A FORMAL AXIOMATIC PHILOSOPHY OF MUSIC EDUCATION

by

JOHN FRANKLIN CHURCHLEY

B Ed University of Victoria, 1984

A THESIS SUBMITTED IN PARTIAL FULFILLMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in the Faculty

of

Education

ACCEPTED

FACULTY OF GRADUATE STUDIES

[redacted]

DEAN

DATE April 19, 1988

We accept this thesis as conforming

to the required standard

[redacted]

R Dale McIntosh

[redacted]

[redacted]

David J Leeming

[redacted]

Irvin K Burbank

Supervisor: Dr. R.D. MacIntosh

ABSTRACT

The purpose of this study is to develop an axiomatic philosophy of music education in which all statements can be logically traced to basic philosophical assumptions. Such a philosophy allows the study of the relationships between itself (an abstract system) and practical models from the real world. Hence, this philosophy begins to bridge the present gap between music education philosophy and practice.

The relevant literature is reviewed in two parts. The first part is a study of the basic concepts of axiomatics and metatheory. The second part reviews past and current philosophies of music education in North America.

The axiomatic philosophy is developed from philosophic statements in works by four major scholars in the field of music education philosophy: Abraham Schwadron, Charles Leonhard, Robert House, and Bennett Reimer. Statements from these authors are developed into axioms in a formal axiomatic system. Theorems are derived from the axioms as part of the system.

The metatheoretical tests of consistency, independence, and categoricalness are applied to the axiomatic system to prove its logical validity. A music education curriculum is used as a model in these tests.

A practical application of the axiomatic philosophy is developed from implications arising from the axioms. Discussions of the benefits of the philosophy and additional applications of the philosophy are also presented.

Examiners:

[redacted]
R. Dale McIntosh

[redacted]
Betty Anne Hanley

[redacted]
David J. Leeming

[redacted]
Irvin K. Burbank

TABLE OF CONTENTS

TITLE PAGE i

ABSTRACT ii

TABLE OF CONTENTS iv

LIST OF FIGURES vi

Chapter

1 INTRODUCTION 1

Purpose of the Study 3
Nature of the study 3
Definitions 3
Methodology 5
Delimitations 6
Significance of the study 7
Areas for Further Study 10

2 REVIEW OF THE LITERATURE 11

An Overview of Axiomatic Systems 11
History of Axiomatics 11
Formal Axiomatics 15
Metatheoretical Applications 18
Consistency 19
Independence 20
Categoricalness 21
Use of Axiomatics in Other Subjects 22
Prototype model 23

An Overview of Modern Philosophies of Music Education 25
The Historical Development of Utilitarian Music Education 25
Aesthetic Education 28
Susanne Langer 30
Abraham A Schwadron 31
Charles Leonhard and Robert House 33
Bennett Reimer 35
Other Aesthetic Education Theorists 37
Philip Phenix 37
The Present State of Music Education Philosophy 38

3 PRESENTATION OF THE PHILOSOPHY 40

Primitive Terms 42
Axioms 43
Theorems 57

4 METATHEORETICAL PROPERTIES 72

The Model 73
Philosophy 74
Goals 74
Learning Outcomes 75
Consistency 77
Primitive Terms 78
Axioms 80
Theorems 82
Independence 88
Categoricalness 95
Philosophy 96
Goals 97
Primitive Terms 98
Axioms 99
Theorems 101

5 APPLICATION OF THE PHILOSOPHY 107

An Application of the Philosophy . 107
Advantages of the Philosophy . . . 113
Further Applications of the
Philosophy 114

BIBLIOGRAPHY 116

LIST OF FIGURES

Figure		Page
1	Axiom 2	46
2	Axioms 2 and 3	47
3	Axioms 2 to 5	48
4	Axioms 2 to 8	51
5	Axioms 2 to 15	54
6	Axioms 19 and 20	90
7	An Application of the Philosophy	110

CHAPTER 1

INTRODUCTION

Many music educators find they have little time or interest to deal with the philosophy of music education. Much of a music educator's job is practical--writing lesson plans, rehearsing ensembles, and dealing with non-musical paper work. The philosophical background which guides these activities may only be present at a superficial level, if it exists at all. The study of philosophy can be an abstract discipline that is often reserved for the university seminar room and scholarly journals. Practicing music educators often have little time to spend on this discipline.

The result of a lack of philosophical thought by music educators can be music education programs which are based on vague or inconsistent philosophical principles, or on philosophical principles which are outdated and do not reflect the philosophical trends in the discipline as they continue to evolve.

The problem, then, is to develop a system of music education philosophy that can be rigorously compared

with practical examples (to establish the consistency of the system or the examples) and also can provide a basis for the development of further philosophical systems.

In mathematics, the study of the interaction between abstract constructions (pure mathematics in the form of axiomatic mathematical systems) and concrete realities from the physical world (applied mathematics) is called "metamathematics." The prefix "meta" comes from the Greek word for "over," which suggests that the very nature and basis of mathematics is subject to scrutiny from an objective standpoint, "over" and outside the discipline itself. In metamathematics this outside view is of abstract mathematical systems as compared to "models" or examples from the real world. Comparison with the real world proves the mathematical systems to be consistent or inconsistent within themselves. At the same time, the abstract systems provide new ways to organize and understand the examples from the real world.

This study develops a philosophy of music education in the form of an axiomatic system. In an axiomatic system, all statements can be deduced from a set of basic assumptions (axioms). The relationship between this abstract system and a concrete "model" is studied to prove the consistency of the abstract

system. Hence, this system is used in a "metamathematical" manner, the axiomatic system provides a logical framework for comparison with a concrete example to prove the consistency of the system. Once the consistency of the system is established, the system can be used to establish the consistency of other practical models.

Purpose of the Study

The purpose of this study is to develop an axiomatic philosophy of music education that can be used in a "metamathematical" manner to establish the consistency of practical models.

Nature of the Study

The actual philosophy in this study will be developed from the works of four major authors in music education philosophy. Abraham Schwadron's Aesthetics: Dimensions for Music Education, Bennett Reimer's Philosophy of Music Education and Charles Leonhard and Robert House's Foundations and Principles of Music Education will serve as primary sources.

Definitions

In the development of a philosophical system, it is necessary to clarify the definition of the word "philosophy". For the purposes of this study, philosophies are defined as being assumptions or sets

of assumptions about the universe which reflect the different views of life, knowledge, values, and aesthetics that individuals believe in, either consciously or subconsciously. Philosophies also include statements about the universe which logically arise from the assumptions. As philosophies reflect individual beliefs, they cannot be proven to be true or false.

In the literature on axiomatic systems, there is much disagreement on the definitions of the words "axiom" and "postulate." In this study the words will be interchangeable, and are intended to describe a statement about the universe which cannot be proven to be true or false. An example of an axiom is the statement "all people need music." This statement is an assumption about all people in the universe which cannot be proven to be absolutely true. The terms "axiomatic system" and "postulational system" also mean the same thing--a hypothetico-deductive system (Nagel and Cohen 1953).

The terms and relations used in a formal axiomatic system are called "primitive terms" and "primitive relations." Definitions for these terms would require the use of further primitive terms. Hence, in formal axiomatic systems, they are deliberately left undefined

(Eves 1972). In the present study, some explanation is given for the terms to clarify their intent.

The term "theorem" refers to all statements which are logically deduced from a set of axioms (Eves 1972).

Additional terms are defined as they arise in the study.

Methodology

The initial process in developing an axiomatic philosophy of music education is what Keyser (1926) defines as the detection of postulates, that is, discovering the underlying philosophical assumptions which are basic to the philosophies and cannot be proven, and the basic terms used in these assumptions which cannot be defined without resorting to circularity. These assumptions are also written in such a way as to use a minimum of undefined technical terms. There are also a minimum of the assumptions themselves in order for the system to be clear, concise, and non-redundant. These assumptions are the axioms of the formal axiomatic system developed in this study.

After the axioms (postulates) are presented, "theorems" are developed deductively from the axioms. As the axioms are the most basic assumptions made in music education, the theorems are further statements

about the nature of music education, and/or goals for music education.

The metatheoretical properties of the system are studied using the concepts of consistency, independence, and categoricalness which are developed from source literature in metamathematics.

Delimitations

This study will not attempt to notate the axiomatic system created using traditional mathematical symbols. The mathematical notation of any non-mathematical axiomatic system takes it back into the realm of mathematics itself. This may be useful for axiomatic systems dealing with the sciences, or other disciplines dealing with empirical knowledge. However, in a discipline such as music where much of the knowledge is aesthetic, and in the realm of educational philosophy which is based on language rather than formulae, the use of a mathematically notated axiomatic system is not useful.

Therefore, this study will only use the concept of an axiomatic system and the related functions used to describe metamathematical systems, rather than an actual metamathematical system.

The axiomatic system developed in this study is intended to contribute to the body of knowledge of

music education, not logic or mathematics. Therefore, the axioms and theorems developed in this study may be considered trivial in the latter two disciplines.

The philosophy developed in this study is not intended to be "the" philosophy of music education which is universally applicable to all music educators. It is assumed that every music educator holds his/her own individual sets of philosophic beliefs which may or may not follow the general trends in the discipline. The present philosophy, therefore, is not assumed to be "true." It is, however, intended to be consistent with itself and an accurate reflection of the philosophies from which it is derived.

Significance of the Study

Many scholars have noted the need for a closer relationship between the philosophy and practice of music educators. Manso (1985) found a significant lack of agreement between the stated philosophical views held by primary music teachers and their practice in the classroom. Shand found that "for the most part, music teachers lack a carefully thought-out philosophy of music education" (1982, 19).

Other writers have noted this discrepancy. Elliott (1983) suggests that the problem is a lack of application of an aesthetic philosophy. He attributes this to financial restraint in the education system and

the resulting pressure for accountability through performance and public relations. Sudano (1979) also notes this problem and suggests a practical philosophy as a partial solution.

With the exception of Sudano's article, there appears to be a lack of research done on developing a practical philosophy of music education. Schwadron in his review of doctoral dissertations on this topic notes the need for a practical philosophy of music education (1984). An ERIC search provided no further sources which approached music education philosophy in a practical manner. An informal survey of several music education textbooks and curriculum guides found some references to the philosophical foundations of music education, but none made a logical system which directly linked philosophical statements with each other.

Such a logical system is called for by Charles Leonhard in a review of research of philosophical studies in aesthetics. He suggests a need for the interpretation and application of aesthetic theories in "the form of a valid philosophical foundation for music education based on verifiable data and developed through rigorous logical thinking" (1955, 24).

This need could be met through an axiomatic system, as Cassius Keyser, a mathematician, has

suggested that an axiomatic system could serve

> as a model, as an ideal prototype, for the inspiration, the guidance, and the criticism of every rational enterprise, whether of philosophy, of science, or of life in general (Keyser 1922, 40).

The results of the present study could provide music education practitioners with a clarified concept of the relationship between the practical nature of what they do and the abstract nature of philosophy which guides what they do. An axiomatic system could provide a logical disclosure of a philosophy of music education which could be applied to individual music education programs. In so doing, the system could identify contradictions within the program which may be the result of faulty logic in the practitioner's philosophy.

Keyser (1926) and Einstein (1953) both suggest that a formal axiomatic system is itself an aesthetic object because of the beauty of its perfect form and inner harmony. Therefore, the significance of this study could also be seen in terms of its aesthetic value as well as its value for teaching aesthetics.

Areas for Further Study

As stated above, a number of scholars have suggested there is a lack of consistency between philosophy and practice in the classroom. Further

study could be done to see whether this is indeed true. The Manso study referred to above only examined primary teachers in Rio de Janiero. A similar study could be done with Canadian and American music educators, at all levels of education.

If data were found to be consistent with the results from Shand and Manso, studies could be conducted to find the causes for this lack of consistency between philosophy and practice. Studies could be done to ascertain how much philosophy is studied as a part of the teacher training process. Other studies could be carried out to determine environmental or personal causes for the problem. This could lead to a change in the practice of music educators, to keep it consistent with their philosophical beliefs. However, it could also lead to the development of new philosophies which reflect the changing role of music education in society.

CHAPTER 2

REVIEW OF THE LITERATURE

This literature review begins with a discussion about the nature of axiomatic systems and their history. Following this, the foundations of existing music education philosophies are discussed.

An Overview of Axiomatic Systems

History of Axiomatics

The history of axiomatics follows closely the history of geometry. This is because mathematicians have used the axiomatic deductive process in the study of geometry.

Geometry has existed since people began to measure things. The pyramids and other ancient wonders could not have been built without some knowledge of geometry. However, the geometry of the ancients was somewhat different from modern geometry because it was developed inductively rather than deductively. The ancient mathematicians saw what they thought to be a general or universal truth about the "things" they were manipulating (or building with), and made generalized statements about these truths.

The Ancient Greeks were the first civilization to use a more abstract way of developing geometrical knowledge by deductive logical reasoning. This was the beginning of what Eves (1972), and Nagel and Cohen (1953) call "material axiomatics." Material axiomatics is a system which involves assuming a small number of so-called "universal truths" about geometry, giving definitions of all technical terms used in the system, and presenting statements which are deductively arrived at from the universal truths by logical demonstration.

This philosophy of deductive thinking evolved between 600 BC (the time of Thales, the first mathematician to apply the Greek philosophy of logic to empirical Egyptian geometry) and 300 BC (the time of Euclid's writing of his Elements) (Eves, 1960).

Aristotle was a prominent Greek scholar who wrote about the use of a formal system of logic in a scientific discourse. In his Analytica Posteriora, he discussed the basics of deductive logic and the concept of initial presumptions being made at the beginning of a discourse in order to avoid circular logic. He called these presumptions "first principles." They consisted of axioms (common notions held by all sciences), the stated existence of the subject matter, and definitions to explain what is meant by the terms used (McKeon 1941; Eves 1960).

The first Greek to present geometry using Aristotle's concept of a logical discourse in a written format was Euclid in his Elements. In this text, Euclid presented basic statements--postulates (or axioms)--about geometry which he assumed to be undeniable truths. He then proceeded to present generalized or abstract statements about geometry which could be deductively proved by referring to the basic truths. This text was considered so complete and so logically sound that it was the basis for high school geometry until the twentieth century. It still remains as an important influence in mathematics education. The book is made up of 465 propositions on geometry, number theory, and geometrical algebra in a logical deductive system. However, the logic in this system is not flawless as it relies on diagrams for some proofs rather than arguments of logic (Eves 1972).

By the nineteenth century, mathematicians were beginning to wonder about one of Euclid's fundamental notions--the one commonly referred to as the parallel postulate. What they wished to prove was that this postulate was actually a theorem which could be logically derived from the other postulates. What Lobechevsky and Bolyai discovered (independently) was that by simply eliminating Euclid's parallel postulate, a new system of geometry could be established which was

as logically rigourous as the original system, but was completely different. Such a geometrical system was called a "non-Euclidean" geometry because it, in a sense, proved that Euclid's geometry was not the only "truth" in the universe about geometry (Kane et al 1970).

The discovery of non-Euclidean geometry led to the modern concept that an axiomatic system (such as that of Euclid) is not to be judged on whether it is true or false (based on the truth or falsity of the initial assumptions), but whether it is a logically consistent system. A logically consistent system is a formal system such that the statements of the system can all be logically deduced from the initial assumptions and such that no contradictory statements can be derived from the initial assumptions.

