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THE AESTHETICS OF LEONARD MEYER:
MUSICAL FORMALISM IN THE TWENTIETH CENTURY
DISSERTATION
Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
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PAPERS


FIELDS OF STUDY

Music History
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Music Theory
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LEONARD MEYER: BIOGRAPHICAL INFORMATION

Leonard Meyer was born in New York on January 12, 1918. He received the PhD in History of Culture from the University of Chicago in 1954, and has received honorary degrees from Grinnell College, Loyola University, and Bard College. He was a faculty member at the University of Chicago from 1946-75, where he chaired the music department from 1961-70 and served as Phyllis Fay Horton Professor of Humanities from 1972-75. He is presently serving as Benjamin Franklin Professor of Music and University Professor at the University of Pennsylvania. Other positions held are Fellow, Center of Advanced Studies, Wesleyan University, 1960-61; member, National Humanities Faculty, 1970-71; Ernest Bloch Professor of Music, University of California at Berkeley, 1971; Guggenheim Fellow, 1971-72; and visiting professor, University of Michigan at Ann Arbor, 1973. He was awarded the Gordon Laing Book Award in 1969 for Music, the Arts and Ideas.

Published works include Emotion and Meaning in Music (1956), The Rhythmic Structure of Music (1960, Grovsnor Cooper, co-author), Music, the Arts and Ideas (1967), which includes several previously published articles, Explaining Music: Essays and Explorations (1973), "Concerning the Sciences, the Arts--AND the Humanities" iv
"Grammatical Simplicity and Relational Richness: The Trio of Mozart's G Minor Symphony" (1976), "Toward a Theory of Style" (1979), "Exploiting Limits: Creation, Archetypes and Change" (1980) and "Process and Morphology in The Music of Mozart" (1982). (The 1979 and 1980 articles are from a forthcoming book on musical style.) Meyer's work has been widely read and commented on, and his influence has been considerable enough for F. E. Sparshott to write in The New Grove Dictionary of Music and Musicians (1980) that Meyer's aesthetic theory "was the most widely accepted account of music in America in the 1960's."
Abbreviations used in this Document

EMM: Emotion and Meaning in Music
MAI: Music, the Arts and Ideas
EM: Explaining Music
JAAC: Journal of Aesthetics and Art Criticism
INTRODUCTION

Leonard Meyer is one of the most important and influential music aestheticians of the twentieth century. His work over the past thirty years is reflective of a wide variety of knowledge and interests, interests which may seem on the surface so diverse as to have resulted in frequent shifts of position. It is posited here that although Meyer's work is eclectic and marked by frequent changes of terminology, it all corresponds in significant ways to the formalist perspective. Because Meyer has been very much aware of and involved in the Zeitgeist of the twentieth century, however, he cannot be labeled a formalist without some qualification: his formalism increasingly comes to parallel structuralist concerns.

This study will therefore begin by considering Meyer's music aesthetics against a background of nineteenth and twentieth-century formalism, and conclude by relating some of Meyer's contributions to those of contemporary French structuralists. Before presenting Meyer's theories, discussing scholarly criticisms which have been or could be leveled against them, and assessing the theories in light of these criticisms, it will be helpful to consider briefly the implications and condition of contemporary formalism.
Formalism has traditionally been concerned with form and formal relationships in art rather than with expression or extra-artistic associations. While it was a popular aesthetic perspective in the late nineteenth and early twentieth centuries, relatively few artists and critics presently call themselves "formalists"; S. I. Hayakawa has commented that the term formalism has degenerated into "a meaningless noise meaning disapproval."¹ Some of the reasons for this disapproval may be articulated as follows. First, in being concerned principally with form formalists have a tendency to deemphasize the importance of a work's subject matter or content. It is very important to note that when formalists play down the importance of "content," they are using the word content to mean only extra-artistic associations, denotations, representations or correspondences. This restriction does not present serious problems when dealing with abstract art such as non-programmatic instrumental music, but obviously does present serious problems with any art entailing conventionally accepted representational elements. It would be inappropriate, for example, to deny the significance of the iconography of a Renaissance painting.

Some critics of formalism, who view content as something much broader than representation, claim that the formalist denial of the importance of content amounts to a denial of substance, process or pattern: that the formalist tends to view the work of art as a static thing rather than dynamic process. (See Chapter VI) Such a criticism may apply to certain formalist critics of the visual arts, but is less valid with respect to music formalists who traditionally have been concerned with process as well as form, with the relationships of parts as well as with wholes. Admittedly, many music formalists have not sought to clarify the relationship between form on one hand and pattern or process on the other, but what is implied in most formalist criticism is that form and pattern, while certainly distinguishable, are nonetheless inseparable. It is possible to conceive musical works as organic wholes, but these wholes arise out of, and do not exist apart from, the process of relating the work's parts syntactically.

Another problem with the formalist perspective is the assertion or implication that forms exist objectively apart from a subject. This subject/object issue is one of some complexity, but it seems clear that musical works must be conceived as such by a subject. It will be maintained here

2Hanslick asserts that "the essence of music is sound in motion"; Gurney writes of the "certain combinations of notes" which result in "beautiful objective forms"; and Meyer writes of the importance of the "kinetic syntactic" dimension of music. See Chapter I, pp. 18-21.
that forms inhere only in minds—that musical compositions are not physical objects but structures of meanings that result when perceivers hear certain tones, approach them aesthetically, and relate the parts represented by those tones. This does not mean that forms are completely a matter for the individual; forms inhere only in minds, but their existence is not limited to the mind of any particular perceiver in that they inhere in the minds of other perceivers as well. We apparently conceive forms similarly not because we see them as external objects, but because we can, through conventional systems, agree on how they are presently going to be conceived. The common knowledge of conventional musical systems (such as the tonal system) leads different listeners to react in essentially the same way to heard tones, and therefore to conceive essentially the same form. These conceptions will never be exactly the same, but because of common knowledge of conventional systems they will certainly overlap considerably.

It is apparent in all of Meyer's work from Emotion and Meaning in Music (1956) through "A Theory of Style" (1979) that he is concerned with musical form (the syntactic relationships of the parts of a work to each other and to the whole, on all hierarchic levels) rather than with extra-
musical associations, that he believes formal relationships may be inferred through conventional systems, and that he has concerned himself regularly with the problems of thing vs. process and external object vs. idea. In considering Meyer's aesthetic work, then, this document will continue throughout to assess the status of formalism in contemporary musical aesthetics.

Meyer's work has given rise to a good many critical reviews, the most provocative of which have to do with Meyer's famous "expectation" thesis from Emotion and Meaning in Music (for example, Donald Sherburne's "Meaning and Music"3) and with his 1958 study, "Meaning in Music and Information Theory" (John Titchener's and Michael Broyle's "Meyer, Meaning and Music"4 and Vernon Howard's "A Logical Note"5). The present study will consider Meyer's work from a broader perspective, examining how, according to Meyer, the formalist approach gives rise to musical meaning and "affect," in terms of his well-known expectation theory (Chapter II), his later "implication" theory (Chapter III), and information theory (Chapter IV), and continues to apply in contemporary music (Chapter V). It will also establish and

3JAAC 24 (1966), pp. 569-83.
consider Meyer's formalism in light of past and present formalism and expressionism (Chapter I) and consider analogies which can be drawn between formalism and contemporary French structuralism (Chapter VI).
I. MEYER AND FORMALISM

The form of a musical work, as defined here, is the relationship of its constituent parts to each other and to the resultant whole as inferred by a competent subject conceiving the work as an aesthetic object. Formalism is hence concerned with the logical conditions necessary to construct the whole: conditions which enable the perceiver to relate syntactically the work's parts to each other and to the whole, on all hierarchic levels. The work's parts are represented by its materials; chords or melodies (parts), for example, may be represented by certain tones or pitches (materials). The composer conveys formal idea through use of notational symbols; the performer views and approaches these notes aesthetically, relating them melodically, rhythmically, harmonically and structurally while transforming them into tones; and the listener hears and relates the tones produced by the performer and reconstructs the formal idea. Composers, performers and listeners can construct or reconstruct essentially the same forms due to common knowledge of musical systems and conventions.

In being concerned principally with artistic forms, the formalist tends to deemphasize extra-artistic representation
in the work; the formalist is more interested in considering autonomous interrelationships among the parts (syntax) than in considering what those parts represent or how they correspond to the nonmusical world. A formalist critic of the visual arts is concerned with colors and lines and their combination into planes and surfaces rather than with depictions or resemblances; a literary formalist is more interested in purely literary qualities such as inner coherence, density of texture, or overall structure than in what the work is "about"; a music formalist is concerned with structural or functional relationships rather than with extra-musical associations. As a result, formalist criticism is best applied to art which is devoid of representation: abstract painting or sculpture, nonsense poems with apparent syntax, or untexted music without a programme.

Leonard Meyer conforms to the formalist view in being concerned principally with formal musical relationships rather than with extra-musical associations. He does not deny the meaningfulness of conventional semantic symbols such as descriptive titles, texts, programmes, expression marks, or conventional musical symbols such as those in the Doctrine of Affections, but feels that an assessment of music's syntax is more interesting and important. Meyer first espouses formalism in Emotion and Meaning in Music.1

in which he describes four distinguishable but overlapping aesthetic viewpoints: absolutism, referentialism, formalism, and expressionism. According to Meyer, absolutism is the belief that "musical meaning lies exclusively within the context of the work itself," while referentialism is concerned with music's reference "to the extramusical world of concepts, actions, emotional states, and character."\(^2\) Formalism is the view that musical meaning "lies in the [intellectual] perception and understanding of the musical relationships set forth in the work of art," while expressionism is concerned with music's ability to excite feelings and emotions in the listener.\(^3\) Meyer points out that (a) absolute and referential meanings are not mutually exclusive, and can coexist in the same piece, and that (b) both the formalist and the expressionist may be absolutists—that is, the meaning which lies exclusively within the context of the work itself may stimulate either our intellect (formalism) or our emotions ("absolute expressionism" in Meyer's lexicon.) It is also important to note that expressionists may be absolutists or referentialists (referential as well as absolute meanings may elicit emotion), but the formalist is typically an absolutist. Meyer does not deny that referential meanings can and do exist, but his purpose

\(^2\) EMM, p. 1.

\(^3\) EMM, p. 3.
in EMM is to espouse, clarify, and demonstrate the compatibility of formalist and "absolute expressionist" positions:

The present study is concerned with an examination and analysis of those aspects of meaning which result from the understanding and response to relationships inherent in the musical progress rather than with any relationships between the musical organization and the extramusical world of concepts, actions, characters, and situations. The position adopted admits both formalist and absolute expressionist viewpoints. (EMM 3)

Meyer's adherence to what he terms "absolute expressionism" has led P. E. Sparshott to refer to Meyer as a "neo-expressionist." Meyer's use of "absolute expressionism" is unfortunate, because it would seem to imply that he believes that music expresses emotion, and this is not the case. Meyer's point is that the perception of (absolute) formal relationships may elicit emotion or "affect" in a perceiver. This is basically a formalist view, and one which is shared by earlier formalists such as Hanslick and Bell. (See the discussions of Hanslick and Bell on pp. 20 and 24.)

In "Some Remarks on Value and Greatness in Music" (1959), Meyer recognizes that the musical experience is not exclusively the result of formalistic considerations. He distinguishes three aspects of musical enjoyment, the "sensuous," the "associative characterizing" and the

"syntactical," and maintains that while every musical experience involves all three to some extent, the syntactical element (that which has to do with "internal" musical relationships) is the primary key to determining musical value:

It is because the evaluation of alternative probabilities and the retrospective understanding of the relationships among musical events as they actually occurred leads to self-awareness and individualization that the syntactical response is more valuable than those responses in which the ego is dissolved, losing its identity in voluptuous sensation or in the reverie of daydreams. And for the same reasons works involving deviation and uncertainty are better than those offering more immediate satisfaction. I am not contending that other modes of enjoyment are without value, but rather that they are of a lesser order of value. (MAI 35)

In "On Rehearing Music" (1961) Meyer separates form and process in distinguishing three basic positions of musical communication: the "formal," the "kinetic-syntactic," and the "referential." For the formalists, "musical understanding and enjoyment depend upon the comprehension of such factors as symmetry, balance, and perfection of proportion. . . . For such theorists, music is mobile architecture." Kinetic-syntactic adherents "contend

5For further discussion of these terms, see Music, the Arts and Ideas (Chicago: University of Chicago Press, 1967), pp. 34-35.

6 MAI, pp. 42-53.
that the cardinal characteristics of a musical event are functional rather than formal" while referentialists hold that "music depicts or evokes the concepts, actions, and passions of 'real' extra-musical experience." Meyer maintains that any complete theory of musical communication must account for all three of these positions, but that the kinetic-syntactic position is the central and crucial one for musical communication.

The definition of formalism set forth in "On Rehearing Music" as an interest only in the symmetry or regularity of overall shapes is quite limited, and Meyer later modifies this perspective to emphasize formalism's emphasis on "form and process." As a matter of fact, "kinetic-syntactic" or functional relationships (a musical component is "functional" if it plays a meaningful role in a given system) are types of formal relationships: function is what makes the materials in a work cohere, and thus what gives the work its shape, whether symmetrical or not. Symmetry and proportion are indeed aspects of form, as Meyer suggests, but they are inextricably linked to the functional and structural relationships of a work's parts. Because musical formalists have always been concerned with function and process, Meyer's adherence to the kinetic-syntactic position may be viewed as essentially formalist. (See p. 9, note 2)

In Parts II and III of MAI Meyer favors what he calls

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7 MAI, pp. 42-43.
8 MAI, p. 42, note *.
"analytic formalism" over what he views as two other current compositional trends: "traditionalism," whose adherents are concerned with extra-musical content as well as with form, and "transcendental particularism," whose adherents are concerned only with a work's materials, and not the relationships between them. Analytic formalist adherents, who hold that a work has its complete meaning within itself (note that this is how Meyer defined "absolutism" in EMM, p. 2), have, among other things, emulated the abstract formal systems of logic, mathematics and the sciences; formal compositional models, for example, have been based on principles of information theory and quantum mechanics.

Twentieth century formalism has resulted in a preference for means over content:

The emphasis upon means as against content has also been encouraged by the desire of artists and critics for objectivity and rigor; or, looked at the other way around, by their consciousness of the abuses of inept and willful interpretation. That is, given a knowledge of the practice and tradition of a style, materials and formal structures can be analyzed as presentational facts; but the significance of content—often symbolic—is

9 For further discussion of these terms, see Chapter V of this document. Meyer cites Menotti as an example of a traditionalist composer, and John Cage as a transcendental particularist.

10 Although Meyer endorses analytic formalism, this is an overstatement of Meyer's position. Meyer makes it clear elsewhere (see pp. 9-11) that extra-musical meanings, while not very important, are nonetheless possible.
subject to the hazards and vagaries of subjective interpretation. (MAI p. 212)

In other words, because an assessment of the significance of a work's content (extra-musical denotations or associations) is often arbitrary or subjective, analytic formalist composers are likely to concern themselves only with form and materials. In saying that materials and form are "presentational facts" Meyer seems to be maintaining that form inheres in a work in a way that content does not. If by "materials" Meyer means notes and tones and not "parts," I would quibble with his placing of materials and form in the same category (both are "presentational facts," according to Meyer); it may be best to say that only materials are presentational facts, but that forms have a conventionality that content is not likely to have. In any case, Meyer's point is that content is likely to be more subjective or idiosyncratic than form.

Direct references to formalism in Meyer's later writings are few; after MAI he is more concerned with theoretical analysis and with elucidating the concept of artistic style than with advocating a particular aesthetic position. Yet it is nonetheless evident in this later period that Meyer associates musical meaning and value with formalistic considerations. In Explaining Music (1973) he considers implicative and conformant musical
relationships, as well as hierarchic structures; he also discusses "symbolic/associative," hierarchic, "conformant," and "processive/implicative" relationships in his 1979 article "Toward a Theory of Style." In "Concerning the Sciences, the Arts--AND the Humanities" Meyer suggests that "structuralism" may be applied appropriately in both the sciences and the arts:

The nature of . . . structures--the problem of the bonding of parts, the relation of parts to whole, the mechanisms of articulation, etc.--is a subject for objective inquiry in a variety of fields. In areas such as these, the natural sciences and the humanities--as well as the social sciences--are precisely and explicitly comparable. And it will be from such legitimate liaisons that fertile concepts and productive inquiry will spring.

While complex structures might be considered to be the most meaningful and valuable, Meyer suggests in "Grammatical Simplicity and Relational Richness: The Trio of Mozart's G Minor Symphony" (1976) that this is not necessarily the case; for him it is important to distinguish between "relational results" and "material means":


14Ibid., p. 216.

15Critical Inquiry II (Summer, 1976), pp. 693-761.
...when this is done, it is evident that what is essential in the analysis of music are not the foreground (note to note) successions of pitches, durations, harmonies, and other musical parameters but the higher order patterns created by these palpable means. What is crucial is relational richness, and such richness (or complexity) is in no way incompatible with simplicity of musical vocabulary and grammar.16

The relationship of contemporary French structuralism to formalism will be discussed in Chapter VI of this document. Meyer's discussion of structuralism is important in that it indicates that Meyer is a formalist in the fullest sense of the word: that is, he is interested in how all the parts of a work relate to each other and to the whole on all hierarchic levels.

We have seen that Meyer believes that musical meaning lies in the perception and understanding of the musical relationships set forth in the work, that these relationships may be structural, syntactic, or functional, and that the perception of these relationships may stimulate either our intellect or our emotions. In MAI Meyer considers analytic formalism, the belief that a work has its complete meaning within itself, as the most important compositional trend of the twentieth century. The underlying point of this discussion is that whether Meyer refers to formalism, analytic formalism, absolutism, or the syntactic or kinetic-syntactic positions, he is always concerned with syntax, structure and function, and thus conforms essentially to

16 Ibid., pp. 693-94.
formalist perspectives. In view of Meyer's interest in formalist concerns, however, it might seem a contradiction to read the following in "Forgery and the Anthropology of Art":

Yet the differentiation between aesthetic experience and other forms of experience can be carried too far. It began as a legitimate distinction, but over the years it has tended to become formalized as a categorical separation. One of the consequences of this separation is the view, explicitly asserted or implicitly held, that aesthetic criteria are a special kind of criteria unrelated to our other cultural beliefs and attitudes. The most obvious instance of this view is the common contention that we judge—or should judge—works of art on the basis of their intrinsic qualities alone, though what these qualities are is by no means always clear. The work of art, accordingly, is said to have its complete meaning within itself. Cultural history, style history, and the genesis of the art work itself do not enhance true understanding....It is clear, however, that in actual practice we do not judge works of art in terms of their intrinsic qualities alone. (MAI 54-5)

I do not interpret this as a denial of the formalist position. In saying that we do not judge works of art in terms of their intrinsic qualities alone, Meyer is not denying that meaning arises from an assessment of "internal" formal relationships, or placing any emphasis on extra-musical associations, but maintaining that our assessment of musical relationships is conditioned by our cultural beliefs and attitudes. It is interesting to note, however, that while here he is criticizing the view that a work of art "has its complete meaning within itself," Meyer later espouses this exact statement in offering it as a definition of analytic formalism. (see p. 13) Whatever Meyer's stand on this, it is significant that he has qualified his stance
vis-à-vis formalism at certain points in his development. These qualifications will be discussed further in Chapter VI.

Meyer's Place in the History of Formalism

Aesthetic formalism is not currently in vogue, even in the graphic arts, yet it is a doctrine with distinguished roots. The ancient Greeks placed the highest value on form—that is, on order, limit, measure, symmetry, and harmony—both in art and in life. Plato expressed a preference for "pure" or "ideal" forms, and Aristotle, in The Poetics, stressed that art should possess formal elements such as organic unity, balance, complexity or diversity, theme and variation, and development or evolution. Interest in the beauty of Greek structures resulted in a strong emphasis on formal elements in the art and literary criticism of the seventeenth and eighteenth centuries. Both Shaftesbury and Baumgarten stressed the value of wholeness, unity, logic, and coherence in art, and the aesthetics of Immanuel Kant wielded a considerable impact on formalists of the nineteenth and twentieth centuries in emphasizing the "detached nature" of the beautiful object and excluding the "purely sensuous" element from the consideration of value.

Nineteenth-century formalists reacted against then-current theories of art as representation, art as expression, or art as a vehicle of truth and knowledge; any notion of subject matter or content was subjugated to an emphasis on form or formal relationships. J.F. Herbart wrote in his Allgemeine praktische Philosophie (1808)19 that the value of art lies in formal relationships and not expressiveness, and that critics would do best to concern themselves with the unique set of formal principles for each art. Herbart's formalism influenced the work of musical aestheticians such as Edmond Gurney (The Power of Sound, 1880),20 Eduard Hanslick (Vom Musikalisch-Schönen, 1854),21 and J. Combarieu (La Musique, ses lois, son évolution, 1907).22

Gurney, whose work has been recently recognized as a significant contribution to musical aesthetics, held that in music "our attention is centered on forms which are for us the unique inhabitants of a perfectly unique world disconnected from the interest of visible things."23 The composer

19(Göttingen: J.F. Dankwerts, 1808).
21(Leipzig: R. Weigel, 1854).
22(Paris: E. Flammarion, 1907).
has what Gurney terms a "peculiar musical faculty" through which he recognizes the necessities of certain combinations of notes which result in "beautiful objective forms":

The central conception itself . . . is that the primary and essential function of music is to create beautiful objective forms, and to impress us with otherwise unknown things, instead of to induce and support particular subjective moods and to express for us known things.  

