenny John, the game being repeated from the beginning.

COMMENT: This variant is similar in method of play to Kidson's, although some of the activities are different. "Fare thee well, Ladies" is changed here to "We'll see her tomorrow". The melody of this variant is similar to the second tune in Gomme (I, 1894(b), p. 260). Both are possibly very simplified variants of the "Did you ever see a Lassie?" tune.

(025) London Bridge (01)

(Gomme I, 1894(b), p. 333)

A

Build it up with iron bars,
 Iron bars, iron bars,
 Build it up with iron bars,
 My fair lady.

(Then follow verses with the same refrain, beginning with -)

Build it up with pins and needles.
 Pins and needles rust and bend.
 Build it up with penny loaves.
 Penny loaves will tumble down.
 Here's a prisoner I have got.
 What's the prisoner done to you?
 Stole my watch and broke my chain.
 What will you take to let him out?
 Ten hundred pounds will let him out.
 Ten hundred pounds we have not got.
 Then off to prison he must go.

GAME: Two children hold up their clasped hands to form an arch. The other children form a long line by holding to each other's dresses or waists, and run under. Those who are running under sing the first verse; the two who form the arch sing the second and alternate verses. At the words, "What has this poor prisoner done?" the girls who form the arch catch one of the line (generally the last one). When the last verse is sung the prisoner is taken a little distance away, and the game begins again.

COMMENT: This is the first of three tunes which Gomme prints; it is generally used in the English versions, and is the only one occurring in Canadian versions. The game is generally played like "Oranges and Lemons", only there is no "tug of war" at the end. The prisoner element is "unexplained by any appeal to modern life, ... is a real and not accidental part of the game". Gomme's lengthy discussion of the possible origins for the prisoner element (pp. 346-50), with some additional historical information in Opie and Opie (pp. 273-276), suggests that "prisoners" were sought to be buried alive in the foundation of the bridge. This ancient superstition has been very widespread throughout the world, and variants of this game are found in many European traditions. The introduction of "a man to watch" in some variants approaches, in Gomme's opinion, nearer to modern facts (p. 346), although as the Opies say, a man is set to watch in Tommy Thumb's 200 year old version. Here is the earliest known text, from Tommy Thumb's pretty song book, (c. 1744).

London Bridge
Is Broken down,
Dance over my Lady Lee.
London Bridge
Is Broken down
With a gay Lady.

How shall we build
It up again,
Dance over my Lady Lee, &c.

Build it up with
Gravel, and Stone;
Dance over my Lady Lee, &c.

Gravel, and Stone,
Will wash a away,
Dance over my Lady Lee, &c.

Build it up with
Iron, and Steel,
Dance over my Lady Lee, &c.

Iron and Steel,
Will bend and Bow,
Dance over my Lady Lee, &c.

Build it up with
Silver, and Gold,
Dance over my Lady Lee, &c.

Silver, and Gold
Will be stolen away,
Dance over my Lady Lee, &c.

Then we'll set
A man to Watch,
Dance over my Lady Lee.
Then we'll set
A man to Watch
With a gay Lady.

(Opie & Opie, 1969, p. 272-3)

The end verses of the Gomme variant, and the Kidson to follow, in which a prisoner stole a watch and chain and cannot pay a ransom, do not appear in 18th century versions. They are found in the game "Hark the Robbers" from which they have been attached to "London Bridge" (Opie and Opie, p. 275). The Canadian variants are only fragments, really, of the Gomme & Kidson variants. There is one other variant of Kidson's included here (06), which is quite different from all of these, and which demonstrates the transformations of a singing game occurring over time (c.f. p.

There are two other tunes which are printed in Gomme. A variant of the third is found in Creighton (02); and there are many variants of the second, in (03), which Gomme printed from Rimbault, and whose text is a variant of Tommy Thumb's (c.f. pp.

References to the dance "London Bridge" in Playford's The second book of the compleat dancing master (1719) and the Dancing master (1728), (Gomme I, 1878(b), p. 350; Opie & Opie, 1969, p. 272) do not indicate a similarity of the tune to the "tune normally associated with the words today". (Opie & Opie, p. 272). Plunket's is the only source in which a dance is mentioned in the instructions for the "Old Version" of "London Bridge". (c.f. p.

As the Opies have said, London Bridge "is one of the few (nursery rhymes), perhaps the only one, in which there is justification for suggesting that it preserves the memory of a dark and terrible rite of past times; and the literary history of the song does not frustrate the idea of its antiquity." There are references to the dance as early as 1659, and although no words are given in Playford's collections, "it is certain that the words were already sung. Indeed by

1725 they were already thought of as belonging to children" (1969, p. 272). With Rimbault one would agree that although it is "perhaps one of the most interesting of the old nursery ditties, ... searching out the history and origin of a ballad is like endeavouring to ascertain the source and flight of December snow" (1846, p. ix).

(025) London Bridge (01)

283

(Kidson, 1916)

B

(Broken Bridges)

Lon-don Bridge is bro - ken down,
Bro-ken down, bro - ken down,
Lon-don Bridge is , bro - ken down,
My fair La — dy.

2. Build it up with iron bars
3. Iron bars will rust away
4. Build it up with pins and needles
5. Pins and needles rust and bend
6. Build it up with penny loaves
7. Penny loaves will tumble down
8. Build it up with gold and silver
9. Gold and Silver I have not got
10. Here's a prisoner I have got,
11. What's the prisoner done to you?
12. Stole my watch and broke my chain.
13. What will you get to set him free?
14. One hundred pounds will set him free.
15. One hundred pounds we have not got.
16. Then off to prison you must go.

COMMENT: The Opies suggest that the building of the bridge of "silver and gold" is a "later" interpolation even as it appears in the Tommy Thumb version.

(025) London Bridge (01)

(Fowke, 1969, p. 30)

C

Lon-don Bridge is fall-ing down,

Fall-ing down,. fall-ing down.

Lon-don Bridge is fall-ing down,

My fair La - dy O.

London Bridge is half built up,
 Half built up, half built up.
 London Bridge is half built up,
 My fair lady O.

Get the keys and lock her up,
 Lock her up, lock her up.
 Get the keys and lock her up,
 My fair lady O.

London Bridge is all built up,
 All built up, all built up.
 London Bridge is all built up,
 My fair lady O.

Chop their heads off one by one,
 One by one, one by one.
 Chop their heads off one by one,
 My fair lady O.

GAME: Two children join hands and raise their arms to form an arch, under which the others march. At end they lower their arms to catch one child and ask her to choose between two things previously agreed upon by the leader (i.e., "Diamonds or pearls?"). When she chooses, she stands behind the leader representing that choice. This is repeated until all the children are lined up behind the leaders; then they have a tug of war.

(025) London Bridge (01)

(Creighton, MS 162B)

D

Lon - don Bridge is all broke down,

All broke down, all broke down,

Lon - don Bridge is all broke down

My fair la - dy.

Sung by an Adult:

1. London bridge is falling down,
Falling down, falling down,
London bridge is falling down
My fair lady.
2. Build it up with iron bars.
Iron bars, iron bars,
Build it up with iron bars
My fair lady.