At the same time as the development of non-Euclidean geometry, some mathematicians were trying to repair the logical flaws in Euclid's Elements. In 1882, Pasch succeeded in formalizing Euclidean geometry. He did this by stating Euclid's common notions as primitive (undefinable) terms. The result was that the axiomatic system could now be divorced from its material significance. David Hilbert in 1899 developed an axiomatic Euclidean geometry where all proofs were logical deductions not requiring Euclid's

diagrams. He taught this geometry as a course and then presented it in his book, Grundlagen der Geometrie (Foundations of Geometry). This work has served as the starting point for many formal axiomatic Euclidean geometries which have been developed since then (Eves 1972, Nagel and Cohen 1953, Blanche 1962).

Formal Axiomatics

There is a standard procedure for establishing an axiomatic system. This procedure is outlined in several texts (Eves 1960, 1972, Blanche 1962, Keyser 1926). The procedure can be identified and explained in four steps with two assumptions about the nature of logic in the axiomatic system:

1. A set of undefined primitive terms to be used in the system is presented. These terms represent the basic elements of a system, the relations among these elements, and the operations that may be made on these elements.
2. Axioms (or postulates) are stated. These are basic statements about the elements of the system which cannot be proven--they are given statements that cannot be disputed. In Euclid's axiomatics, these statements would be considered basic truths about the universe.
3. All other statements in the system are called "theorems," and are deduced logically from previously established statements.
4. All other technical terms are defined in terms of previously introduced terms. They are not defined in terms of previously established statements because then the definitions would themselves become theorems (Eves 1972, 338).

The assumptions made about axiomatic systems are that:

1. For each theorem there exists a corresponding proof that states that the theorem is logically derived from the axioms.
2. The axioms imply the theorems (Eves 1972, 338).

The assumptions that Eves states above are, in fact, assumptions of the applicability of Aristotelian logic. This logic has been assumed to be true throughout the history of mathematics and through most mathematics education programs. However, since relatively recent discoveries of non-Aristotelian logic by mathematicians such as Whitehead and Russell in their Principia Mathematica, this assumption must be made explicitly (Kilmister 1967).

The use of a non-Aristotelian logic is not common in most simple axiomatic systems, but the existence of such a logic forces the realization that the assumption of Aristotelian logic is indeed an assumption, and is not a universal truth which need not be explicitly stated. Bell uses the analogy of mathematics as a game to make the same point:

> Among the permissable moves of the mathematical game is one which allows us to play. This is the assumption outright that the laws of ordinary [Aristotelian] logic can be applied to our other postulates (Bell 1931, 24).

An in-depth study of the logical assumptions made in proving theorems can be found in Tarski's Introduction to Logic (1941).

In order to clarify the concept of an axiomatic system, an example of such a system from the study of projective geometry is presented below. The postulates and theorems are from A Survey of Geometry by Howard Eves. The proofs were completed by this writer. This particular example was chosen because of the relative simplicity of the system (Eves 1972, 361).

The statements Pi are the postulates (axioms)--the initial assumptions, and the statements Ti are the theorems--statements derived from the assumptions.

Primitive Terms	Primitive Relations
POINT, LINE	ON, DETERMINE, INTERSECT

P1. THERE EXISTS AT LEAST ONE LINE

P2. THERE ARE AT LEAST THREE POINTS ON EVERY LINE

P3. NOT ALL POINTS ARE ON THE SAME LINE

P4. ANY TWO DISTINCT POINTS DETERMINE EXACTLY ONE LINE

P5. ANY TWO DISTINCT LINES INTERSECT ON AT LEAST ONE POINT

T1. THERE EXIST AT LEAST THREE POINTS

Proof: By P1, THERE EXISTS AT LEAST ONE LINE, and by P2, THERE ARE AT LEAST THREE POINTS ON EVERY LINE, therefore there exist at least three points.

T2. ANY TWO DISTINCT LINES INTERSECT ON EXACTLY ONE POINT

Proof: By P5, ANY TWO DISTINCT LINES INTERSECT ON AT LEAST ONE POINT. Therefore, if two distinct lines intersected on more than one point, there would be more than one line determined by those two or more points. However, by P4, ANY TWO DISTINCT POINTS DETERMINE EXACTLY ONE LINE. Therefore, any two distinct lines can only intersect on exactly one point.

Other examples of axiomatic mathematical systems may be found in set theory (Fraenkel and Bar-Hillel 1958) and further studies in projective geometry (Heyting 1963) as well as other mathematical structures.

Metatheoretical Applications

The term "metamathematics" has been used to describe a method by which mathematics is used to study and prove another mathematical system (Kleene 1967). Another scholar has used it to describe Menger's concept of metatheory without a specific reference to mathematics (Eves 1960, 1972). However, there are several functions which metatheory or metamathematics performs.

Karl Menger has defined a "metatheory" as the theory of a theory which considers

> the way the propositions of the original theory are connected and how they may be derived from one another. It considers what propositions can be proved or refuted from the axioms, etc. (Menger 1937, 324).

Therefore, the main purpose of a metatheory is to prove that the theory contains no contradiction. This proof is called "consistency."

Consistency

One of the main assumptions about an axiomatic system is that the axioms and theorems are consistent with each other, that is, for any given axiom in the system, there will not be a statement which can be deduced logically that contradicts the axiom.

The concept of consistency is relatively simple, but the proof of consistency is not. This is because in order for all theorems to be proved non-contradictory, all possible theorems must be derived from the axioms. Since the number of possible theorems is unknown, it can never be proved that a system is completely consistent. However, some degree of consistency can be established.

A system can be proved to be consistent by the construction of models which prove all of the axioms of the system to be true. When such a model is created

from the real world (real things are substituted for the primitive terms, etc.) the system is called absolutely consistent (although it may eventually prove to be inconsistent). When such a model is created from another axiomatic system, the system is called relatively consistent (Eves 1972).

An axiomatic system is not useful unless it meets the logical requirement of consistency. However, there are other functions which can be used to describe an axiomatic system which are not logically required. They are the concepts of independence and categoricalness.

Independence

The concept of independence in metatheory is very close to the definition of the word in English. Unlike consistency, independence is not a necessary requirement of an axiomatic system. Rather, it is a measure of the conciseness of the system. If a system is independent, then there exist no superfluous axioms. Hence, no axiom can be logically deduced from another axiom.

The proof of independence must be performed separately for each axiom. The proof can be either a direct logical proof (in trivial cases where there is little relationship between the axioms) or an indirect

proof. The indirect proof is in the construction of a model where all axioms are satisfied except the one in question (Weyl 1949).

Where such a model can be constructed, the possibility for another axiomatic system exists. For example, non-Euclidean geometries were discovered because Euclid's parallel postulate was proved to be independent.

Categoricalness

The concept of categoricalness involves the definition of another term--isomorphism. Two models of a system are isomorphic when there is a one-to-one correspondence between the elements, functions, and relationships between the models. Two or more isomorphic models which can be found for a system imply that all models for the system are isomorphic and therefore, the system is categorical. The implication of a categorical system is that there is essentially only one model of the system, since all models are isomorphic. This makes the proofs of theorems easier, since they can be established either in the system or in the model.

Non-categoricalness implies that there is not just one model for the system. This is useful for using the system in a wide variety of applications, including the

development of further systems (Eves 1972; Blanche 1962).

Use of Axiomatics in Other Subjects

Other scholars have taken the concept of axiomatic systems and have used it in other areas. In most cases, the mathematical notation of the system has been maintained as a useful part of the system. This is because the subject which the system describes is a scientific system based on empirical knowledge. Woodger's axiomatic method for biology and Batdg's axiomatic method for phonology are examples of such systems (Woodger 1937, Batdg 1967).

Keyser (1926) suggests that axiomatics can be used in other areas such as the social sciences, economics, law, ethics, and theology. His suggestion was not unfounded, as a citations search provided titles of works which have used axiomatics in the disciplines of accounting, sociology, linguistics, and phonology.

An axiomatic approach to a philosophy of music education takes the basic concept of axiomatics from the discipline of mathematics and applies it in a non-mathematical discipline. The idea of using this concept in non-mathematical areas was suggested by

Keyser who stated that:

> The method [axiomatics or postulational thinking] is available in every field of thought, in the physical sciences, in the moral or social sciences, in all matters and situations where it is important for men and women to have logically organized bodies of doctrines to guide them and save them from floundering in the conduct of life (Keyser 1926, 35).

Through an ERIC search and a perusal of music education textbooks and doctoral dissertations, it was found that this concept has not been used for a philosophy of music education. However, two authors did come close to addressing this topic. Claudson (1969) paraphrased the philosophy of Julia E. Crane, a pioneer in music education, as being based on two postulates, but he did not continue with a model based on the mathematical definition of postulates. The second author was Gary Sudano, who suggested a "closed system" model of philosophy (1979). Although it looks like an axiomatic system, Sudano's model does not use the definitions or the rigorous logic of a formal system.

Prototype Model

Since the body of this thesis will be the development of an axiomatic philosophy, a simple prototype example is given here to demonstrate what the philosophy could look like and how an axiomatic system works.

Primitive Terms	Primitive Relations
MUSIC	FOSTER
EXPERIENCE	WITH
ENJOYMENT	IS
FEELING	
UNDERSTANDING	
GOOD	

Axioms (postulates)

P1. MUSIC IS GOOD

P2. MUSIC IS EXPERIENCE

P3. MUSIC IS FEELING

P4. EXPERIENCE FOSTERS MUSIC

P5. FEELING FOSTERS ENJOYMENT

P6. UNDERSTANDING FOSTERS EXPERIENCE

Theorems

T1. EXPERIENCE FOSTERS FEELING

Proof: If by P4, EXPERIENCE FOSTERS MUSIC and by P3, MUSIC IS FEELING, then EXPERIENCE FOSTERS FEELING.

T2. EXPERIENCE FOSTERS ENJOYMENT

Proof: If by T1, EXPERIENCE FOSTERS FEELING and by P5, FEELING FOSTERS ENJOYMENT, then EXPERIENCE FOSTERS ENJOYMENT.

T3. EXPERIENCE FOSTERS EXPERIENCE

Proof: If by P4, EXPERIENCE FOSTERS MUSIC and by P2, MUSIC IS EXPERIENCE, then EXPERIENCE FOSTERS EXPERIENCE.

As previously stated, the above model is only a prototype model of an axiomatic philosophy of music education. It is not intended to be as complete or as relevant as the actual philosophy which will be developed.

An Overview of Modern Philosophies of Music Education

The Historical Development of Utilitarian Music Education

The study of the philosophy of music education goes back in history to the study of the philosophy of music in Ancient Greece. However, since the philosophy developed in this study will be based on the most recent developments in the philosophy of music education, this overview of the historical developments will only study the philosophies developed in North America.

Many scholars note the success of Lowell Mason in convincing the Boston School Committee to include music in the curriculum in 1838 as the beginning of music education in North America (Mark 1982; Goolsby 1984). The rationale to include it was its value in the

physical, intellectual, and moral development of the child. This rationale reflected the Pestalozzian philosophy of education which was popular at the time.

The next main educational philosophy to have a major effect on music education was that of John Dewey, who at the turn of the century, was advocating the development of the individual child as a useful member of society. The positive effect of music's influence on the spiritual, physical, and mental nature of individuals was seen as a benefit in Dewey's philosophy (Mark 1982).

The actual effect of Dewey's pragmatic philosophy on music education can be seen in the large number of research articles which have studied the influence of his philosophy on music education (Schwadron 1973, 1984). His influence on music education is also documented very thoroughly in Tellstrom's Music In American Education: Past and Present (1971).

Many authors note the utilitarian nature of philosophies of music education up to the middle of the twentieth century. That is, the value of music as an educational discipline was in its ability to aid in the development of non-musical aims of education (Gonzo 1971, Mark 1982, Goolsby 1984). These aims included the development of "good" citizens, the physical and intellectual discipline learned by studying an

instrument, and the training of good singers for church choirs to aid in worship. It was never emphasised that music should be studied for the value inherent in itself.

The launching of Sputnik in 1957 and the beginning of the space race caused a crisis in education in the United States. The results were a new emphasis on science and mathematics in the schools, and a challenge for music programs to be proven worthwhile or possibly be eliminated. The Music Educators' National Conference rose to the occasion to try to create a new philosophy in support of music education. This effort was documented in 1958 in Basic Concepts in Music Education, a collection of articles on the philosophical and theoretical foundations of music education (Henry 1958).

The philosophies of this book were not necessarily innovative. Michael Mark has suggested that:

> Although meant to serve as a basis for future development, it is ironic that, with the exception of one author, Basic Concepts was the philosophical culmination, in the United States at least, of thousands of years of utilitarian philosophy. Several authors discussed music education in utilitarian terms (Mark 1982, 18).

Archie N. Jones edited a source book in 1960 with similar results: three of the four articles on music education philosophy are utilitarian in nature. However, neither book is totally void of new

philosophical concepts. In an article in Jones' book, Wegener states that music education is a part of aesthetic education (1960). The articles by Broudy (1958) and MacMurray (1958) in Basic Concepts both make reference to the fact that music is essentially an aesthetic experience and that non-musical justifications are not sufficient to create a philosophy of music education. Britton in an article in the same book makes a brief reference to Susanne Langer's aesthetic theory as the beginning of new developments in music education (1958).

In 1959, the first edition of Foundations and Principles of Music Education, by Charles Leonhard and Robert House, was published. This book presented a philosophy of music education and other foundations for music education which were based on the aesthetic theories of Langer, Leonard Meyer, and others.

The Leonhard and House book in 1959 and Britton's 1958 reference did, in fact, mark the beginning of the current aesthetic "era" in the philosophy of music education.

Aesthetic Education

The most recent development in the philosophy of music education has been the concept of music education as aesthetic education. This concept is different from

utilitarian philosophy because the value of music (and hence the value of music education) is intrinsic, not extrinsic.

This overview of aesthetic education theories in music education begins with the presentation of two possible philosophical assumptions which are often made in this discipline. One assumption is that of the expressionists or what Reimer calls referentialists. Their belief is that the value of art is in the communication of specific emotions, ideas, and concepts which are extrinsic to the art. The opposing view is that of the formalists or absolutists. Their belief is that the value of art lies within the art itself. The experience of art to the formalists is found in the aesthetic emotion, which is a result of the cognition of significant form in the art (Schwadron 1967, Reimer 1970, Tompkins 1982).

These theories have served as a basis for the study of aesthetics. Although there are scholars who support each of the theories exclusively, there are many theorists in aesthetics and aesthetic education who agree with concepts from both theories. One such aesthetic theorist who has served as the main reference for music educators is Susanne K. Langer. Although Langer could be considered an expressionist, her

concept of art as significant form which has intrinsic value reflects a formalist position (Tompkins 1982)

Susanne Langer

Langer's major works in aesthetics start with her book, Philosophy in a New Key (1942). In this book, she presents some of the main concepts she uses in the theory which she developed over several years (and in several books). Among these concepts are the "art symbol," "expressiveness," and her definition of the aesthetic experience.

Tompkins (1982) has pointed out that Langer's theory was developed when positivism was a prevalent philosophical theory about the nature of knowledge. This theory suggests that all knowledge is scientific knowledge. To a positivist, all knowledge can and should be defined in empirical language--the logical discourses of mathematics and science. Langer described her concept of the "art symbol" as also being a logical structure, and therefore analogous to scientific symbols.

In her theory, Langer differentiates between a discursive symbol which is used to represent objective reality using a scientific language and the presentational symbol which is used to represent the subjective reality of feeling using an art form

(Tompkins 1982). This comparison helped Langer to establish the idea that aesthetic meaning is logically analogous to scientific meaning. This analogy suggests that the study of aesthetics is a unique realm of meaning which is as valid as the study of empirical meaning and therefore should hold a place of importance within the educational curriculum.