This expression sums up the formalism/referentialism dichotomy very well. Gurney's position, as I see it, is that the impressions music leaves on us are purely aesthetic, and have nothing to do with extra-musical ideas such as joy, strength or fate. His "beautiful objective forms," in being made up of "certain combinations of notes," consist essentially of syntactic relationships.

The work of Gurney's contemporary Hanslick has been all but critically clubbed to death, and may be single-handedly responsible for musical formalism's current notoriety. Meyer writes that Hanslick, reacting to what he considers to be an overemphasis on referential meaning, has "denied the possibility or relevance of any emotional response to music" and has "adopted an untenable position partly because he has confused expressionism and referentialism." Hanslick did indeed vigorously attack referentialism, yet it is excessive

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24ibid., p. 490. Emphases Gurney's.

25EMM, p. 3.
to suggest that he denied the possibility of any emotional response to music; Hanslick's formalism, as a matter of fact, is appreciably akin to Meyer's.

Hanslick asserts in *The Beautiful in Music* that aesthetic investigations must above all consider the beautiful object, not the perceiving subject, and laments that the former is generally described in "extremely dry and prosaic language" while the latter is wrapped in a "cloud of high-flown sentimentality." "Art aims," he continues, "at producing something beautiful which affects not our feelings but the organ of pure contemplation—our imagination." It is the intellect which is used in contemplating beautiful "logical" relations; aesthetic feelings, in contrast, are "pathological." Studying the properties of music by observing the emotions of listeners, Hanslick says, is tantamount to studying the properties of wine by getting drunk.

Hanslick explicitly states that music cannot express feelings or objects, but he does consider music capable of emulating natural activity:

> The whispering may be expressed, true, but not the whispering of love; the clamor may be reproduced, undoubtedly, but not the clamor of ardent combatants. . . . A certain class of

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27Ibid., pp. 8-9.

28Ibid., p. 11.
ideas, however, is quite susceptible of being adequately expressed by means which unquestionably belong to the sphere of music proper. This class comprises all ideas which, consistently with the organ to which they appeal, are associated with audible changes of strength, motion, and ratio: the ideas of intensity waxing and diminishing; of motion hastening and lingering; of ingeniously complex and simple progression; etc.\(^\text{29}\)

In short, music is capable of the analogy of motion and the symbolism of sounds.\(^\text{30}\)

The real substance of music, Hanslick maintains, is musical form or structure; feeling is neither its subject nor its content, but merely the effect produced by the music. Yet although music does not express emotions it "operates on our emotional faculty with greater intensity and rapidity than the product of any other art...The action of sound is not only more sudden, but also more powerful and direct. The other arts persuade us, but music takes us by surprise."\(^\text{31}\)

Robert Hall, in his "On Hanslick's Supposed Formalism in Music"\(^\text{32}\) writes that the most common assessment of Hanslick's work is that any "meaning ascribed to music is solely in terms of its materials: the form, melody,  

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\(^{29}\)Ibid., pp. 21-3.  
^{30}\)Ibid., p. 48.  
^{31}\)Ibid., p. 77.  
harmony, polyphony, etc."33 Morris Weitz goes a step further, attributing Hanslick with a "limited but sound heteronomous theory" which he describes as follows:

Hanslick's basic thesis is that music means, is a language of, certain diversified features of human experience. Musical sounds, functioning as the stimuli of our auditory experiences, have certain physical properties: strength, motion, ratio, and rhythm. By means of these, other properties are created: intensity waxing and waning; motion hastening and lingering; and progression. And through these, music obtains certain expressive qualities which we may call the graceful, the violent, the vigorous, or the elegant.34

Weitz's assessment of Hanslick's work is certainly a fair one, for the expressive qualities he describes are qualities of motion, which Hanslick fully admits. It is further apparent that complaints such as Meyer's that Hanslick has "denied the possibility or relevance of any emotional response to music" are too unequivocal. Like Meyer, Hanslick denies that music "expresses" emotion, but fully admits that the musical experience may elicit it; and like Meyer, he maintains that musical meaning results from the interaction

33Ibid., p. 433. Hall claims Hanslick's formalism is only supposed due to certain passages in Hanslick's criticism. Hanslick writes, for example, of the "sweet enchantment" and "intoxicating floral fragrance" of Mendelssohn's "Italian" Symphony, and of the "earnestness of an unbending morality" in Beethoven. See Hall, pp. 434-6.

of musical materials and believes that the intellectual experience of those materials is most valuable.

Prominent twentieth-century formalists—most of whom are connected with the visual arts—include Clive Bell, Roger Fry, and Clement Greenberg. In his Art\textsuperscript{35}, Bell posits that the one timeless feature of art is the "significant form" (never defined) composed of colors, lines, and their combinations into planes and surfaces; any depictions, representations or "life values" are irrelevant. (Bell admits 'aesthetic emotion," which is evoked by significant form, but denies that aesthetic emotion has anything to do with the emotions of real life.) It is difficult, in representational painting, to justify deemphasizing the relevance of extra-artistic content or representation, yet painters of seemingly "representational" art are willing to do so. Marc Chagall expresses himself as follows:

But please defend me against people who speak of "anecdote" and "fairy tales" in my work. A cow and a woman to me are the same—in a picture both are merely elements of a composition. In painting, the images of a woman or of a cow have different values of plasticity—but not different poetic values. As far as literature goes, I feel myself more "abstract" than Mondrian or Kandinsky in my use of pictorial elements. "Abstract" in my sense that my painting does not recall reality. . . . In the case of the decapitated woman with the milk pails, I was first led to separating her head from her body merely because I happened to need an empty space there. In the large cow's head in \textit{Moi et le}

\textsuperscript{35}London: Chatto & Windus, 1914.
Village I made a small cow and a woman milking visible through its muzzle because I needed that sort of form, there, for my composition. Whatever else may have grown out of these compositional arrangements is secondary. 36

Essentially the same sentiments induced James Whistler to change the name of his Portrait of My Mother to Arrangement in Grey and Black. "Why," he asks,

... should I not call my works "symphonies," "arrangements," "harmonies" and "nocturnes"?

... Art should be independent of all claptrap—should stand alone, and appeal to the artistic sense of eye and ear, without confounding this with emotions entirely foreign to it, as devotion, pity, love, patriotism, and the like. All these have no concern with it and that is why I insist on calling my works "arrangements" and "harmonies." 37

Whistler and Chagall are not denying their pictures suggest real objects, but simply that the representation is trivial and perhaps even distracting: their paintings are not about the real world but about form. It might be suggested here that while representation is an essential aspect of the work of Poussin, it is subordinate to form in Chagall and totally irrelevant in Pollack.

Meyer shares with all of these formalists (Herbart, Hanslick, Gurney, Bell, Chagall, Whistler) an interest in the interaction of formal elements, and a belief

36Quoted in "An Interview with Marc Chagall" by J.J. Sweeney, Partisan Review (Winter, 1944), p. 90. It should be noted here that representation or expression in music, art and literature respectively are different in nature, but all three arts somehow refer to real-life experience.

that extra-artistic representation is possible but of little interest. Meyer, Hanslick, and Bell agree that art may elicit emotion, but all the formalists agree that art does not express emotion. Meyer goes a step further than most of the others in offering a theory explaining precisely how musical relationships give rise to meaning and emotion or affect; this will be discussed in Chapter II.

Relatively few literary scholars have chosen to call themselves formalists; even the famous "Russian formalism" which flourished in the 1920's was so dubbed by its opponents rather than by its adherents. According to Victor Erlich, these Russian formalists--mainly linguists and historians such as Boris Eikhenbaum, Roman Jakobson, Victor Shklovskij, Boris Tomashevskij, and Jurij Tynjanov--"viewed literature as a distinct field of human endeavor, as a verbal art rather than as a reflection of society or a battlefield of ideas," and "set less store by such qualities as directness of expression, sincerity, high seriousness, correspondence with reality, than they did by inner coherence, density of texture, and form consciousness." Akin to Russian Formalism was the "Nouvelle Critique" in France (its adherents including

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Roland Barthes, Jean-Pierre Richard, Lucien Goldman, and Jean Starobinski) and the corresponding "New Criticism" in England and the United States. Seeking to address "the poem itself" as autonomous object, the New Critics were concerned primarily, as David Trent puts it, with "the internal structure of the work in question in attempting . . . to accomplish an exhaustive description of its basic unities and their organization, before endeavoring to relate the work to the world external to it."40 This view was strengthened by the Wimsatt-Beardsley articles on the "affective" and "intentional" fallacies,41 which maintained that since the author's intentions were generally unavailable and the responses of the reader variable, only the text was real and stable. Literary critic Stanley Fish claims that such views, which he considers "formalist," ultimately lead to a conclusion which is totally unacceptable—that the meanings of a text are external, absolute, and unchanging, and something to be extracted or discovered. The problem with this conclusion, Fish claims, is that it diminishes, if not totally dismisses, the part played by the perceiver in the production of meaning. This idea that meanings or forms


41W.K. Wimsatt and Monroe Beardsley, "The Intentional Fallacy" (pp. 3-20) and "The Affective Fallacy" (pp. 21-40), The Verbal Icon (Lexington: University of Kentucky Press, 1967).
exist apart from perceiver's minds may not be necessary to the formalist position, but Gurney and Hanslick do speak of "beautiful objects" or "objective forms," and Meyer states that form and materials, unlike content, are "presentational facts." Because Fish's criticisms could be leveled at musical as well as literary formalism, then, and relate to Meyer's theory of musical meaning, they should be discussed at length.

According to Fish, who traces the development of his own literary theory in *Is There a Text in this Class?*, there are no "texts" if a text is defined as "an entity which always remains the same from one moment to the next;" a text is rather "the structure of meanings that is obvious and inescapable from the perspective of whatever interpretive assumptions happen to be in force." In effect, texts are not prior to interpretations in that linguistic and textual facts are the products, not the objects, of those interpretations. Interpretation, in fact, is the source not only of texts and facts, but of authors and intentions.

Fish's elucidation of the role of the perceiver in the production of meaning is instructive, yet there are problems with Fish's stance that cannot be ignored. For one thing, in maintaining that texts are products of in-

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interpretations Fish does not account for what gives rise to those interpretations; an interpretation arises in response to something external (not only symbols, but known interpretations of others.) Second, texts are products of an author's creation, and thus prior to a reader's interpretation. (It seems that for Fish an uninterpreted poem would not exist.) Third, although Fish stresses that his interpreter must be a competent speaker of the language, have "appropriate semantic knowledge" and "literary competence," it remains that the denial of external or "correct" meanings leaves the interpreter in a mire of subjectivism, relativism, or even anarchy. Fish attempts to resolve this third problem by invoking the notion of an "interpretive community." When an interpretation is based on assumptions held by an interpretive community,

... the act of recognizing literature is not constrained by something in the text, nor does it issue from an independent and arbitrary will; rather it proceeds from a collective decision as to what will count as literature, a decision that will be in force only so long as a community of readers or believers continues to abide by it.44

Thus interpretations are not totally subjective, as they proceed not from an isolated individual but "from the public and conventional point of view." This development helps Fish's case considerably, yet difficulties persist.

44Ibid., p. 11.
It is unclear exactly what Fish considers an interpretive community to be, or of whom it is composed. It seems as abstract as the notion of meaning itself, and using Fishian logic it must be assumed that an interpretive community is no more external than a text.) It will be assumed for the sake of argument that an interpretive community consists of a community of readers who share interpretations and interpretive strategies. (Meyer's theory of expectation might be considered an interpretive strategy.) Innumerable problems result if we consider an individual interpretation to be based on conventional interpretation. Listed below are just a few:

1. Conventional interpretations can be wrong. Theology has perenially been based on mistranslations of the Bible (in such a case an astute interpretation would be "correct" but the intended meaning would not be communicated); works attributed to great masters are found to be spurious; "secret chromaticism" in Renaissance motets may go undetected for centuries.

2. Fish does not account for valid new interpretations. He stresses that texts or meanings change as interpretive communities change. Yet if the validity of an interpretation were to be based on assumptions held by the interpretive community, any original interpretation that failed to conform to
those assumptions would have to be considered invalid. This would render an interpretive community incapable of change.

3. Determining which or whose interpretations are conventional or accepted is often difficult, if not impossible.

If an interpretive community has rather to do with interpretive strategies, i.e., ways of analyzing a text, then originality would be easier to account for; an accepted interpretive strategy could be applied to a text traditionally analyzed a different way to produce novel results. Yet we would still be faced with the problem of determining which interpretive strategies were an accepted part of an interpretive community. It may be that the interpretive strategies of Fish are not widely accepted (though Fish is widely read and enjoyed), and if this should be the case, any interpretation which arose from Fish's strategies would once again be impossible to validate. Further, there are no conventional interpretive strategies for certain types of avant-garde art, so there would be no basis for interpretational validity until conventional strategies should be developed.

It may be that the definition of interpretive community offered here is too limited. Yet the more one attempts to identify in concrete terms what an interpretive community is, the more elusive it becomes; as suggested above, it
seems to be something largely individual. Since each interpreter has come into contact with a different set of literature and criticism, each will have a different perception of the interpretive community, resulting in as many interpretive communities as there are interpreters, and leaving us with the subjectivism with which we started. In spite of these criticisms, however, I am not in favor of rejecting completely Fish's "interpretive community"; indeed, when considered in a certain way, the idea can be a valuable addition to Meyer's theory of musical meaning. This possibility will be discussed in Chapter II.

It should be pointed out before continuing that while Fish's work elucidates the limits of some formalistic positions, Meyer's brand of formalism, which does not discount the perceiver, emerges unscathed. (See pp. 52-6) In saying that a work of art has its complete meaning within itself he is denying only the significance of extra-musical content, not the role of the listener in the inference of meaning. It is precisely the denial of extra-musical content or associations, however, that many critics of formalism find most disturbing. Such critics admit the existence of formal elements and relationships, but do not consider them the primary essence of musical meaning.

Most musical aestheticians believe that musical meaning is the result of musical representation of, resemblance to, or embodiment of extra-musical content. Hanslick wrote that
"the essence of music is sound and motion"; moreover, several insightful contemporary theories contend that it is this quality or analogy of motion, rather than the perception of syntactical relationships, which makes music meaningful and affective. For example, Susanne Langer maintains that music emulates feeling by means of formal properties (tonal tensions and rhythms) which resemble the formal properties (tensions and rhythms) of feelings:

The tonal structures we call "music" bear a close logical similarity to the forms of human feeling—forms of growth and of attenuation, flowing and stowing, conflict and resolution, speed, arrest, terrific excitement, calm, or subtle activation and dreamy lapses. Such is the pattern, or logical form, of sentience; and the pattern of music is that same form worked out in pure, measured sound and silence. Music is a tonal analogue of emotive life.

Langer might be considered an "absolute expressionist" (see p. 9) in that she is concerned with the effect of musical materials themselves on our emotions (musical motion reminds us of our emotive life). She and Meyer part ground in that he is more concerned with the intellectual perception of musical relationships, she with the emotional attraction to music's dynamism. Langer also differs from the formalist position in being concerned with a work's correspondence with reality: its correspondence to the "forms" of feelings in everyday life.

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45 Susanne Langer, Feeling and Form (New York: Scribner's, 1953), p. 27.
Rudolph Arnheim and Forest Hansen present perspectives quite similar to Langer's, suggesting that music presents us with an illusion of organic life. Arnheim explains as follows:

Motifs like rising and falling, dominance and submissiveness, weakness and strength, harmony and discord, struggle and conformance, underlie all existence. We find them within our own mind and in our relations to other people, in the human community and in events of nature. Perception of expression fulfills its spiritual mission only if we experience in it more than the resonance of our own feelings. It permits us to realize that forces stirring within ourselves are only individual examples of the same forces acting throughout the universe.\(^46\)

Hansen concurs with Arnheim's view and adds that there is a special pleasure in perceiving this "lifelikeness" in music, in that music is man-made, man-controlled, removed from practical considerations, easily "framed," offers great variety and complexity, and integrates dynamic patterns in a unity.\(^47\) In short, music "presents us with images of time, space and dynamic motion for our contemplation and enlightenment."\(^48\)


\(^47\)Ibid., pp. 260-64.

\(^48\)Ibid., p. 267. Similar theories are proposed by C.C. Pratt, Donald Ferguson and others.
The most ardent critics of musical formalism are emotionalists—those who feel that the meaning or value of music lies in its expression or embodiment of emotion. "That art is the language of emotions" claims C.J. Ducasse, "has been widely held since Eugene Veron in 1878 declared that art is the emotional expression of human personality." Some emotionalists hold that music simply represents feelings or expresses them indirectly through learned associations. A. R. Stevenson, for example, maintains that "emotional expression involves the disposition of a sign to effect emotion," and F. David Martin suggests the following:

... to say that a piece of music expresses joy does not mean that joy is literally in the music. Rather we impute to the music those emotions the music evokes because our concentrations upon the tonal structures fuses our emotions with the music. 51

The fact that music may seem emotional without actually eliciting emotion leads Douglas Morgan to suggest that "sad" music "sounds as if, were one to react emotionally to it, sadness would be the appropriate emotion to feel." 52


Other emotionalists believe that music actually presents or embodies emotional content. Tones are "extra-musical," this theory goes, just as words are extra-verbal, in that they have emotional meanings. Deryck Cooke claims that music "conveys the naked feeling direct,"53 and Collingwood describes artistic expression as a "becoming conscious" of emotion. 54 Bernard Bosanquet considers how a feeling can be embodied in an object to be the central problem of the aesthetic attitude. 55 According to Charles Hartshorne, experience of sad music and experience of subjective sadness are of the same genus; they are not merely analogous but generically identical. 56 George Santayana maintains that in all artistic expression we must distinguish two terms: 1. the object actually presented (the expressive thing) and 2. the object suggested (the thing expressed). Expression, he insists, depends on the union of the two terms . . . "the value of the second term must be incorporated in the first." Thus whereas a sign represents something not presented, music


does not represent sadness but presents it; the music and sad-ness are fused. 57

While the idea that music is analogous to emotive or organic life (Langer, Arnheim, Hansen) is insightful, and the idea that certain musical characteristics may come to signal or refer to certain emotions or states of mind within an interpretive community (Stevenson, Martin, Morgan) is hardly deniable (Meyer discounts the significance of extra-musical representation but does not deny it), to suggest that music "is" sad, embodies sadness, or by its own nature expresses sadness (Cooke, Collingwood, Santayana, Hartshorne) seems inconceivable. What could feelings or emotions be, that such things could be embodied in music? Feelings cannot be properties of musical compositions, as they reside only within living beings.

It remains, however, that music is able to elicit emotion in a listener; the musical experience, in fact, seems at times to transcend the rational or intellectual. Music is capable of transporting us beyond the level of consciousness to the realm of dreams, fantasy, and play, a realm of children and artists, of geniuses and idiots. Mihaly Csikszentmihalyi writes in Beyond Boredom and

Anxiety: The Experience of Play in Work and Games\(^\text{58}\) that we experience a "flow" in "play" which involves an intense centering of attention on the activity, an altered sense of time, a lack of sense of self, a clarity of response, and a god-like sense of control. Csikszentmihalyi's description of "flow" is reminiscent of the musical experience; and like play, music may release us from the mundane activities of everyday life, and provide refreshment and relaxation.

Music may very well be able induce "flow," to transport us to a level beyond consciousness, to represent or elicit emotion, or to emulate emotive life or living organisms. The formalist might point out, however, that such experiences, while quite real and often intense, are as likely to happen with Muzak as with Mozart. Mozart is more meaningful and valuable than Musak not because it better emulates emotive life or is more likely to induce a semiconscious state, but because an assessment of the interrelations of musical elements involved will more likely lead to conscious thought, self awareness, and knowledge of the systems through which musical works are given meaning. How it is that the assessment of musical relationships may give rise to meaning, emotion or "affect," information and value will be discussed in ensuing chapters.

\(^{58}\) (San Francisco: Jossey Bass, 1975).
Unlike earlier musical formalists such as Hanslick and Gurney, Leonard Meyer has sought to explain precisely why and how an assessment of formal relationships in music gives rise to emotion and meaning. Meyer's first attempt at such an explanation is his famous theory of "expectation" offered in *Emotion and Meaning and Music* (1956). This chapter will review Meyer's position on musical expectation, present and discuss criticisms which have been or could be leveled at the theory, and then assess the validity of the theory in light of these criticisms.

Meyer's expectation theory was based on what he identifies as "the psychological theory of emotions": specifically, "Emotion or affect is aroused when a tendency to respond is arrested or inhibited." (EMM 14) Formulated by F. Paulhan and John Dewey in the late nineteenth century, the theory was elaborated by R. P. Angier and J. P. MacCurdy in the early twentieth century. ¹ Meyer quotes

MacCurdy as follows (EMM 14):

...when instinctive reactions are stimulated that do not gain expression either in conduct, emotional expression, or fantasy, that affect is most intense. It is the prevention of the expression of instinct either in behavior or conscious thought that leads to intense affect. In other words, the energy of the organism, activating an instinct process, must be blocked by repression before poignant feeling is excited.