Sung by her Grandchild:

1. London bridge is all broke down,
All broke down, all broke down,
London bridge is all broke down
My fair lady.
2. London bridge is half built up,
Half built up, half built up,
London bridge is half built up
My fair lady.
3. London bridge is all built up,
All built up, all built up,
London bridge is all built up
My fair lady.

(025) London Bridge (01)

(Creighton, MS 223B-5)

E

Lon-don Bridge is fall-ing down,
 Fall-ing down, fall-ing down.
 Lon-don Bridge is fall-ing down,
 Hi Oh, Ma - der - ri - o.
 Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday!

2. London Bridge is half built up.

3. London Bridge is all built up.

GAME: Repeat the days of the week letting the bridge fall on "Sunday". Then ask the one caught, "Oranges or Lemons". They go behind the bridge corresponding to their choice. The game ends in a tug of war.

(025) London Bridge (02)
 A (Creighton, MS 10-2)

2. London Bridge is all built up.

GAME: Tug of war at the end.

COMMENT: This is a variant of Gomme's third tune, which is in 6/8. This tune is the one normally sung to "Mulberry Bush". (Gomme I, 1894(b), p. 333) On tape, the melody sounds more like chant than singing.

(025) London Bridge (03)

(Rimbault, 1846, pp. 34-37)

A

(London Bridge is Broken Down)

Lon-don Bridge is bro-ken down ;

Dance .o-ver my La - dye Lea ;

Lon - don Bridge is bro - ken down

With a gay la — dye.

2. How shall we build it up again?
3. What shall we built it up withal?
4. Build it up with iron and steel.
5. Iron and steel will bend and bow.
6. Build it up with wood and clay.
7. Wood and clay will wash away.
8. Build it up with silver and gold.
9. Silver and gold will be stolen away.
10. Then we must set a man to watch.
11. Suppose the man should fall asleep.
12. Then we must put a pipe in his mouth.
13. Suppose the pipe should fall and break.
14. Then we must set a dog to watch.
15. Suppose the dog should run away.
16. Then we must chain him to a post.

17. Build it up with stone so strong;
 Dance over my Ladye Lea;
 Huzza! 'twill last for ages long,
 With a gay ladye.

COMMENT: Rimbault, in the introduction to his collection, speculates about the history and origin of this song. He says it was printed as early as c. 1784, in Ritson's Gammer gurton's garland, and in Halliwell's Nursery rhymes of England (from 1842), but "both copies are very imperfect". There were also some fragments from "magazines" from 1823: from these Rimbault made up the version printed, from "an account of the ballad having been heard sung by a woman born during the reign of Charles II, and who lived till the end of that of George II" (ca. 1685 - 1760). (Rimbault, 1846, IX-X; Gomme I, 1894(b), p. 348-49; Opie and Opie, 1969, p. 273) The first ten verses are similar to Tommy Thumb's, although thereafter the variations on the watchman are quite elaborate in Rimbault.

The following variants are similar to each other, and seem to be based on Rimbault's, or the Tommy Thumb version of the text, except no man is set to watch, and the last verse is as Rimbault's. MacBain (1932, p. 33) also contains Rimbault's variant, and is not printed here. It is interesting that none of the text variants of this melody contain reference to a prisoner.

(025) London Bridge (03)

(Crane, 1878, p. 42)

B

Lon-don Bridge is bro - ken down,
 Dance o-ver my La - dye Lea;
 Lon-don Bridge is bro - ken down:
 With a gay la ---- dye ...

2. How shall we build it up again?
 Dance over my Ladye Lea;
 How shall we build it up again?
 With a gay ladye.
3. Silver and gold will be stole away,
 Dance over my Ladye Lea;
 Silver and gold will be stole away:
 With a gay ladye.
4. Iron and steel will bend and bow,
 Dance over my Ladye Lea:
 Iron and steel will bend and bow:
 With a gay ladye.
5. Wood and clay will wash away,
 Dance over my Ladye Lea:
 Wood and clay will wash away:
 With a gay ladye.
6. Build it up with stone so strong,
 Dance over my Ladye Lea:
 Huzza! 'twill last for ages long.
 With a gay ladye.

(025) London Bridge (03)

(Linley, 1860, p. 5)

C

(London Bridge is Broken Down)

Lon-don Bridge is bro-ken down,

Dance - o'er my La - dy lee;

Lon - don Bridge is bro-ken down,

With a gay La - dy.

2. How shall we build it up again
3. Silver and gold will be stole away
4. Build it up with iron and steel
5. Iron and steel will bend and bow
6. Build it up with wood and clay
7. Wood and clay will wash away
8. Build it up with stone so strong
 Dance o'er my Lady lee;
 Huzza! 'twill last for ages long,
 With a gay Lady.

(025) London Bridge (03)

(Moffat, 1912)

D

Lon - don Bridge is bro - ken down,
 Dance o'er my La - dy lee;
 Lon - don Bridge is bro - ken down,
 With a gay La - dy.

2. How shall we build it up again
3. Silver and gold will be stole away
4. Build it up with iron and steel
5. Iron and steel will bend and bow
6. Build it up with wood and clay
7. Wood and clay will wash away
8. Build it up with stone so strong
 Dance o'er my Lady lea;
 Huzza! 'twill last for ages long,
 With a gay Lady.

(025) London Bridge (04)
(Plunket, 1886, pp. 20-21)

A

(Old Version)

Lon - don Bridge is bro - ken down !

Dance o'er my La - dy Lea.

Lon - don Bridge is bro - ken down,

With a gay La - dy.

How shall we build it up a - gain?

Dance o'er my La - dy Lea?

How shall we build it up a - gain,

With a gay La - dy.

GAME: "A dance, and chorus of boys and girls, to which the words of the ballad gave measure. The breaking down of the bridge was announced as the dancers moved round in a circle, and the question 'How shall we build it,' etc., was chanted by the leader, while the rest stood still."

The verses were sung alternately by the chorus and the leader, and the dance ended with a shout. The source for Plunket's quotation is not mentioned.

3. Build it up with silver and gold
4. Silver and gold will be stolen away
5. Build it up with iron and steel
6. Iron and steel will bend and bow
7. Build it up with wood and clay
8. Wood and clay will melt away
9. Build it up with stone so strong
Dance o'er my Lady Lea;
Huzza! 'Twill last for ages long,
With a gay Lady.

COMMENT: Here we find reference to "the dance". The two tunes could be considered variants of the same tune, the "Mulberry Bush" tune, like Gomme's third tune (02). The text is like all the variants of Rimbault's and these all begin with what would have been the strongest elements with which to build the bridge, suggesting gradually weaker elements, until the last verse. These are all in reverse order to suggestions in the Tommy Thumb version.

(025) London Bridge (05)

(Plunket, 1886, pp.22-23)

A

(New Version)

2. Build it up with penny loaves
3. Penny loaves will melt away
4. Build it up with iron and steel
5. Iron and steel will bend and bow
6. Build it up with silver and gold
7. Silver and gold I have not got
8. What did this poor prisoner do?
9. Stole my watch and broke my chain
10. How many pounds will set him free?
11. Three hundred pounds will set him free
12. The half of that I have not got
13. Then off to prison you must go.