In order to further define aesthetic meaning, Langer made a differentiation between the logical expression which is found as the art symbol resembles human experience and self-expression which is found only in individually experienced feelings. Therefore "good" art is not the self-expression of the artist's own feelings--it is the logical expression of the artist's knowledge about human feelings in general (Langer 1957).

Langer defines an aesthetic experience as being the interplay between the intellectual cognition of significant form and the emotional response which is brought about by the cognition of the form (Langer 1957, Tompkins 1982).

Abraham A. Schwadron

Schwadron has been a continually strong advocate for music education as aesthetic education for many years. Among his publications are two listings and

critiques of research that has been done in the philosophy of music education and aesthetics (1973, 1984).

Schwadron has noted in several articles (1966, 1973, 1984) that many music educators have been unable to effectively teach aesthetic education in their music programs. In the 1966 Music Educators' National Conference Source Book III, he points out that

> the reliance on personal prestige, on isolated musical skills, on over-specialization, on entertainment factors and on selective education points up deficiences in aesthetic understandings and as such tends to support musical snobbishness (Schwadron 1966, 188).

As a scholar of aesthetic education himself, he has written a source book for the Music Educators' National Conference on aesthetics and applications of aesthetics to music education (1967). In this book, he introduces the concept of aesthetics, outlines the theories of aesthetics, discusses these theories in relation to music, and makes recommendations about music education as aesthetic education. These recommendations include a presentation of ten statements about the foundations of music education:

1. Education is the means for the development of aesthetic skills and values in music.
2. Aesthetic experiences in music involve both the intellect and the affect.

3. Expressiveness should be experienced often and at increasingly more subtle levels by all students, not just the talented.

4. There is no one aesthetic theory to be universally adopted in music education.

5. Music education should work within the framework of a pluralistic society.

6. Genuinely expressive experiences should be sought over merely pleasurable experiences.

7. Aesthetic music education draws information from several disciplines.

8. Aesthetic education should raise the level of the public's musical needs to genuinely expressive experiences.

9. The school is an appropriate place for socio-musical change.

10. The aesthetic event is a connotative complex of associations made concrete by the individual, and therefore are not fixed.

(Schwadron 1967, 93-94)

These paraphrased statements show the relationship of Schwadron's philosophy to the aesthetic theory of Langer. In particular, her definition of aesthetic expressiveness is used several times in these foundations of music education.

Charles Leonhard and Robert House

Leonhard and House's Foundations and Principles of Music Education (1972) was first published in 1959 at the beginning of the aesthetic era of music education philosophy. It has been an important guidebook for many music educators. It was the first text to

enunciate philosophical statements about music education which were based on aesthetic theory. This book also covers other foundations which are basic to a music education program.

The philosophical foundations of the book, like Schwadron's ideas, are based to some degree on Langer's theories of the art-symbol and expressiveness. After discussing these theories and the importance of the aesthetic value of music, Leonhard and House present their philosophy in fifteen statements.

1. "Art is the result of man's need to transform his experience symbolically."
2. Aesthetic experience is the most valued experience, and grows out of ordinary experience.
3. Feeling accompanies all experience and music is analogous to this emotive life of feeling.
4. Music is expressive of the life of feeling in that it symbolizes tension-release.
5. "The import of music is not fixed."
6. "... all experience with music must be experience of feeling."
7. "Music attains significance only through its expressive appeal, and all work with music must be carried with full cognizance of its expressive appeal."
8. "Every person has the need to transform experience symbolically and the capacity for symbolic experience with music."
9. Music education is based on developing man's natural responsiveness to symbolic experience.

10. Music education is primarily aesthetic education.

11. Every child must be given the opportunity to develop his/her aesthetic potential through performance, composition and listening experiences appropriate to his developmental level.

12. "Music education should be cosmopolitan."

13. Priority should be given to musical experiences which develop aesthetic responsiveness to great music, clarification of musical values, and musical independence.

14. All music used in instruction should be genuinely expressive and all teaching should emphasise the expressiveness.

15. Musical experience that is worthwhile in itself develops certain desirable non-musical values.

(Leonhard and House 1972, 116-117)

It is interesting to note that when paraphrased, the philosophical statements of Schwadron, Reimer, and Leonhard and House have common themes.

Bennett Reimer

Reimer's book, A Philosophy of Music Education (1970), begins with the statement that the entire book is based on the premise that to prove the value of music is to prove the value of music education. Since aesthetic inquiry is used to determine the value of music, the book is primarily concerned with aesthetics and the applications of aesthetic education to music education.

In this book, Reimer has taken the aesthetic theory of Susanne Langer and others, such as Leonard Meyer, and condensed it in an application to music education. He discusses the opposing referentialist and absolutist views about art, the concept of aesthetic feeling (expressiveness), aesthetic meaning (the art-symbol), and the aesthetic experience. Each of these Langerian concepts is presented in detail, with particular emphasis given to musical examples.

In his chapter on art and meaning, Reimer presents four principles of aesthetic education which are restated in each of the chapters concerning the nature of aesthetics and music.

> 1. The music used in music education should be genuinely "expressive" and should come from a wide variety of genres, but are appropriate for the learners.
>
> 2. "Music education should consist of musical aesthetic experiences [as the central focus]."
>
> 3. The elements of music should be taught as part of music education (in order for the expressiveness of music to be fully experienced).
>
> 4. The language and teaching methods used by the music educator should be descriptive of the expressiveness, rather than interpretive.
>
> (Reimer 1970, 40-41)

Reimer finishes his philosophy with an application of the aesthetic education theories to general music education (with an emphasis on listening), to

performance-based music education, and to music integrated with other arts in education.

Other Aesthetic Education Theorists

There are other theorists who have contributed to the philosophy of aesthetic (music) education, but it is not within the scope of this study to present a complete review of the literature of aesthetic education. However, the work of an additional theorist will be presented as a sample of the depth and variety of aesthetic theories.

Philip Phenix

In his book Realms of Meaning (1964), Phenix has theorized that the purpose of education is to fulfil different types of meaning. The six types of meaning which he presents are to be fulfilled by the disciplines which embody each type of meaning. For example, "symbolic" meaning is "characterized by arbitrary symbolic structures exhibiting certain customary rules of construction and interpretation" (Phenix 1964, 61). The disciplines which embody this type of meaning are the study of mathematics and language.

The realm of meaning concerned with music is, of course, aesthetic meaning. This type of meaning is not as easy to define as the empirical types, but Phenix

does give a description. Aesthetic meaning is not to do with generalization, theory, and classes (as empirical meanings are), but is to do with particular objects; each has its own meaning and is understood immediately. Knowledge of this meaning is gained through acquaintance and is enhanced through theoretical knowledge of the elements and formal relationships in music (1964, 142).

The Present State of Music Education Philosophy

As music education principles and pedagogies have developed and changed with educational philosophy during the twentieth century, there has been a concurrent development of performing groups in public schools. These performing groups started at the turn of the century as small choirs and orchestras and eventually developed into large instrumental (bands and orchestras) and choral performing programs. However, music education programs which rely exclusively on these performing groups have not necessarily reflected the developments of music education philosophy in general. They have followed the developments in philosophy only as closely as the music educators leading them have desired to.

Many scholars have noted the lack of interest in the philosophy of music education on the part of the

teacher, or the lack of the ability to apply it (Shand 1982, Elliot 1983, Goolsby 1984). This lack of an applied philosophy combined with a strictly performance emphasis has caused some music educators to revert to utilitarian justifications for music programs which are challenged during restraint (Shand 1982, Elliott 1983).

CHAPTER THREE

PRESENTATION OF THE PHILOSOPHY

This chapter contains the presentation of an axiomatic system based on the philosophical statements made by Schwadron, Leonhard and House, and Reimer which are quoted above. The axioms listed below have been derived from the twenty-nine statements presented in Chapter Two. Each axiom is followed by an explanation of how it has been derived from the original statements.

In the process of deriving the axioms, the statements have been taken from their original form and have been paraphrased to achieve consistent language. In particular, Langer's terms of art symbol, expressiveness, and the aesthetic experience have been used where the meanings of these concepts have appeared in different terminology in the original statements. These paraphrased statements have been compared with each other to identify and eliminate redundant statements. Some of the statements appear to have lost their original meaning in the paraphrased list. This apparent loss of meaning is not due to a change of the intent of the statement, but is due to the absorption

of the meaning of the statement in a broader statement. The final list of paraphrased statements is given below:

1. Education is the means for aesthetic development.
2. Aesthetic experiences are the interplay between the intellect and the affect.
3. Expressiveness should be experienced often and at increasingly more subtle levels.
4. Aesthetic theory is pluralistic.
5. Music education is pluralistic.
6. Genuinely expressive experiences should be sought over merely pleasurable experiences.
7. Aesthetic music education is pluralistic.
8. Aesthetic education should raise the level of the public's musical needs to genuinely expressive experiences.
9. The school is an appropriate place for musical change.
10. The aesthetic event is a connotative complex of associations made concrete by the individual.

(Schwadron 1967, 93-94)

1. Art is a presentational symbol.
2. Aesthetic experience is the most valued experience, and grows out of ordinary experience.
3. Music is an art symbol.
4. Music is expressive.
5. Music is pluralistic.
6. Expressive music should be used in music experiences.
7. The expressiveness of music must remain paramount.
8. Every person has the need to experience art symbols.
9. Music education is based on developing #8.
10. Music education is aesthetic education.
11. Every child must be given the opportunity to develop his/her aesthetic potential through performance, composition and listening.
12. Music education should be pluralistic.
13. Expressive music should be given priority over merely pleasurable music.

14. All music used in instruction should be expressive and all teaching should emphasize the expressiveness.
15. Experience with music develops desirable non-musical values.

(Leonhard and House 1972, 116-117)

1. The music used in music education should be expressive and should be pluralistic, but should be at an appropriate level for the learners.
2. The expressiveness of music should be the main focus of music education.
3. The elements of music should be taught in music education.
4. The language used by the music educator should be descriptive of the expressiveness, rather than interpretive.

(Reimer 1970, 40-41)

Primitive Terms

The primitive terms and primitive relations are, by definition in an axiomatic system, undefined. They act as variables to which concrete meanings may be assigned in a concrete model. However, the primitive terms and relations in the present system have been deliberately chosen to suggest the types of meanings which could replace the variables.

Primitive Relations:

CONTAINS

NOT

NEED

GROWING

INCREASES

ARE BETTER THAN

APPROPRIATE LEVEL

Primitive Terms:

PLURALISM
ART SYMBOL
GOOD EXPERIENCES
EXPRESSIVE EXPERIENCES
MUSIC EDUCATION
LISTENING
PERFORMING
COMPOSING
EVERYBODY
EXTRINSIC VALUES
ELEMENTS
EXPRESSIVE MUSIC
AESTHETIC EDUCATION

Axioms

Leonhard and House assert in their eighth statement that all people have a need to express their experience symbolically. This statement is an assumption which is crucial to a philosophy of music education, since without it there is no basis on which to justify any kind of education which deals with this need for art symbols. However, this statement could be considered an assumption which cannot be empirically proven. Hence, it is included as the first axiom of the present philosophy.

A1. EVERYBODY NEEDS ART SYMBOL.

Since all three sources suggested that music education (aesthetic education) should exist within a pluralistic society, the primitive term "PLURALISM" has

been used to suggest such a society as the "universe" which contains all experience by all people. This concept of pluralism is meant to include a number of statements made by the authors of the source material. Schwadron makes several assumptions based on pluralism. His fourth statement suggests that music educators should develop their own aesthetic viewpoint by studying a variety of differing aesthetic theories--not just one. In his fifth statement, he clearly notes that music education should exist within a pluralistic democratic society of multiple cultures and historical backgrounds. This assumption is similar to Leonhard's and House's twelfth assumption that music education should be cosmopolitan, and therefore should make use of the wide variety of musical experiences available in a pluralistic society. Reimer's first statement also makes this assumption.

There are other assumptions made by the authors of the three sources which also refer indirectly to the concept of aesthetic education existing within a pluralistic society. Schwadron, in his seventh statement suggests that music education should contain the application of information from other disciplines (which also exist within the pluralistic society).

As all of the above assumptions implicitly or explicitly assume that all aspects of aesthetic (music)

education should work within and reflect the pluralistic nature of society, the primitive term "PLURALISM" symbolizes a set which completely contains all other concepts used in the system. This will be reflected in the axioms and theorems.

The implication of the initial assumption is that within the realm of human experience (PLURALISM) there exists a need for symbolic representation of experience, and as a fulfillment of this need, this representation exists (ART SYMBOL). Leonhard and House state this in their initial statement. Therefore, the logical result of the assumption of the need for art symbols within a pluralistic society is the assumption that art symbols and experience with art symbols will exist within the pluralistic society.

A2. PLURALISM CONTAINS ART SYMBOL.

This second axiom uses a primitive relation that has been shortened to one word from a phrase of several words. The primitive relation "contains" represents the words "contains all of the subset." This operational definition is used throughout the entire axiomatic system and is represented by the Venn diagram in figure 1. The phrase has been shortened to economize the number of words in each axiom. The operational definition given above for the term

"contains" is given to avoid confusion with the alternate definition "contains some or all of the subset."

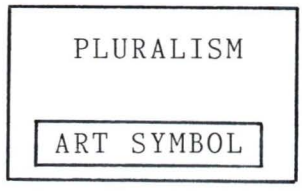

figure 1

Within the sub-universe of the ART SYMBOL, there exist pleasurable experiences which are the result of experiencing the symbolic representation of the art symbol. Some of these experiences can be considered to be genuinely expressive experiences while other experiences may be considered merely pleasurable. All three sources make value judgements about the worth of the expressive experience as opposed to the non-expressive experience. Such a distinction implies the existence of both. However, both types of experience might be considered pleasurable results of experience with art symbols, hence the sub-category of GOOD EXPERIENCES (with art symbols) is assumed to be entirely contained by the ART SYMBOL category. This relationship is illustrated in figure 2.

A3. ART SYMBOL CONTAINS GOOD EXPERIENCES

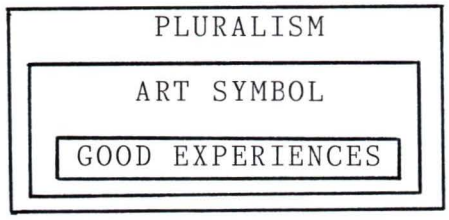

figure 2

As stated above, genuinely expressive experiences and non-expressive experiences are assumed to be contained within the realm of good experiences. As Leonhard and House state in their second statement, this type of experience arises out of ordinary experience. Hence, two additional axioms are created.

A4. GOOD EXPERIENCES CONTAINS EXPRESSIVE EXPERIENCES

A5. GOOD EXPERIENCES CONTAINS NOT EXPRESSIVE EXPERIENCES

The primitive relation "NOT" in A5 is intended to suggest the complement to the subset affected. For example, the set of all cars in the universe could be divided into two sets, each the complement of the other. One of these subsets could be blue cars, the complement to which would be "not blue cars", or, "all cars in the universe which are not blue." Therefore, the subset NOT EXPRESSIVE EXPERIENCES represents all pleasurable experiences in the subset GOOD EXPERIENCES which are not genuinely expressive (and are therefore

not contained in EXPRESSIVE EXPERIENCES) Hence, NOT EXPRESSIVE EXPERIENCES is the complement to EXPRESSIVE EXPERIENCES, as displayed in figure 3.