MacCurdy's analysis involves three phases:

a. arousal of nervous energy in connection with the instinct or tendency; b. the propensity for this energy to become... manifest as behavior or conscious thought once the tendency is blocked; and c. the manifestation of the energy as emotion-felt or affect if behavior and conscious thought are also inhibited.

Meyer finds this psychological theory of emotions basic to emotion felt in response to music: "Affect or emotion-felt is aroused," Meyer claims, "when an expectation—a tendency to respond—activated by the musical stimulus situation, is temporarily inhibited or permanently blocked." (EMM 31)

Affect, according to Meyer, is an emotion actually felt, the "feeling-tone accompanying emotional experience," (EMM 12) as opposed to an emotional state suggested by an outside stimulus (such as a story which is considered "sad."). The theory of emotions has been criticized for not

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2 MacCurdy, p. 475.
3 Ibid.
telling what an emotion is, precisely what takes place to make us feel. Meyer suggests that this objection is valid but irrelevant for his purposes:

For just as the physicist long defined magnetism in terms of the laws of its operation and was able to deal with the phenomena without knowing the nature of the magnetic states so, too, the psychologist can define emotion in terms of the laws governing its operation, without stipulating precisely what, in physiological terms, constitutes feeling—what makes affect felt. (EMM 16)

Meyer does not distinguish between affect, feeling, and emotion—felt, and apparently considers them to be synonymous.

Meyer describes "tendencies" as comprising all automatic response patterns of a listener, whether natural or learned, conscious or unconscious. If a tendency or pattern reaction runs its normal course to completion the listening process may be unconscious; if inhibition is involved, the process becomes conscious or "self-conscious" and gives rise to expectation. (In other words, we are less likely to be consciously aware of the predictable sort of music, such as Muzak, which does not inhibit our tendencies toward clarity and resolution.) Our tendencies and

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4 At times Meyer seems to suggest that tendencies are in the music, but it seems clear that he maintains that tendencies are not in the music but in the perceiver.
expectations arise on the basis of the possibilities and probabilities of the musical style in question. Because the "normal," probable progressions are most familiar or expected, an anomalous or "deviant" progression will inhibit our tendencies and give rise to affect. A very simple example Meyer offers of this often highly complex phenomenon is the deceptive cadence. In this situation a \( V^7 \) chord (stimulus) gives rise to a tendency in the listener, based on knowledge of the tonal system, to associate \( V^7 \) with I. When a VI chord (deviation) is presented instead, the tendency is inhibited, and a more active expectation for I is elicited. The affect accompanying the expectation is characterized by confusion or surprise, and that accompanying the subsequent I chord is marked by the pleasure of resolution. Yet expectation is often more indefinite; an ambiguous stimulus situation may suggest several equi-probable consequents, and the strong tendencies toward clarification which such ambiguities elicit, as well as the eventual clarification itself, are also affective.

Meyer further clarifies his theory with the following points.\(^5\)

\(^5\) In order not to inhibit the presentation of Meyer's thesis, these points will be discussed in more detail on pages 48-52.
Meyer maintains that affect—"the feeling-tone accompanying emotional experience"—is basically undifferentiated, and bases this claim on the following logic:

a. The more intense emotional behavior is, and presumably therefore the more intense the affective stimulation, the less the control exerted by the ego over behavior and the greater the probability that the behavior is automatic and natural. b. The more intense affective behavior is, the less differentiated such behavior tends to be...c. Thus the more automatic affective behavior is, the less differentiated it tends to be. (EMM 18-19)

Meyer feels it is helpful here to distinguish between affect (internal reactions and feelings) and affective experience (the external situation or behavior); the latter may be differentiated "because it involves awareness and cognition of a stimulus situation which itself is necessarily differentiated....Love and fear are not different affects, but they are different affective experiences." (EMM 19). Pleasant affective experience has to do with the resolution of ambiguity or conflict, and the pleasure lies not so much in the resolution per se as in the belief that the resolution will be forthcoming.

(2) Musical experience, in Meyer's view, is distinct from real, non-musical experience in three important ways: (a) Musical experience involves an awareness and knowledge of the stimulus situation. (b) Unlike in everyday experience, in music tendencies are generally resolved, and
"the relationship between the tendency and its necessary resolution is made explicit and apparent." (c) Unlike in everyday experience, in music the same stimulus (the musical work) "activates tendencies, inhibits them, and provides meaningful and relevant resolutions." (EMM 23) In many ways, however, musical experience is like non-musical, everyday experience:

Both in life and in music the emotions thus arising have essentially the same stimulus situation: the situation of ignorance, the awareness of the individual's impotence and inability to act where the future course of events is unknown. Because these musical experiences are so very similar to those existing in the drama and in life itself, they are often felt to be particularly powerful and effective.

Musical suspense seems to have direct analogies in experience in general; it makes us feel something of the insignificance and powerlessness of men in the face of the inscrutable workings of destiny. (EMM 28)

(3) Meyer maintains that once the norms of a style have been determined, the study of a particular work in that style can be made without continual and explicit reference to the responses of a particular listener. (EMM 32) In other words, the processes which give rise to affect may be discussed "objectively." This idea eventually led to a transformation of the "expectation" theory to one of "implication."
Consideration of Dewey's "Psychological Theory of Emotions"

Before considering Meyer's ideas on expectation and affect, the psychological theory on which Meyer's ideas are based should be considered briefly. It might be argued that Meyer would have done better not to base his work on a theory nearly a hundred years old, in that contemporary psychology could have a more advanced explanation for the arousal of emotion.6 Dewey's theory of emotions, referred to in psychological circles as a "conflict" theory of emotions, has given rise to similar theories throughout the twentieth century, however, and Dewey's (and Meyer's) theory is hence supported by contemporary psychological research. The history of these "conflict" theories of emotion (none of which are refer specifically to musical or aesthetic emotion) is examined, along with "intense motivation," "frustration," and "release of tension" theories, in a chapter entitled "Direct Determinants of Emotion" in Paul T. Young's Emotion in Man and Animal (1943),7 and conflict theories occupy a separate chapter in James Hillman's Emotion (1961).8 Most of these conflict theories, which

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6 Emotion is used here in the same way Meyer uses affect—that is, emotion actually felt by a human subject.

7 Young, Emotion in Man and Animal (New York: John Wiley and Sons, 1943).

include those of J. Dreuer, H. W. Frinck, P. Janet, A. K. Luria, F. A. Hoelye, C. W. Darrow, K. Jung, J. S. Brown and H. S. Langfeld, use Deweyan terminology such as "inhibited" or "arrested tendencies," and some (Luria, Darrow, Brown) support their positions with psychophysiological testing. Recent conflict theories of emotion include those of K. H. Pribram,9 who asserts that emotion accompanies expectancies and uncertainties which result from a "disruption of an action," and P. V. Simonov,10 who concludes that "emotional stress" is a function of (a) the value of a motivation or need and (b) the difference between prognostically necessary information for its satisfaction and information available to the subject. In other words, a lack of information, which, in effect, inhibits a "motivation" or tendency, gives rise to emotion.

Critics of the conflict theory of emotions point out that there can be conflict without emotion and emotion without conflict.11 Emotion may arise out of simple frustration, for example, which often occurs apart from conflict. (A dog separated from his supper dish


11 See Young, p. 322, and Hillman, p. 205.
experiences frustration; conflict is felt when the dog must choose between addressing a newly filled supper dish and chasing a just-spotted cat.) This criticism has been leveled at Meyer's usage of the conflict theory in a musical situation; Ervin Laszlo charges that "Meyer assumes that all emotion is the outcome of the inhibition of expectations." Meyer's expectation theory, however, accounts for both conflict and frustration (an ambiguous antecedent leads to frustration, an anomalous consequent to conflict); and Meyer also fully admits that extra-musical associations may lead to affect. This is discussed in Chapter VIII of EMM, "A Note on Image Processes, Connotations, and Moods."

Another common criticism of "conflict" theories of emotion is that they tend to minimize or ignore the emotion or affect felt upon release of tension or resolution in favor of that felt at the moment of conflict, when the tendency is inhibited. Meyer accounts for affect felt upon resolution, however, suggesting that it results from a "pleasant affective experience," while the affect felt when a tendency is inhibited is characterized by confusion and doubt. At the same time, however, confusion and doubt may

13 See Hillman, pp. 205-6.
give way to pleasurable anticipation before resolution actually ensues, because "the pleasantness of an emotion seems to lie not so much in the fact of resolution as in the belief in resolution." (EMM 19)

Conflict Theories of Emotion and Music

New questions arise in considering Meyer's application of the conflict theory of emotion to music. Guy Marco contends that Meyer fails to distinguish properly between aesthetic and personal experience:

But in supposing that expectations aroused in following a musical composition fall into the class of Dewey's inhibited tendencies, Mr. Meyer fails to take into account the detached nature of the aesthetic attitude. For an inhibited tendency in our personal experience may well lead to emotional or affective disturbance, but such disturbance will hardly occur when we believe the stimulus situation holds no potential discomfort for us.

Meyer, as indicated above (Point 2, pp. 43-44) suggests that we react affectively to ambiguity or conflict in music because we perceive them to be analogous to ambiguity and conflict in everyday experience. Meyer is suggesting that ambiguity, conflict and deviation make a human subject uncomfortable, regardless of whether or not that conflict results in any real loss of power, love, money and the like. The fact that the musical experience does not result

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in the loss of such things does not make the experience any less "personal" (to use Marco's term); human beings like to be in control, to understand what they experience, and the personal experience of ambiguity or conflict in music inhibits these tendencies and can give rise to affect. One can hardly argue with Marco if he does not experience such affect when listening to music, but the fact is that many people do.

Marco's statement is reminiscent of Clive Bell's position that non-aesthetic emotion is essentially different from aesthetic emotion (which Bell never defines). Although Meyer believes that musical affective experiences differ from non-musical affective experiences in important ways (see p. 43), he maintains that there is no such thing as an aesthetic or musical emotion: the physiological reactions or "feeling-tone" felt in any affective experience are essentially the same.

Meyer's contention that affect (musical or not) is undifferentiated, however (Point 1, pp. 41-42) is certainly open to debate. Meyer seems to use "affect" and "emotion-felt" synonymously, but some experts distinguish the two; Radocy and Boyle, for example, define emotion as "a relatively temporary disturbance from a normal state of composure" and affect as "a broad term referring
to a wide variety of feeling responses."

G. M. Stratton's usage of the term "excitement" seems to correspond to Meyer's usage of "affect"; Stratton considers "excitement" to be a basic, undifferentiated emotion which gives rise to more differentiated emotions such as fear, anger, sexual emotion, or some other specific emotional state. Undifferentiated excitement may stand alone when the stimulation of an organism is excessive or unfamiliar, or when the outcome of an impending event is unknown.

It should be noted that "differential emotions theory," which takes its name from its emphasis on "discrete emotions as distinct experiential/motivational processes," has a strong following among contemporary psychologists; Carroll Izard wrote in 1977 that differential emotions theory

...draws from a rich intellectual heritage and claims kinship with the classical works of Duchenne, Darwin, Spencer, Kierkegaard, Wundt, James, Cannon, McDougall, Dumas, Dewey, Freud, Rado, and Woodworth and with

15 Rudolph Radocy and David Boyle, Psychological Foundations of Musical Behavior (Springfield, Illinois: Charles Thomas, 1979), p. 216. Young (p. 51) defines emotion as "an acute disturbance or upset of the individual which is revealed in behavior and in conscious experience as well as through widespread changes in the functioning of the viscera (smooth muscles, glands, heart, and lungs) and which is initiated by factors within a psychological situation."

the more contemporary works of Jacobson, Sinnott, Mowrer, Gellhorn, Harlow, Bowlby, Simonov, Ekman, Holt, and Singer and many others.\textsuperscript{17} Meyer, of course, claims that "affective experiences," unlike affect itself, may be differentiated: "Love and fear are not different affects, but they are different affective experiences." (EMM 19) In any case, Meyer's position that affect is undifferentiated is not a necessary condition of his overall "expectation" thesis; it may be, for example, that the affect felt when a tendency is inhibited is of a different nature than that felt at the moment of resolution, but the various affects would be nonetheless felt.

Most of the questions that arise from Meyer's application of the conflict theory of emotions to music have to do with his association of expectation and meaning. Inhibited tendencies, according to Meyer, do not always lead to affect:

Whether a piece of music gives rise to affective experience or to intellectual experience depends on the disposition and training of the listener....Those who have been taught to believe that musical experience is primarily emotional and who are therefore disposed to respond affectively will probably do so. Those listeners who have learned to understand music in technical terms will tend to make musical processes an object of conscious consideration. (EMM 40)

\textsuperscript{17} Izard, p. 43.
In short, for the trained or experienced listener inhibited tendencies will most likely lead not to affect but to meaning.

**Expectation and Meaning**

Meyer maintains that musical meaning arises out of the same processes which give rise to meaning in general—specifically, the process of perceiving the reference of something to something else. Meyer points out in EMM that his thinking on musical meaning is based on two assumptions. First, Meyer adopts a general definition of meaning provided by Morris R. Cohen: "anything acquires meaning if it is connected with, or indicates, or refers to, something beyond itself, so that its full nature points to and is revealed in that connection."\(^{18}\) Second, Meyer concurs with the position of Cohen and George H. Mead\(^{19}\) that meaning arises out of a triadic relationship between a stimulus, its referent, and the perceiver. (EMM 34)

The first assumption, that meaning arises from the perception of reference, is a fairly conventional one. Consider these sixteen attributes of meaning offered by

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Ogden and Richards in *The Meaning of Meaning*:

I. An Intrinsic property.
II. A unique unanalyzable Relation to other things.
III. The other words annexed to a word in the Dictionary.
IV. The Connotation of a word.
V. An Essence.
VI. An activity Projected into an object.
VII. a. An event Intended.
b. A Volition.
VIII. The Place of anything in a system.
IX. The Practical Consequences of a thing in our future experience.
X. The Theoretical consequences involved in or implied by a statement.
XI. Emotion aroused by anything.
XII. That which is Actually related to a sign by a chosen relation.
b. Some other occurrence to which the mnemonic effects of any occurrence are Appropriate.
c. That which a sign is Interpreted as being of.
d. What anything Suggests.

In the case of Symbols.
That to which the User of a Symbol actually refers.

XIV. That to which the user of a symbol Ought to be referring.
XV. That to which the user of a symbol Believes himself to be referring.
XVI. That to which the Interpreter of a symbol
   a. Refers
   b. Believes himself to be referring.
   c. Believes the User to be referring.

A consideration of the terminology involved here --
"effects," "Suggests," etc. -- reveals that most of these

definitions involve the reference or relation of something to something else. Possible exceptions are "An intrinsic property," "an essence," and "The place of anything in a system," yet anyone who wished to limit the meaning of meaning to reference of some sort might respond, as Cohen does, that properties, essences and functions may be determined on the basis of references ("...anything acquires meaning if it... refers to something beyond itself, so that its full nature is revealed in that connection"). Another possible exception is "emotion aroused by anything" (XI), yet Meyer points out that affect or emotion-felt may be aroused in response to references or relationships. At any rate, Meyer considers musical meaning, like general meaning, to arise from the perception of reference, and because he admits both internal (or tone to tone) and external (or representational) reference, the definition of musical meaning he adopts is quite comprehensive. These different types of musical meaning will be discussed further below.

In maintaining that musical meaning arises out of a triadic relationship between a stimulus, its referent and the perceiver, Meyer seems to have escaped the problem of where meaning lies; that is, he admits the existence of an

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21 Cohen, p. 47.

22 Earlier Meyer's definition of "referentialism" in EMM referred only to extra-musical reference. (See p. 9)
external object (the stimulus) without suggesting that meaning is a property of that external object. The only problem with the triad is that it does not account for the musical system in question in the production of meaning; after all, it is through common knowledge of conventional systems and symbols that composers and performers are able to communicate and receive meanings. It is appropriate to comment here that the referent of a given stimulus may be consistently and correctly identified because perceivers, along with composers, may all be members of the same "interpretable community." This term of Stanley Fish is difficult to define (see above, pp. 28-32) yet if we assume that an interpretable community is simply a group of people who share and understand conventional symbols and systems (such as the tonal system), then commonality of interpretation, as well as the ability of an artist to communicate musical meanings, may be accounted for. This is not to suggest that any musical stimulus may have only one specific, intended meaning; some stimuli seem to lend themselves to a plurality of equally legitimate interpretations. (The "Tristan chord" or the introduction to Mozart's string quartet K. 465, for example, may be intentionally ambiguous.) There are also works of art that are patently intended to communicate specific meanings, however, and this kind of communication can only take place
when common knowledge is shared within an interpretive community. Meyer's original "triad" might be clarified, then, by saying that the meaning of a musical composition is a result of the relationship between a stimulus, a referent and a perceiver, based on the perceiver's knowledge of the symbols (such as notes, staff, or dynamics) and systems (such as the tonal or twelve-tone system) of which the stimulus partakes; or put another way, the musical meaning of a composition arises from a perceiver's correct assessment of the conventional symbols and systematic relationships employed in the composition.

Having established the fact that meaning arises from the perception of reference, Meyer determines that reference in music is of two types. A stimulus may refer to consequences different from itself in kind, as when a word signifies something which is not itself a word, or consequences of the same kind, as "when a dim light on the eastern horizon heralds the coming of day" (or as Meyer puts it in "Meaning in Music and Information Theory," "as when the rumble of distant thunder on a sultry day and the piling up of storm clouds...indicate the coming of a rain storm...") (MAI 6). A musical example of the first type of meaning, which Meyer calls "designative," is the signification of Siegfried by the Siegfried motive; an example of the second type, "embodied" meaning, is the reference of notes to other notes.
Embodied musical meaning is a product of expectation: "If, on the basis of past experience, a present stimulus leads us to expect a more or less different musical event, then that stimulus has meaning." (EMM 35) The "consequent" musical events in a stimulus situation include (a) those events which are expected, (b) the events which actually follow, whether expected or not, and (c) "the more distant ramifications or events which, because the total series of gestures is presumed to be causally connected, are considered as being the later consequences of the stimulus in question." (EMM 36) In view of this, Meyer distinguishes three stages of meaning which he refers to as "Hypothetical," "Evident," and "Determinate."

"Hypothetical meanings" are those which arise during the act of expectation. Since what is envisaged is a product of the probability relationships which exist as part of style... and since these probability relationships always involve the possibility of alternative consequences, a given stimulus invariably gives rise to several alternate hypothetical meanings..."Evident meanings" are those which are attributed to the antecedent gesture when the consequent becomes a physico-psychic fact and when the relationship between the antecedent and consequent is perceived..."Determinate meanings" are those meanings which arise out of the relationships existing between hypothetical meaning, evident meaning, and the later stages of the musical development. In other words, determinate meaning arises only after the experience of the work is timeless in memory, only when all the meanings...are realized and their relationships to one another comprehended as fully as possible. (EMM 37-38)
How these different types of meaning work may be diagrammed as follows:

\[
\begin{array}{c|c|c}
    \text{A V}^7 \text{ (stimulus)} & \text{If followed by a VI chord (deviation) the tendency is inhibited, and the active expectation for I which results is accompanied either by affect or meaning.} & \text{A subsequent I chord will resolve the expectation and reinforce the original tendency.} \\
    \text{gives rise to a tendency to associate V}^7 \text{ to I} & \text{hypothetical meaning} & \text{evident meaning}
\end{array}
\]

The determinate meaning of the work is composed of all the hypothetical/evident relationships in the piece.

It is important to note that Meyer believes that evident meaning is modified by the hypothetical meanings previously attributed to the antecedent—that is, that hypothetical expectations which go unconfirmed are nonetheless factors in establishing determinate meaning. Stanley Fish makes essentially the same point in an expectation theory he applies to the process of reading literature. Fish illustrates his theory with an analysis of the following passage from *Paradise Lost*:^{23}

\[
\text{Satan, now first inflam'd with rage came down,} \\
\text{The Tempter ere th' Accuser of man-kind} \\
\text{To wreck on innocent frail man his loss} \\
\text{Of the first Battle, and his flight to Hell.}
\]

In commentary on this passage, Fish suggests that Milton meant for the reader to misconstrue temporarily the meaning of "his" in the third line:

^{23} Quoted in Fish, *Is There a Text in This Class?* (Baltimore: Johns Hopkins Press, 1981), p. 3.
One of the things a reader does in negotiating these lines is to assume that the referent of "his" in line [3] is "innocent frail man." Within this assumption the passage would seem to be assigning the responsibility for the Fall to Satan: Satan, inflamed with rage, comes down to inflict the loss of Eden on a couple unable to defend themselves because they are innocent and frail. This understanding, however, must be revised when the reader enters line [4] and discovers that the loss in question is Satan’s loss of Heaven, sustained in "that first battle" with the loyal angels. It is that loss of which Adam and Eve are innocent, and the issue of the Fall is not being raised at all. But of course it has been raised, if only in the reader’s mind, and in the kind of analysis I am performing, that would be just the point. The understanding that the reader must give up is one that is particularly attractive to him because it asserts the innocence of his first parents, which is, by extension, his innocence too. By first encouraging that understanding and then correcting it, Milton... makes the reader aware of his tendency, inherited from those same parents, to reach for interpretations that are, in the basic theological sense, self-serving. This passage would then take its place in a general strategy by means of which the reader comes to know that his experience of the poem is part of its subject; and the conclusion would be that this pattern, essential to the poem's operation, would go undetected by a formalist analysis.24

To put this in Meyer’s terminology, Fish is saying that the hypothetical meaning of line 3, though contradicted by the evident meaning of line 4, is an important factor in establishing the determinate meaning of the poem (although Fish

24 Ibid., p. 4.
would probably not be fond of the idea of determinate mean-
ing.) Similarly, in an ambiguous musical situation the
determinate meaning of the composition includes the
hypothetical meanings of the ambiguous antecedent, as well
as the evident meaning of the consequent.