GAME: Two of the players form an arch with their raised arms; the others march in line around and under the arch. Those in line and "the two" sing the first seven verses alternately. During the seventh verse the arch-makers lower arms and catch the child passing under. The line continues to sing verse eight. At the end, they lead the prisoner to a den; when the last child is captured they all rush out. "The two" pursue and capture another two to form the next arch.

COMMENT: These verses correspond with Gomme's and Kidson's first variants, generally (01), and would therefore support assertions that this form of the text is the more modern version. The elements for building proceed from weakest to strongest, here. The tune of this variant is not found elsewhere.

(025) London Bridge (06)
(Kidson, 1916, PP. 44-45)

A

(Shootman)

GAME: Two players separate themselves and agree that each shall represent some object. It may be a "Golden Church" or a "Golden Piano", the one vying with the other in richness of imagination. They stand opposite each other holding hands joined and upraised. The other players form themselves into a sort of kite's tail by holding the back of each other's frocks or jackets. This kite's tail, moving rapidly in lines and zigzags, sings quickly and loudly over and over again:-

Shootman, Shootman, the very very last man,
Shootman, Shootman, the very very last man.

The tail now passes under the upraised arms of the first two players, who stand somewhat apart. As the last child in the tail goes by they drop their arms suddenly and imprison him, allowing the others to proceed. These, taking no notice of the lopped-off part of the tail, continue their lines and zigzags, still singing.

Shootman, Shootman, the very very last man.

The two players now sing:-

2. Robbed a church and killed a man,
 Killed a man, killed a man,
 Robbed a church and killed a man,
 My fair Lady.

They proceed to execute this sentence and ask him in a whisper whether he will be a "Golden Church", or a "Golden Piano"; he makes the choice and goes behind the one who represents the article or edifice of splendour. The kite-tail having now come back again passes beneath the upraised hands, and the same process is repeated until all are ranged behind one or other of the first two players. A tug of war between the two parties concludes the game.

COMMENT: As Kidson states:

This is a particular full and curious version of that game which is known in different districts as "Oranges and Lemons," "London bridge is broken down," "Hark (or see) the Robbers passing through," etc. It was obtained from children in Liverpool some time ago and is apparently the complete survival of the game (p. 45).

Although the text has altered quite considerably, it is of interest to note that the two main tunes, the second a variant of Rimbault's (03) and the third a variant of Gomme's first tune (01) have remained intact. In fact there is some embellishment of these tunes. The Gomme tune is exactly the same in phrases two and four, where the turns of phrase have been changed in all other variants of Gomme's (01) tune. (See pp.

(039) Poor Mary (01)

A (Gomme, 1894(a), p. 59 and
Gomme II, 1898, pp. 46-62)

(Poor Mary Sits A-weeping)

Poor Ma - ry sits a - weep-ing,

a - weep-ing, a - . weep - ing,

Poor Ma - ry sits a - weep-ing,

On a bright sum-mer's day.

Pray Mary what are you weeping for
A weeping for, a weeping for,
Pray Mary what are you weeping for
On a bright summer's day.

I'm weeping for a sweetheart
A sweetheart, a sweetheart
I'm weeping for a sweetheart
On a bright summer's day.

Pray Mary choose your lover
Your lover, your lover,
Pray Mary choose your lover
On a bright summer's day.

GAME: Any number of children can play.

A ring is formed by all the players except one, joining hands. The odd player kneels down on the ground in the centre of the ring, covering her face with her hands. The ring of children dance round her singing the first two verses. The kneeling child then takes her hands from her face and sings the third verse alone, still kneeling, while the ring dances round. The ring of children then sing the fourth verse, still dancing round. While they are singing this, the kneeling child rises and chooses any child she pleases from the ring, who goes into the centre with her. These two both stand or dance round together, holding hands while the ring sing the marriage

formula, and they kiss each other at the command. The ring dances round much more quickly during the singing of this last verse. The child who was "Poor Mary" then joins the ring and the child who had been chosen by her kneels down, and the game begins again.

Marriage Formula:

Now you're married, I wish you joy;

First a girl and then a boy;

Seven years af - ter, Son and daugh-ter;

Pray young couple, come kiss to-geth-er.

Kiss her once kiss her twice,

Kiss her three times o - ver.

COMMENTS: Of the twenty text variants, Gomme says this is the typical form and method of play. The "marriage formula" is the one usually sung, but there are other sets of words. The "marriage formulas" as a group will need additional analysis and classification in the study of the collection as a whole. The melody of the first four verses and of Jenny Jones (021) are variants of each other.

(039) Poor Mary (02)

(Wilman, 1915, p. 66)

A

(Poor Jenny Is A'Weeping)

Poor "Jen - ny" is a-weep - ing,

a - weep-ing, a - weep - ing,

Poor "Jen - ny" is a-weep - ing,

On a bright sum - mer's day.

On the car - pet she shall kneel,

While the grass grows in the field,

Stand up-right up - on your feet,

Choose the one you love so sweet,

A la-dy or a gen - tle - man.

Marriage Formula:

Now you've found him we wish you joy,

Dan - cing round the girl and boy,

Stand be - fore him and with lau - ghter

Come, young children shake hands together.

Shake hands once, Shake hands twice,

Shake hands three times o — ver.

GAME: The players dance round in a ring, holding hands, with one kneeling in the centre and weeping. The latter's name should be substituted for "Jenny" during the singing. At the words "Stand up" the middle player must do so, and then "choose the one" from the other players. These two then stand in the centre, and, at the words "Shake hands," suit the action to the same, once, twice, and thrice. The first player then joins the ring, and the game is repeated.

COMMENTS: This is an example of a variant which includes a verse from another game. The "On the carpet she shall kneel" verse, is from "See This Pretty Little Girl of Mine" and is set to the tune usually sung to that game. The tune for the "marriage formula" is similar to Gomme's variant. The change is due to "corruption" and "marked decadence now occurring in some of these games" (Gomme II, 1898, p. 62).

(039) Poor Mary (03)

(Kerr, n.d., p. 32)

A

(Oh, What Is Mary Weeping For?)

Oh what is (Ma-ry) weep - ing for

Oh weep-ing for, Oh weep - ing for?

Oh what is (Ma-ry) weep - ing for

Up - on a sum-mer's morn - ing?

2. Because her father's dead, Sir.
3. Stand up and choose the one you love.

GAME: As Gomme (01)

COMMENTS: The text of this variant does not concur with other variants, and there is no "marriage formula". All of Gomme's printed texts contain the second verse in which the girl is weeping for her "sweetheart".