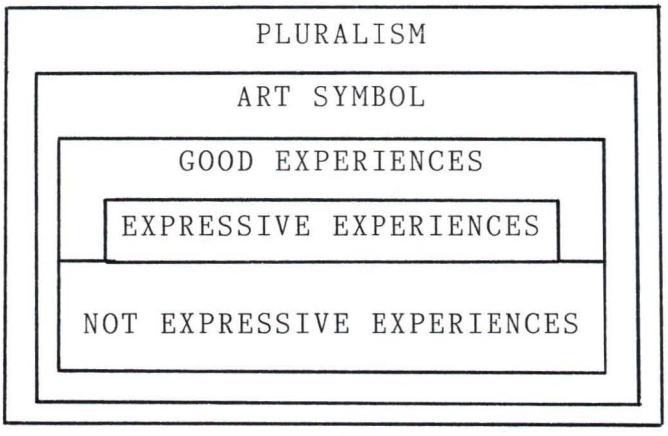

figure 3

The assumption made (or implied) by the authors of all three sources about the comparative value of the two types of good experience is quite clear. Schwadron, in his sixth statement, and Leonhard and House, in their thirteenth statement, make the assumption that genuinely expressive experiences with art symbols are better than experiences with art symbols which are pleasurable, but are not genuinely expressive.

A6. EXPRESSIVE EXPERIENCES ARE BETTER THAN NOT EXPRESSIVE EXPERIENCES

Leonhard and House state explicitly in their tenth statement that music education is primarily aesthetic education. They also assert in their ninth statement

that the basis of music education is the development of the natural responsiveness found in all people (to the symbolic representation of experience--the art symbol). To develop such responsiveness is to develop the ability to experience art symbols expressively. Therefore, aesthetic education must also develop this responsiveness to expressive experiences. In so doing, the assumption must be made that within the subset of EXPRESSIVE EXPERIENCES, there exists a subset of expressive experiences which are those that are experienced during the AESTHETIC EDUCATION process.

A7. EXPRESSIVE EXPERIENCES CONTAINS AESTHETIC EDUCATION

The assumption has been made that art symbols exist and can be expressively experienced as part of aesthetic education. Therefore, if music education is to be included in aesthetic education, there must be additional assumptions which establish music as an art symbol. Leonhard and House make two assumptions concerning music as an art symbol. In their third statement, they assume that music is the tonal analogue to the emotive life (and therefore is an art symbol). In their fourth statement, they continue this assumption with the statement that music is an art symbol because it symbolizes the tension and release

cycle found in the life of feeling which is part of expressive experiences.

The assumption referred to above is that music education is aesthetic education. Reimer also makes this assumption explicit in the opening pages of A Philosophy of Music Education. His entire philosophy is based on this one assumption. Although Schwadron does not make this assumption explicit in his philosophic statements, he does imply by the very topic of his book, Aesthetics: Dimensions for Music Education, that the study of aesthetics is the means by which to develop "aesthetic music education."

A8. AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION

Leonhard and House in their fourteenth statement have stated that all teaching and all music used in instruction should emphasize the expressiveness of music. Therefore, all experiences in music education should involve expressiveness. If this assumption is generalized to include all aesthetic education, then all aesthetic education experiences and all music education experiences are contained within the set of expressive experiences. These relationships are symbolized in the Venn diagram in figure 4.

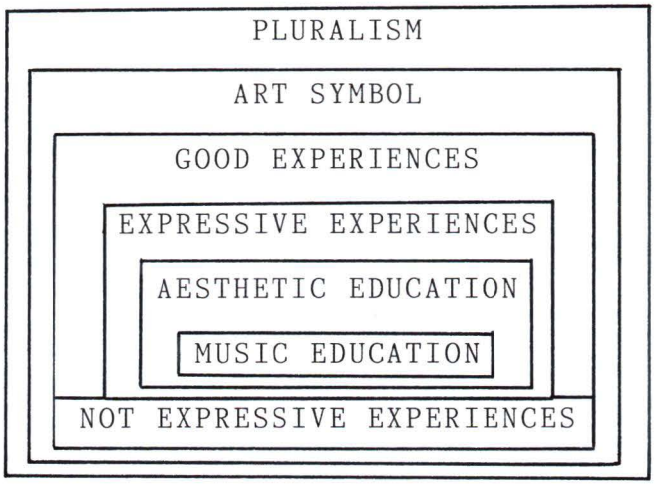

figure 4

Of the three sources, only Leonhard and House state explicitly in their statement of philosophy the types of experiences which should be contained in music education. However, both Schwadron and Reimer discuss the implications of their philosophies of aesthetic education for music educators and experiences in music education. Reimer devotes a chapter each for the applications of his philosophy to general music, performance of music, and the experience of music integrated with other art forms. These experiences and those which Schwadron refers to generally can be categorized into the three types of experience that Leonhard and House state in their eleventh statement. The three sub-sets of music education experiences are PERFORMING, LISTENING, and COMPOSING. These subsets do not represent all such experiences in the universe--

only those which occur as part of formal music education.

A9. MUSIC EDUCATION CONTAINS PERFORMING

A10. MUSIC EDUCATION CONTAINS LISTENING

A11. MUSIC EDUCATION CONTAINS COMPOSING

The type of music used in music education experiences adds an additional three axioms. Reimer, in his first and second statements, and Leonhard and House in their sixth, seventh, and fourteenth statements make the assumption that all music and all experience with music should be with genuinely expressive music--music that is capable of being expressively experienced by the learner. This expressiveness must also be the main focus of the music education program. In support of this second assumption, Reimer notes in his fourth statement that the language used by the educator should reflect the expressive nature of music and therefore should not be interpretive of the expressiveness. Instead, it should be descriptive of the elements of music which contribute to the expressiveness. Leonhard and House make the same assumption in their fifth statement. Since the assumption has already been made that music education contains performing, listening, and

composing, each of these aspects should therefore contain expressive music.

A12. PERFORMING CONTAINS EXPRESSIVE MUSIC

A13. LISTENING CONTAINS EXPRESSIVE MUSIC

A14. COMPOSING CONTAINS EXPRESSIVE MUSIC

The curriculum for music education is not included in the philosophic statements of Schwadron or Leonhard and House. However, in his third philosophic statement, Reimer suggests that the elements of music which make music expressive should be part of the curriculum. He lists melody, harmony, rhythm, tone colour, texture, and form as elements which contribute to the expressive nature of music and are present in genuinely expressive music. Although they don't include an explicit assumption about the presence of elements in expressive music, Leonhard and House do suggest that the diversity and complexity of musical elements contributes to the differentiation between good and great music (Leonhard and House 1970, 103).

A15. EXPRESSIVE MUSIC CONTAINS ELEMENTS

The inclusion of axioms seven through fifteen in the Venn diagram in figure 5 completes a visual representation of the relationships between the

primitive terms (excluding the relationships stated in axioms one, six, and sixteen through twenty).

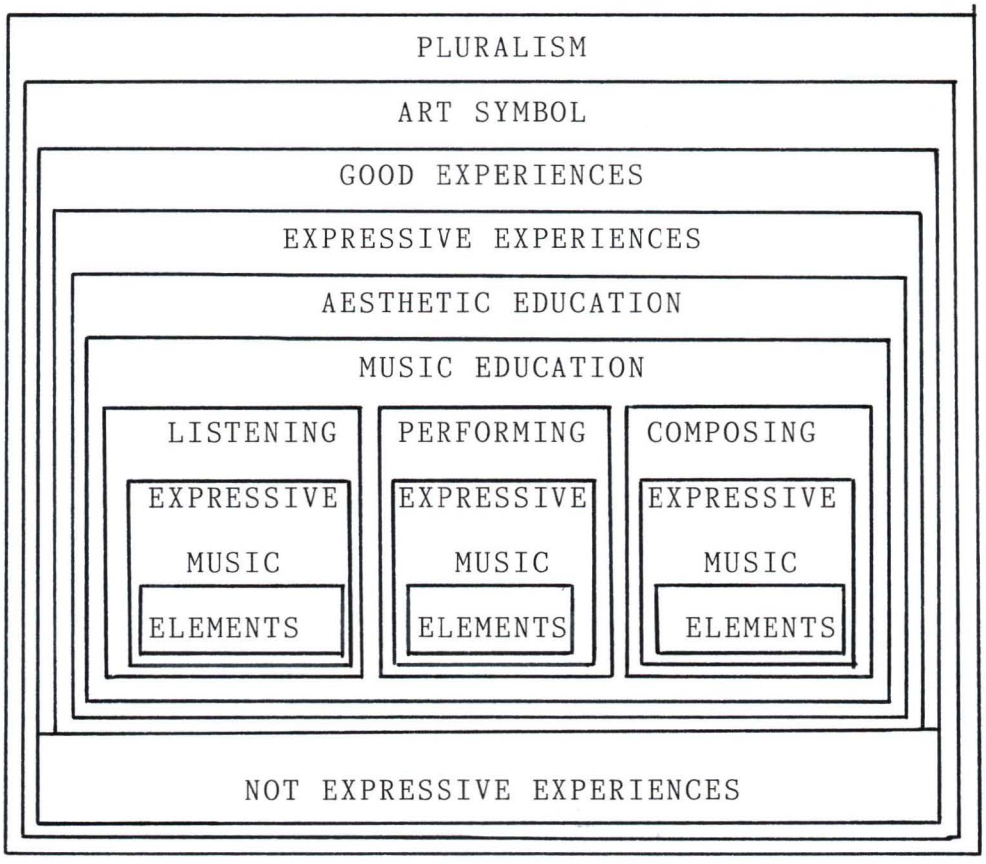

figure 5

The subsets of EXPRESSIVE MUSIC and ELEMENTS occur three times and are shown in figure 5 to be completely contained by three separate sets (LISTENING, PERFORMING, and COMPOSING). This representation is not intended to imply that the music used in these experiences is different for each type of experience or is separate from the universe of expressive music experiences not used in music education. Each

occurence of EXPRESSIVE MUSIC and ELEMENTS merely represents the music (and the elements present in the music) used during listening, performing, and composing experiences in formal music education.

Although the present philosophy is synthesized from music education philosophies from the "aesthetic era", there is still the mention of a utilitarian concept at the end of Leonhard's and House's philosophic statements. They state that certain non-musical values such as enriched home and community life are developed when a music education program is successfully operated with an emphasis on the expressive nature of music. Although they do not form the focus for music education, it is assumed that these and other desirable values are developed through music education.

A16. MUSIC EDUCATION INCREASES EXTRINSIC VALUES

Both Reimer and Schwadron state the need for frequent expressive experiences which gradually increase in complexity with the learner's ability to perceive the expressiveness. Schwadron states this in his third statement of philosophy. Implied by this is what Reimer states in his first statement of philosophy: the level of expressive complexity should be appropriate to the level of expressiveness that the

learner is able to perceive. As the learner develops aesthetically, this "appropriate" level of expressiveness also develops in increasing complexity. Hence, the level of complexity "grows" with the learner. Thus, the primitive term "GROWING" is used to suggest this increase in complexity and subtlety of expressive experiences.

A17. EVERYBODY NEEDS GROWING EXPRESSIVE EXPERIENCES

A18. EVERYBODY NEEDS APPROPRIATE LEVEL EXPRESSIVE EXPERIENCES

Two assumptions which are implicit in all three sources are that the result of successful aesthetic music education is the achievement of the aims of aesthetic education. This achievement means that the public (who must have experienced the aesthetic music education in order for it to be considered successful) will have reached its potential for perceiving expressive experiences, and will seek such experiences over merely pleasurable experiences. This is the assumption that Schwadron makes in his eighth statement--that aesthetic education will raise the level of the public's musical needs to genuinely expressive experiences. Another two of his statements

also support this assumption. In his first statement he assumes that aesthetic education will actually develop the aesthetic potential of individuals. His ninth statement is an assumption that the school is the logical place for the aesthetic (socio-musical) development of society to take place. Therefore, two axioms are resultant:

A19. MUSIC EDUCATION INCREASES AESTHETIC EDUCATION

A20. AESTHETIC EDUCATION INCREASES EXPRESSIVE EXPERIENCES

There are a number of statements from the source material which have not been included in the set of axioms. Two of these statements are definitions that Schwadron gives of the meaning of the aesthetic experience and the aesthetic event (the second and tenth statements, respectively). As they are definitions, they give concrete meaning to terms, and as such, cannot be included in an abstract system. These definitions do reflect the Langerian influence on Schwadron's philosophy, which is also present in the works of Reimer and Leonhard and House.

Theorems

The following theorems are those which logically arise from the interaction among the axioms and

theorems as they are established. Some theorems have more usefulness than others in a philosophy of music education, but since all of the theorems can be logically derived from the axioms, they are included to help determine the consistency of the system.

Each theorem is followed by a brief proof which uses Aristotelian logic.

T1. PLURALISM CONTAINS GOOD EXPERIENCES

Proof. Since by A2, PLURALISM CONTAINS ART SYMBOL, and by A3, ART SYMBOL CONTAINS GOOD EXPERIENCES, then PLURALISM CONTAINS GOOD EXPERIENCES.

T2. PLURALISM CONTAINS EXPRESSIVE EXPERIENCES

Proof: Since by T1, PLURALISM CONTAINS GOOD EXPERIENCES, and by A4, GOOD EXPERIENCES CONTAINS EXPRESSIVE EXPERIENCES, then PLURALISM CONTAINS EXPRESSIVE EXPERIENCES.

T3. PLURALISM CONTAINS AESTHETIC EDUCATION

Proof: Since by T2, PLURALISM CONTAINS EXPRESSIVE EXPERIENCES, and by A7, EXPRESSIVE EXPERIENCES CONTAINS AESTHETIC EDUCATION, then PLURALISM CONTAINS AESTHETIC EDUCATION.

T4. PLURALISM CONTAINS MUSIC EDUCATION

Proof: Since by T3, PLURALISM CONTAINS AESTHETIC EDUCATION, and by A8, AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION, then PLURALISM CONTAINS MUSIC EDUCATION.

T5. PLURALISM CONTAINS LISTENING

Proof: Since by T4, PLURALISM CONTAINS MUSIC EDUCATION, and by A10, MUSIC EDUCATION CONTAINS LISTENING, then PLURALISM CONTAINS LISTENING.

T6. PLURALISM CONTAINS PERFORMING

Proof: Since by T4, PLURALISM CONTAINS MUSIC EDUCATION, and by A9, MUSIC EDUCATION CONTAINS PERFORMING, then PLURALISM CONTAINS PERFORMING.

T7. PLURALISM CONTAINS COMPOSING

Proof. Since by T4, PLURALISM CONTAINS MUSIC EDUCATION, and by A11, MUSIC EDUCATION CONTAINS COMPOSING, then PLURALISM CONTAINS COMPOSING.

T8. MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC

Proof: Since by A10, MUSIC EDUCATION CONTAINS LISTENING, and by A13, LISTENING CONTAINS EXPRESSIVE MUSIC, then MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC.

T9. PLURALISM CONTAINS EXPRESSIVE MUSIC

Proof: Since by T4, PLURALISM CONTAINS MUSIC EDUCATION, and by T8, MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC, then PLURALISM CONTAINS EXPRESSIVE MUSIC.

T10. PLURALISM CONTAINS ELEMENTS

Proof: Since by T9, PLURALISM CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then PLURALISM CONTAINS ELEMENTS.

T11. PLURALISM CONTAINS NOT EXPRESSIVE EXPERIENCES

Proof: Since by T1, PLURALISM CONTAINS GOOD EXPERIENCES, and by A5, GOOD EXPERIENCES CONTAINS NOT EXPRESSIVE EXPERIENCES, then PLURALISM CONTAINS NOT EXPRESSIVE EXPERIENCES.