Meyer expands his perspective on meaning in MAI.
Meaning in general arises, he suggests, when an individual
becomes aware of the implications of a stimulus in a par-
ticular context, and we become aware of these implications
only when an anomalous situation calls our attention to
them. He explains as follows:

Meaning arises when an individual becomes
aware, either affectively or intellectually, of the implications of a stimulus in a
particular context. As long as behavior is
habitual and "unthinking" the stimuli
presented to the mind are neither mean­ing­ful nor meaningless. They cannot be said
to be meaningless, because this implies an
active negation of meaning. Rather our ex­
perience of such stimuli stands in the same
relationship to the meaningful-meaningless
axis as the concept of "amoral" stands in
relation to the moral-immoral axis. That
is, such stimuli are neutral with respect
to meaning....Only when our habits are dis­
turbed do these stimuli become mean­ing­ful.... (MAI 9-10)

Meyer applies these general principles to musical
meaning as well: musical stimuli become meaningful when our
musical habits (or tendencies) are inhibited or disturbed.
He stresses once again that there are different varieties
of musical deviation; an expected consequent may be
delayed, an unexpected consequent may occur, or an antecedent may ambiguously imply several equally probable consequents. In view of this, Meyer defines musical meaning as follows: "Musical meaning arises when an antecedent situation, requiring an estimate of the probable modes of pattern continuation, produces uncertainty about the temporal-tonal nature of the expected consequent." (MAI 11) This indicates that meaning, like affect, may arise not only at the advent of an anomalous consequent or when a conflict is resolved, but also when a listener experiences uncertainty as to what consequent will ensue.

Meyer's discussion of expectation and meaning has been the object of a considerable amount of criticism. The following section will consider some of the most frequent or interesting challenges to Meyer's thesis.

One frequent criticism of Meyer's theory of meaning is that Meyer accounts for the meaning of present experience in terms of previous experience, but does not account for the meaning of previous experience. Walter McEvilly articulates the problem as follows:

...if one had to depend on "past experience" in order to expect a consequent when given a musical antecedent, it would not be possible ever to have had that "past experience" to begin with. The past experience itself, according to Meyer, would have to depend on a still more remote experience. An infinite regress is thus involved in Meyer's assertion, and on the basis of such an assertion one would have
to conclude that the first musical experience never could have been had in the first place without its having been preceded by itself, which is an impossibility. 25

There is no "infinite regress" in Meyer's assertion that musical meaning depends on past experience: the regression ends at the point in the listener's experience when he or she was not familiar with the style. If a listener were not acquainted with the tonal system, for example (that is, if the listener had never heard any tonal music), his first experience with a tonal piece would not be syntactically meaningful (although it might be meaningful in a sensuous or associative sense). As the listener experienced more and more tonal music, his "internalized probability system" would gradually become operative, and the music would become more and more meaningful. The point is that an experience of new and different music will not be meaningful in the sense Meyer describes it: the meaning arises as the perceiver becomes familiar with the music and its style, whether through formal study or frequent listening. Because first experiences of new music are generally not syntactically meaningful, then, they do not necessitate an infinite regress of past experiences to make them so.

Nevertheless, past experience provides only the framework

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for meaning as Meyer defines it. It is confrontation with musical anomalies—the elements that do not conform closely to the learned "norms"—which leads to awareness of musical reference. Thus while the potential for inferring meaning increases with experience, the degree of actual meaning, according to Meyer, is in direct proportion to the amount of musical ambiguity or deviation involved.

Another frequent criticism of Meyer's theory concerns the role of expectation in subsequent hearings of a piece of music. Donald Sherburne presents the problem as follows:

...certain inferences about musical experience which the theory forces us to draw are totally at odds with our actual experience. If the theory were correct, the first hearing of a work should reek with meaning and send emotional tingles to the tips of the toes; but with subsequent hearings the significance and emotional impact of a work ought to decline rapidly as the unexpected becomes the expected, as expectation becomes replaced by recollection and anticipation. In fact, the far more common experience is that works tend to become more compelling as one gets inside them and obtains a growing familiarity with them. In short, Meyer's theory seems to be incompatible with the ordinary conviction that fine music can be reheard and re-enjoyed many, many times, frequently with heightened appreciation.26

Meyer responds to this criticism in "On Rehearing Music" with the following five points: (1) Because listening to music is a complex art involving sensitivity of apprehension, intellect, and memory, many of the implications of an event are missed on the first hearing. (2) Memory is an active force which, obeying the psychological "law of good shape," organizes, modifies, and adjusts the impressions left by perception. In so doing, it tends to "improve" irregular but well-structured patterns or to "forget" poorly structured ones. (3) Insofar as a listener's internalized probability system and consequently his expectations have been modified by subsequent musical experiences, a work will tend to retain its entirety and interest upon rehearing. (4) Insofar as each performance of a piece of music creates a unique work of art, to that extent the information in the performance is new. (5) Just as we are able to believe in--take seriously--the reality of a dramatic action, knowing at the same time it is "make believe," so too are we able to believe in the reality of a piece of music--to become involved in its syntactic structure--even though it has been heard before.28

In addition, John Titchener and Michael E. Broyles come to Meyer's rescue admirably in their article entitled

27 In MAI, pp. 42-53.
"Meyer, Meaning and Music." It is important to draw the distinction, they suggest, between knowing a musical ending or consequent and experiencing it:

Let us suppose that our Ideal Auditor is a composer with a fine ear who is engaged in a war of nerves with his wife, a fine pianist. One of her weapons consists of her propensity for playing loud and long suspensions which she leaves unresolved—departing from the keyboard, leaving behind her, say, a loud and unsettling dominant seventh echoing through the house. The Ideal Auditor knows how such a chord can be resolved, but he may feel a release from the tension of the suspension only when he hears its actual resolution.  

That the distinction drawn between knowing and experiencing is a significant one is reinforced by G. J. Whitrow's assertion that "auditory images are seldom found to be sufficiently precise and detailed to be useful for memorizing music....To recall a tune or a rhythm we usually hum it or tap it out." In the musical situation described by Titchener and Broyles an expectation comes to nothing (there is no consequent), but their point applies equally well to situations in which an anomalous musical event is anticipated because the listener knows the piece. Despite the fact that a listener knows a particular composition contains a deceptive cadence, for example, his familiarity with it may not be sufficient for him to expect the cadence to occur.


with the probabilities involved ordinarily leads him to want a tonic chord to follow the V\(^7\), and without that tonic the musical situation seems incomplete or unfinished. Meyer would argue that the more tonic-implying stimuli the listener experiences the more likely he is to react with conscious thought (or affect) to deviation, whether expected or not. (This is likely to happen, of course, only if he is actively participating in the aesthetic experience.) We may be able to appreciate subsequent readings of a good story, at least in part, for essentially the same reasons. Even though we know, for example, that Odysseus will ultimately return safely to Ithaca, the course of events in the Odyssey make it logically expedient that his quest be frustrated. Seeking to take advantage of the aesthetic experience, we lend ourselves freely to a feeling of suspense and look with anticipation to what we know to be the eventual resolution, the hero's safe return home.

We may, in listening to a piece of music, even come to enjoy having our tendencies inhibited. It is interesting in this regard to examine some of the issues raised in Henri Bergson's essay on laughter. Bergson writes that there are generally two terms found in a comic situation: "a repressed feeling which goes off like a spring, and an
idea that delights in repressing the feeling anew."\(^{31}\)

Consider the experience of the Jack in the Box. The repressed feeling harbored in waiting for the Jack does indeed "go off like a spring" when the Jack jumps up, and in replacing the Jack and repeating the process we are repressing the feeling anew. In other words, a child playing with a Jack in the Box knows that the Jack is coming, and knows exactly when in the musical sequence (Pop Goes The Weasel) the Jack will emerge yet he revels in being repeatedly "surprised" by it. He is not expecting the unknown, but anticipating the known, and enjoying it in the process. The musical process is considerably more subtle and complex than that of the Jack in the Box, yet both experiences indicate that we do indeed continue to be delighted by expected "surprises." (Bergson's "enjoyment" or "delight" may be regarded as meaningful or affective.)\(^{32}\)

Another comment of Bergson on laughter is that "Laughter is the result of an expectation which, of a sudden, ends in nothing." That frustrated expectations result in confusion according to Meyer and laughter according to Bergson is not so much of a contradiction as it may seem, for Bergson stresses that laughter serves as a "corrective." The

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\(^{32}\) Bergson mentions the Jack in the Box, in a different context, in *Ibid.*, pp. 69-70.
comic, he explains, expresses an individual or collective imperfection which calls for an immediate corrective—the corrective of laughter. In a comic situation something is awry, our sense of what is logical or appropriate is momentarily disturbed. We may laugh in such a situation to indicate to others, and to ourselves, that we realize something is awry but that it will hold no serious ramifications for us; the world will continue to operate, for the most part, according to convention or rule. Similarly, in a musical situation we may experience a subtler sort of amusement when a tendency is inhibited in spite of the tension we feel; for we know, especially because the situation is an aesthetic one, that the tension felt will eventually be released, and that delayed resolutions bring increased satisfaction.

Leon Plantinga, in his review of MAI, challenges Meyer's theory of meaning as follows: Meyer's example of embodied meaning is the rumble of thunder indicating the coming of rain. Does this mean, Plantinga asks, that thunder means rain, or, if A leads one to expect B, that A means B? An example of this kind in tonal music would be "the tones c d e f g a b mean c." Further, Plantinga

33 Ibid., pp. 85-88.
states, Meyer goes on to say that "if A leads one to expect B, he is more aware of his expectation if something intervenes to frustrate it or make it less certain; and this somehow makes the relationship between A and B more 'meaningful' (to quote the dread word)." Thus in returning to the first example, "'thunder means rain,' but it really means rain only if you're not sure it does (because, say, in the meantime the sun has come out.)"35

We may assume that when Meyer offers "thunder indicates rain" as an example of embodied meaning, he is not asserting that thunder means rain but that thunder becomes meaningful in that it refers or "points" to something else. Plantinga's second point, however, presents an interesting problem. Plantinga is correct in pointing out that thunder followed by rain is in general no less meaningful than thunder which is not followed by rain; the reference of thunder to rain will inevitably be meaningful because rain can get us wet. A predictable musical consequent, however, will have no such impact on our lives; it may thus go unnoticed unless it is underlined by some form of deviation or ambiguity. Meyer's point about deviation and meaning is valid for music but not for thunder, then, and we may conclude that Meyer's "natural events" analogies are inappropriate for his thesis. This is made even more apparent by some comments of Vernon Howard.

35 Ibid., p. 146.
Howard, in his "A Logical Note," maintains that Meyer's account of meaning is "inadequate, confused and wrong." The "embodied" meaning of natural signs such as thunder is not a function of such signs being somehow like their designation in kind, as Meyer asserts; thunder no more resembles rain than it resembles lightning. Smoke is a sign of fire because it is almost always associated with fire, not because it is like it in kind, and this is the case for all "natural signs." Howard concludes that Meyer confuses natural signification based on experienced associations with what might be called "musical syntax"—patterns of harmony, progression, and resolution typical of a certain style and tonal system.

Howard also questions Meyer's distinction between designative and embodied meaning:

Meyer's two types of meaning exactly fit the venerable specifications of conventional and natural signs. However, while the "designative meaning" of conventional signs implies some kind of reference or denotation, there is nothing in either notion to prevent reference to things of the same sort. For example, many words in English refer to other words....If for some reason Meyer wishes to eliminate musical reference to music (and there appear to be no grounds for doing so), "designative meaning" cannot possibly do the job. If on the other hand, he wishes to express the idea of what others have called "iconic" or presentational symbols, the ordinary notion of designation...as it applies to discursive

language is inadequate to the task.\textsuperscript{37}

Howard is accurate in asserting that thunder is not like rain "in kind" as notes are like notes, and in this regard it should be conceded that the thunder-rain example of embodied meaning leaves something to be desired. More questionable is Howard's observation that "while designative meaning of conventional signs implies some kind of reference or denotation, there is nothing in either notion to prevent reference to things of the same sort." It is not at all clear that notes do "designate" other notes; the reference of notes to other notes (in tonal music, at least) is implicative, and "designation" does not seem to encompass implicative relationships. In any case, these problems are not logical but semantic ones. The substitution of "extra-musical" and "intra-musical" for "designative" and "embodied" meaning would be considerably less confusing.

One further criticism of Howard's has to do with Meyer's characterization of an habitual and unthinking experience as "neutral" with respect to meaning (see p. 60). Meyer, Howard challenges, is guilty of violating the

\footnotesize{\textsuperscript{37} Ibid., p. 216. Conventional signs are arbitrary and learned, while natural signs seem to have some natural causal connection. For a discussion of the distinction between presentational and representational symbols, see Susanne Langer's Philosophy in a New Key (Cambridge: Harvard University Press, 1969), pp. 79-103.}
principle of the excluded middle. Unlike moral and immoral, which are contraries, meaning and meaningless are contradictory opposites, and although actions or persons may appropriately be considered "amoral," there is no such equivalent for meaning. Music is either meaningful or meaningless, depending on the kind of meaning one has in mind. In fact, Howard continues,

...if a tonal (or other kind of) process became literally "meaning neutral" when its "implications" were born out, how should we come to know this? Surely neutralization of meaning would be sufficient to neutralize our understanding of such processes. Then too, how should we ever discover the "norm" through inspection only of its exceptions? It takes but a moments reflection to realize that compliance with a norm is no less "meaningful" than non-compliance.

At the heart of Meyer's confusion, Howard concludes, is the fact that meaning has both literal and affective connotations, and Meyer does not distinguish between them. Howard does not elaborate on this point, but presumably he means that we may either infer reference and find it insignificant or infer it and be moved to react affectively. Meaning always has "literal" connotations, but it does not always have affective ones.

Howard may be right in discounting the notion of "neutral" meaning; if meaning involves reference (and Meyer says it does), then any perceived reference is meaningful.

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38 Ibid., p. 217.
whether it is inhibited or not.\textsuperscript{39} Howard's assertion that "meaning" may have affective connotations is reminiscent of Meyer's statement that ambiguous or inhibited tendencies lead to meaning for the educated listener and affect for the inexperienced one. We could conclude here that when Meyer suggests that only inhibited reference is meaningful, he really means that inhibited reference is affective; yet there is a difference between "affect" and the special sort of experience Meyer considers "meaningful": the latter is characterized by conscious thought. Further, this conscious thought is lacking in the simple perception of direct and unambiguous reference, especially in music, in which note-to-note references will in themselves have no identifiable impact on our lives. Any perceived reference has meaning, then, but if it does not elicit the conscious thought which leads to self-realization, its impact is negligible—it will be casually noted and quickly forgotten.

Yet it may not be correct to suggest, as Meyer seems to, that predictable musical reference is necessarily dull. Although deviation is handled expertly by Mozart (as Meyer

\textsuperscript{39} References will be perceived, of course, only if the perceiver is aesthetically attentive. "Neutral meaning" as Meyer uses it characterizes not just inattentive listening, however, but listening that becomes passive because the music involved does not inhibit tendencies.
aptly illustrates in EMM), part of the pleasure of listening to Mozart is hearing exactly what is expected articulated in the most elegant way possible—that is, with exactly the right number of notes positioned in just the right places. Deviation, in fact, seems most characteristic of the music of the nineteenth century; Romanticists generally seemed to prefer ambiguity to specificity, striving to achieving, the shocking to the normal. It is because the Classicists stressed the opposite that the deviation of early Romantic music seems so compelling, and because the Romanticists tended increasingly to exploit deviation that late Romantic deviation often seems excessive.

There is one further problem to be discussed, one similar to the ones raised by Sherburne and Howard. Titchener and Broyles, in "Meyer, Meaning and Music," identify a contradiction between Meyer's definition of determinate meaning and his later notion of musical information. In EMM Meyer defines determinate meaning as follows: "...determinate meaning arises only after the experience of the work is timeless in memory, only when all the meanings which the stimulus has had in the particular experience are realized and their relationships to one another
comprehended as fully as possible." In MAI Meyer has this to say about meaning and musical information: "If an antecedent event arouses no uncertainty and the consequent arrives precisely as expected, then meaning will be neutral, information nil, and feedback is superfluous—performs no function." These statements about determinate meaning suggest, write Titchener and Broyles, that "the temporal process which culminates in the attainment of this ultimate meaning is to be followed by a hearing which is meaningless....If when feedback is superfluous, meaning is neutral, and determinate meaning is understood only when feedback is superfluous, then determinate meaning is meaningless." Again we are reminded of Sherburne's challenge that the first hearing of a work should be packed with meaning and that meaning should diminish on subsequent hearings.

Meyer comments on this problem in "On Rehearing Music." If a listener knows a work completely, he considers, remembering the unexpected and the improbable as accurately as the expected and probable, and he regularly listens to a recording in which all the deviations of the

40 From EMM, p. 38; quoted in Titchener and Broyles, p. 23.

41 From MAI, p. 13; quoted in Titchener and Broyles, p. 24.

42 Titchener and Broyles, pp. 23-24.
performer have been noted and considered, will he find rehearsing the work a rewarding experience? If the answer is yes, Meyer determines, then a theory maintaining that the syntactic process is the definitive aspect of a musical experience must be mistaken. 43

I do not believe there is any need to throw in the towel here. For even if it should be possible to reach the level of determinate meaning in considering works of art, syntactic appreciation may continue in that (a) knowing is distinct from experiencing, (b) anomalous consequents or ambiguous antecedents continue to inhibit our tendencies toward resolution and clarification even if we know the anomalies will occur because we know the piece, (c) we may look with anticipation to the ambiguities and resolutions which we know are forthcoming, (d) we may appreciate the sophistication with which deviation is presented or its significance within an historical context, or (e) we may remember the impact deviation had in previous hearings. In short, it is important to emphasize the distinction between the joy of discovery and the joy of appreciation.

43 MAI, p. 49.
III. IMPLICATION: SUBJECT OR OBJECT?

By the mid 1960's Meyer felt inclined to revise his expectation theory to one of "implication." The following discussion will focus on the relationship between expectation and implication, specifically in terms of the subject/object dichotomy, and then compare and contrast Meyer's implication theory to other theories which seek to account for musical meaning through syntax: specifically, semiotics and "pointing."

Of all the scholarly challenges to *Emotion and Meaning in Music*, the one which had perhaps the most impact on Meyer's subsequent work is this: although Meyer purports to be concerned with musical syntax, his expectation theory is concerned principally not with music but with the listener. Forest Hansen, in his *Music, Feeling and Meaning*, charges that Meyer does not distinguish properly between music and the experience of listening to music; there are times when Meyer's account of musical meaning seems entirely subjective, other times when it seems entirely objective. Just where, Hansen asks, is musical meaning located—in the music or in the mind of the listener? This confusion leads Hansen to conclude that
Meyer offers little that is enlightening concerning objective musical meaning. His major innovation is the emphasis on musical deviation. But he makes a vital contribution to the understanding of musical experience. One might formulate his contribution this way: he helps to explain the creation, discovery, enjoyment, and valuation of musical meaning.

Meyer was not unaware of the problem Hansen poses; at the time *Music, Feeling and Meaning* appeared he had already begun to refocus his theory to concentrate on musical "implications" rather than listener's expectations.

Meyer first refers explicitly to the concept of implication in a note added to "Meaning in Music and Information Theory" in *Music, the Arts and Ideas*:

I should now prefer to put these matters in somewhat more objective terms, referring to the implications which, given experienced and knowledgeable listeners, musical events have (or are felt to have) for one another, rather than to the expectations which listeners entertain about the future course of musical patterning. The difficulty with the term "expectation" is that it is often understood in a simplistic way. Though the experience that "expectation" is intended to describe may be felt as a single, composite goal-directed motion, in reality it is always the product of a complex set of interrelated variables in which musical events imply one another in different ways, to different degrees, and on different hierarchic levels. Moreover ... the several

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2 The note mentioned was conceived at some point prior to the publication of MAI in 1967.
shaping forces of music may not act in concert—may not support one another—in the articulation of structure and process. At any particular moment, disparate, or even contradictory, goals may be implied by a complex musical event. (MAI 8)

The bulk of Explaining Music (1973) is devoted to elaborating and illustrating the idea of musical implication. In an implicative relation, Meyer writes, "an event... is patterned in such a way that reasonable inferences can be made about its connections with preceding events and about how the event itself might be continued and perhaps reach closure and stability." (EM 110) While "reasonable inferences" are those made by a competent listener, the listener need not be referred to in an analysis. Some of the important points Meyer makes about implication are these: (1) Implications need not be realized; dark clouds may blow away, tears in a child's eye may be held back, or a cadence may prove deceptive, yet the implications involved are nonetheless real. Even when a consequent seems inevitable, the possibility of alternatives is always present, for man is a predicting animal and as such is continually envisaging alternative courses of action. (2) In some cases implications are understood only in retrospect. We understand temporal events not only in terms of where they come from and what they are, but also in terms of their consequences both proximate and remote. Yet implication "affects our understanding of both the
antecedent and the consequent event, whether the consequent was the one thought to be implied or not." (EM 111) (3)

Melodies are implicative because they are orderly patterns, yet the more regular a pattern, the less conscious we are it is implicative. We become aware it is implicative when it is problematic or ambiguous—in effect, when our tendencies toward resolution or clarification are inhibited. The fact that we may not be aware of certain implications is another reason Meyer prefers "implication" to "expectation." He stresses, however, that while the terminology involved in the implication revision is more accurate and refined, his account of musical meaning is still valid.