CHANGES IN ORIGINAL TRANSCRIPTIONS FOR ENCODING PURPOSES

Variant: 00101A from $\frac{4}{4}$ to $\frac{2}{4}$

00402C from $\frac{4}{4}$ to $\frac{2}{4}$, rhythmic values halved

00701A from $\frac{4}{4}$ to $\frac{2}{4}$, rhythmic values halved

02103A from $\frac{3}{8}$ to $\frac{3}{4}$, rhythmic values doubled

02103B from $\frac{6}{8}$ to $\frac{3}{4}$, rhythmic values doubled

02104A from $\frac{3}{8}$ to $\frac{3}{4}$, rhythmic values doubled

02501A from $\frac{4}{4}$ to $\frac{2}{4}$, last 2 measure shortened,
bar line inserted in each original
 $\frac{4}{4}$ measure

02501C from $\frac{4}{4}$ to $\frac{2}{4}$, rhythmic values halved

02505A from $\frac{4}{4}$ to $\frac{2}{4}$, rhythmic values halved

02506A from ϕ to $\frac{2}{4}$, (1st and 3rd sections),
rhythmic values halved

03901A from $\frac{6}{8}$ to $\frac{3}{4}$, rhythmic values doubled

(001) A - Hunting We Will Go. (01)

A

O have you seen the Shah, O have you seen the Shah?

B

A-hunting we will go, A-hunting we will go. We'll catch the fox and put him in a box And never let him go.

C

And-a-hunting we will go, And-a-hunting we will go. We'll catch a little fox and we'll put him in a box And-a-hunting we will go.

(001) A - Hunting We Will Go. (02)

(002) Babbity Bowster (01)

(002) Babbity Bowster (02)

(003) Bingo (01)

A There was a farmer had a dog, his name was Bobby Bin-go. B-I-N-G-O, B-I-N-G-O, his name was Bobby Bin-go.

B And Bingo is his name O.

C The farmer's dog is at our back door, And Bingo is his name O.

D And Bingo is his name O.

E The farmer's dog is at our back door and Bingo is his name O.

F Farmer Bean, he had a dog, And Bingo was his name, sir. 310

(004) Bluebird, Bluebird. ⁽⁰¹⁾

A

Bluebird, Bluebird, thro' my win-dow, Bluebird, Bluebird thro' my win-dow, Oh, Johnny, I am ti - red.

B

Im

(004) Bluebird, Bluebird. (02)

A

Bluebird, Bluebird, thro' my window, Bluebird, Bluebird, thro' my window, Bluebird, Bluebird thro' my window, Oh, Johnny, I am tir - ed.

B

Thw

C

(005) Charley Over the Water (01)

A

Over the water and over the lea, and over the water to Char - ky;

And Char - ley loves good ale and wine, and Char - ley loves good bran - dy.

And Char - ley loves a pret - ty girl, as sweet as su - gar candy.

(005) Charley Over the Water (02)

I won't have none of your weevily wheat, I won't have none of your bar-ley; I must have some of your best of wheat To bake a cake for Char-ley.

(005) Charley Over the Water (03)

A

(006) Dame Get Up And Bake Your Pies (01)

A

Dame, get up and bake your pies, Bake your pies, bake your pies, Dame get up and bake your pies, On Christmas day in the morning.

B

Dame, get up and bake your pies, Bake your pies, bake your pies, Dame get up and bake your pies, On Christmas day in the morning.

C

Dame, get up and bake your pies, Bake your pies, bake your pies, Dame get up and bake your pies, On Christmas day in the morning.

D

Dame, get up and bake your pies, Bake your pies, bake your pies, Dame get up and bake your pies, On Christmas day in the morning.

E

Christmas comes but once a year, And when it comes it brings good cheer, It brings us pudding, it brings us pies, It brings us ev'ry thing that's nice.

(007) Dinah (01)

(008) Doctor Faustus (01)

A

Doc-tor Faustus was a good man, He whipt his schol-ars now and then;

When he whipp'd them he made them dance. Out of Soot-land, in-to France,

Out of France, in-to Spain, and then he whipp'd them back a-gain.

(008) Doctor Faustus (01)

B

Doctor Switchem is a good man; He whips his scholars now and then.

When he whips, he makes them dance, Out of Eng-land in - to France,

Out of France, in - to Spain, Then he whips them back a - gain.

(008) Doctor Faustus (01)

Doctor Faustus was a good man, He whipped his schol-ars now and then;
When he whipped he made them dance Out of England in - to France;
Out of France, in - to Spain, And then he whipped them back a - gain.

(021) Jenny Jones (01)

A

A

We've come to see poor Jenny Jones, poor Jenny Jones, poor Jenny Jones, We've come to see poor Jenny Jones, And how is she to-day?

B

Jones, Jones, Jones, How is she now?

(021) Jenny Jones (02)

(021) Jenny Jones (03)

I've come to court Jinny Jo, Jinny Jo, Jinny Jo, I've come to court Jinny Jo, Is she at home?

Come to see

Jo. Come see

within?

(021) Jenny Jones. (04)

(025) London Bridge (01)

A
london Bridge's broken down, Broken down, broken down, London Bridge's broken down, My fair La - dy.

B

C
falling Falling falling falling lady O.

D
all broke All broke all broke all broke

E
falling Falling falling falling Hi Oh, Ma - derri - o.

London Bridge is falling down, Falling down, Falling down, London Bridge is falling down, Falling down on you.

(02) ~~London Bridge~~ (025)

(025) London Bridge. (03)

A

London Bridge is broken down; Dance o-ver my Lad-ye Lea; Lon-don Bridge is broken down With a gay la - dye.

B

C

la - dye.

D

la - dye.

(025) London Bridge (04)

Lon-don Bridge is bro-ken down! Dance o'er my La-dy Lea. Lon-don Bridge is bro-ken down, With a gay La - dy.

How shall we build it up a - gain? Dance o'er my La-dy Lea? How shall we build it up a - gain, With a gay La - dy.

(025) London Bridge (05)

A

London Bridge is broken down, Broken down, broken down, London Bridge is broken down, My fair Lady!

(025) London Bridge (06)

(039) Poor Mary. (01)

A

Poor Ma-ry sits a-weeping, a-weeping, Poor Ma-ry sits a-weeping, On a bright summer's day.

Near you married, I wish you joy; First a girl and then a boy, Seven years after, son and daughter; Pray young couple come kiss together. Kiss her once, kiss her twice, Kiss her three times a-yea.

(02)

(039) Poor Mary.

Poor "Jenny" is a - weeping, a - weeping, Poor "Jenny" is a - weeping, On a bright summer's day.

On the carpet She shall kneel, While the grass grows in the field, Stand upright up-on your feet, Choose the one you love so sweet A lady or a gentleman.

Now you're found him we wisy you joy, Dancin' round the girl and boy, Seard before him and with laughter
Some young children shake hands together Shake hands once, Shake hands twice, Shake hands three times over.

(039) Poor Mary: (03)

A

Oh what is (Mary) weeping for. Oh weeping for. Oh what is (Mary) weeping for. Up-on a summer's morning?