T12. ART SYMBOL CONTAINS EXPRESSIVE EXPERIENCES

Proof. Since by A3, ART SYMBOL CONTAINS GOOD EXPERIENCES, and by A4, GOOD EXPERIENCES CONTAINS EXPRESSIVE EXPERIENCES, then ART SYMBOL CONTAINS EXPRESSIVE EXPERIENCES.

T13. ART SYMBOL CONTAINS AESTHETIC EDUCATION

Proof: Since by T12, ART SYMBOL CONTAINS EXPRESSIVE EXPERIENCES, and by A7, EXPRESSIVE EXPERIENCES CONTAINS AESTHETIC EDUCATION, then ART SYMBOL CONTAINS AESTHETIC EDUCATION.

T14. ART SYMBOL CONTAINS MUSIC EDUCATION

Proof: Since by T13, ART SYMBOL CONTAINS AESTHETIC EDUCATION, and by A8, AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION, then ART SYMBOL CONTAINS MUSIC EDUCATION.

T15. ART SYMBOL CONTAINS EXPRESSIVE MUSIC

Proof: Since by T14, ART SYMBOL CONTAINS MUSIC EDUCATION, and by T8, MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC, then ART SYMBOL CONTAINS EXPRESSIVE MUSIC.

T16. ART SYMBOL CONTAINS LISTENING

Proof: Since by T14, ART SYMBOL CONTAINS MUSIC EDUCATION, and by A10, MUSIC EDUCATION CONTAINS LISTENING, then ART SYMBOL CONTAINS LISTENING.

T17. ART SYMBOL CONTAINS PERFORMING

Proof: Since by T14, ART SYMBOL CONTAINS MUSIC EDUCATION, and by A9, MUSIC EDUCATION CONTAINS PERFORMING, then ART SYMBOL CONTAINS PERFORMING.

T18. ART SYMBOL CONTAINS COMPOSING

Proof: Since by T14, ART SYMBOL CONTAINS MUSIC EDUCATION, and by A11, MUSIC EDUCATION CONTAINS COMPOSING, then ART SYMBOL CONTAINS COMPOSING.

T19. ART SYMBOL CONTAINS ELEMENTS

Proof: Since by T15, ART SYMBOL CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then ART SYMBOL CONTAINS ELEMENTS.

T20. ART SYMBOL CONTAINS NOT EXPRESSIVE EXPERIENCES

Proof: Since by A3, ART SYMBOL CONTAINS GOOD EXPERIENCES, and by A5, GOOD EXPERIENCES CONTAINS NOT

EXPRESSIVE EXPERIENCES, then ART SYMBOL CONTAINS NOT EXPRESSIVE EXPERIENCES.

T21. GOOD EXPERIENCES CONTAINS AESTHETIC EDUCATION

Proof: Since by A4, GOOD EXPERIENCES CONTAINS EXPRESSIVE EXPERIENCES, and by A7, EXPRESSIVE EXPERIENCES CONTAINS AESTHETIC EDUCATION, then GOOD EXPERIENCES CONTAINS AESTHETIC EDUCATION.

T22. GOOD EXPERIENCES CONTAINS MUSIC EDUCATION

Proof: Since by T21, GOOD EXPERIENCES CONTAINS AESTHETIC EDUCATION, and by A8, AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION, then GOOD EXPERIENCES CONTAINS MUSIC EDUCATION.

T23. GOOD EXPERIENCES CONTAINS EXPRESSIVE MUSIC

Proof: Since by T22, GOOD EXPERIENCES CONTAINS MUSIC EDUCATION, and by T8, MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC, then GOOD EXPERIENCES CONTAINS EXPRESSIVE MUSIC.

T24. GOOD EXPERIENCES CONTAINS LISTENING

Proof: Since by T22, GOOD EXPERIENCES CONTAINS MUSIC EDUCATION, and by A10, MUSIC EDUCATION CONTAINS LISTENING, then GOOD EXPERIENCES CONTAINS LISTENING.

T25. GOOD EXPERIENCES CONTAINS PERFORMING

Proof: Since by T22, GOOD EXPERIENCES CONTAINS MUSIC EDUCATION, and by A9, MUSIC EDUCATION CONTAINS PERFORMING, then GOOD EXPERIENCES CONTAINS PERFORMING.

T26. GOOD EXPERIENCES CONTAINS COMPOSING

Proof: Since by T22, GOOD EXPERIENCES CONTAINS MUSIC EDUCATION, and by A11, MUSIC EDUCATION CONTAINS COMPOSING, then GOOD EXPERIENCES CONTAINS COMPOSING.

T27. GOOD EXPERIENCES CONTAINS ELEMENTS

Proof: Since by T23, GOOD EXPERIENCES CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then GOOD EXPERIENCES CONTAINS ELEMENTS.

T28. EXPRESSIVE EXPERIENCES CONTAINS MUSIC EDUCATION

Proof: Since by A7, EXPRESSIVE EXPERIENCES CONTAINS AESTHETIC EDUCATION, and by A8, AESTHETIC EDUCATION

CONTAINS MUSIC EDUCATION, then EXPRESSIVE EXPERIENCES CONTAINS MUSIC EDUCATION.

T29. EXPRESSIVE EXPERIENCES CONTAINS EXPRESSIVE MUSIC

Proof: Since by T28, EXPRESSIVE EXPERIENCES CONTAINS MUSIC EDUCATION, and by T8, MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC, then EXPRESSIVE EXPERIENCES CONTAINS EXPRESSIVE MUSIC.

T30. EXPRESSIVE EXPERIENCES CONTAINS LISTENING

Proof: Since by T28, EXPRESSIVE EXPERIENCES CONTAINS MUSIC EDUCATION, and by A10, MUSIC EDUCATION CONTAINS LISTENING, then EXPRESSIVE EXPERIENCES CONTAINS LISTENING.

T31. EXPRESSIVE EXPERIENCES CONTAINS PERFORMING

Proof: Since by T28, EXPRESSIVE EXPERIENCES CONTAINS MUSIC EDUCATION, and by A9, MUSIC EDUCATION CONTAINS PERFORMING, then EXPRESSIVE EXPERIENCES CONTAINS PERFORMING.

T32. EXPRESSIVE EXPERIENCES CONTAINS COMPOSING

Proof: Since by T28, EXPRESSIVE EXPERIENCES CONTAINS MUSIC EDUCATION, and by A11, MUSIC EDUCATION CONTAINS

COMPOSING, then EXPRESSIVE EXPERIENCES CONTAINS COMPOSING.

T33. EXPRESSIVE EXPERIENCES CONTAINS ELEMENTS

Proof: Since by T29, EXPRESSIVE EXPERIENCES CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then EXPRESSIVE EXPERIENCES CONTAINS ELEMENTS.

T34. AESTHETIC EDUCATION CONTAINS EXPRESSIVE MUSIC

Proof: Since by A8, AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION, and by T8, MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC, then AESTHETIC EDUCATION CONTAINS EXPRESSIVE MUSIC.

T35. AESTHETIC EDUCATION CONTAINS LISTENING

Proof: Since by A8, AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION, and by A10, MUSIC EDUCATION CONTAINS LISTENING, then AESTHETIC EDUCATION CONTAINS LISTENING.

T36. AESTHETIC EDUCATION CONTAINS PERFORMING

Proof: Since by A8, AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION, and by A9, MUSIC EDUCATION CONTAINS

PERFORMING, then AESTHETIC EDUCATION CONTAINS PERFORMING.

T37. AESTHETIC EDUCATION CONTAINS COMPOSING

Proof: Since by A8, AESTHETIC EDUCATION CONTAINS MUSIC EDUCATION, and by A11, MUSIC EDUCATION CONTAINS COMPOSING, then AESTHETIC EDUCATION CONTAINS COMPOSING.

T38. AESTHETIC EDUCATION CONTAINS ELEMENTS

Proof: Since by T34, AESTHETIC EDUCATION CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then AESTHETIC EDUCATION CONTAINS ELEMENTS.

T39. MUSIC EDUCATION CONTAINS ELEMENTS

Proof: Since by T8, MUSIC EDUCATION CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then MUSIC EDUCATION CONTAINS ELEMENTS.

T40. EVERYBODY NEEDS GOOD EXPERIENCES

Proof: Since by A1, EVERYBODY NEEDS ART SYMBOL, and by A3, ART SYMBOL CONTAINS GOOD EXPERIENCES, then EVERYBODY NEEDS GOOD EXPERIENCES.

T41. EVERYBODY NEEDS EXPRESSIVE EXPERIENCES

Proof: Since by A1, EVERYBODY NEEDS ART SYMBOL, and by T12, ART SYMBOL CONTAINS EXPRESSIVE EXPERIENCES, then EVERYBODY NEEDS EXPRESSIVE EXPERIENCES.

T42. EVERYBODY NEEDS AESTHETIC EDUCATION

Proof: Since by A1, EVERYBODY NEEDS ART SYMBOL, and by T13, ART SYMBOL CONTAINS AESTHETIC EDUCATION, then EVERYBODY NEEDS AESTHETIC EDUCATION.

T43. EVERYBODY NEEDS MUSIC EDUCATION

Proof: Since by A1, EVERYBODY NEEDS ART SYMBOL, and by T14, ART SYMBOL CONTAINS MUSIC EDUCATION, then EVERYBODY NEEDS MUSIC EDUCATION.

T44. EVERYBODY NEEDS EXPRESSIVE MUSIC

Proof: Since by A1, EVERYBODY NEEDS ART SYMBOL, and by T15, ART SYMBOL CONTAINS EXPRESSIVE MUSIC, then EVERYBODY NEEDS EXPRESSIVE MUSIC.

T45. EVERYBODY NEEDS LISTENING

Proof: Since by T43, EVERYBODY NEEDS MUSIC EDUCATION, and by A10, MUSIC EDUCATION CONTAINS LISTENING, then EVERYBODY NEEDS LISTENING.

T46. EVERYBODY NEEDS PERFORMING

Proof: Since by T43, EVERYBODY NEEDS MUSIC EDUCATION, and by A9, MUSIC EDUCATION CONTAINS PERFORMING, then EVERYBODY NEEDS PERFORMING.

T47. EVERYBODY NEEDS COMPOSING

Proof: Since by T43, EVERYBODY NEEDS MUSIC EDUCATION, and by A11, MUSIC EDUCATION CONTAINS COMPOSING, then EVERYBODY NEEDS COMPOSING.

T48. EVERYBODY NEEDS ELEMENTS

Proof: Since by A1, EVERYBODY NEEDS ART SYMBOL, and by T19, ART SYMBOL CONTAINS ELEMENTS, then EVERYBODY NEEDS ELEMENTS.

T49. EVERYBODY NEEDS NOT EXPRESSIVE EXPERIENCES

Proof: Since by A1, EVERYBODY NEEDS ART SYMBOL, and by T20, ART SYMBOL CONTAINS NOT EXPRESSIVE EXPERIENCES, then EVERYBODY NEEDS NOT EXPRESSIVE EXPERIENCES.

This last theorem appears to contradict T41, but the initial assumption was made that both expressive experiences and not expressive experiences exist and that everybody needs good experiences. The implication, then, is that everybody needs both kinds of good experience, but will experience more expressive experiences than not expressive experiences as they develop aesthetically.

T50. LISTENING CONTAINS ELEMENTS

Proof: Since by A13, LISTENING CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then LISTENING CONTAINS ELEMENTS.

T51. PERFORMING CONTAINS ELEMENTS

Proof: Since by A12, PERFORMING CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then PERFORMING CONTAINS ELEMENTS.

T52. COMPOSING CONTAINS ELEMENTS

Proof. Since by A14, COMPOSING CONTAINS EXPRESSIVE MUSIC, and by A15, EXPRESSIVE MUSIC CONTAINS ELEMENTS, then COMPOSING CONTAINS ELEMENTS.

CHAPTER FOUR

METATHEORETICAL PROPERTIES

In order to study the metatheoretical properties of an axiomatic system, one or more models from the real world must be identified. These models are used to determine the properties of consistency, independence, and categoricalness of an abstract system. The models can be either concrete (substituting a set of "real things" for the primitive terms in the system) or ideal (substituting another abstract system for the primitive terms). In the present study, the only concrete models which represent the axiomatic system in the real world are actual music education programs where the learning, and hence the aesthetic/music education, takes place. This statement is supported by the assumption that music education programs involve the extensive use of music, which only exists in time as it is performed and perceived. As such a model exists in time as well as space, it cannot be used in a study such as the present one which requires documentation. The use of a written record of a time/space model in a study would negate the model's concreteness, as the model is only concrete as it exists in time. Therefore, the only models which can

be used to study the metatheoretical properties of the present system are ideal models which do not exist in time.

The Model

Since a practical model of an actual music education program is not appropriate for the present study, an alternate more abstract model is needed. The document which sets out a general music education program in its abstract form is a curriculum guide. The curriculum used as a model in this study will be the British Columbia Elementary Fine Arts Curriculum Guide / Resource Book, hereafter referred to as the B.C. Curriculum Guide.

The B.C. Curriculum Guide is well suited to model an axiomatic system. The levels of specificity for goals and objectives are very clear. The curriculum begins with a statement of philosophy and a list of six broad goals for the curriculum. Each of these goals is broken down further into several learning outcomes for each of the three fine arts areas: art, drama, and music. Some of these learning outcomes are further defined by a scope and sequence chart of specific instructional objectives for each of the elementary grades one to seven. However, there is no direct logical connection between some of the learning

outcomes and the objectives on the scope and sequence chart. Therefore, since there is a logical step missing between the learning outcomes and the scope and sequence chart, the specific objectives on the scope and sequence chart will not be used.

Philosophy

The philosophy stated in the B.C. Curriculum Guide is a series of five sentences concerning the nature of arts education.

> Education in the arts is an essential part of the development of every child. Participation in art, drama, and music provides a unique mode of experience that stimulates creative and intuitive thought while developing the intellect. Arts education assists the child to perceive and respond to the environment through the senses. It also helps the child to achieve self-discipline, to experience success, and to realize personal potential. Learning through the arts provides a fuller understanding and enjoyment of life (British Columbia 1985, 3).

Goals

There are six goals for elementary fine arts education in the B.C. Curriculum Guide.

1. to foster the child's enthusiasm for the arts through involvement in art, drama, and music,
2. to develop the child's ability to explore, express, communicate, interpret, and create,
3. to develop the child's skill and technical ability in the arts;
4. to nurture the child's capacity for critical and sensitive response to the arts,
5. to encourage the child's appreciation of the interrelatedness of the arts, and

6. to advance the child's knowledge of the ways in which the arts influence and are influenced by society and the environment.

(British Columbia 1985, 3)

Learning Outcomes

There are thirty learning outcomes stated in the B.C. Curriculum Guide in the music section. The numbers of each of the learning outcomes are in reference, respectively, to the goal which the learning outcome addresses, the subject addressed (art, drama, or music), and the learning outcome itself.

By the end of grade seven, the student will be able to:

1.3.1 demonstrate interest and participate actively in music, individually and in groups;
1.3.2 demonstrate appreciation and understanding of musical work including that of other students.

2.3.1 use a variety of media and techniques to explore the elements of music;
2.3.2 demonstrate an ability to express personal feelings and ideas through music;
2.3.3 demonstrate an ability to communicate images through sound and music;
2.3.4 demonstrate an ability to improvise and work experimentally with sound;
2.3.5 demonstrate the use of appropriate music vocabulary and notation.