(EM 115, * 1)

Expectation vs. Implication: Subject vs. Object

John Titchener and Michael Broyles suggest that whether Meyer labels his theory as "implication" or "expectation" makes no significant difference:

We are not told why "implication" is preferable to "expectation," but we must not be misled by Meyer's use of the new term—these are still implications for someone which are neither objectively demonstrable in a logical way nor true, independent of anyone's knowing or experiencing them. 3

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Meyer would probably concede some validity to this comment; he does stress, after all, that meaning arises out of a triadic relationship between stimulus, referent and perceiver, and on this basis it could be concluded that "implication" is preferable to "expectation" only in that it is more economical: while the perceiver's presence is always tacitly assumed, there is no need for continual reference to that perceiver. Meyer remarks, however, that implication is preferable to expectation "because we may not be aware of certain implications," and this suggests that implications may have some ontological nature apart from being perceived.

It will be assumed here that musical implications may exist outside the mind of the individual perceiver. This is not to say that they are properties of musical compositions; implications are always notions of the mind and do not exist apart from humanity. Implications may be considered "objective" or external to the mind of any particular perceiver, however, if that they inhere in the minds of other perceivers familiar with the work's symbols and systems. These other perceivers need not be presently living: they could be long dead or not yet born. The meanings of uncoded hieroglyphics are considered objective, for example, because they once inhere in the mind of the ancient who produced them. The hieroglyphics will not be
meaningful to contemporary perceivers until they discover
the system or language that give the hieroglyphics meaning, but because there was a system that can be discovered through study of the hieroglyphics, the hieroglyphics mean, or refer to ideas that can be partially reconstructed.

Further, there may be meanings that no one, including the composer, has yet realized; these implications are nonetheless discoverable in that the symbols involved, in relation to a symbol system, allow for these implications.

Schenker, for instance, brought his refined understanding of the tonal system to bear on musical symbols and identified meanings which became conventionally accepted, although these meanings were perhaps undiscovered previously.

It was indicated above that Titchener and Broyles do not consider "implication" to be appreciably distinct from Meyer's "expectation" theory. Eugene Narmour, on the other hand, considers Meyer's revision to be a significant one.

What we know about expectations, he determines,

...is based too heavily on precepts, introspection, internalizations, and so on, with all the insoluble epistemological problems well known to phenomenologists...A fatal flaw in...[the expectation theory is that] it cannot be formulated in falsifiable terms--the sine qua non of a genuine theory. Implications, on the other hand, can be based on objectively specifiable evidence (the printed notes themselves), and their realizations can be precisely defined. As intellectual history, the shift we see in Meyer's work from the Gestaltist concept of expectation to a
concept of implication roughly parallels
the shift taking place in psychology from
associationism, functionalism, Gestaltism,
and so forth, to structuralism. This is a perspective Stanley Fish would call "formalist." It presents difficulties because it seems to limit the implications of a composition to those that are actually realized in the composition. It may be accurate to assert that the printed notes which resolve implications are "objectively specifiable evidence" of those implications; in positing that the realizations of implications can be precisely defined, however, Narmour fails to account for the fact that Meyer's theory encompasses implications which are not realized in the composition at all. This would mean that the "fatal flaw" which Narmour ascribes to the expectation theory would apply to implication as well. A V7 chord always implies its tonic, for example, but it is not inevitably followed by its tonic--even on the level of determinate meaning. The point of this criticism is not to deny that a particular implication is "objectified" or made clear by a particular resolution, but that the particular resolution was not inevitable--as Meyer puts it, the possibility of alternatives is always present.

There are those who feel that it is precisely the ambiguity of fine art, the fact that it is subject to a

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myriad of interpretations, that makes it most valuable.

John Unterecker has the following to say about artistic symbolism:

...any analogy we can construct for the symbol, any meaning we assign to it, is legitimate so long as we realize that that meaning is not its meaning. (Its meaning must always be more elusive than any value we can--with words--fix to it.)...No symbol has a meaning....As the artist pounds into his symbol all the richness he can summon, as he "takes a word and derives the world from it," so to the symbol the intelligent reader brings all of the past he has been able to gather into himself.

Unterecker's point is eloquently stated and interesting, but it is not enough for a reader to be "intelligent," as Unterecker suggests; the intelligent reader must know the system. A poem cannot objectively mean anything an intelligent reader wants it to mean, and the same holds for a systematic musical composition. Within a given musical system there are a limited number of consequents which may reasonably follow even the most ambiguous of antecedents; the number of possible consequents is limited by the rules and probabilities of the given system. Any reasonable, systematic implication may be considered an "objective" part of a composition, however, and several different reasonable implications suggested by the same antecedent may be equally objective, regardless of how that antecedent is resolved.

Critics of the notion of objective meaning frequently pose the following question: if a composition has specific, objective meanings, how is it that two highly competent perceivers will interpret the same composition in different ways? A response to this question is that while the interpretations (extractions of meaning) of highly competent perceivers may differ, they do not differ considerably: they overlap to a significant extent. The common ground—the interpretations that the two perceivers agree on—may be considered correct interpretations; when interpretations differ, both may be correct, or one or both may be wrong, depending on the situation. Further, two different interpretations may both be partially correct in that the same antecedent may imply two different equally probable consequents; on the other hand, if two interpretations patently contradict each other—one interpreter claims a particular consequent is implied, the other claims it is not—it must be concluded that either the composition or the system in question is not currently understood well enough to make a definitive interpretive decision. No perceiver, after all, is competent enough to understand perfectly everything in his field. Interpretations differ

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6 An example is the differing interpretations of the Tristan chord. Some analysts claim this chord is a half-diminished seventh, and decidedly not a French sixth chord; other analysts claim the opposite.
or change because interpreters come to understand implications better or worse, depending on the extent of their knowledge and their interpretation of the system in question.

It has been noted several times that more than one consequent may be implied by an antecedent. While this is undeniably the case, it does not seem plausible that several different consequents may be consciously considered during the act of listening to music. For example, a listener familiar with the tonal system, on hearing the first two measures of Beethoven's Symphony no. 5 for the first time, is likely to feel a general uncertainty about the tonic key, and will probably consider E flat major and C minor as possibilities. Several possibilities will not be considered, however, as there is simply not enough time, in the listening process, to consider them, and there are rhythmic, metric and timbral components to be considered as well. In spite of this limitation for the listener, it is nonetheless possible and profitable for the analyst to consider these possibilities because such considerations lend insight into (1) the nature of the expectation felt by the listener, (2) the determinate meaning of the composition, and (3) the potential of the compositional system in question.
Before continuing it should be noted that deviation is just as important in Meyer's "implication" revision as it was in "expectation," and is now more carefully accounted for in the musical process. We expect a $V^7$ chord to be followed by a $I$ chord, but we are also aware, especially in the music of the nineteenth century, that it may be followed by a $VI$ chord. The $VI$ chord, then, along with other systematically viable alternatives, is in some small sense implied. The implication of $V^7$ for $VI$ is not as dynamic as its implication for $I$; as a matter of fact, the $VI$ chord seems to disrupt, to some extent, the dynamism or "movement" of the music. Because we are aware of the systematic probability or possibility of certain anomalous consequents in some situations, however, they do not seem to come out of nowhere. It is because a $I$ chord is more strongly implied by a $V^7$ than by a $VI$ chord that the $VI$ chord is more likely to give rise to meaningful experiences.

Implication, Pointing and Semiotics

There are many accounts of musical meaning that are comparable to Meyer's theory of implication. Edward Hanslick and others speak of the "dynamic properties" of tones, and Heinrich Schenker asserts that tones have "natural urges" for each other. According to Victor Zuckerkandl, tones "point to" other tones, and for Wilson Coker they serve as signs of other tones. All of these
scholars are presumably referring to the same process, yet it is obvious that the descriptive terms applied are not equally appropriate. Zuckerkandl's notion of "pointing" and Coker's semiotic have been developed at length; these theories will be briefly elaborated and then related to Meyer's theory of implication.

Zuckerkandl, in his Sound and Symbol, maintains that musical sense results from inference of the different way each tone "points" toward the tonic tone. Numbering the members of the diatonic scale 1 through 8, Zuckerkandl maintains that tones 4, 3, and 2 usually point toward 1, tones 6 and 7 point toward 8, and 5 balances itself in both directions. "The meaning is not the thing indicated but the manner of indicating (otherwise all tones would mean the same thing, namely 1)." Zuckerkandl stresses that the dynamic qualities of tones can only be understood as manifestations of an orderly action of forces within a given system; however, "a tone does not need to enter into the context of a melody in order to acquire relation to a whole. Simply as an element of a key...the individual tone


8 Ibid., p. 68.
carries within itself relation to a larger whole."^9

The dynamic quality of a chord is somewhat different from that of a tone:

In general the chord does not express the direction in which it points as clearly as does the tone of a melody. There is audible, in every chord, in accordance with its place in the tonal system, a particular state of tension that belongs to it alone; yet this goes no further than a general will to pass beyond itself; no definite point of direction or goal crystallizes for the ear.\textsuperscript{10}

Two chords are exempted from this--the tonic chord, "which announces itself to the ear, with complete clarity, as the center of action," and the V\textsuperscript{7}, which is distinguished from all other chords "by the fact that its sound makes audible, distinctly and unmistakably, not only the pointing-beyond-itself but at the same time the goal of that pointing."\textsuperscript{10}

It strives toward this goal, the tonic chord, as unmistakably as the V\textsuperscript{7} points to the V\textsuperscript{8}.

Forest Hansen finds this notion of "pointing" problematic enough to dispense with completely. He challenges Zuckerkandl on several counts: (1) It is odd to

\begin{itemize}
\item \textsuperscript{9} Ibid., p. 37.
\item \textsuperscript{10} Ibid., pp. 49-50.
\item \textsuperscript{10} Ibid., p. 50.
\item \textsuperscript{11} Zuckerkandl does not seem to take account of the different shades of meaning that tones and chords can have in different styles.
\end{itemize}
make "direction" synonymous with meaning, even musical meaning. (2) Many tones, such as certain repeated tones or ornamental tones, are not involved in motion toward or away from a dynamic center. (3) Tones not involved in "spatial" motion are often "understood" clearly, so motion is not a necessary condition for meaning. (4) Pointing lies solely in the subjective process, not in the "phenomenologically objective units themselves." (5) While there is admittedly tension and release involved in the musical process, tension does not point to release. "Nowhere," Hansen concludes, "do I perceive a pointing in any sense except possibly in the expectation which I have that certain tones will appear after one now sounding; and that is not, according to this theory, the dynamism at the heart of music." 12

We may at first be inclined to criticize Hansen for not allowing Zuckerkandl to use a seemingly harmless metaphor, one which seems to apply at least to some tones. Yet it appears to be the case that Zuckerkandl truly believes the notes in a melody are pointing, that they are actively doing something completely apart from the intentions of the composer or the inferences of the perceiver. This is hardly the case. Although syntactic reference or

"pointing" may be inferred based on a perceiver's knowledge of the tonal system, it is safe to assume that the tones are not "doing" anything to create those relationships. Further, Zuckerkandl's assertion that chords do not express the direction in which they point can only lead to the conclusion that even a metaphorical application of the notion of pointing to syntactic reference in music is limited: surely in order to point it is necessary to have something to point to, or at least a direction in which to point.

Zuckerkandl's theory is further limited in that it does not account for the occurrence of an anomalous tone within a musical sequence. Zuckerkandl maintains that tones point not only to \( \hat{1} \) but to each other; \( \hat{4} \), for example, points toward \( \hat{3} \) and \( \hat{2} \) as well as "across" them toward \( \hat{1} \). Yet the significance of some tones lies expressly in the fact that they do not seem to point or be pointed to.

Wilson Coker accounts for musical meaning through "semiotic" and in so doing he completely escapes the ambiguity which often results from the use of musical metaphor. A musical sign does not "do" anything except designate, ordinarily in a static way, other musical or nonmusical events.
In *Music and Meaning* 13 Coker identifies "semiotic" as the scientific study of a general theory of signs, and semiosis as the process in which something acts as a sign for some organism. Drawing on the work of Charles Morris, he suggests that semiosis involves a "five-way relation between (1) any stimulus that calls out (2) in some person or organism (3) a disposition to respond in some way to (4) another object or event (5) under certain conditions." 14 The elements involved, then, are (1) the sign, (2) the interpreter, (3) the interpretant, (4) the signification, (5) the context. The interpretant ("a disposition to respond in some way") should not be supposed to have any subjective nature, "since it is surely a matter of objective scrutiny in the most rigorous empirical ways." 15

A sign, Coker continues, is "a stimulus that directs or influences some organism's behavior in relation to something that is momentarily but not necessarily the dominant stimulus in the situation." 16 A is a sign of B if an organism behaves in the presence of A in a manner appropriate to B--if it accompanies, follows, or refers back to B.  

musical element may be a sign: "Indeed, even a single quality of sound—a quality of pitch, timbre, direction, or intensity—may act as a sign. What matters in a sign situation is that whatever acts as a sign in some way or ways causes an interpreter to take account of an object or event." 17 Coker clarifies his system with the following points: (1) Signs may be predictive, as when lightning signifies a clap of thunder; retrodictive, as when an "effect" makes the meaning of a stimulus clear; or juxtadictive, signifying something present now but not necessarily earlier or later—as when a telephone ring signifies someone is on the line. (2) A musical sign such as a phrase may inform us of the character of that phrase, as well as what it refers or "points" to. (3) Signification of a sign may vary widely due to differences in possible interpretation. (The latter point would seem to contradict Coker's statement that the interpretant has no subjective nature.) (4) Conventional musical signs, such as the staff, notes, or dynamics, Coker refers to as symbols. Once we become sufficiently acquainted with certain symbols we may grasp them by feeling without the mediation of thought; this Coker refers to as "acquaintance meaning." "Discursive meaning and knowledge, in contrast, is secondhand, indirect,

17 Ibid., pp. 2-3.
Several scholars have objected to the use of semiotic in aesthetics—that is, to the notion of considering a work of art a sign or group of signs. Richard Rudner argues that the basic criterion for distinguishing aesthetic experience from other experience is that aesthetic experience involves an "immediate taking account of," a direct apprehension; in that signs always involve the mediation of thought, art could not possibly function as a sign. The notion that art is perceived "immediately" is not an uncommon one; Bergson, Dewey and others speak of art as being "direct," "immediate," and "concrete."

Assuming, for the present, that music is perceived immediately, is it appropriate to consider music as a system of signs? Most of the critics of the application of semiotic to music are thinking not in terms of syntactic signs, but of semantic signs, that is, of reference to extra-musical designate. Is mediation necessary to perceive the signification of one musical event by another? Coker maintains that "acquaintance" signs may be grasped intuitively without the

18 Ibid., p. 8.


mediation of thought, yet Charles Morris stresses that semiosis necessarily involves a mediated assessment, the mediator being the signifying aspect of the sign vehicle. A V7 chord serving as a sign would, therefore, have two functions—its function as a dominant seventh and its function as a sign. (This division is necessary because the referent of a sign cannot be another sign, although that referent might in turn function as a sign.) In other words, a musical element inferred as a sign has an individual nature apart from the being a sign, just as thunder has its own distinct nature apart from its function as a sign of rain. To connect thunder to rain involves more than a direct perception of thunder's individual nature; "connections" necessitate mediation. It would therefore seem, if V7 signifies I, that mediation would be necessary to ascertain their interrelation. Yet a V7 does not seem to lend itself well to this bifurcation of thing-in-itself and sign. A dominant seventh chord seems referential by nature; it seems not a thing which happens to serve as a sign, but an implicative thing. This is, I assume, essentially what Zuckerkandl is aiming at when he writes that the meaning of a chord lies in the "pointing itself."

Are we then to conclude that musical response is essentially immediate? Thomas Clifton considers this issue in "Music and the A Priori," and concludes that certain
musical elements are a priori, that is, directly or immediately perceived, while others are not. Clifton determines that musical time is an a priori, but tempo is not ("Time is a transcendental, since it is a necessary aspect of the world. However, tempo is that aspect of time which we must learn to measure.");\textsuperscript{21} harmony is an a priori, but a supertonic triad is not ("The harmonious—that is, a balance of contrasts—presents itself without mediating operations...On the other hand, a supertonic triad is a fact, not a transcendental meaning...it is a member of a vocabulary of technical terms attached to...a system imposed by the mind on the harmonious object.");\textsuperscript{22} consonance and dissonance are a priori, but the ratio of vibrating strings is not; polarity and opposition are a priori, but sonata form is not; order is an a priori but a 12-tone row is not. According to Clifton, a V\textsuperscript{7}-I progression would be perceived immediately because it involves a relatively dissonant chord passing to a relatively consonant one; however, it may also be perceived mediately in that the V\textsuperscript{7} and I are members of "a vocabulary of technical terms attached to...a system imposed by the mind on the harmonious object." Still, one might argue that we are not


\textsuperscript{22} Ibid.
ordinarily thinking in terms of systemic functions when we hear a V7-I progression in a piece of music; we are familiar enough with the tonal system to grasp its meaning without conscious thought.

The musical experience often does involve mediation, however, and it may be concluded that musical reference can be perceived either mediately or immediately. While implication, unlike semiotic, seems to account for both mediate and immediate perception of reference, Meyer regards musical experiences that give rise to mediation or conscious thought as the most important ones. This is evident from Meyer's discussion of "neutral meaning" (see pp. 60 and 72-73).

Semiotic is relatively static, and does not explicitly account, like "pointing" and implication do, for the "dynamic" quality of chords and tones; it does not, on the other hand, preclude the semblance of dynamic qualities. Assuming that some sign vehicles seem dynamic and some do not, however, semiotic does not account for the difference. It is one thing to say that V7 is a sign of I, another to say this antecedent is a sign of that consequent, quite another to say a section of recapitulation is a sign of a section of an exposition. Further, it is unclear whether notes, tones, chord functions, phrases, entire compositions, etc., all have the same semiotic status; for
while Coker cites examples of musical signs, he does not provide a system for determining which musical elements may be signs, or to which ones they may refer. Coker maintains that any musical element can serve as a syntactic sign, and that any element may conceivably refer to any other element, yet this suggests that semiotic is highly subjective and arbitrary. It may be due to problems such as these that Monroe Beardsley is induced to say (without elaboration) that Coker's concept of meaning "cannot...capture the element of rule guidance that is essential for reference."²³

One other possible criticism of Coker's semiotic should be mentioned. To say that a composition consists of a series of signs is to suggest that composition is a series of discrete events rather than a single entity. Patricia Carpenter asserts that our perception of a musical composition can never be limited to single aspects, for what we hear are not discontinuous instants or single tones, but tones concretely sounding in motion. Hearing fuses and interconnects. "Like the visual field, the auditing field is unbounded and continuous. But it is peculiarly immediate."²⁴ This view is supported by an


assertion of William James that "because each stimulus of
the nervous system leaves some latent activity which only
gradually fades away, we experience at each moment brain
processes that overlap each other..."25 These comments il-
 luminate some musical responses, but they do not preclude
the use of signs in analysis. Analysts consider the inter-
relations of the individual tones in a melody, and of in-
dividual components in a composition, in much the same way
that Christian theologians consider the "three-in-one" na-
ture of the Godhead. The fact that a musical composition
may consist of distinguishable pieces in no way diminishes
the fact that the composition may be conceived as a single
entity.

In spite of these criticisms, there are some aspects
of semiotic which seem quite useful. One is the notion of
retrodiction. There are times when we do not understand
the implications of events in, say, the exposition or
development of a sonata until we hear those implications
realized in a recapitulation, and in leading us to think
back and understand those preceding events the realizations
are serving as retrodictive signs. Coker criticizes
Meyer's theory for not giving sufficient attention to the
retrodictive potential of musical elements. While Meyer

25 Quoted in G. J. Whitrow, The Natural
74-75.
does not deal with this potential as thoroughly as Coker, he is not unaware of it; in *Explaining Music* he writes that our understanding of temporal events is both "prospective" and "retrospective."

It includes both an awareness of what might have happened and our knowledge, after the fact, of what actually did occur. The fact of implication, in other words, affects our understanding of both the antecedent and the consequent event, whether the consequent was the one thought to be implied or not. If the stormy conditions do not actually lead to rain, then that fact is included in our retrospective understanding of those conditions; they implied, but were not followed by, rain. And our understanding of the consequent is similarly modified: the pleasant day is one which had been threatened by rain and is in that respect different from fair days not so threatened. And the same kind of change occurs if the implied event does take place. In retrospect, the stormy conditions are understood not only to have implied, but actually to have led to rain; and the consequent rain is not something which came out of the blue, an unexpected squall, but a possibility implied by antecedent conditions. (EM 111)

In this connection it is interesting to note that Eugene Narmour believes the notions of prediction and retrospection are inappropriate for tonal analysis because they lead to principles of causality and "formalization."