Titles of Nursery Songs
of the
Complete Collection

1. Bobby Shafto
2. Cock Robin
3. Curly Locks
4. Dance a Baby, Diddy
5. Dance, Thumbkin, Dance
6. Dance to Thee Daddy
7. Ding, Dong, Bell
8. Girls and Boys
9. Georgie Porgie
10. Goosey Gander
11. Hey Diddle Diddle
12. Hey my Kitten, my Kitten
13. Hickory, Dickory, Dock
14. Hot Cross Buns
15. Hush Little Baby
16. Hush-a-Ba Babie, Lie Still
17. Hush-a-Ba Birdie, Croon, Croon
18. Hushaby, Baby (The Nurse's Song)
19. I Had a Little Nut Tree
20. I Had Four Brothers over the Sea
21. I Love Little Pussy

22. I Love Sixpence
23. I Saw Three Ships
24. If All the World Were Paper
25. Jack and Jill
26. King Stephen (King Arthur)
27. Lavender's Blue
28. Little Bo'Peep
29. Little Boy Blue
30. Little Jack Horner
31. Little Miss Muffet
32. Little Tom Tucker
33. Mary Had a Little Lamb
34. Mary, Mary, Quite Contrary
35. O All You Little Blackey Tops
36. Oh! Dear, What Can the Matter be?
37. Old King Cole
38. On This Hill
39. Pat-a-Cake
40. Polly Put the Kettle on
41. Pussy Cat, Pussy Cat
42. St. Paul's Steeple
43. See-Saw, Margery Daw
44. See-Saw, Sacaradown
45. Simple Simon
46. Song of Sixpence

47. The Frog and the Mouse
48. The Keys of Canterbury
49. The North Wind Doth Blow
50. The Old Grey Goose
51. The Old Man Clothed in Leather
52. The Old Woman Toss'd in a Blanket
53. The Quaker's Wife
54. There Was a Lady Loved a Swine
55. There was a Little Man
56. There was a Man Lived in the Moon
57. There were Three Little Kittens
58. Three Blind Mice
59. Three Children Sliding on the Ice
60. Tom, Tom, the Piper's Son
61. What are Little Boys Made of?
62. Where are you Going to, My Pretty Maid?
63. Yankee Doodle