3.3.1 recognize, create, and perform rhythmic patterns;
3.3.2 recognize, create, and perform melodic patterns;
3.3.3 recognize, create, and perform dynamic variation within musical works;
3.3.4 recognize, create, and perform variations of tempo within musical works;
3.3.5 demonstrate a knowledge of the principles of harmony;
3.3.6 demonstrate a knowledge of musical timbre;

3.3.7 demonstrate the ability to use the voice appropriately,
3.3.8 demonstrate the ability to identify and use a variety of musical instruments,
3.3.9 recognize how elements of music are organized to produce musical form,
3.3.10 demonstrate concern for the safety and well-being of self and others.

4.3.1 demonstrate an awareness of and sensitivity to rhythm, melody, dynamics, tempo, harmony, timbre, and mood in sound and music,
4.3.2 identify and describe similarities, differences, and relationships in the sound environment,
4.3.3 evaluate music knowledgeably and express preferences.

5.3.1 recognize and appreciate the musical qualities found in visual art and drama,
5.3.2 demonstrate a knowledge of styles and forms of musical expression,
5.3.3 demonstrate a knowledge of works that combine two or more musical forms,
5.3.4 demonstrate a knowledge of works that combine different forms of the arts.

6.3.1 demonstrate an understanding of the role of music in the community,
6.3.2 recognize the impact of music on contemporary society,
6.3.3 understand how musicians reflect their cultural heritage in their work,
6.3.4 demonstrate an awareness of Canadian musicians and their work,
6.3.5 demonstrate an understanding of the role and use of music in different cultures,
6.3.6 recognize the expectations for participation as a member of the audience.

(British Columbia 1985, 4-6)

It is interesting to note that several of the learning outcomes reflect a bias towards a referential aesthetic theory where the art is used for the communication of personal ideas and feelings, rather than significant form which embodies the life of feeling in general. This bias could be part of the

philosophical beliefs of the authors of the curriculum, or it could be a inclination towards a pedagogy of aesthetic development where referential aesthetic perception is developed before absolute aesthetic perception.

Consistency

The primitive terms of an axiomatic system are variables. These variables can be substituted with concrete things to make the axioms statements which are true or false. They can also be substituted with the primitive terms of another abstract system which leaves the axioms as postulates which are only as consistent as the substituting system.

In the present example, the axiomatic system will be presented in terms of the B.C. Curriculum Guide philosophy, goals, and learning outcomes. Each primitive term of the axiomatic system is listed below with a term or set of terms used in the B.C. Curriculum Guide. These terms have been selected because they reflect the meanings suggested by the primitive terms. However, as the primitive terms are variables which can be replaced by any concrete terms, there is no further logical argument given for the selection of any of the terms. The substitution by concrete terms is repeated for the primitive terms throughout the following

presentation of the axiomatic system. The source of each substituted term is given in parentheses following the stated substitution.

Primitive Terms:

PLURALISM - CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE
(learning outcomes 6.3.2 - 6.3.5)

ART SYMBOL - ART, MUSIC, DRAMA
(philosophy sentence 2)

GOOD EXPERIENCES - ENJOYMENT OF LIFE
(philosophy sentence 4)

EXPRESSIVE EXPERIENCES - CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES
(philosophy sentence 2)

AESTHETIC EDUCATION - ARTS EDUCATION
(philosophy sentence 3)

MUSIC EDUCATION - MUSIC EDUCATION
(philosophy sentence 2)

LISTENING - LISTENING
(learning outcomes 3.3.1 - 3.3.4, 4.3.2)

PERFORMING - VOCAL AND INSTRUMENTAL PERFORMING
(learning outcomes 3.3.7, 3.3.8)

COMPOSING - CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

(learning outcomes 3.3.1 - 3.3.4, 2.3.2 - 2.3.4)

EXPRESSIVE MUSIC - TEACHER'S SELECTION OF MUSIC

Although examples are given in the B.C. Curriculum Guide which refer to specific musical works, there are no references which refer to specific musical works for every learning outcome or objective. The assumption made in the guide is that individual teachers are responsible for choosing the musical material to be used in the classroom to meet the objectives. This is a practical assumption, as it gives teachers the freedom to select appropriate musical examples from the vast repertoire of musical works. Furthermore, there is no stipulation in the guide as to the level of aesthetic complexity or expressiveness that should be present in a musical work in order for it to be appropriate for a learning experience. This too is left to the individual teacher to determine. Therefore, as there is no reference in the model which states which musical examples (expressive or otherwise) are to be used in music education experiences, the model implies that the selection of musical examples

will be made by the teacher. Hence, the primitive term EXPRESSIVE MUSIC is substituted by TEACHER'S SELECTION OF MUSIC.

ELEMENTS - RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

(learning outcomes 4.3.1, 5.3.2 - 5.3.4)

EXTRINSIC VALUES - CONCERN FOR SAFETY, WELL-BEING OF SELF AND OTHERS, SELF-DISCIPLINE, SUCCESS, PERSONAL POTENTIAL, AWARENESS OF APPROPRIATE AUDIENCE BEHAVIOR

(learning outcome 3.3.10, 6.3.6, philosophy sentence 4)

EVERYBODY - GRADE 1-7 STUDENTS

(preamble to all learning outcomes)

Primitive Relations:

CONTAINS

INCREASES

NOT

ARE BETTER THAN

NEED

APPROPRIATE LEVEL

GROWING

Axioms

A1. GRADE 1-7 STUDENTS NEED ART, MUSIC, DRAMA

A2. CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN ART, MUSIC, DRAMA.

A3. ART, MUSIC, DRAMA CONTAIN ENJOYMENT OF LIFE

A4. ENJOYMENT OF LIFE CONTAINS CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

A5. ENJOYMENT OF LIFE CONTAINS NOT CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

A6. CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES ARE BETTER THAN NOT CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

A7. CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES CONTAIN ARTS EDUCATION

A8. ARTS EDUCATION CONTAINS MUSIC EDUCATION

A9. MUSIC EDUCATION CONTAINS VOCAL AND INSTRUMENTAL PERFORMING

A10. MUSIC EDUCATION CONTAINS LISTENING

A11. MUSIC EDUCATION CONTAINS CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

A12. VOCAL AND INSTRUMENTAL PERFORMING CONTAINS TEACHER'S SELECTION OF MUSIC

A13. LISTENING CONTAINS TEACHER'S SELECTION OF MUSIC

A14. CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING CONTAIN TEACHER'S SELECTION OF MUSIC

A15. TEACHER'S SELECTION OF MUSIC CONTAINS RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

A16. MUSIC EDUCATION INCREASES CONCERN FOR SAFETY, WELL-BEING OF SELF AND OTHERS, SELF-DISCIPLINE, SUCCESS, PERSONAL POTENTIAL, AWARENESS OF APPROPRIATE AUDIENCE BEHAVIOR

A17. GRADE 1-7 STUDENTS NEED GROWING CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

A18. GRADE 1-7 STUDENTS NEED APPROPRIATE LEVEL CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

A19. MUSIC EDUCATION INCREASES ARTS EDUCATION

A20. ARTS EDUCATION INCREASES CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

Theorems

T1. CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN ENJOYMENT OF LIFE

T2. CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

T3. CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN ARTS EDUCATION

T4. CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN MUSIC EDUCATION

T5 CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN LISTENING

T6 CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN VOCAL AND INSTRUMENTAL PERFORMING

T7 CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

T8 MUSIC EDUCATION CONTAINS TEACHER'S SELECTION OF MUSIC

T9 CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN TEACHER'S SELECTION OF MUSIC

T10 CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T11 CONTEMPORARY SOCIETY, DIFFERENT CULTURES, CANADIAN CULTURE CONTAIN NOT CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

T12 ART, MUSIC, DRAMA CONTAIN CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

T13 ART, MUSIC, DRAMA CONTAIN ARTS EDUCATION

T14 ART, MUSIC, DRAMA CONTAIN MUSIC EDUCATION

T15 ART, MUSIC, DRAMA CONTAIN TEACHER'S SELECTION OF MUSIC

T16 ART, MUSIC, DRAMA CONTAIN LISTENING

T17. ART, MUSIC, DRAMA CONTAIN VOCAL AND INSTRUMENTAL PERFORMING

T18. ART, MUSIC, DRAMA CONTAIN CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

T19. ART, MUSIC, DRAMA CONTAIN RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T20. ART, MUSIC, DRAMA CONTAIN NOT CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

T21. ENJOYMENT OF LIFE CONTAINS ARTS EDUCATION

T22. ENJOYMENT OF LIFE CONTAINS MUSIC EDUCATION

T23. ENJOYMENT OF LIFE CONTAINS TEACHER'S SELECTION OF MUSIC

T24. ENJOYMENT OF LIFE CONTAINS LISTENING

T25. ENJOYMENT OF LIFE CONTAINS VOCAL AND INSTRUMENTAL PERFORMING

T26. ENJOYMENT OF LIFE CONTAINS CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

T27. ENJOYMENT OF LIFE CONTAINS RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T28. CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES CONTAIN MUSIC EDUCATION

T29. CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES CONTAIN TEACHER'S SELECTION OF MUSIC

T30 CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES CONTAIN LISTENING

T31 CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES CONTAIN VOCAL AND INSTRUMENTAL PERFORMING

T32 CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES CONTAIN CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

T33 CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES CONTAIN RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T34 ARTS EDUCATION CONTAINS TEACHER'S SELECTION OF MUSIC

T35 ARTS EDUCATION CONTAINS LISTENING

T36 ARTS EDUCATION CONTAINS VOCAL AND INSTRUMENTAL PERFORMING

T37 ARTS EDUCATION CONTAINS CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

T38 ARTS EDUCATION CONTAINS RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T39 MUSIC EDUCATION CONTAINS RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T40 GRADE 1-7 STUDENTS NEED ENJOYMENT OF LIFE

T41. GRADE 1-7 STUDENTS NEED CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

T42. GRADE 1-7 STUDENTS NEED ARTS EDUCATION

T43. GRADE 1-7 STUDENTS NEED MUSIC EDUCATION

T44. GRADE 1-7 STUDENTS NEED TEACHER'S SELECTION OF MUSIC

T45. GRADE 1-7 STUDENTS NEED LISTENING

T46. GRADE 1-7 STUDENTS NEED VOCAL AND INSTRUMENTAL PERFORMING

T47. GRADE 1-7 STUDENTS NEED CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING

T48. GRADE 1-7 STUDENTS NEED RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T49. GRADE 1-7 STUDENTS NEED NOT CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES

T50. LISTENING CONTAINS RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T51. VOCAL AND INSTRUMENTAL PERFORMING CONTAIN RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

T52. CREATING RHYTHM, MELODY, DYNAMICS, TEMPO, EXPRESSING FEELINGS, COMMUNICATING IMAGES, IMPROVISING CONTAIN RHYTHM, MELODY, DYNAMICS, TEMPO, HARMONY, TIMBRE, MOOD, FORM

There are two apparent contradictions in the model. One of these is A14. This statement suggests

that in the composition of music undertaken by the student, the teacher will dictate the music to be composed. However, this does not mean that the teacher controls the student's creative process. It merely suggests that for the purposes of instruction, the teacher should direct the elements or style of music with which the student is to create, in order to reinforce the conceptualization of these elements or musical style.

The second apparent contradiction in the system is T49. The statement appears to defeat the entire purpose of music education. However, it should be noted that NOT EXPRESSIVE EXPERIENCES (listed in this model as NOT CREATIVELY, INTUITIVELY, INTELLECTUALLY STIMULATING EXPERIENCES) is not contained in AESTHETIC EDUCATION (ARTS EDUCATION) or MUSIC EDUCATION. Therefore, this theorem is merely a statement about life outside of aesthetic/music education. It is proven only by the assumption that if the need for non-expressive experiences with art symbols did not exist, then the major sources of art for society (television, film, recordings, etc.) might reflect the need for expressive experiences much more than they currently do.

Apart from these two apparent contradictions which are disclaimed above, there appear to be no contra-

dictory statements in the model. Therefore the system must be consistent. However, since an abstract model was used to prove its consistency, the system can only be considered relatively consistent, as it is only as consistent as the model that was used to prove its consistency.

Independence

The traditional test for the independence of the axioms of a system requires that new consistent systems be created in which each of the axioms is excluded. In the present study this test would therefore require the creation of twenty separate consistent axiomatic systems. However, even if each axiom were proved to be independent and therefore could be eliminated to create a new axiomatic system, the elimination of any of the axioms would eliminate one or more of the original philosophical statements used to derive the axioms. Although this would create new axiomatic systems of music education philosophy, the purpose of the present study is to establish a system of philosophy which is solely derived from the source material. Hence, additional axiomatic systems developed from the elimination of independent axioms are not examined in this study. However, the independence of the axioms in this system is studied, as the identification of

dependent axioms in the system allows for a further refinement of the system by stating dependent axioms as theorems which can be deduced from the remaining axioms.

The relatively large number of primitive terms in the present system allows for a method of proving the independence of some of the axioms which is simpler than the method referred to above. If a primitive term, relation, operation, or concept is used in only one axiom, then that axiom must be independent, as the concept has not been used in any other axioms and therefore can't be derived from any combination of axioms. Weyl (1949) refers to this method as a trivial but acceptable method of proving independence.

By this method, we can prove the independence of the following axioms: A1, A6, A15, A16, A17, A18. Each of these axioms contains a unique primitive term or relation not used in other axioms.

The relatively trivial nature of the logic used in most of the remaining axioms provides the basis for the proof of independence for these axioms. Of the remaining axioms, twelve of them are associated by a direct link. As stated previously, the primitive relation of CONTAINS is used to mean CONTAINS ALL OF THE SUBSET, and therefore each of the axioms in A2 - A5, and A7 - A15 (inclusive) is a statement about a

subset contained in a larger set. This linkage was symbolized by a Venn diagram in figure 5.

Two of the remaining axioms (A19, A20) are also associated by a direct link. This link is independent from the other axioms as it involves the primitive relation "INCREASES" which is unique to these two axioms. If this primitive relation is represented by an arrow, the linkage is represented by figure 6.

MUSIC EDUCATION → AESTHETIC EDUCATION → EXPRESSIVE EXPERIENCES

figure 6.

It therefore remains to be proven that the direct logical link suggested in the two above cases actually proves the independence of the axioms involved.

A simple tenet of Aristotelian logic is that if A implies B and B implies C, then A implies C. This can be restated in terms of the above two cases. In the first case, if A contains B and B contains C, then A contains C. In the second case, if A increases B and B increases C, then A increases C. Therefore, if it can be proven that the first two premises of this law of logic (referred to by Kane et al as the Law of the Syllogism) are independent (and the conclusion is dependent), then the axioms involved in the two above cases are independent.

To prove this independence, a simple axiomatic system is given below which represents the Law of the Syllogism.

Primitive Terms	Primitive Relation
A, B, C, D, E	CONTAINS (meaning CONTAINS ALL OF THE SUBSET)

Axioms

A1. A CONTAINS B

A2. B CONTAINS C

A3. C CONTAINS D

A4. D CONTAINS E

Theorems

T1. A CONTAINS C

Proof: by the Law of the Syllogism, if A CONTAINS B and B CONTAINS C, then A CONTAINS C.

T2. A CONTAINS D

Proof: since by T1, A CONTAINS C and by the Law of the Syllogism, if A CONTAINS C and C CONTAINS D, then A CONTAINS D.

T3. A CONTAINS E

Proof: since by T2, A CONTAINS D and by the Law of the Syllogism, if A CONTAINS D and D CONTAINS E, then A CONTAINS E.

T4. B CONTAINS D

Proof: by the Law of the Syllogism, if B CONTAINS C and C CONTAINS D, then B CONTAINS D.