...the internal laws of tonality can be treated as statistical probabilities operating within the confines of generalized style schemes. And in contrast to the Schenkerian system, these internal laws can be treated as implicative, not causal or predictive. And their application in the analysis of tonal structure would be
subject to prospective interpretation, not retrospective formalization. Transformations would then be conceived not as a finite list of things but as realizations of implications in which the systematic aspect of style itself could undergo transformation.26

While inevitability is less likely to be suggested by implication than by predictive or retrodictive signs, it is nonetheless the case that the occurrence of a certain musical consequent does not preclude a preceding musical stimulus from serving as a predictive sign of something else—predictions need not come to pass, and retrodiction need not denote necessity. Still, the musical consequent, while not inevitable, is the realization determined by the composer, the "evident meaning" as Meyer would say, and to this extent the relationship between antecedent and consequent may be formalized.

On the basis of the above comparison of implication, pointing and semiotic, the following conclusions may be drawn: (1) Implication best illustrates the important triadic relationship that exists between musical stimulus, referent, and perceiver. Pointing suggests "action" on the part of tones and does not account for the role of the perceiver. Semiotic refers implicitly to the role of the perceiver, yet does not account for the "dynamic" relation

26 Narmour, pp. 135-6.
between musical stimuli and their referents. Because implications must be inferred, implication makes allowance for the role of the perceiver in the musical process; further, implication accounts for the seeming dynamic quality of tones without suggesting, like pointing does, that tones are actually "doing" anything. (2) Implications may be inferred either "immediately," as in a V7-I relationship, or through the mediation of thought. Since a sign vehicle harbors its own individual nature and its function as a sign, its sign function involves mediation; hence music, to the extent that it is perceived as a procession of signs, cannot be perceived immediately. Because Zuckerkandl asserts that the nature of a musical element is expressly and wholly a pointing one, it would follow that the musical experience is essentially immediate. There is nothing in the idea of implication to preclude either direct or mediate experiences of music; mediate inference is most important, however, because it has the value of giving rise to conscious thought. (3) Implication, in being always "plural," is less likely than pointing or "predictive" signs, and especially "retrodictive" signs, to suggest musical inevitability. In the sense that all tones point, with relative degrees of intensity, to \hat{1}, it might be thought that pointing actually does involve inevitability; still, there is nothing inevitable about the relations of tones to each
other, as technically almost any tone may follow any other. (4) Semiotic is useful in that musical signs may refer either syntactically to other musical elements or semantically to extra-musical elements, and in that it encompasses the notion of retrodictive signs (although Meyer points out as well that implications may be understood only in retrospect). However, the determination of what may be a sign or what a sign may refer to is not clear. (5) Implication is more useful than the other theories in that it accounts for deviation—a source of musical meaning, affect, and information. Unless music is syntactically illogical, any anomaly which may arise in a composition is in some sense, perhaps a small sense, implied; it is because other events are more forcefully implied, expected, and desired that anomalies give rise to meaning and affect.

In view of these comparisons, Meyer's theory of implication seems better able than pointing or semiotic to capture the essence of musical reference.
IV. EXPECTATION, MEANING AND INFORMATION THEORY

After formulating his expectation theory, Meyer concluded that the "psycho-stylistic conditions which give rise to musical meaning, whether affective or intellectual, are the same as those which communicate information." (MAI 5)\(^1\) This notion is of particular interest, Meyer suggests, for

\[\ldots\text{if it can be substantiated, then the seemingly disparate and discrete worlds of physical phenomena, bio-social behavior, and humanistic creation can, at least from this point of view, be brought together and subsumed under a single fundamental principle--the law of entropy. And thus Eddington's famous suggestion that "there are the strongest grounds for placing entropy alongside beauty and melody" will have received concrete exemplification.}\ (MAI 5-6)

These rather extraordinary comments will be considered directly. First, however, \(a\) a brief discussion of information theory in general will be presented, \(b\) some interesting points raised by Abraham Moles which relate to

\[^1\] "Meaning in Music and Information Theory" was printed originally in JAAC 4 (June 1957), pp. 412-424. It is important to note that the use of the term information in this document (except in the discussion on pp. 120-22) is not information in the regular sense, but information as it is technically defined in information theory.
Meyer's thesis will be considered,\(^2\) and (c) the many applications of information theory to music that have been made since Meyer's article first appeared will be considered.

**Information Theory: Background**

Information theory was developed by Claude E. Shannon in "The Mathematical Theory of Communication,"\(^3\) and was based on a paper entitled "Transmission of Information" by R.V.L. Hartley.\(^4\) Shannon's work determined that the amount of information transmitted by a message increases in proportion to the number of messages which could have been transmitted. Information has been interpreted by others to include not only messages which occur in any of the standard media—telegraphic devices, radio or television, computers, data processing devices, etc., but also signals appearing in the nerve networks of people or animals. Theoretically messages may or may not be meaningful; because a meaningless sequence of numbers or letters may be transmitted, meaning in the conventional sense of "reference" is irrelevant to the problem of transmitting information.

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The chief concern of information theory is to discover mathematical laws that apply to systems which communicate or manipulate information. One of the basic problems in the transmission of information is the separation of desired information, or signals, from unwanted information, or noise. A signal, then, is a message chosen from a set of possible messages, and because some messages are more frequent than others, the choices that may be made occur within certain probabilities. The simplest choice which may be made is that between two equally probable ones—the number of choices involved in the toss of a coin. In such a situation each possibility has a probability of 1/2, and the amount of information produced by such a choice is the basic unit of information theory: a "bit." Usually the number of choices is greater. If there are \( N \) possibilities, the amount of information in bits transmitted is given by the equation \( H (\text{or } I) = \log_2 N \). Messages in the set will have differing amounts of information associated with them if the probabilities are not equal. If the probabilities of the messages are given by \( p_1, p_2, p_3 \ldots \) then the amount of information is \( \log_2 (1/p_1), \log_2 (1/p_2), \) and so forth. The sum of the probabilities of the messages is called the entropy, \( H \), or the average information of the message set. Entropy takes on its smallest value, 0, when (1) a message has a probability of
"one," and is certain to occur, and (2) all other messages have probabilities of 0, and never occur. Thus there is no information provided by messages that are certain to occur. Entropy takes on maximum value when all messages in the set have equal probability; and the more equally probable messages there are, the more possible information there is in the message set.\(^5\)

**Abraham Moles on Information Theory**

Information theory has been applied in at least a dozen different fields, notably in linguistics and psychology. One of the earliest and most useful studies on information theory and music is Abraham Moles's *Théorie de l'information et perception esthétique* (1958), which was translated into English by Joel Cohen in 1966. Information, Moles writes, must be considered as a "quantity," but he is quick to point out that the quantity of information conveyed by a message is not necessarily proportional to the length of the message; a guard, for example, who has memorized a page of orders in case of fire gains less information from rereading it than from hearing the single word "fire." This example also illustrates that the value of a message must be tied to information content and not to

length. According to Moles, value is the property of that which is usable; thus the valuable message is that which "modifies the behavior of the receiver." Because behavior is most likely to be modified if a message is new, value is bound up with

...the unexpected, the unforeseeable, the original. The measure of the quantity of information then boils down to the measure of unforeseeability, that is, to a problem in probability theory...for what is improbable is unforeseeable, what is certain is foreseeable, within the limits, naturally, of the receptor's use of his knowledge to determine conduct.

Moles also points out that the message with the highest information content is not likely to be the most meaningful message. To illustrate this point, he provides the following collection of texts with increasing rates of information:

No information: BABABABABABABABA...

Minimum information in everyday English: "Hello." "Hello." "How are you?" "Fine. And you?" "Fine. How's it been going?"...

Information in the ordinary sense: "From South Vietnam: Two young U. S. Army sergeants were released by guerrillas after 22 days of captivity today. The men looked tired but otherwise healthy and unharmed when they stepped from the plane that brought them to Saigon."

Texts retaining only grammatical structure: "Being quite full of lucifer-matches, the pumpkin exploded surreptitiously into a

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6 Moles, pp. 19-20.
thousand bits; whereon the rocks instantly took fire, and the odious little boy became unpleasantly hotter and hotter and hotter, til his knickerbockers were turned quite green..." (Edward Lear.)

Maximum word information (random choice of words): "Income oblique forced seamanlike weakly bleeder dog rutile place canst empty stationary promiscuously gossoon bridge cutty seedling gag offend saturation."  

An examination of these texts, Moles writes, reveals their increasing originality: in the first case, we know exactly what will come next in the sequence, while in the last case we have no idea. The fact that the intermediate cases are the most meaningful clearly illustrates that meaning and "information" are distinct; a measure of information must be based on originality and not on meaning or reference. The only logical way to measure the originality or information of a message is to determine its probability; a totally unexpected event has minimum probability, and thus provides a maximum of information.

Moles maintains that it is important to distinguish semantic information from musical or "esthetic" information; the former is "logical, structured, expressible, translatable" and "prepares actions," while the latter is untranslatable and "shapes states of mind." A work of art may transcend "any memorizable coding" due to the extent of the field of freedom of esthetic information:  

7Ibid., pp. 21-2. It may be best to characterize these texts as representing decreasing rates of redundancy.
While the work's semantic information may be exhausted and eventually memorized, the peculiarity of the work of art is that its richness transcends the individual's perceptual capacity. Thus, the normal goal of the reproduction of a work of art is to permit us to exhaust it; at the very least it is oriented toward this exhaustion. A symphony, a pictorial work...are messages of practically unlimited information richness in comparison with the apperceptual capacity of the human being. He must rely on repeated reception in order to lower their originality and assimilate a significant part of the information that they contain, or in order to lower the information rate so that he can assimilate what he perceives.

Saying "esthetic" information cannot be exhausted—that is, comprehended in its entirety—is tantamount to saying that it is impossible to measure.

Whether or not this is the case, most of the experimenters who have sought to measure musical information (information theory information provided by a musical composition or situation) have been less than successful. Joel Cohen, in his "Information Theory and Music," determines that while in some fields the application of information theory has been carefully justified, most musical experiments "were performed without regard to their validity or significance." This was usually done, he asserts, "by appealing to the reader's intuition with amorphous generalities, then leap-frogging to the H-formula...for

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9 Ibid., p. 166.
information-content and inserting some numbers."\(^{10}\)

**Applications of Information Theory to Music**

Cohen separates the musical studies examined into three categories: analytic-synthetic, synthetic, and analytic. Analytic-synthetic studies have used homogeneous bodies of existent music, such as nursery tunes, hymn tunes, and cowboy songs, to derive matrices of transition probabilities, and then used the conditional probabilities to generate musical samples.\(^{11}\) All the analytic-synthetic studies Cohen examined were concerned with melody, which he characterizes as "an abstraction from the cultural sign system of music, itself an abstraction." Because of the level of abstraction, techniques used were not musical in orientation; notes were coded arbitrarily by numbers.

Synthetic works, studies in generating music, have generally used a random source to generate all possibilities and passed the random output through a selector. Most of these studies have used dice to generate possibilities, although the "Iliiac Suite for String Quartet" by Hiller and Isaacson\(^{12}\) used a computer. In most

\(^{10}\) Ibid., p. 137.

\(^{11}\) Ibid., p. 142. For discussions of specific studies, see Cohen, pp. 142-152.

synthetic experiments the analysis of existing musical examples yielded the rules and restrictions. In the last two movements of the Illiac Suite, the rules were arbitrarily devised by the experimenters.

Most analytic applications, which have primarily attempted to use redundancy as a parameter of style, have been statistical. All of the analytic studies which Cohen examined...consisted in finding first- and second-order redundancies for various samples of stylistically homogeneous music. The aspects of the music considered were carefully abstracted from the whole piece; the piece as a whole was never considered. The various figures for redundancy were compared and found to confirm pre-existing notions about the relative degrees of order of the samples analyzed. The finding of synthetic studies that stylistic accessibility varies inversely as freedom of choice or information-content, was supported.

Cohen finds the studies in all these categories problematic. He faults synthetic studies on the basis of the output yielded, and analytic studies on the basis of their underlying assumptions. He maintains that nothing of much musical value has resulted from synthetic experiments:

This fact is less an indictment of the experiments than it is a recognition that their goal is to understand the mechanics of compositions in creating models of the compositional process. The output should improve with improved models. It may well

be that information theory is incapable of providing a model of the compositional process. Livant...has pointed out that Chomsky's proof...of the inadequacy of Markov sources to generate certain classes of sequences may apply directly to music. Chomsky shows that a Markov source cannot generate the class of all sequences in which the second half is the exact mirror image, or the exact repetition of the first; in general, he shows that a Markov source is incapable of generating self-embedded structures. Nonrhapsodic, or non-improvisatory, music is rich in such self-embedded structures; consider a fugue or composition using serial technique.

The basic improvement needed, Cohen concludes, "is greater interaction between the computer's output and the computer's program, i.e., a greater 'feedback' from output to source." Synthetic studies have nevertheless been valuable in that they provide "a very neat explanation for the listener's sensitivity to different styles." The advantage of synthetic studies over analytic is that "their working assumptions are necessarily explicit, because they must be incorporated into the computer program in order to affect the output."\15

\14 Ibid., pp. 154-55. An example of a "Markov" process is a simple English sentence: in constructing a sentence, the first word is chosen from a variety of possible words with various probabilities, and the probability of the second word chosen is dependent to some extent on the first word, the third dependent on the first two, etc.

\15 Ibid.
Analytic studies are meaningful, Cohen determines, only if the source meets five important requirements: The source must be (a) stochastic, that is, no element not already known in the "alphabet" or system can occur; (b) ergodic, i.e., a "sufficiently large sample from an infinite sequence [must have] the same statistical structure as the infinite sequence"; (c) stationary, i.e., the statistical structure of the sequence must be "independent of the time at which observation of the sequence begins"; (d) consistent with regard to its Markov properties, that is, "that there is the same order 'm' of patterning throughout the sample"; and (e) the encoder must have infinite memory capacity. With the exception of the stochastic assumption, Cohen maintains these requirements "are all difficult, if not impossible, to establish by analysis of a sample of music."16 Cohen concludes that while information theory has potential value for musical analysis, it is important to remember that

Information theory alone cannot say what the nature of musical experience is. It can only be applied to a conception of musical experience which is arrived at by other means. To refine the conception of musical experience is a goal of aesthetics. 17

16 Ibid., pp. 155-57.
17 Ibid., p. 162.
Leonard Meyer's article on information theory is not an empirical study such as those examined by Cohen, but a speculative attempt to relate information theory to musical meaning. Understanding musical information, according to Meyer, is dependent on a clear understanding of musical meaning and style. A musical style is a "probability system" that gives rise to the expectations or implications upon which meaning is built. Early in the article Meyer suggests that meaning arises when a listener becomes aware of the implications of a stimulus, and such awareness results when the "normal course of stylistic-mental events is disturbed by some form of deviation." In view of the fact that different varieties of deviation may be distinguished—the probable consequent may be delayed, the antecedent may be ambiguous, or there may simply be an unexpected or improbable consequent—Meyer subsequently revises his definition of meaning as follows: "Musical meaning arises when an antecedent situation, requiring an estimate of the probable modes of pattern continuation, produces uncertainty about the temporal-tonal nature of the expected consequent." (MAI 11) With this background Meyer posits a relationship between meaning and information:

Information is measured by the randomness of the choices possible in a given situation. If a situation is highly organized and the possible consequents in the pattern
process have a high degree of probability, then information (or entropy) is low. If, however, the situation is characterized by a high degree of shuffledness so that the consequences are more or less equiprobable, then information is said to be high.

Both meaning and information are thus related through probability to uncertainty. For the lower the probability of a particular consequent in any message, the greater the uncertainty (and information) involved in the antecedent-consequent relationship. (MAI 11)

Assessments of the meaning of a particular stimulus may be revised as a composition unfolds; that is, meaning may shift from hypothetical to evident, and eventually to determinate. The definitions presented in Emotion and Meaning in Music for these three types of meaning (see pp. 57-58) are now stated in more objective terms:

**Hypothetical meanings** are those attributed to the antecedent tone or pattern of tones when the consequents are being expected. Unless deviation is present, hypothetical meanings will not arouse uncertainty or give rise to information... **Evident meanings** are those which are attributed to the antecedent in retrospect, after the consequent has become a tonal-psychic event and when the actual relationship between antecedent and consequent is apprehended.... Evident meaning is modified by the hypothetical meanings previously attributed to the antecedent... **Determinate meanings** are those which arise out of totality of relationships existing on several hierarchic levels between hypothetical meaning, evident meaning, and the later stages of the situation... Determinate meanings arise only after the experience of the work is a timeless memory--when all the implications of the stimulus on all hierarchic levels are realized and their interrelationships...
comprehended as fully as possible. (MAI 12-14)

A consideration of these different types of meaning reveals that music, like information, has Markov properties:

If music is a Markoff process, it would appear that as a musical event (be it a phrase, a theme, or a whole work) unfolds and the probability of a particular conclusion increases, uncertainty, information, and meaning will necessarily decrease. And in a closed physical system where the Markoff process operates this is just what does occur—probability tends to increase. (MAI 15)

Because probability tends to increase in a systematic composition, ambiguity or deviation may be deliberately introduced by the composer to combat tedium at later points in the composition.

Musical redundancy, Meyer continues, is an important factor in musical understanding:

Redundancy is that portion of a message which "is determined not by the free choice of the sender, but rather by the accepted statistical rules governing the use of the symbols in question." Just as letters can be left out of a written statement or words omitted from a message without affecting our ability to understand and reconstruct the word or message, so tones can be omitted from a musical passage without
Redundancy allows us to evaluate what we have heard in a composition, and also serves to combat noise, whether cultural (referring to "disparities which may exist between the habit responses required by musical style and those which a given individual actually possesses") or acoustical (referring to poor building acoustics, extra-musical sounds, etc.).

The consideration of probability systems and information theory inevitably raises the possibility of applying statistical analysis to music. Meyer believes such analysis is possible if certain factors are kept in mind:

1. The samples collected must take account of the tendency of systematic uncertainty to diminish and of designed uncertainty to be introduced as the music unfolds...

2. Tonal probabilities exist not only within phrases and smaller parts of a musical structure but also between them....Thus the statistical analysis of stylistic probabilities must be architectonic...

3. It is a mistake to suppose that probability remains relatively constant throughout musical works....Some parts of a work tend to adhere much more closely to the normative and probable than do other parts...

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18 Meyer's quote from Warren Weaver, "Recent Contributions to the Mathematical Theory of Communication," Etc.: A Review of General Semantics 10 (1953), p. 269. Whether or not tones (even ornamental or nonharmonic ones) can actually be omitted without changing musical meaning is debatable; their omission would at the very least change the meaning of the least remote hierarchic level.
4. In defining the limits of a sample and discussing the probabilities involved, it is important to be cognizant of the historical development of musical styles....For instance, though the perfect cadence occurs infrequently in the later music of Richard Wagner, it is nevertheless presupposed as a norm...

5. Not all the probabilities embodied in a musical composition are determined by frequency. Some are based upon the nature of human mental processes—ways of thinking... (MAI 19)

In addition, he believes that it will be necessary to "arrive at a more precise and empirically validated account of mental behavior which will make it possible to introduce the more or less invariant probabilities of human mental processes into the calculation of the probabilities involved in the style" and to "develop a more precise and sensitive understanding of the nature of musical experience." (MAI 20) Meyer stresses, however, that the impossibility of precisely measuring musical information at the present time does not weaken his basic theoretical position, but should act as a cue for further study and experimentation.

Finally, Meyer considers the role of information theory in considering value, and suggests that valuations, evaluations and perhaps even values result from the uncertainties involved in predicting alternative antecedent-consequent probabilities.

From this point of view, valuation, the estimate of probable consequents within a means-ends continuum, would be a correlate of hypothetical meaning; evaluation, the apprehension of what has actually taken
place, would be a correlate of evident meaning; and value, the ultimate comprehension of an experience when it is timeless in memory, would be a correlate of determinate meaning.

Thus value, information, and meaning might profitably be considered as being different, though related, experiential realizations of a basic stochastic process governed by the law of entropy. (MAI 21)

Meyer's article, then, simply draws analogies between information theory and his own theory of meaning, relates relevant terms such as entropy, Markov process and redundancy to music, and discusses some of the problems which could arise in doing statistical analyses of musical information.

Criticisms of Meyer's Theory

Our discussion of Meyer's theory will begin with a consideration of criticisms raised in Bruce Vermazen's "Information Theory and Musical Value" and Vernon Howard's "A Logical Note." Vermazen criticizes Meyer's relating of information to expectation, countering that expectation has little to do with the information content of a message. He presents the following situation as evidence:

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...consider a situation in which a person named A is very pessimistic about the content of some message he is about to receive from B. B starts to speak. A interrupts him and says, "You're going to say that all the money I had invested in paper shoes is lost"; B responds, "Yes, all the money you had invested in paper shoes is lost." According to Meyer's sketch of information theory, B's message contained zero information; it was not only predictable but predicted, and the prediction contained as much information as B's statement would have, had he made it before A spoke. But that is obviously not the case; no information about the money loss was contained in the prediction, and some was contained in B's message. So whatever information theory measures (let us call it information), it does not seem to be information, though it is doubtless a quantity closely correlated with information in a wide range of cases. Therefore, the fact that information is valuable does not entail that information is valuable.