APPENDIX B

LAZYCODE ENCODING OF "LONDON BRIDGE" VARIANTS

```

*T 02501A 9,333,E;270
*A 02501A 01301B
*B 02501A TUNE GENERALLY IS LONDON VERSION. DANCE
*B 02501A "LONDON BRIDGE" IN "SECONDE BOOKE OF THE COMPLEAT
*B 02501A DANCING MASTER", 1719, AND IN PLAYFORDS DANCING MASTER,
*B 02501-1728 - NO WORDS - TUNE ?!
*F 02501A A B A C
*G 02501A A TUG OF WAR NOT IN 18TH C.-- ONLY IN AMERICA
*P 02501A 2/2,4/2,6/2,8/2
X002501A XV1 XR4 XTE XF# S,,F#,2-4#
DS ES DS CS/ B CS D5Q/ A B CSQ/ A B CSQ/ DS ES DS CS/
B CS D5Q/ GQ BQ/ AQ GQ//
...
*T 02501B 32,48,E;270
*A 02501B 01301B
*F 02501B A B A C
*G 02501B A
*D 02501B BROKEN BRIDGES
*P 02501B 2/2,4/2,6/2,8/2
X002501B XV1 XR4 XTE XF# S,,F#,2-4#
DS ES DS CS/ B CS D5Q/ A B CSQ/ B CS D5Q/
DS ES DS CS/ B CS D5Q/ AQ D5Q/ BQ GQ//
...
*T 02501C 12,___E;270
*A 02501C 01301B
*F 02501C A B A C
*G 02501C A
*P 02501C 2/2,4/2,6/2,8/2
X002501C XV1 XR4 XTE XF# S,,F#,2-4#
DS ES DS CS/ B CS D5Q/ A B CSQ/ B CS D5Q/
DS ES DS CS/ B CS D5Q/ AQ D5Q/ B G GQ//
...
*T 02501D 7,30,C;270
*A 02501D 01301C
*F 02501D A B A C
*G 02501D A ,TUG OF WAR
*P 02501D 2/2,4/2,6/2,8/2
X002501D XV1 XR4 XTE XF# S,,F#,2-4#
D5E. ESS DS CS/ B CS D5Q/ A B CSQ/ B CS D5Q/
D5E. ESS DS CS/ B CS D5Q/ AQ D5Q/ B G GQ//
...
*T 02501E 5,162B,C;270
*A 02501E 01301C
*F 02501E A B A C
*G 02501E A
*P 02501E 2/2,4/2,6/2 8/1.5
X002501E XV1 XR4 XTE XF# S,,F#,2-4#
D5E. ESS DS CS/ B CS D5Q/ A B CSQ/ B CS D5Q/
D5E. ESS DS CS/ B CS D5Q/ AQ D5Q/ B G GQ//
...

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*T 02501F 5,1078-5,C1270
*A 02501F 01301C
#F 02501F A B A C
#G 02501F A.,TUG OF WAR
#P 02501F 2/2,4/2,6/2,8/2
X002501F XV1 XR4 XTE XF# $,F#,2-4$
D5 E5 D5 CS/ B CS D5D/ A B C5C/ B CS D5D/
D5E. E55 D5 CS/ B CS D5D/ A0 D5E. C55/ B A G0//

..
*T 02502A 5,10-2,C1270
#A 02502A 03001B
#F 02502A A B A C
#G 02502A A
#P 02502A 2/2,4/2,6/2,8/1
X002502A XV1 XR4 XTE XF# $,F#,2-4$
G G B/ D5 B G0/ A A A0/ F E D0/
G G B/ D5 B G0/ A A D F/ G0 RRR0//

..
*T 02502B 9,322,E1270
#A 02502B 03001C
#F 02502B A B A C
#G 02502B A
#P 02502B 2/4,4/4,6/4,8/4
X002502B XV1 XR4 XTE XF# $,F#,6-8$
G0 G G0 B/ D5D B G0./ A0 A A0./ F0 E D0./
G0 G G0 B/ D5D B G0./ A0. D0./ G0. G0.//

..
*T 02503A 25,34,E414,23,E1270
#B 02503A TUNE TO WHICH USUALLY SUNG: GOMME
#F 02503A A B A C
#G 02503A A
#P 02503A 2/4,4/4,6/4,8/1
X002503A XV1 XR4 XTE XF# $,F#,6-8$
G0 G A0 B/ C5D B A0./ B0. G A G/ F0 E D0./
G0 G A0 B/ C5D B A0 B5 C55/ D5C. A0./ G0.//

..
*T 02503B 2,42,E1270
#F 02503B A B A C
#G 02503B A
#P 02503B 2/4,4/4,6/4,8/1
X002503B XV1 XR4 XTE XF# $,F#,6-8$
G0 G A0 B/ C5D B A0./ B0. A B A/ F0 E D0./
G0 G A0 B/ C5D B A0 B5 C55/ D5D. A0./ G0.//

..
*T 02503C 13,5,E1270
#F 02503C A B A C
#G 02503C A
#P 02503C 2/4,4/4,6/4,8/1
X002503C XV1 XR4 XTE XF# $,F#,6-8$
G0 G A0 B/ C5D B A0./ B0. G A G/ F0 E D0./
G0 G A0 B/ C5D B A0 B5 C55/ D5D. A0 B/ G0.//

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...
 *T 02503D 16, --, E; 270
 *F 02503D A B A C
 *G 02503D A
 *P 02503D 2/4, 4/4, 6/4, 8/1
 X02503D XV1 XR4 XTE XF# S., F#, 6-8*
 GQ G AQ B/ C5D B AQ. / BQ. G A G/ FQ E DC. / GQ G AQ B/
 C5D B AQ BS C5S/ D5D. FQ. / GH. //
 ...
 *T 02504A 24, 20, E; 270
 *B 02504A OLD VERSION, "A DANCE--WORDS OF BALLAD GIVE MEASURE
 *F 02504A A B A C; D E D F
 *G 02504A CHORUS CM; VERSE CS, SUNG LEADER; D
 *P 02504A 2/4, 4/4, 6/4, 8/1, 10/4, 12/4, 14/4, 16/1
 X02504A XV1 XR4 XTE XF# S., F#, 6-8*
 GQ G DQ D/ B3D B3 G3Q. / GQ. AQ G/ FQ G AQ. / GQ G DQ D/
 B3Q B3 G3D GS GS/ AQ. FQ. / GH. / (6-8)
 G G G GQ B/ D5D B GQ. / AQ. AQ G/ FQ G AQ. / G G G GQ B/
 D5D B GQ AS BS/ C5Q. AQ. / GH. //
 ...
 *T 02505A 24, 22, E; 270
 *B 02505A NEW VERSION
 *F 02505A A B A C
 *G 02505A A, PRISONER TO DEN; 2 CHASE FOR NEXT ARCH
 *P 02505A 2/2, 4/2, 6/2, 8/1
 X02505A XV1 XR4 XTE XF# S., F#, 2-4*
 D G F G/ A B GC/ G A AQ/ B G GC/ D G F G/ A B GQ/ EQ AQ/ GH. //
 ...
 *T 02506A 12, 44, E; 270
 *A 02506A 02503D
 *B 02506A KNOWN ALSO AS 38, 25, OR 13: LIVERPOOL CHILDR. SEE TEXT
 *F 02506A A B A B; C D CV E; G H G I
 *G 02506A A ALL SHOOTMAN; ARCH SINGS VERSE; TUG OF WAR
 *D 02506A SHOOTMAN
 *P 02506A 2/2, 4/2, 6/2, 8/2, 10/4, 12/4, 14/6, 16/4, 18/2, 20/2, 22/2, 24/2
 X02506A XV1 XR4 XTE XF# S., F#, 2-4*
 D5D D5D/ D5D D5E. D5S/ D5 E5 D5 C5/ BQ GQ/
 D5D D5D/ D5D D5E. D5S/ D5 E5 D5 C5/ BQ GC/ (6-8) GQ G AQ B/
 C5D B AQ. / BQ A GQ. / FQ E DQ. / GQ G AQ B/ C5D B A B C5/
 D5D. FQ. / GQ. GQ. / (2-4) D5S E5S D5S E5S D5 C5/ B C5 D5D/
 A B C5Q/ A B C5Q/ D5S E5S D5S E5S D5 C5/ B C5 D5Q/
 GQ BQ/ AQ GQ. //
 ...