T5. B CONTAINS E

Proof: since by T4, B CONTAINS D and by the Law of the Syllogism, if B CONTAINS D and D CONTAINS E, then B CONTAINS E.

T6. C CONTAINS E

Proof: by the Law of the Syllogism, if C CONTAINS D and D CONTAINS E, then C CONTAINS E.

To prove the independence of the axioms of this system, four additional systems are given below, each with a different axiom of the original system eliminated to prove its independence.

System 1

A1. B CONTAINS C

A2. C CONTAINS D

A3. D CONTAINS E

Theorems

T1. B CONTAINS D

Proof: by the Law of the Syllogism, if B CONTAINS C and C CONTAINS D, then B CONTAINS D.

T2. B CONTAINS E

Proof: since by T1, B CONTAINS D and by the Law of the Syllogism, if B CONTAINS D and D CONTAINS E, then B CONTAINS E.

T3. C CONTAINS E

Proof: by the Law of the Syllogism, if C CONTAINS D and D CONTAINS E, then C CONTAINS E.

System 2

A1. A CONTAINS B

A2. C CONTAINS D

A3. D CONTAINS E

Theorems

T1. C CONTAINS E

Proof: by the Law of the Syllogism, if C CONTAINS D and D CONTAINS E, then C CONTAINS E.

System 3

A1. A CONTAINS B

A2. B CONTAINS C

A3. D CONTAINS E

Theorems

T1. A CONTAINS C

Proof: by the Law of the Syllogism, if A CONTAINS B and B CONTAINS C, then A CONTAINS C.

System 4

A1. A CONTAINS B

A2. B CONTAINS C

A3. C CONTAINS D

Theorems

T1. A CONTAINS C

Proof: by the Law of the Syllogism, if A CONTAINS B and B CONTAINS C, then A CONTAINS C.

T2. A CONTAINS D

Proof. since by T1, A CONTAINS C and by the Law of the Syllogism, if A CONTAINS C and C CONTAINS D, then A CONTAINS D.

T4. B CONTAINS D

Proof: by the Law of the Syllogism, if B CONTAINS C and C CONTAINS D, then B CONTAINS D.

Because of the mathematical simplicity of this system, it should be apparent to the reader by inspection that there are no contradictions in the

working out of the theorems of any one of the new systems. For example, in System 1, the only change in the system is the removal of the logical link of A to B. The rest of the system remains consistent. The number of trivial theorems obtainable is lowered, but the remaining theorems are consistent. Similarly, when an axiom from the middle of the linkage system is removed in System 2, only the logical link between B and C is removed. The rest of the system remains consistent.

Therefore, the first two premises of the Law of the Syllogism constitute an independent set of axioms (even when the law is repeated several times to make a larger system). Hence, the axioms in the two cases referred to above are also independent, since they represent the first two premises of the Law of the Syllogism repeated several times.

As previously stated, the independence of axioms is not a necessary property of an axiomatic system--merely an economic or aesthetic property. The uniqueness of some axioms in the present system and the direct logical linkage of other axioms in the system prove the independence, and therefore the economy and aesthetic value of the system.

Categoricalness

To prove the categoricalness of an axiomatic system, two models for the system must be identified. These two (or more) models are then compared to establish if there is a one-to-one correspondence between the elements and relations. If so, the models are isomorphic and the system is categorical.

The second model of the system will be the Nova Scotia Music: Primary to Four curriculum development teaching guide. This curriculum was chosen because it was written at approximately the same time as the British Columbia curriculum, but was written by an entirely different panel of educators, geographically removed from British Columbia. Although it was written in 1981, four years earlier than the British Columbia guide, it is assumed that such a time difference would not make a significant difference in the development of a curriculum.

It is hypothesized that the two curricula will be isomorphic.

Philosophy

The philosophy of Music: Primary to Four is stated in four paragraphs, each addressing a different concept. The first paragraph deals with the nature of music. The authors state that music uses organized

sound and silence in singing, movement, listening, and that music is a means of expression that involves feeling.

The second paragraph is a direct quote from Music in General Education edited by Ernst and Gary. This quote is a statement about the need for music education as a part of general education.

The third paragraph is a statement of philosophy for general education. This statement is followed by the assertion that music contributes to the goals of general education.

The fourth paragraph is a statement of the philosophy of music education in the early grades. In this statement the authors emphasise active participation (performance) in order to develop skills which in turn, develop self-confidence and self-esteem.

Goals

There are five aims of music education listed in Music: Primary to Four:

> The study of music contributes to the achievement of the general aims of education by helping the student to:
> 1. Acquire an ability to articulate and communicate by learning to use the voice confidently and expressively in speech and song.
>
> 2. Listen with understanding by developing skills in listening to music.

3 Be able to manipulate symbols with understanding by developing an ability to interpret musical notation.

4 Develop an understanding of the importance of order by understanding the importance of structure in music.

5 Develop an understanding of the relationships existing among the various disciplines by understanding the relationship existing between music and other areas of human endeavor.
(Nova Scotia 1981)

Primitive Terms:

PLURALISM - SOCIETY

(statement of philosophy, paragraph 3)

ART SYMBOL - MUSIC

(statement of philosophy, paragraph 1)

GOOD EXPERIENCES - PERSONALLY REWARDING AND FULFILLING LIVES

(statement of philosophy, paragraph 3)

EXPRESSIVE EXPERIENCES - EXPERIENCES OF EXPRESSION INVOLVING FEELING

(statement of philosophy, paragraph 1)

AESTHETIC EDUCATION - UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES

(aim 5)

MUSIC EDUCATION - MUSIC EDUCATION

(statement of philosophy, paragraph 4)

LISTENING - LISTEN WITH UNDERSTANDING

(aim 2)

PERFORMING - SINGING AND MOVEMENT

(statement of philosophy, paragraph 1)

COMPOSING - ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

(aims 1, 3)

EXPRESSIVE MUSIC - TEACHER'S SELECTION OF MUSIC

As with the previous model, TEACHER'S SELECTION OF MUSIC is the best replacement for EXPRESSIVE MUSIC. Although in Music: Primary to Four, there are specific references to musical examples, the guide suggests that teachers find their own sources (Nova Scotia 1981, 5).

ELEMENTS - RHYTHM, TIMBRE, MELODY, FORM

(aims 2, 4)

EXTRINSIC VALUES - SELF-ESTEEM

(statement of philosophy, paragraph 4)

EVERYBODY - KINDERGARTEN TO GRADE 4 STUDENTS

(title)

Primitive Relations

CONTAINS

INCREASES

NOT

ARE BETTER THAN

NEED

APPROPRIATE LEVEL

GROWING

Axioms

A1. KINDERGARTEN TO GRADE 4 STUDENTS NEED MUSIC

A2. SOCIETY CONTAINS MUSIC

A3. MUSIC CONTAINS PERSONALLY REWARDING AND FULFILLING LIVES

A4. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN EXPERIENCES OF EXPRESSION INVOLVING FEELING

A5. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN NOT EXPERIENCES OF EXPRESSION INVOLVING FEELING

A6. EXPERIENCES OF EXPRESSION INVOLVING FEELING ARE BETTER THAN NOT EXPERIENCES OF EXPRESSION INVOLVING FEELING

A7. EXPERIENCES OF EXPRESSION INVOLVING FEELING CONTAIN UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES

A8. UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES CONTAINS MUSIC EDUCATION

A9. MUSIC EDUCATION CONTAINS SINGING AND MOVEMENT

A10. MUSIC EDUCATION CONTAINS LISTENING WITH UNDERSTANDING

A11. MUSIC EDUCATION CONTAINS ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

A12. SINGING AND MOVEMENT CONTAINS TEACHER'S SELECTION OF MUSIC

A13. LISTENING WITH UNDERSTANDING CONTAINS TEACHER'S SELECTION OF MUSIC

A14. ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS CONTAINS TEACHER'S SELECTION OF MUSIC

A15. TEACHER'S SELECTION OF MUSIC CONTAINS RHYTHM, TIMBRE, MELODY, FORM

A16. MUSIC EDUCATION INCREASES SELF-ESTEEM

A17. KINDERGARTEN TO GRADE 4 STUDENTS NEED GROWING EXPERIENCES OF EXPRESSION INVOLVING FEELING

A18. KINDERGARTEN TO GRADE 4 STUDENTS NEED APPROPRIATE LEVEL EXPERIENCES OF EXPRESSION INVOLVING FEELING

A19. MUSIC EDUCATION INCREASES UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES

A20. UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES INCREASES EXPERIENCES OF EXPRESSION INVOLVING FEELING

Theorems

T1. SOCIETY CONTAINS PERSONALLY REWARDING AND FULFILLING LIVES

T2. SOCIETY CONTAINS EXPERIENCES OF EXPRESSION INVOLVING FEELING

T3. SOCIETY CONTAINS UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES

T4. SOCIETY CONTAINS MUSIC EDUCATION

T5. SOCIETY CONTAINS LISTENING WITH UNDERSTANDING

T6. SOCIETY CONTAINS SINGING AND MOVEMENT

T7. SOCIETY CONTAINS ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

T8. MUSIC EDUCATION CONTAINS TEACHER'S SELECTION OF MUSIC

T9. SOCIETY CONTAINS TEACHER'S SELECTION OF MUSIC

T10. SOCIETY CONTAINS RHYTHM, TIMBRE, MELODY, FORM

T11. SOCIETY CONTAINS NOT EXPERIENCES OF EXPRESSION INVOVLING FEELING

T12. MUSIC CONTAINS EXPERIENCES OF EXPRESSION INVOLVING FEELING

T13. MUSIC CONTAINS UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES

T14. MUSIC CONTAINS MUSIC EDUCATION

T15. MUSIC CONTAINS TEACHER'S SELECTION OF MUSIC

T16. MUSIC CONTAINS LISTENING WITH UNDERSTANDING

T17. MUSIC CONTAINS SINGING AND MOVEMENT

T18. MUSIC CONTAINS ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

T19. MUSIC CONTAINS RHYTHM, TIMBRE, MELODY, FORM

T20. MUSIC CONTAINS NOT EXPERIENCES OF EXPRESSION INVOLVING FEELING

T21. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES

T22. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN MUSIC EDUCATION

T23. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN TEACHER'S SELECTION OF MUSIC

T24. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN LISTENING WITH UNDERSTANDING

T25. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN SINGING AND MOVEMENT

T26. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

T27. PERSONALLY REWARDING AND FULFILLING LIVES CONTAIN RHYTHM, TIMBRE, MELODY, FORM

T28. EXPERIENCES OF EXPRESSION INVOLVING FEELING CONTAIN MUSIC EDUCATION

T29. EXPERIENCES OF EXPRESSION INVOLVING FEELING CONTAIN TEACHER'S SELECTION OF MUSIC

T30. EXPERIENCES OF EXPRESSION INVOLVING FEELING CONTAIN LISTENING WITH UNDERSTANDING

T31. EXPERIENCES OF EXPRESSION INVOLVING FEELING CONTAIN SINGING AND MOVEMENT

T32. EXPERIENCES OF EXPRESSION INVOLVING FEELING CONTAIN ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

T33. EXPERIENCES OF EXPRESSION INVOLVING FEELING CONTAIN RHYTHM, TIMBRE, MELODY, FORM

T34. UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES CONTAINS TEACHER'S SELECTION OF MUSIC

T35. UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES CONTAINS LISTENING WITH UNDERSTANDING

T36. UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES CONTAINS SINGING AND MOVEMENT

T37. UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES CONTAINS ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

T38. UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES CONTAINS RHYTHM, TIMBRE, MELODY, FORM

T39. MUSIC EDUCATION CONTAINS RHYTHM, TIMBRE, MELODY, FORM

T40. KINDERGARTEN TO GRADE 4 STUDENTS NEED PERSONALLY REWARDING AND FULFILLING LIVES

T41. KINDERGARTEN TO GRADE 4 STUDENTS NEED EXPERIENCES OF EXPRESSION INVOLVING FEELING

T42. KINDERGARTEN TO GRADE 4 STUDENTS NEED UNDERSTANDING OF RELATIONSHIPS BETWEEN VARIOUS DISCIPLINES

T43. KINDERGARTEN TO GRADE 4 STUDENTS NEED MUSIC EDUCATION

T44. KINDERGARTEN TO GRADE 4 STUDENTS NEED TEACHER'S SELECTION OF MUSIC

T45. KINDERGARTEN TO GRADE 4 STUDENTS NEED LISTENING WITH UNDERSTANDING

T46. KINDERGARTEN TO GRADE 4 STUDENTS NEED SINGING AND MOVEMENT

T47. KINDERGARTEN TO GRADE 4 STUDENTS NEED ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS

T48. KINDERGARTEN TO GRADE 4 STUDENTS NEED RHYTHM, TIMBRE, MELODY, FORM

T49. KINDERGARTEN TO GRADE 4 STUDENTS NEED NOT EXPERIENCES OF EXPRESSION INVOLVING FEELING

T50. LISTENING WITH UNDERSTANDING CONTAINS RHYTHM, TIMBRE, MELODY, FORM

T51. SINGING AND MOVEMENT CONTAINS RHYTHM, TIMBRE, MELODY, FORM

T52. ARTICULATION AND COMMUNICATION, MANIPULATION OF SYMBOLS CONTAIN RHYTHM, TIMBRE, MELODY, FORM

As with the initial model created with the British Columbia curriculum, the model created with the Nova Scotia curriculum contains the same apparent contradictions that were evident in the first model. As the form of the contradictory statments is the same in both models, and only the specific terms are different, these contradictions are disclaimed by the argument given for the first model.

In both models each of the primitive terms in the original system has been replaced with an abstract term or statement derived from the curriculum guide. Although the concrete terms are somewhat different in scope and general meaning, the two models are structurally equivalent and therefore are isomorphic.

Blanche (1962) states that when the only difference between two models is the concrete interpretation given to their terms, they are isomorphic. Thus is the case for the two models in this study.

It should be noted that the models were derived from the two curricula in order to fit the axiomatic system. This suggests that although the models are isomorphic and are consistent with the axiomatic system, they may be consistent with other axiomatic systems. These alternate axiomatic systems could possibly more accurately reflect the intent or philosophical background of the models.

It is hypothesized above that the two models for the system are isomorphic. As the two models identified have been proved to be isomorphic, the system can be considered categorical. Although it has not been proved that all models for the system are isomorphic, it is assumed that any pair of models will be isomorphic, since a pair of isomorphic models has been identified. This assumption is itself an axiom, since it can only be proven by identifying all possible models of the system and establishing whether they are isomorphic with the models given in this study.

However, since the system can be considered categorical, the generalization can be made that all

models of music education will fit into its logical structure

CHAPTER FIVE

APPLICATIONS OF THE PHILOSOPHY

The development of an axiomatic philosophy of music education is only useful if an additional assumption is accepted. This assumption is that a philosophy is acceptable as an axiomatic system. Some music educators might feel that the aesthetic nature of knowledge in the arts which makes the arts different from the sciences cannot be stated in a mathematical model. The system, although it uses empirical knowledge (of logic) in its mathematical method, contains terms which refer to aesthetic knowledge, not empirical knowledge. The study of the coexistence and interrelationship of these two different realms of knowledge is not within the scope of this study. Therefore the present study will only be useful to those who can accept the combination of aesthetic knowledge with mathematical (empirical) knowledge as a viable philosophy.

An Application of the Philosophy

There are three main concepts which emerge from the axiomatic system that have direct implications for music education curricula. One of these concepts is

that of the ELEMENTS, which are the basic components which are perceived to experience or manipulated to create expressive music.