Thus while musical messages may give us information theory information (information), they do not give us the regular sort of information which may be used to further our knowledge or valued ends. Whatever information is, Vermazen concludes, it does not have the clear connection with value that regular information does.

In considering Vermazen's "investment" example, it may be agreed that the message provided is not less "useful" because it is expected. This situation has no analogue in music, however, for musical content, as Vermazen points

21 Vermazen, p. 368. The use of "information" in this chapter is the same as Vermazen's information.
out, is not "useful" in the sense he describes. Whether or not Meyer's description of information in music, which has no explicit practical "use," may be considered valuable depends on how one defines value. Meyer claims that the same processes which give rise to information in music also give rise to musical meaning and affect, and meaningful or affective experiences are, in a sense, valuable ones. We have seen that Moles connects value not with usefulness in the ordinary sense, but with behavior modification—the valuable message modifies the behavior of the receiver, or "shapes states of mind." In that behavior is modified when we think about or react affectively to music, and because information, in being tied to the unexpected, gives rise to conscious thought or affect, a musical situation with high information content can have value. It should be noted, however, that information in music must be systematically and stylistically feasible to be valuable; a Mozart antecedent followed by a Xenakis consequent, for example, while highly informative in the technical sense, would be too absurd to be of much value.

V. A. Howard, in his "A Logical Note," questions Meyer's association of information with ambiguity. Meyer states that if the possible consequents suggested by an antecedent are more or less equi-probable, then information is high. Yet the "high information" content of situations
having a large number of equi-probable consequents, Howard argues, "would ordinarily be described as ambiguous and lacking in precise information, i.e., as not being very informative." We might respond here that the information Meyer is referring to is not the possible implications of an ambiguous antecedent, but the actual realization of those implications provided by the consequent. When an antecedent is ambiguous and possible consequents are equi-probable, the actual consequent will be relatively unexpected, and thus convey a maximum of information. That this interpretation is possible becomes evident from a closer examination of Meyer's article. We shall attempt to determine Meyer's views about (a) which musical processes or relationships give rise to information and (b) how musical information relates to meaning.

Assessment of "Meaning in Music and Information Theory"

Meyer writes that musical meaning is a result of deviation, and arises "when an antecedent situation, requiring an estimate of the probable modes of pattern continuation, produces uncertainty about the temporal-tonal nature of the expected consequent." (MAI 11) Information is measured by the randomness of the choices possible in a given situation. "If a situation is highly organized and

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22 Howard, p. 218.
the possible consequents in the pattern process have a high degree of probability, then information (or entropy) is low. If, however, the situation is characterized by a high degree of shuffledness so that the consequents are more or less equi-probable, then information is said to be high."

(MAI 11) It appears from this passage that information is the equivalent of the implications of a particular antecedent, and that the information increases in proportion to the degree of ambiguity of the antecedent. Later, however, Meyer stresses that information is the result of the antecedent-consequent relationship: "For the lower the probability of a particular consequent in any message, the greater the uncertainty (and information) involved in the antecedent-consequent relationship." Further, in the following passage Meyer suggests that a consequent may convey a "maximum" of information:

The third variety of deviation...does not involve the active expectation of alternative consequents. No uncertainty is aroused by the antecedent stimulus situation. Deviation occurs because the consequent was not the one expected, the probable one. (However, it conveys a maximum of information.) (MAI 11-12)

23 It may seem strange that a single consequent could convey a "maximum" of information, yet it is a characteristic of information theory that one signal can convey a multiple number of "bits": the more improbable the signal, the more bits it will convey.
Finally, in discussing the distinction between information and meaning, Meyer stresses once more that information is associated with the consequent:

For though both information and meaning are manifestations of the probabilities present in antecedent-consequent relationships, each has a different focus of attention. In the case of meaning, attention is for the most part directed toward the antecedent, though of course the consequent is, as we have seen, of vital importance. In the case of information the greater part of attention is concentrated upon the consequent. (MAI 21)

This statement confuses the argument, for it seems to contradict Meyer's assertion that hypothetical meaning is evaluated from the viewpoints of antecedents, while evident meaning (like information) arises from consideration of the antecedent-consequent relationship. At any rate, it may be concluded that there are two types of information theory information: information potential $H$ (the implications of an ambiguous antecedent) and actual information $H$ (provided by the consequent which ensues). We may now respond to Howard's problem with the idea that a more ambiguous situation is a more informative one. The ambiguous antecedent situation generates only the potential for information; yet the fact that the antecedent is ambiguous makes the actual consequent, when it arrives, less expected and hence more informative. The information provided by the consequent is precise and defined, yet qualifies as information only in its relationship with the implications of the antecedent.
Measuring the information content provided by a musical situation has proved to be a significant problem. Information, Meyer asserts, is a "measure of one's freedom of choice in selecting a message," and in order to measure freedom of choice it is necessary to determine the number of choices—in this case musical implications—available. If it could be determined that there were four equi-probable consequents implied by an antecedent, then the amount of information conveyed by any one of those consequents \( H \), when it occurred, would be \( \log_2 4 \) or two bits. (When consequents are equi-probable, \( \bar{H} = H \).) The more equi-probable consequents an antecedent implied, the more would be the information arising out of the antecedent-consequent relationship: eight possibilities would generate \( \log_2 8 \) or three bits, sixteen possibilities, \( \log_2 16 \) or four bits, and so forth. Musical consequents implied by an antecedent are most often not equi-probable, however; in the tonal system, for example, a \( V^7 \) chord may be followed by I, VI, IV, III, or II, yet with different probabilities of occurrence. (The probabilities, incidentally, would probably be different in Mozart's music than they would be in Wagner's, different in a fantasia of Mozart than in one of his sonatas, and different in the development section of a Mozart sonata than they would be in the exposition.) It might be suggested that each of the first eleven tones of a
twelve-tone row (stated successively) is one of several equally probable possibilities, since allowing for octave displacement, there are twelve equally probable possibilities for the first note, eleven for the second note, and so forth. Each note would convey a maximum amount of information for the given situation, yet the amount of information in bits would decrease with each note, with the twelfth note generating zero information. Schoenberg stressed that note-to-note relationships which suggest tonal progressions (such as b - c) should be avoided in this system, however, and this would mean that the probabilities or choices involved were not actually equal. In view of all this, it may be unrealistic for Meyer to say that a musical antecedent may imply a number of equi-probable consequents.

If possible consequents are not equi-probable, \( H \) and \( \bar{H} \) are different; the average information of the message set is determined by the equation \( \bar{H} = p_1 \log_2(1/p_1) + p_2 \log_2(1/p_2) + \ldots + p_n \log_2(1/p_n) \), where \( p_1, p_2, \ldots, p_n \) represent the probabilities. If there are five possible consequents with probabilities of 1/2 (one in two), 1/4, 1/8, 1/16 and 1/16,

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\bar{H} = \frac{1}{2} \log_2 \frac{1}{2} + \frac{1}{4} \log_2 \frac{1}{4} + \frac{1}{8} \log_2 \frac{1}{8} + (2) \frac{1}{16} \log_2 \frac{1}{16} = \\
\frac{1}{2} \log_2 2 + \frac{1}{4} \log_2 4 + \frac{1}{8} \log_2 8 + (2) \frac{1}{16} \log_2 16 = \\
\frac{1}{2} \cdot 1 + \frac{1}{4} \cdot 2 + \frac{1}{8} \cdot 3 + (2) \frac{1}{16} \cdot 4 = \\
\frac{1}{2} + \frac{1}{4} + \frac{3}{8} + \frac{1}{4} + \frac{1}{4} = 1 \frac{7}{8}
\]
Once again, the amount of information generated increases with the improbability of the message: in a message with a probability of $1/4$, $\bar{H} = 2$ bits of information, while three bits are conveyed by the message with a probability of $1/8$, and four bits by the message with a probability of $1/16$. Although the least probable message generates four bits of information when it actually occurs, because it can occur only $1/16$ of the time it contributes a relatively small amount ($1/4$) to $\bar{H}$, the average information of the message set ($1 7/8$). (Again, $\bar{H}$ increases with the number of possible consequents.)

Musical information can be measured, then, if it is possible to determine (a) the number of possible consequents implied by musical antecedents and (b) the various probabilities of those possible consequents. So far no one has succeeded in doing this, and Moles would say that this is because the information of a musical composition may never be exhausted. (see p. 110) Assuming there are rules and limits to the system in question, it does not seem likely that an antecedent could imply an infinite number of consequents, but since a musical composition is so syntactically dense, it may be subject to an infinite amount of refinement. Measuring musical information is also a problem because it is extremely difficult to meet the requirements provided by Cohen for information-theoretic
analyses (see p. 114) as well as those provided by Meyer, which Cohen regards as excellent (see pp. 118-9). In view of this, the results of a valid information-theoretic analysis may not be worth the effort needed to obtain them. It should also be noted that information theory measures only **amounts** of information in bits; it does not distinguish entirely different musical situations which generate the same amount of information.

Significantly, Meyer reassesses his thinking on information theory in "Grammatical Simplicity and Relational Richness..." (1976):

> What the statistical methods of information theory can most readily measure are foreground successions, not extended, higher level relationships. Consequently, the usefulness of this theory in the analysis of music is much more restricted than was suggested in my earlier essay...²⁴

Meyer also comments on information theory in Part III of MAI:

> ...while the concepts and methods of the mathematical theory of information are suggestive and illuminating, their usefulness in the analysis of the grammar and syntax of music is limited by the purely statistical character of the theory... music cannot be reduced in any simple and direct way to statistical variation, as some composers and theorists have implied. Nor can the

statistical and mathematical aspects of information theory be applied to music directly and without qualification. On the other hand, it seems to me possible that, given a knowledge of the syntactical functioning of a primarily syntactical art such as music, many of the concepts of information theory can, if "translated" into non-statistical terms—into terms of subjective or inductive probability—be relevant and illuminating. (MAI 262)

The probabilities involved, at least at the present time, are subjective indeed. Yet the fact that Meyer does not attempt to list or measure probabilities or information, but merely draws analogies between the mathematical theory of information and his theory of meaning, is decidedly in his favor. Even if information in music cannot be precisely measured, it seems right to regard the consequent that seems least probable (or least expected) as the most informative one.

Information, Entropy and Music

Entropy is mentioned in four places in "Meaning in Music and Information Theory":

...it would seem that the psycho-stylistic conditions which give rise to musical meaning, whether affective or intellectual, are the same as those which communicate information...[This] hypothesis is of particular interest because, if it can be substantiated, then the seemingly disparate and discrete worlds of physical phenomena, biosocial behavior, and humanistic creation can, at least from this point of view, be brought together and subsumed under a single fundamental principle—the law of entropy. And thus Eddington's famous
suggestion that "there are the strongest grounds for placing entropy alongside beauty and melody" will have received concrete exemplification. (MAI 5-6)

If a situation is highly organized and the possible consequents in the pattern process have a high degree of probability, then information (or entropy) is low. (MAI 11)

The presence of the feedback mechanism also throws light upon the genesis of meaning and information in those cases where the antecedent arouses no uncertainty, but in which the consequent is not the one latent-ly expected. Such situations arise as a result of a discrepancy between the choices understood or felt to be available and those which were actually available. That is, the situation was less structured (more shuffled and higher in entropy) than the listener believed. (MAI 13)

Thus value, information and meaning might profitably be considered as being different, though related, experiential realizations of a basic stochastic process governed by the law of entropy. (MAI 21)

Meyer does not define entropy, but it is evident he considers a high entropy situation to be a disordered or ambiguous one.

Entropy is a measure of the randomness, disorder, or chaos in a system. The second law of thermodynamics states that there is a growing tendency in any closed portion of the universe for disorder (entropy) to expand at the price of order (negentropy, or negative entropy) so that the

final state of the universe will be one of total
disorder. Entropy may be illustrated by the example of
an Alka-Seltzer tablet in a glass of water. When the
tablet is dropped into the water, its presence is initially
quite ordered; that is, all of its molecules are clearly
distinct from the water molecules. As the Alka-Seltzer
molecules intersperse with the water molecules, however,
entropy, or disorder, increases. In statistical inter­
pretations of entropy, entropy (S) is proportional to the
logarithm of a quantity representing the number of micro­
scopic ways in which the macroscopic state corresponding to
S can be realized. If we consider our glass of water to
represent a "macrostate," the "microstates" involved are
the various complexions of the water as the tablet is dis­
solving. The entropy of the macrostate is established by
adding up a sufficient number of momentary complexions over
a sufficient length of time.

What could it mean to say that the musical process is
governed by the law of entropy? It might be possible to
associate the "disorder" involved in the entropy situation
with musical ambiguity; forcing an analogue is unnecessary,
however, because Meyer is simply using "entropy" as infor­
mation theorists do: as a measure of missing information.
Equations used to determine information and entropy
respectively are quite similar: $S = K \log_n$, while $H = \log_2 N$
or \(-\log_2 w\) (where \(H\) is information, \(S\) is entropy, and \(K\) is Boltzmann's constant). Unfortunately, the use of the term entropy by information theorists has caused considerable confusion, for while the formulae indicate that information is high when entropy is low, information theorists such as Shannon and Weaver (as well as Meyer) claim that information is high when entropy is high. Rudolph Arnheim articulates this paradox as follows:

[In the present terminology of information theory] order is described as the carrier of information, because information is defined as the opposite of entropy, and entropy is a measure of disorder. To transmit information means to induce order. This sounds reasonable enough. Next, since entropy grows with the probability of a state of affairs, information does the opposite: it increases with its improbability. The less likely an event is to happen, the more information does its occurrence represent. This again seems reasonable. Now what sort of sequence of events will be least predictable and therefore carry a maximum of information? Obviously a totally disordered one, since when we are confronted with chaos we can never predict what will happen next. The conclusion is that total disorder provides a maximum of information and since information is measured by order, a maximum of order is conveyed by a maximum of disorder. Obviously, this is a Babylonian muddle.\(^2^6\)

Arnheim illustrates that the "high information" situation (using "information" in the regular sense) is an orderly one by presenting a series of photographs of a Renaissance

painting in the various states of blurredness. The first photograph represents the painting "exactly" as it exists, and each of the subsequent photographs is increasingly fuzzier, the last photo in the series being a total blur. The increasing blurredness indicates increasing entropy (the last photo indicates maximum entropy), and according to Meyer's account of information theory, there should also be a gradual increase in information. Arnheim points out, however, that it is the original picture, and not the last one, which presents the most information in the ordinary sense.27 (Arnheim, like Vermazen, is pointing out that information theory information is not necessarily meaningful or informative.)

If information is order, why is it that information theorists associate increasing information with increasing entropy, or disorder? Jerome Rothstein addressed this problem in a 1951 edition of Science magazine:

> It may seem confusing that a term [entropy] connoting a lack of information in physics is used as a measure of amount of information in communication, but the situation is easily clarified. If the message to be transmitted is known in advance to the recipient, no information is conveyed to him by it. There is no initial uncertainty or doubt to be resolved; the ensemble of a priori possibilities shrinks to a single case and hence has zero entropy. The greater the initial uncertainty, the greater the amount of information conveyed.

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27 Ibid., pp. 31-32.
when a definite choice is made. In the physical case the message is not sent, so to speak, so that physical entropy measures how much physical information is missing. Planck's entropy measures how uncertain we are about what the actual [microstate] of the system is. Were we to determine it exactly, the system would have zero entropy (pure case), and our knowledge of the system would be maximal. The more information we lose, the greater the entropy, with statistical equilibrium corresponding to minimal information consistent with known energy and physical make-up of the system. We can thus equate physical information and negative entropy...

In other words, the potential for information (H) increases as entropy increases; actual information (or order) is high when entropy is low. Consider the game of "Ghost" in which two or more players successively select letters which will eventually form a word, without selecting a letter which will actually end a word. If the first player indicates the letter "a" there are 26 choices available for the following letter, and thus a high degree of improbability that any particular letter will occur. If a player is confronted with the sequence "a-b-l-a-z," however, there is little or no uncertainty about which letter will follow, because "e" is the only available choice. In the first situation, entropy or uncertainty is high, and the amount of actual information is low. Precisely because there is a lack of

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information as to what letter will come next, however, information potential is high, and the "b," when it arrives, will convey a large amount of information. In the second situation, entropy and uncertainty are low, as we have a great deal of information about the word as a whole. Because we can predict with certainty what the last letter will be, however, information potential is low, and the "e" will convey 0 information. Briefly stated, then, information potential is high when entropy is high (the first situation), and actual information is high when entropy is low (the second situation). So when Meyer asserts that information is high when entropy is high (MAI 11), a possible interpretation is that a disordered situation provides a great deal of potential for information. The more ambiguous the antecedent, the more information provided by the consequent.

Information and Value

In "Some Remarks on Value and Greatness in Music" Meyer suggests that musical value is to some extent proportional to the amount of information conveyed in a composition. However, this relationship breaks down in situations in which there is too much information to be assimilated. Meyer also suggests that information must be judged not in absolute, but in relative terms:

29 JAAC 17, No. 4 (1959); reprinted in MAI, pp. 22-41.
For we evaluate not only the amount of information in a work but also the relationship between the stimulus "input" and the actual informational "output." Evidently the operation of some "principle of psychic economy" makes us compare the ratio of musical means invested to the informational income produced by this investment. Those works are judged good which yield a high return. Those works yielding a low return are found to be pretentious and bombastic. (MAI 37)

It is difficult to determine exactly what this means, but based on the study of information theory presented above, it might mean that the value of a musical composition is tied not only to the degree of ambiguity (information potential) involved, but also to the relationships of ambiguous elements to elements which coherently resolve those ambiguities (actual information). It is the quality of actual information which determines value, but that quality increases in relation to the amount of compositional ambiguity involved.

It is because syntactic assessments of music lead to information that the syntactic aspect of a composition is the key to musical value:

It is because the evaluation of alternative probabilities and the retrospective understanding of the relationships among musical events as they actually occurred leads to self-awareness and individualization that the syntactical response is more valuable than those responses in which the ego is dissolved, losing its identity in voluptuous sensation or in the reverie of daydreams. And for the same reasons works involving deviation and uncertainty are
better than those offering more immediate satisfaction. I am not contending that other modes of enjoyment are without value, but rather that they are of a lesser order of value. (MAI 35)

Aside from the problems with measuring information, I think Meyer's association of perceived information with value is basically sound. (Information must be perceived to be valuable.) The syntactic relationships which produce information—that is, relationships involving ambiguity, deviation and resolution—are also those which give rise to meaning and affect. Moles, as indicated previously, links value with behavior modification, and meaningful and affective experiences can certainly be considered to modify behavior or "shape states of mind"; associative experiences may modify behavior as much as syntactical experiences do, however, and it is the manner in which meaningful syntactical experiences modify our behavior which makes them most valuable. Meyer posits that anomalous or ambiguous passages are valuable in that they make us think, and in considering and solving musical problems we achieve self-realization. A work's value may be measured, then, by its capacity to give rise to these types of meaningful experiences, and this capacity is directly proportional to the work's perceivable information content.

Meyer applied his theories of expectation, implication and information theory mainly to traditional tonal music.
The following chapter will discuss Meyer's approach to formalism and music in the twentieth century.
Meyer's theory of embodied musical meaning is limited to music with conventional, systematic relationships, and his association of deviation with meaning is limited to music with aurally implicative or expected references. It hardly needs mention that this theory is inapplicable to certain twentieth-century music in which the reference involved is not aurally implicative, or to music—such as that of Cage, Feldman and Wolff—that is expressly and intentionally non-referential. And yet, Meyer certainly admits compositions without internal references as music, and he probably does not regard such music as meaningless; meaning may arise from extra-musical associations, consideration of the initial compositional conception, or totally subjective "musical" relationships inferred by the listener. It may be assumed that such music is totally devoid of conventional, systematic musical meaning, however, and it is mainly for this reason that Meyer favors the "functional" music of "analytic formalism," which he regards as the most important current compositional trend.

The last chapter of Part I of *Music the Arts and Ideas* is "The End of the Renaissance"; Parts II and III consist of chapters entitled "History, Stasis and Change,"

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"Varieties of Style Change," "The Probability of Stasis," "The Aesthetics of Stability," "The Arguments for Experimental Music," "The Perception and Cognition of Complex Music" and "Functionalism and Structure." In these chapters Meyer argues that the arts are approaching a period of "fluctuating stasis"—a period of relative stability and non-cumulative change in which "analytic formalism" will be predominant among a plurality of ideologies including transcendental particularism and traditionalism.¹

A brief presentation of Meyer’s arguments will be followed by a general discussion of his thesis.

A Fluctuating Stasis

Meyer stresses that the coming "stasis" will be a period characterized not by an absence of change per se but by an absence of linear, developmental or teleological change. The clear line of development in music history from Monteverdi to Stravinsky will cease; there will be a multitude of styles, but no style periods. "There would instead be a succession of changes in which first one and then another of the existing styles in one or another of the arts became the focus of aesthetic interest and creative activity." (MAI 103) Meyer notes that a cultural stasis is not unprecedented in world history—there have

¹ In Meyer’s earlier writings, "formalism" refers to a critical or philosophical position; here he refers to "analytic formalism" as an ideology.
been stases in the cultures of ancient Egypt and China, although not of the "fluctuating" variety-- and suggests that our current cultural posture is characterized by features which make a stasis in Western art seem probable.