MUSICODE-A DATA OF "LONDON BRIDGE"

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*T 02501A 9.333.E;270
*A 02501A 01301B
*B 02501A TUNE.GENERALLY IS LONDON VERSION...DANCE.....
*B 02501A "LONDON BRIDGE" IN "SECONDE BOOKE OF THE COMPLEAT
*B 02501A DANCING MASTER", 1719, AND IN PLAYFORDS DANCING MASTER.
*B 02501A 1728 - NO WORDS - TUNE ?!
*F 02501A A B A C
*G 02501A A TUG OF WAR NOT IN 18TH C. - ONLY IN AMERICA
*P 02501A 2/2,4/2,6/2,8/2-
02501A01,,F*,2-4#
02501A02 DN5E EN5E DN5E CN5E/ BN4E CN5E DNSQ/ AN4E BN4E CN5Q/
02501A03 AN4E BN4E CN5Q/ DN5E EN5E DN5E CN5E/ BN4E CN5E DNSQ/
02501A04 GN4Q BN4Q/ AN4Q GN4Q//
*T 02501B 32.48.E;270
*A 02501B 01301B
*F 02501B A B A C
*G 02501B A
*D 02501B BROKEN BRIDGES
*P 02501B 2/2,4/2,6/2,8/2
02501B01,,F*,2-4#
02501B02 DN5E EN5E DN5E CN5E/ BN4E CN5E DNSQ/ AN4E BN4E CN5Q/
02501B03 BN4E CN5E DNSQ/ DN5E EN5E DN5E CN5E/ BN4E CN5E DNSQ/
02501B04 AN4Q DNSQ/ BN4Q GN4Q//
*T 02501C 12.____E;27A0
*A 02501C 01301B
*F 02501C A B A C
*G 02501C A
*P 02501C 2/2,4/2,6/2,8/2
02501C01,,F*,2-4#
02501C02 DN5E EN5E DN5E CN5E/ BN4E CN5E DNSQ/ AN4E BN4E CN5Q/
02501C03 BN4E CN5E DNSQ/ DN5E EN5E DN5E CN5E/ BN4E CN5E DNSQ/
02501C04 AN4Q DNSQ/ BN4E GN4E GN4Q//
*T 02501D 7.30.C;270
*A 02501D 01301C
*F 02501D A B A C
*G 02501D A TUG OF WAR
*P 02501D 2/2,4/2,6/2,8/2
02501D01,,F*,2-4#
02501D02 DN5E. EN5S DN5E CN5E/ BN4E CN5E DNSQ/ AN4E BN4E CN5Q/
02501D03 BN4E CN5E DNSQ/ DN5E. EN5S DN5E CN5E/ BN4E CN5E DNSQ/
02501D04 AN4Q DNSQ/ BN4E GN4E GN4Q//
*T 02501E 5.162B.C;270
*A 02501E 01301C
*F 02501E A B A C
*G 02501E A
*P 02501E 2/2,4/2,6/2 8/1.5
02501E01,,F*,2-4#
02501E02 DN5E. EN5S DN5E CN5E/ BN4E CN5E DNSQ/ AN4E BN4E CN5Q/
02501E03 BN4E CN5E DNSQ/ DN5E. EN5S DN5E CN5E/ BN4E CN5E DNSQ/
02501E04 AN4Q DNSQ/ BN4E GN5Q RRRE//

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*T 02501F 5,107B-5,C;270
 *A 02501F 01301C
 *F 02501F A B A C
 *G 02501F A ,TUG OF WAR
 *P 02501F 2/2,4/2,6/2,8/2
 02501F01,,F*,2-4*
 02501F02 DN5E EN5E DN5E CN5E/ BN4E CN5E DNSQ/ AN4E BN4E CN5Q/
 02501F03 BN4E CN5E DNSQ/ DN5E. EN5S DN5E CN5E/ BN4E CN5E DNSQ/
 02501F04 AN4Q DN5E. CN5S/ BN4E AN4E GN4Q//
 *T 02502A 5,10-2,C;270
 *A 02502A 03001B
 *F 02502A A B A C
 *G 02502A A, TUG OF WAR
 *P 02502A 2/2,4/2,6/2,8/1.
 02502A01,,F*,2-4*
 02502A02 GN4E GN4E GN4E BN4E/ DN5E BN4E GN4Q/ AN4E AN4E AN4Q/
 02502A03 F*4E EN4E DN4Q/ GN4E GN4E GN4E BN4E/ DN5E BN4E GN4Q/
 02502A04 AN4E AN4E DN4E F*4E/ GN4Q RRRQ//
 *T 02502B 9,333,E;270
 *A 02502B 03001C
 *F 02502B A B A C
 *G 02502B A
 *P 02502B 2/4,4/4,6/4,8/4
 02502B01,,F*,6-8*
 02502B02 GN4Q GN4E GN4Q BN4E/ DNSQ BN4E GN4Q. / AN4Q AN4E AN4Q. /
 02502B03 F*4Q EN4E DN4Q. / GN4Q GN4E GN4Q BN4E/ DNSQ BN4E GN4Q. /
 02502B04 AN4Q. DN4Q. / GN4Q. GN4Q. //
 *T 02503A 25,34,E&14,33,E;270
 *B 02503A TUNE TO WHICH USUALLY SUNG: GOMME
 *F 02503A A B A C
 *G 02503A A
 *P 02503A 2/4,4/4,6/4,8/1
 02503A01,,F*,6-8*
 02503A02 GN4Q GN4E AN4Q BN4E/ CNSQ BN4E AN4Q. / BN4Q. GN4E AN4E
 02503A03 GN4E/ F*4Q EN4E DN4Q. / GN4Q GN4E AN4Q BN4E/ CNSQ BN4E
 02503A04 AN4Q BN4S CN5S/ DNSQ. AN4Q. / GN4H. //
 *T 02503B 2,42,E;270
 *F 02503B A B A C
 *G 02503B A
 *P 02503B 2/4,4/4,6/4,8/1
 02503B01,,F*,6-8*
 02503B02 GN4Q GN4E AN4Q BN4E/ CNSQ BN4E AN4Q. / BN4Q. AN4E BN4E
 02503B03 AN4E/ F*4Q EN4E DN4Q. / GN4Q GN4E AN4Q BN4E/ CNSQ BN4E
 02503B04 AN4Q BN4S CN5S/ DNSQ. AN4Q. / GN4H. //
 *T 02503C 13,3,E;270
 *F 02503C A B A C
 *G 02503C A
 *P 02503C 2/4,4/4,6/4,8/1
 02503C01,,F*,6-8*
 02503C02 GN4Q GN4E AN4Q BN4E/ CNSQ BN4E AN4Q. / BN4Q. GN4E AN4E
 02503C03 GN4E/ F*4Q EN4E DN4Q. / GN4Q GN4E AN4Q BN4E/ CNSQ BN4E
 02503C04 AN4Q BN4S CN5S/ DNSQ. AN4Q BN4E/ GN4H. //

*T 02503D 16,--,E;270
 *F 02503D A B A C
 *G 02503D A
 *P 02503D 2/4,4/4,6/4,8/1
 02503D019,,F*,6-8#
 02503D02 GN4Q GN4E AN4Q BN4E/ CN5Q BN4E AN4Q./ BN4Q. GN4E AN4E
 02503D03 GN4E/ F*4Q EN4E DN4Q./ GN4Q GN4E AN4Q BN4E/ CN5Q BN4E
 02503D04 AN4Q BN4S CN5S/ DN5Q. F*4Q./ GN4H.//
 *T 02504A 24,20,E;270
 *B 02504A OLD VERSION,"A DANCE--WORDS OF BALLAD GIVE MEASURE
 *F 02504A A B A C; D E D F
 *G 02504A CHORUS CM; VERSE CS, SUNG LEADER; D
 *P 02504A 2/4,4/4,6/4,8/1,10/4,12/4,14/4,16/1
 02504A019,,F*,6-8#
 02504A02 GN4Q GN4E DN4Q DN4E/ BN3Q BN3E GN3Q./ GN4Q. AN4Q GN4E/
 02504A03 F*4Q GN4E AN4Q./ GN4Q GN4E DN4Q DN4E/ BN3Q BN3E GN3Q
 02504A04 GN4S GN4S/ AN4Q. F*4Q./ GN4H.//(<6-8) GN4E GN4E GN4E
 02504A05 GN4Q BN4E/ DN5Q BN4E GN4Q./ AN4Q. AN4Q GN4E/ F*4Q GN4E
 02504A06 AN4Q./ GN4E GN4E GN4E GN4E/ DN5Q BN4E GN4Q AN4S
 02504A07 BN4S/ CN5Q. AN4Q./ GN4H.//
 *T 02505A 24,22,E;270---