The second concept which emerges from the axiomatic system is that of PLURALISM. Although the term is meant to encompass the universe in which music education takes place, direct implications can be formulated. Music has been developed in all human societies. Therefore, examples from many different societies must be used in music education experiences in order for the experiences to reflect the pluralistic nature of the universe. One of the major societal influences is that of the Western World. Since tracing the historical development of music in all human societies would likely take a substantial amount of time (certainly not available within the scope of music education as it fits into the contemporary educational system), only samples of the music from different societies and samples from the historical development of Western music will be part of the music education program.

The third concept which is used in the system is that of the types of music education experiences: PERFORMING, LISTENING, and COMPOSING. The direct logical inference about these types of experience is that each element of music would be studied using all

three types of experience (theorems T50, T51, T52). In addition, each aspect of pluralism would be studied in terms of each element of music, using all three types of music education experience (theorems T5, T6, T7, T10). This inference is different from the original intent of the source material where Leonhard and House merely state that music education should include experiences in performance, listening, and composition (Leonhard and House 1972). They do not explicitly state that each element of music or style of music should be studied using all three types of experience. However, since the elements and styles of music are likely to be experienced repeatedly during the course of a child's music education, it is reasonable to expect that each element and style will be studied using all three types of experience at some point during this education.

A simple method to visualize the structure of a music education program using the three types of experience to study elemental and pluralistic concepts in music is in a model shown in figure 7. This model represents a scope and sequence chart which has a third dimension to represent the three types of music education experience.

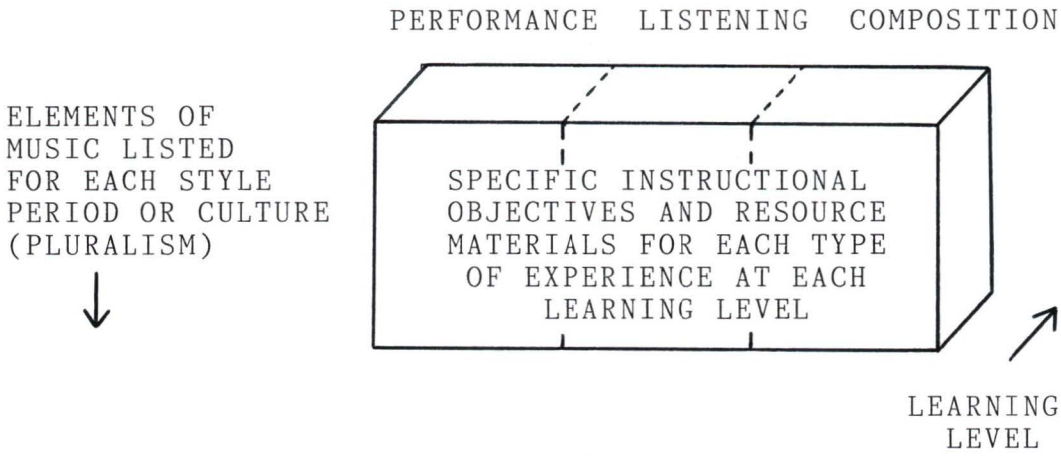

figure 7

The term PLURALISM in the axiomatic system is left as an undefined primitive term. However, a prototype list of the historical style periods and different cultures suggested by the term is given below. This list is given to suggest the scope of pluralistic material which could be addressed by objectives in each of the types of music education experience. Most instructional resources would be written, live, or recorded expressive musical examples from each style period or culture.

PLURALISM

CANADIAN MUSIC: Folk Music, Art Music, Native Music

HISTORICAL WESTERN MUSIC: Greek, Medieval, Renaissance, Baroque, Classical, Romantic, early Twentieth Century, Contemporary (Art Music, Jazz, Popular Music)

MULTICULTURAL MUSIC: Asian, African, Aboriginal

Each of the styles or cultures listed above could be further defined to a much more detailed level which would be appropriate for specific instructional objectives for individual lessons. The music of each style period or culture should be studied in terms of the expressive elements found in the music (axiom A15, theorem T10). These elements can be broken down into two groups: extra-musical elements and musical elements. Extra-musical elements are those expressive elements which may have influenced the composition of the music but are not intrinsic in the music. The inclusion of such a group of elements allows for a referential theory of aesthetics. Musical elements are those expressive elements which are intrinsic in the music itself. This group of elements reflects the absolute theory of aesthetics. Prototype lists of these two groups are given below.

EXTRA-MUSICAL ELEMENTS

WORLD DEVELOPMENTS/CULTURAL CHARACTERISTICS: socio-political World events or cultural background having possible influence on the composition of the music.

INSTRUMENTAL DEVELOPMENTS: availability and development of musical instruments having possible influence on the composition of the music.

COMPOSERS: personal background and musical climate having possible influence on the composition of the music.

MUSICAL ELEMENTS

RHYTHM: beat, metre, note and rest values, common rhythmic figures, articulations

MELODY: basic rudiments, pitch sense, intervals, tonal centres, intonation, transposition, ornamentation

HARMONY: rounds, counterpoint, chords, chord progressions, cadences

FORM: repetition, contrast (rhythmic, melodic, harmonic, dynamic, tempo, texture/timbre), phrases, standard forms (binary, ternary, rondo, canon, etc.), musical forms (opera, symphony, sonata, etc.)

DYNAMICS

TEMPO

TEXTURE/TIMBRE

As with the pluralistic elements listed above, the musical and extra-musical elements can be further defined to a level appropriate for specific instructional objectives.

Each of the specific musical and extra-musical elements could be studied for each of the specific pluralistic style periods or cultures and could be listed as instructional objectives for each of the three types of music education experience. However,

the development of such a list of objectives would result in a scope and sequence chart of several hundred objectives. Such a chart may be impossible to implement because of time constraints. Also, the inclusion of many of the objectives in such a chart would be inappropriate, as the expressive elements addressed in the objectives may not be present in the style period or culture studied in the objective (for example, the symphonic form did not exist in the medieval style period). Therefore, the study of the elements present in the music of a given style period or culture should be limited to the most expressive elements in the music studied and should ensure adequate coverage of all expressive elements during the course of the entire music education program.

Advantages of the Philosophy

One of the primary advantages of the axiomatic model of music education philosophy is the focus it brings to the aesthetic nature of music education, rather than the pedagogical biases of differing methodologies. There has been some controversy in the field about performance-based or academically-based music education (at all levels of education). If it is accepted that all music education methodologies are isomorphic to the present model, then the controversy about the validity of varying methodologies is

dismissed--they are all valid. The emphasis therefore moves from the methodology to the actual practice of music education. If a contradiction to one of the postulates of the system is derived from an individual music education program (the program does not contain composing, for example), then that program is incongruent with the system and presumably could be altered to become congruent with the system.

Further Applications of the Philosophy

One of the primary applications of an axiomatic philosophy of music education is to provide a logical framework for the evaluation and development of music education programs. This framework is in the form of a metatheoretical system where concrete models can be compared to an abstract theory in a logically precise manner. One implication of this application is that the system is true, or at least desirable, and that therefore the validity of music eduation programs is either equal to or less than this truth or desirability.

The alternate implication of this primary application is that the system is not true or not desirable and that therefore the validity of the system is either equal to or less than the truth or desirability of music education programs. This alternate implication suggests that a new system could

be developed by altering the present system to make it congruent with true or desirable music education programs or by developing an entirely new system.

The development of new systems of music education philosophy is the second application of an axiomatic philosophy of music education. New systems of music education philosophy can either be developed from the concrete practice of music education, based on the interaction of the present system with music eduation programs, or from the abstract development of alternate initial assumptions, based on new philosophies emerging from scholars in the field.

BIBLIOGRAPHY

Aquino, John. "Reimer Revisited." Music Educator's Journal 66 (November 1979): 41-43,84-85.

Batdg, Tadeusz. The Axiomatic Method in Phonology. London: Routledge and Kegan Paul, 1967.

Bell, E.T. The Queen of the Sciences. Baltimore: Williams and Wilkins, 1931.

Blanche, Robert. Axiomatics. Translated by G.B. Keene. London: Routledge and Kegan Paul, 1962.

British Columbia. Ministry of Education. Elementary Fine Arts Curriculum Guide/Resource Book. Victoria: Queen's Printer, 1985.

Britton, Allen P. "Music in Early American Public Education." In Basic Concepts in Music Education, edited by Nelson B. Henry. Chicago: University of Chicago Press, 1958.

Broudy, Harry S. "A Realistic Philosophy of Music Education." In Basic Concepts in Music Education, edited by Nelson B. Henry. Chicago: University of Chicago Press, 1958.

Churchley, John. "A Prototype Model of a Philosophy of Music Supervision." Canadian Music Educator 28 (June 1987): 29-34.

Claudson, William D. "The Philosophy of Julia E. Crane and the origin of Music Teacher Training." Journal of Research in Music Education 17 (Winter 1969): 399-407.

Einstein, Albert. "Geometry and Experience." In Readings in the Philosophy of Science, edited by May Brodbeck and Herbert Feigl. New York: Appleton-Century-Crofts, 1953.

Elliot, Charles A. "Behind the Budget Crisis, a Crisis of Philosophy." Music Educator's Journal 70 (October 1983): 36-37.

Eves, Howard. A Survey of Geometry. Boston: Allyn and Bacon, 1972.

Eves, Howard, and Carroll Newsom. An Introduction to the Foundations and Fundamental Concepts of Mathematics. New York: Rinehart, 1960.

Fraenkel, Abraham A., and Yehoshua Bar-Hillel. Foundations of Set Theory. Amsterdam: North Holland Publishing, 1958.

Gonzo, Carroll. "Aesthetic Experience. A Coming of Age in Music Education." Music Educators' Journal 58 (December 1971): 34-37.

Goolsby, Thomas W. "Music Education as Aesthetic Education: Concepts and Skills for the Appreciation of Music." The Journal of Aesthetic Education 18 (Winter 1984): 15-33.

Henry, Nelson B., ed. Basic Concepts in Music Education. Chicago: National Society for the Study of Education, 1958.

Heyting, A. Axiomatic Projective Geometry. Amsterdam: North Holland Publishing, 1963.

Jones, Archie N., ed. Music Education in Action. Dubuque, Iowa: Wm. C. Brown, 1960.

Kane, Robert B., Robert A. Oesterle, and Robert L. Cooley. Geometries. New York: American Book Co., 1970.

Keyser, Cassius J. Mathematical Philosophy. New York: E.P. Dutton and Co., 1922.

_____. Thinking About Thinking. New York. E.P. Dutton and Co., 1926.

Kilmister, C.W. Language, Logic, and Mathematics. London: English Universities Press, 1967.

Kleene, Stephen C. Introduction to Metamathematics. Amsterdam: North Holland Publishing, 1967.

Langer, Susanne K. Philosophy in a New Key. Cambridge, Mass.: Harvard University Press, 1941.

_____. Problems of Art. New York: Charles Scribner, 1957.

Leonhard, Charles. "Research Philosophy and Esthetics." Journal of Research in Music Education 3 (Spring 1955): 23-26.

Leonhard, Charles, and Robert W. House. Foundations and Principles in Music Education. 2d ed. New York: McGraw-Hill, 1972.

MacMurray, Foster. "Pragmatism in Music Education." In Basic Concepts in Music Education, edited by Nelson B. Henry. Chicago: University of Chicago Press, 1958.

Manso, Frederico. "An Examination of Music Education Philosophy and Practice in Rio de Janiero." Ph.D. diss., University of Miami, 1985.

Mark, Michael L. Contemporary Music Education. New York: Schirmer, 1978.

_____. "The Evolution of Music Education Philosophy from Utilitarian to Aesthetic." Journal of Research in Music Education 30 (Spring 1982): 12-15.

McKeon, Richard, ed. The Basic Works of Aristotle. New York: Random House, 1941.

Menger, Karl. "The New Logic." Philosophy of Science 4 (July 1937): 299-336.

Mursell, James L. Music Education: Principles and Programs. Morristown: Silver Burdett, 1956.

Nagel, Ernest, and Morris R. Cohen. "The Nature of a Logical or Mathematical System." In Readings in the Philosophy of Science, edited by May Brodbeck and Herbert Feigl. New York: Appleton-Century-Crofts, 1953.

Nova Scotia. Department of Education. MUSIC: Primary to Four. Halifax: Queen's Printer, 1981.

Phenix, Philip H. Realms of Meaning. New York: McGraw-Hill, 1964.

Reimer, Bennett. A Philosophy of Music Education. Englewood Cliffs, N.J.: Prentice Hall, 1970.

_____. "Putting Aesthetic Education to Work." Music Educators' Journal 59 (September 1972): 28-33.

Schwadron, Abraham A. "Aesthetic Values and Music Education." In Perspectives in Music Education Source Book III, edited by Bonnie Kowall. Washington: Music Educators' National Conference, 1966.

_____. Aesthetics: Dimensions for Music Education. Washington: Music Educators' National Conference, 1967.

_____. "Some Thoughts on Aesthetic Education." Music Educators' Journal 56 (October 1969): 35-36,79,81-84,87-88.

_____. "Philosophy in Music Education: State of the Research." Council for Research in Music Education 34 (Fall 1973): 41-53.

_____. "Philosophy and Aesthetics in Music Education: A Critique of the Research." Council for Research in Music Education 79 (Summer 1984): 11-32.

Shand, Patricia Martin. "Music Education in Canada: Part 1: The Status of Music Education in Canada." Canadian Music Educator 23 (Spring 1982): 18-30.

_____. "Music Education in Canada: Part II: The Need for Change." Canadian Music Educator 24 (Winter 1982): 29-34.

Sudano, Gary R. "A Philosophy of Music Education for Hard Times." Canadian Music Educator 21 (Fall 1979): 34-42.

Tarski, Alfred. Introduction to Logic. New York: Oxford University Press, 1941.

Tellstrom, A. Theodore. Music in American Education: Past and Present. New York: Holt, Rinehart, and Winston, 1971.

Tompkins, Patricia Anne. "An Analysis of the Aesthetic Foundations of Music Education with Recommendations for their Implementation." M.A. thesis, University of Victoria, 1982.

Wegener, Frank C. "The Aesthetic Function of Man" In Music Education in Action, edited by Archie N. Jones. Dubuque, Iowa: Wm. C. Brown, 1960.

Weyl, Hermann. *Philosophy of Mathematics and Natural Science*. New York: Princeton University Press, 1949.

Woodger, Joseph Henry. *The Axiomatic Method in Biology*. Cambridge: Cambridge University Press, 1937.

VITA

Surname: CHURCHLEY Given Names: JOHN FRANKLIN

Place of Birth: Victoria, B.C. Date of Birth: August 15, 1961

Educational Institutions Attended, with Dates of Entering and Leaving:

UNIVERSITY OF VICTORIA 1979 TO 1984

UNIVERSITY OF VICTORIA 1985 TO 1988

Degrees, Diplomas, Etc., Awarded with Dates and Names of Institutions:

B.Ed. 1984 University of Victoria

Publications:

Churchley, John. "A Prototype Model of a Philosophy of Music Supervision." Canadian Music Educator 28 (June 1987): 29-34.

PARTIAL COPYRIGHT LICENSE

I hereby grant the right to lend my thesis (the title of which is shown below) to users of the University of Victoria Library, and to make single copies only for such users or in response to a request from the Library of any other university, or similar institution, on its behalf or for one of its users. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by me or a member of the University designated by me. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Title of Thesis

"A Formal Axiomatic Philosophy of Music Education"

Author [redacted]

JOHN FRANKLIN CHURCHLEY

MARCH 29/88