 *B 02505A NEW VERSION
 *F 02505A A B A C
 *G 02505A A ,PRISONER TO DEN; 2 CHASE FOR NEXT ARCH
 *P 02505A 2/2,4/2,6/2,8/1
 02505A019,,F*,2-4#
 02505A02 DN4E GN4E F*4E GN4E/ AN4E BN4E GN4Q/ GN4E AN4E AN4Q/
 02505A03 BN4E GN4E GN4Q/ DN4E GN4E F*4E GN4E/ AN4E BN4E GN4Q/
 02505A04 EN4Q AN4Q/ GN4H.//
 *T 02506A 12,44,E;270
 *B 02506A KNOWN ALSO AS 36,25, OR 13:LIVERPOOL CHILDR. SEE TEXT
 *F 02506A A B A B; C D CV E; G H G I
 *G 02506A A ALL SHOOTMAN; ARCH SINGS VERSE; TUG OF WAR
 *O 02506A SHOOTMAN
 *P 02506A 2/2,4/2,6/2,8/2,10/4,12/4,14/6,16/4,18/2,20/2,22/2,24/2
 02506A019,,F*,2-4#
 025 1A*0*:h"N5Q/ DNSQ DNSE. DN5S/ DN5E ENSE DN5E CN5E/ BN4Q
 02506A03 GN4Q/ DN5Q DN5Q/ DN5Q DN5E. DN5S/ DN5E ENSE DN5E CN5E/
 02506A04 BN4Q GN4Q//(<6-8) GN4Q GN4E AN4Q BN4E/ CN5Q BN4E AN4Q./
 02506A05 BN4Q AN4E GN4Q./ F*4Q EN4E DN4Q./ GN4Q GN4E AN4Q BN4E/
 02506A06 CN5Q BN4E AN4E BN4E CN5E/ DN5Q. F*4Q./
 02506A07 GN4Q. GN4Q.//(<2-4) DN5S EN5S DN5S EN5S DN5E CN5E/ BN4E CN5E
 02506A08 DN5Q/ AN4E BN4E CN5Q/ AN4E BN4E CN5Q/ DN5S EN5S DN5S
 02506A09 EN5S DN5E CN5E/ BN4E CN5E DN5Q/ GN4Q BN4Q/ AN4Q GN4Q//

COMPUTER PRINT-OUT OF FINAL

OUTPUT

STRONG	BEAT	PATTERNS	GN4	BN3	GN4	GN4	OCUR	IN	1,11
STRONG	BEAT	PATTERNS	GN4	GN4	GN4	GN4	OCUR	IN	1,21;1,31;1,41;1,21
STRONG	BEAT	PATTERNS	GN4	GN4	DN5	GN4	OCUR	IN	1,51;1,19;3,5;3,19
STRONG	BEAT	PATTERNS	GN4	BN4	AN4	DN4	OCUR	IN	1,61;1,71;1,8;3,6;3,7;3,8
STRONG	BEAT	PATTERNS	GN4	DN5	DN5	DN5	OCUR	IN	1,91;1,10;1,11;3,4;3,9;3,10;3,11
STRONG	BEAT	PATTERNS	GN4	BN4	GN4	GN4	OCUR	IN	1,12
STRONG	BEAT	PATTERNS	GN4	GN4	EN4	DN4	OCUR	IN	1,13
STRONG	BEAT	PATTERNS	GN4	DN5	DN5	BN4	OCUR	IN	1,14;1,15;1,16;1,17;1,18;3,14;3,15;3,16;3,17;3,18
STRONG	BEAT	PATTERNS	GN4	AN4	CN5	AN4	OCUR	IN	1,20;1,21;1,22;1,23;3,20;3,21;5,22;3,23
STRONG	BEAT	PATTERNS	GN4	EN4	AN4	GN4	OCUR	IN	1,24;3,24
STRONG	BEAT	PATTERNS	GN4	BN4	DN5	OCUR	IN	1,25;3,25	
STRONG	BEAT	PATTERNS	GN4	BN4	DN5	BN4	OCUR	IN	1,26;1,36;3,26;3,36
STRONG	BEAT	PATTERNS	GN4	DN5	BN4	GN4	OCUR	IN	1,27;1,28;3,27;3,28;4,6;4,8
STRONG	BEAT	PATTERNS	GN4	BN4	CN5	AN4	OCUR	IN	1,29;3,29
STRONG	BEAT	PATTERNS	GN4	BN4	CN5	AN4	OCUR	IN	1,30;1,31;1,32;1,33;1,34;3,30;3,31;3,32;3,33;3,34
STRONG	BEAT	PATTERNS	GN4	GN4	UN5	DN5	OCUR	IN	1,35;3,35
STRONG	BEAT	PATTERNS	GN4	AN4	AN4	AN4	OCUR	IN	2,1;2,2;2,3
STRONG	BEAT	PATTERNS	GN4	BN4	BN4	BN4	OCUR	IN	2,4
STRONG	BEAT	PATTERNS	GN4	AN4	F24	DN4	OCUR	IN	2,5;2,19
STRONG	BEAT	PATTERNS	GN4	BN4	GN4	BN4	OCUR	IN	2,6;2,7;2,8
STRONG	BEAT	PATTERNS	GN4	CN5	CN5	CN5	OCUR	IN	2,9;2,10
STRONG	BEAT	PATTERNS	GN4	CN5	CN5	CN5	OCUR	IN	2,11
STRONG	BEAT	PATTERNS	GN4	FN4	FN4	FN4	OCUR	IN	2,12
STRONG	BEAT	PATTERNS	GN4	FN4	FN4	FN4	OCUR	IN	2,13
STRONG	BEAT	PATTERNS	GN4	CN5	AN4	CN5	OCUR	IN	2,14
STRONG	BEAT	PATTERNS	GN4	CN5	BN4	DN5	OCUR	IN	2,15;2,16;2,17;2,18
STRONG	BEAT	PATTERNS	GN4	GN4	F24	DN4	OCUR	IN	2,20;2,22;2,23
STRONG	BEAT	PATTERNS	GN4	AN4	F24	DN4	OCUR	IN	2,21
STRONG	BEAT	PATTERNS	GN4	AN4	BN4	GN4	OCUR	IN	2,24
STRONG	BEAT	PATTERNS	GN4	CN5	AN4	BN4	OCUR	IN	2,25
STRONG	BEAT	PATTERNS	GN4	AN4	AN4	GN4	OCUR	IN	2,26;2,29;2,36
STRONG	BEAT	PATTERNS	GN4	AN4	BN4	GN4	OCUR	IN	2,27;2,28
STRONG	BEAT	PATTERNS	GN4	AN4	F24	DN4	OCUR	IN	2,30;2,32
STRONG	BEAT	PATTERNS	GN4	GN4	FN4	DN5	OCUR	IN	2,31
STRONG	BEAT	PATTERNS	GN4	GN4	AN4	DN4	OCUR	IN	2,33;2,34
STRONG	BEAT	PATTERNS	GN4	BN4	EN4	DN4	OCUR	IN	2,35
STRONG	BEAT	PATTERNS	GN4	BN4	CN5	CN5	OCUR	IN	3,1;3,2
STRONG	BEAT	PATTERNS	GN4	DN5	EN5	DN5	OCUR	IN	3,12
STRONG	BEAT	PATTERNS	GN4	EN4	F24	DN4	OCUR	IN	3,13
STRONG	BEAT	PATTERNS	GN4	AN4	CN4	GN4	OCUR	IN	4,1;4,2;4,3;4,4
STRONG	BEAT	PATTERNS	GN4	AN4	CN4	GN4	OCUR	IN	4,5;4,19
STRONG	BEAT	PATTERNS	GN4	CN5	GN4	GN4	OCUR	IN	4,7
STRONG	BEAT	PATTERNS	GN4	DN5	BN4	GN4	OCUR	IN	4,9
STRONG	BEAT	PATTERNS	GN4	CN5	AN4	GN4	OCUR	IN	4,10
STRONG	BEAT	PATTERNS	GN4	GN4	AN4	GN4	OCUR	IN	4,11
STRONG	BEAT	PATTERNS	GN4	GN4	GN4	GN4	OCUR	IN	4,12
STRONG	BEAT	PATTERNS	GN4	BN4	AN4	GN4	OCUR	IN	4,14
STRONG	BEAT	PATTERNS	GN4	DN5	BN4	GN4	OCUR	IN	4,15;4,16;4,17;4,18
STRONG	BEAT	PATTERNS	GN4	AN4	GN4	GN4	OCUR	IN	4,20;4,21;4,22
STRONG	BEAT	PATTERNS	GN4	FN4	GN4	GN4	OCUR	IN	4,23
STRONG	BEAT	PATTERNS	GN4	AN4	GN4	GN4	OCUR	IN	4,24
STRONG	BEAT	PATTERNS	GN4	CN5	F24	GN4	OCUR	IN	4,25;4,26
STRONG	BEAT	PATTERNS	GN4	AN4	GN4	GN4	OCUR	IN	4,27
STRONG	BEAT	PATTERNS	GN4	AN4	F24	GN4	OCUR	IN	4,28
STRONG	BEAT	PATTERNS	GN4	AN4	GN4	GN4	OCUR	IN	4,29
STRONG	BEAT	PATTERNS	GN4	AN4	GN4	GN4	OCUR	IN	4,30;4,31
STRONG	BEAT	PATTERNS	GN4	AN4	GN4	GN4	OCUR	IN	4,32;4,33;4,34
STRONG	BEAT	PATTERNS	GN4	AN4	GN4	GN4	OCUR	IN	4,35
STRONG	BEAT	PATTERNS	GN4	CN5	F24	GN4	OCUR	IN	4,36