**Formalism, Traditionalism, Transcendentalism**

Meyer maintains that a cultural stasis is made likely, for example, by the nature of the ideologies currently espoused. The demise of the idea of progress, the tendency toward impersonality and objectivity, the emphasis on compositional means as against ends, the abuses of inept and willful interpretation, and the tendency to minimize the distinction between past and present have led to the prevalence of formalism in the arts--the view that a work of art has its complete meaning within itself. Another ideology, the "transcendental particularist" view (espoused by Cage, Feldman and Wolff), holds that only concrete, particular sense experiences are real:

Theories and hypotheses, hierarchies and relationships, are abstract, artificial extrapolations which come between man and the unique, existent facts of the universe....

In order to perceive and understand the world as it really is, man must give up purpose, strivings and goal-directed behavior...just as nature has no purpose--it simply is, it exists--so it should be with man and with the art he invents. (MAI 159-60)

Both formalists and transcendental particularists reject the idea of progress:
The former denies the possibility of progress on what are essentially empirical grounds. The latter, on the other hand, rejects the idea of progress per se—not only because teleology is misguided and rational choice an illusion but because in a world without definite and consistent temporal order the very idea of moving toward or away from anything is an impossible absurdity. And if progress is impossible, it is pointless to encourage change...

The world of transcendental particularism is not only timeless in principle, it is experientially timeless as well. Whether pictured as a vast array of unrelated, unique particulars or as a complex network of inseparable, intersecting relationships, the world, if it is to be truly comprehended, must be experienced as an integral whole. To know and understand the world—in all its transcendent diversity and intricate actuality—as a single indivisible whole, our experience of it must be immediate, intuitive—almost mystic. And it must then be timeless. (MAI 166-67)

If only particulars, and not the "relationships" between them are real, no event implies the existence of any other event; thus the temporal order of events makes no difference in the music of the transcendental particularists.

While formalists are concerned principally with form and process and transcendental particularists with materials, traditionalists are largely concerned with the representation of content and with "psychological, symbolic-iconographic, and historical" explanation. (Meyer cites the plays of Arthur Miller and the music of Menotti as examples of traditionalist art.) Traditionalists are in principle vitally concerned with meanings, content, and
goals, yet because "content art," as well as the concept of teleology, has become subject to a vast amount of criticism, many traditionalists are moving in the direction of formalism.

The various emphases of transcendental particularism, traditionalism and formalism on compositional "ends" and "means" lead Meyer to construct a table which illustrates the focus as well as the interaction of the three ideologies:

Subject matter will be a central value for those continuing to work within the "ends" segment of the ends-means continuum. Skill and elegance, ingenuity and refinement, will be the chief values for those working in the central segment. And novelty will be the method (the "value") of those who continue to espouse the transcendentalist position. These relationships—coupled, perhaps rashly, with what seem to me to be related modes of criticism and correlative philosophical positions—are diagrammed below.

<table>
<thead>
<tr>
<th>Aesthetic emphasis:</th>
<th>Content</th>
<th>Form and Process</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic position:</td>
<td>Traditionalism</td>
<td>Transcendentalism</td>
<td>Formalism</td>
</tr>
<tr>
<td>Basis of valuation:</td>
<td>Subject Matter</td>
<td>Skill and Elegance</td>
<td>(Novelty)</td>
</tr>
<tr>
<td>Mode of criticism:</td>
<td>Interpretive</td>
<td>Analytic-formal</td>
<td>Descriptive</td>
</tr>
<tr>
<td>Correlative philosophies:</td>
<td>Social Action</td>
<td>Analytic Philosophy</td>
<td>Mysticism</td>
</tr>
<tr>
<td></td>
<td>(Marx and Freud)</td>
<td>Linguistic Philosophy</td>
<td></td>
</tr>
</tbody>
</table>

(MAI 222)
Meyer argues that while the values of traditionalism and transcendental particularism will not be eclipsed in the coming stasis, considerable evidence indicates that formalism will be the dominant aesthetic ideology. Formalist art does not present reality, as traditionalist art does, but rather constructs a reality. "Elegance of design and ingenuity of process, precision of rhetoric and adroitness of language, refinement of conceit and nuance of probability" enforce belief in and validate formalist art. Content is not necessarily irrelevant or insignificant, but "the what and the why of content are seen as inseparable from the how of structure and process." (MAI 223) Formalism is becoming the prevalent ideology of contemporary culture not only because of this growing importance of skill and elegance as criteria of aesthetic value, but because it satisfies the human need for pattern and simplicity, and provides a middle ground between "the goalless world of extreme transcendentalism, which is psychologically untenable and intolerable for most men, and the severely shaken world of traditionalism, which has been left without either divinely or naturally authenticated goals." (MAI 227) Further, formalism is able to tolerate a multiplicity of different viewpoints and practices.

Though traditionalism and transcendentalism will allow a number of variant positions, both are fundamentally monistic and absolutist: transcendentalism insisting
upon direct, intuitive experience, unmediated by concepts and categories, as the only true and valid knowledge of reality, and traditionalism positing the existence of an all-embracing, eternal truth—a single, ultimate reality—as the source for the meaning and purpose of human life.

Formalism, on the other hand, is relativistic and pluralistic. Because it admits the provisional validity of alternative constructs and because,...it shares important beliefs and attitudes with both traditionalism and transcendentalism, formalism is congruent with the current cultural condition and, for this reason, its influence will be both deep and broad in the years ahead. (MAI 231-232)

**Complexity and Perception**

Chapters 10 and 11 of *Music the Arts and Ideas*, "The Arguments for Experimental Music" and "The Perception and Cognition of Complex Music," are essentially a critical assessment of a compositional trend at the heart of analytic formalism: total serialism. One of the problems with serialism, in Meyer's view, is its overemphasis on rules. Music of the past, he points out, could be understood without knowing the rules; what is needed for serialism to be viable is not more rules, but a common stylistic practice. At present serialistic music involves so little redundancy and patterning that if anything is missed, the listener is in trouble. We are able to perceive the new, Meyer suggests, through "simple relations, stable schemata and regularity." The arrival of a predicted, regular event rewards the listener and gives him a sense of security and
control; manifest irregularity or randomness, on the other hand, precludes predictability, weakens control, and discourages learning. In short, if "internalized redundancy" (the depth and strength of stylistic learning) is low, listeners will be able to understand the music only if compositional (structural) redundancy is high. Once serialism has established a stylistic practice, complexity may be increased.

Milton Babbitt admits, Meyer notes, that "an increase in efficiency" of modern music has resulted in "heavy demands upon the training of the listener's perceptual capacities." Meyer's response is that a medium which "precludes communication" is not efficient; indeed, the English language is remarkably efficient in spite of the fact that it is 50% redundant. In contrast, the lack of redundancy in much of the work of the total serialists cannot be analyzed or understood, but only "exhibited."

To put the matter briefly, insofar as total serialism lacks compositional...redundancy, it cannot be analyzed, nor can it be described either in terms of simpler structures or in terms of common processes. All one can do--and it is significant that this is what has been done--is to exhibit its systematic, precompositional materials. The situation is concisely, if somewhat vitriolically, summed up by T. W. Adorno: "One cannot reproach the critic with not understanding these recent products of rampant rationalism, since according to their own programme, they are not to be
Meyer concludes his thesis with a chapter entitled "Functionalism and Structure." Functionalism is defined as "the implications one musical event...has for some other musical event either on its own hierarchic level or some other," (MAI 296) and is regarded as vital for both the formalist and the traditionalist, especially now in the absence of traditional tonality. Without functional differentiation musical events could not give rise to formally articulated "hierarchic structures."

The connection between functionalism and hierarchic organization seems to be something like this: In order for a hierarchic structure or process to arise, it must be developed out of "potential," intermediate, and relatively stable forms. These intermediate forms can arise only because functional, dependency relationships make closure (or partial closure) possible. If no implicative or "tendency" relationships existed between an atomic nucleus and its outer rings, between a subject and a predicate, or between the notes of a motive, closure and stability would be impossible. But because the structures or events which organize lower architectonic levels are only partially complete and stable, other complementary structures are implied. That is, still higher levels will arise. (MAI 304-5)

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Unfortunately, complex, "arched" hierarchic structures are not characteristic of contemporary music since Webern; simple additive or braided hierarchies are more common, especially in total serialism. "The presence of only low-level hierarchic structures indicates that serialism is still in an early stage of development"; yet it should be noted, on the bright side, "that low-level flat hierarchic norms must be established as some sort of traditional practice" in order for "complex, hierarchically arched forms to evolve." (MAI 315)

In view of the extensive criticism afforded serialism by Meyer, the assessment of serialism in his concluding paragraphs is likely to come as something of a surprise:

If the "Queries and Reservations" presented in Part III have focused attention primarily upon the possible dangers of experimental serialism, it is not because I doubt the validity of serial methods or the value of many of the compositions it has already produced but because I suspect that its natural connection with analytic formalism will make serialism one of the most significant schools of composition in the years ahead. (MAI 316)

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The preceding discussion is an extremely brief summary of a great deal of rich and provocative material; any reader who, does not find this presentation of Meyer's arguments convincing is urged to consult the original source. In view of the manner and complexity of Meyer's
presentation, it is not surprising that he has been so often misinterpreted. Just when the reader has become convinced that Meyer has condemned transcendental particularism, for example, it is afforded a prominent position in the coming stasis; Meyer's lengthy denunciation of total serialism is followed by an assertion that serialism will be one of the most significant schools of composition in the years ahead. Another interesting point about Meyer's manner of presentation is that Parts II and III of MAI seem to constitute a richly layered hierarchic structure. The material, like most literary forms, is for the most part additive, yet several themes--the probability of stasis, the comparison of various ideologies, the predominance of formalism, and problems with experimental music--are presented in such a way that the material can be read on several levels. The comments that follow will focus on two principle aspects of Meyer's thesis which relate to his formalism: the perception and cognition of complex music, and the probability of stasis.

Complexity and Perception: Comment

Meyer suggests in his chapters on experimental music that the level of complexity of contemporary composition, and especially the formalistic music of the total serialists, should be restricted for the sake of comprehensibility. He admits that the limits of complexity
cannot be fixed with precision and will vary considerably from one listener to another, but denies that it follows from this that anything is possible—that there are no limits whatsoever. In his view, experimental music must be tested in the public arena, and hence must not exceed the perceptual-cognitive capacities of the audience.

To the extent that the compositional process is a rational one, it is possible to subject it to preconceived philosophical limits and guidelines, but it is not at all clear that composers, past as well as present, have taken such limits very seriously. Certainly comprehensibility must be considered in the compositional process, but it seems that such a consideration had a limited impact on the composition of, for instance, Beethoven's late quartets. Numerous charges of incomprehensibility can be found throughout the course of music history, of course, and in many of these cases it is indeed fortunate that composers did not succumb to the pressure and simplify their style. Meyer would respond that there was sufficient regularity and patterning (structural redundancy) in these works for them eventually to be understood, whereas much of the ex-

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3 Dittersdorf once complained that in Don Giovanni Mozart gave "one no time to catch the breath and think about what he has been hearing: he goes straight on and in the end remembers nothing." Quoted in William Mann, The Operas of Mozart (New York: Oxford University Press, 1977), p. 515.
perimental music of today does not conform to the nature and capacities of the human mental processes. Meyer admits that the limits of the human mind cannot be fixed with precision, however, and in view of this it seems excessive to suggest that certain experimental music will never be aurally enjoyed by the public.

Meyer maintains, however, that some works written by total serialists cannot be understood but only exhibited or demonstrated. While it goes without saying that these works are regularly being exhibited or demonstrated in the classroom, it is worth noting that at least some serialist composers stress that understanding and meaning should result from the analysis of their works. Webern states that the "highest principle in all presentation of an idea is the law of comprehensibility" and that "unity will be necessary to make an idea comprehensible." In Boulez on Music Today, Pierre Boulez maps an "outline of a syntax, studying the extensive and intrinsic characterology of structures," yet stresses "that the real work of composition begins here, at a point where it is often thought that only applications still have to be discovered; all these

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methods must be given a meaning." Milton Babbitt writes that mathematics in serial music is used

...not as a means of characterizing or discovering general systematic, pre-compositional relationships, ...but as a compositional device, resulting in the most liberal sort of "programme" music, whose course is determined by a numerical, rather than by a narrative or descriptive, "programme."

Although these composers feel their music may be understood, some do not feel the need to have their works "tested in the public arena." Leo Treitler suggests, in a review of Meyer's book, that the public arena is an anathema to the true modernist in his struggle against history. Milton Babbitt is an excellent example; in "Who Cares If You Listen?," he states that he is aware that "'tradition' has it that the lay listener, by virtue of some undefined, transcendental faculty, always is able to arrive at a musical judgment absolute in its wisdom if not always permanent in its validity" yet regrets his "inability to accord this declaration of faith the respect


due its advanced age."  

Why should the layman be other than bored and puzzled by what he is unable to understand, music or anything else? It is only the translation of this boredom and puzzlement into resentment and denunciation that seems to me indefensible. After all, the public does have its own music, its ubiquitous music: music to eat by, to read by, to dance by, and to be impressed by. Why refuse to recognize the possibility that contemporary music has reached a stage long since attained by other forms of activity? The time has passed when the normally well-educated man without special preparation could understand the most advanced work in, for example, mathematics, philosophy, and physics. Advanced music, to the extent that it reflects the knowledge and originality of the informed composer, scarcely can be expected to appear more intelligible than these arts and sciences to the person whose musical education usually has been even less extensive than his background in other fields.

Babbitt concludes that the composer would do himself a service by "total, resolute, and voluntary withdrawal from this public world to one of private performance and electronic media"; only then would the composer be free to "pursue a private life of professional achievement, as opposed to a public life of unprofessional compromise and

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9 Ibid., pp. 246-47.
Such sentiments are not unprecedented, and there has been a good deal of important music written which did not fare well in the public arena. It should be said, in Meyer's defense, that he does not "consider our culture ailing or degenerate because Ulysses is not a best-seller and Wozzeck is not on the hit parade." Contemporary art should be supported, he continues, "not because it will produce a 'golden age' in which everyone will delight in the experimental and complex but because some few today find it exciting and valuable." (MAI 178-179) Some few do find highly complex music exciting and valuable, and if compositions must be validated in the "public arena," it can only be wondered of how many and of what types of listeners this arena consists.

The Fluctuating Stasis, History, and Formalism

Leon Plantinga indicates that he is not eager to comment on the central thesis of Music the Arts and Ideas--"i.e. that the future will be quite different from the past, that for some time to come we will be living with a static but pluralistic musical culture--simply because I lack Meyer's confidence that any of us is in a position to

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10 Ibid., p. 249.
Meyer supports his predictions with logical and consistent arguments, yet there is a considerable amount of evidence that counters his thesis. The following discussion will posit (a) that Meyer's "fluctuating stasis" theory is only one of many historical constructs that can be applied to virtually any historical period, and (b) that it is inconsistent with his interest in functional relationships and organic wholes.

Meyer asserts that prior to the "fluctuating stasis" in which we are engaged there were "clear lines of development" which extend from "Monteverdi to Stravinsky." Plantinga notes that there is not one but a myriad of developmental lines of "regional, personal and generic styles" to be found throughout music history, and that there are several historical periods which parallel the diversity characteristic of the present age. "Surely lute variations, frottolo and Josquin masses represent quite diverse musical procedures," he points out, and "music published for Mannerchore in the 1830's sounds terribly unlike Berlioz' Symphonie fantastique." Along these same lines, Roger Sessions distinguishes three phases in the history of music which

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12 Ibid.
may well have seemed to those who observed them as contemporaries to shake the art of music to its depths and to raise questions of the most fundamental kind—questions, that is, not only as to the character and trend of current developments, but as to the function, the significance, and even the ultimate nature of music itself. The beginnings of polyphony, the late 16th and early 17th century, and possibly the 13th and 14th—if this be not indeed considered as a late phase of the first-named—were such phases. They were periods of apparent crisis,..."experimental" periods in the sense that many things were tried which soon proved abortive...

The early seventeenth century was a particularly diverse time (within one country, compare the work of Andrea Gabrielli, Carlo Gesualdo, and Claudio Monteverdi). A common practice was developing in the seventeenth century which we identify as the tonal system, yet these composers may not have realized that they were involved in such a development.

The diversity of our current age may seem unprecedented simply because evidence about our century has not yet been organized into "streamlined configurations," as Leo Treitler puts it. Meyer himself suggests that history may be considered a "construct" rather than a discovered process. If this is the case, Treitler asks,

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14 Treitler, p. 23.
could not a construct eventually be devised for the music from 1900-2000? Whether or not the arts are thought to evolve "depends on the existence of the art historians who arrange art works according to the model of evolution." Meyer writes that "an event is considered to be past when, on a given hierarchic level of events, its implications appear to have been realized and its consequences on that level are known." (MAI 90-1) Twentieth-century developments may not seem evident simply because the implications of contemporary compositions have not been fully realized.

A consideration of the nature of history reveals that history is indeed a construct. If history consists of both (a) names, dates and events, and (b) the connections between events, it can be maintained that history is a construct to the extent that it is composed of "B" elements; for while A elements seem to have some sort of external reality, B elements exist only in the minds of historians. It might be held that elements which have no external reality should be avoided by the historian, yet the subjective nature of historical relationships makes them no less an essential component of history; in that events have meaning only in relation to other events, relationships are what make history meaningful or intelligible: as W. H. Walsh puts it, "it is the business of the historian to

15 Ibid.
construct a significant narrative.\textsuperscript{16} Since connections are an essential aspect of history, then, and since connections are constructs (or reconstructed), history is to some extent constructed.

Some historians go so far as to say that history as a whole is constructed, even elements of type A, in that there is no sense in which the past actually exists. R. G. Collingwood points out that the past cannot be observed or empirically tested; the most we can do with an historical topic is present the current state of knowledge about that topic.\textsuperscript{17} In this sense the past is but an aspect of the present, and is constructed or reconstructed. Yet type A elements seem more objective in that documentary or testimonial evidence may be provided for them, while connections between events cannot be accounted for in this manner. It could be suggested here that historical connections can be similarly documented through the principle of cause and effect, in that if E is known to be caused by C, an objective relationship may be drawn between them. Yet as Meyer has suggested (MAI 77-8), current study indicates that the principle of one-to-one causation is an illusion, 


for events are determined by an infinite number of factors such that everything may be related to everything else, and for this reason the isolation of a single relationship or group of relationships is arbitrary and subjective. This means that a topic of historical study such as the American Revolution is an arbitrary delimitation imposed for convenience and intelligibility: the American Revolution (considered as a thing with a beginning and end) is not an external reality but an historical construct based on historians' interpretations of actual events.

Whether or not A elements have external reality, Treitler is correct in identifying as a construct the unilinear evolution or development which Meyer suggests characterizes a certain portion of music history, in that the "line" is the result of connections of events. Before this particular construct was developed in the eighteenth century, most of humanity viewed change as discontinuous and abrupt, and were more likely to divide time into separate compartments (such as seasons) than to view it as a continuous flow.18 After the idea of evolution emerged, however, it was felt that evolution was simply another name for natural activity, because each act or event seemed to

arise out of previous ones. The most appropriate construct for such developmental activity may seem at first to be a series of points, but a "line" becomes more appropriate in considering that (a) events can be simultaneous or overlapping as well as successive, and (b) memory images may overlap into the present, seemingly "fusing" successive events. Whitehead has asserted, as a matter of fact, that there is no nature apart from transition; the notion of the static instant such as that captured by a camera is a illusion. That our linear construct moves only "forward" in time is supported by the fact that our thinking automatically moves forward in time in remembering the past (remembering it in the opposite direction is exceedingly laborious), and also by a certain character of temporal relationships: If an event $E^1$ and a subsequent $E^2$ are arbitrarily isolated (for the sake of illustration), a modification in $E^1$ may show up in $E^2$, but a variation which originated in $E^2$ will never show up in $E^1$.

19 Collingwood, p. 324.

20 From Whitrow, pp. 74-75. William James has suggested that "because each stimulus of the nervous system leaves some latent activity which only gradually fades away, we experience at each moment brain processes that overlap each other, the amount of overlapping determining the feeling of the duration occupied."

21 Ibid., p. 200.

22 Ibid., p. 81.
The idea that events arise from or are caused by previous ones brings to mind the issue of historical "necessity," a notion which Meyer finds distasteful (see below, p. 166). James Ackerman discusses historical necessity in "A Theory of Style":

The artist submits to...tension between stability and change, between the reproduction of existing forms and the invention of new ones, by necessity, not by choice. Unlike a machine, he cannot reproduce without inventing, for when change is not prompted by inventiveness it is prompted by boredom...\(^\text{23}\)

While it is indeed impossible to stop change, it is not necessarily the case that any particular change is inevitable, that particular events are predetermined. The central problem here is whether or not rational choice is possible, or whether the choices one makes are free, i.e., not determined completely by the past and the environment of the chooser. If there is indeed no one-to-one causation, it would seem that the infinite number of possible factors governing a choice would make a wide variety of selections possible for the chooser, within certain limitations such as the inability of the chooser to view certain possibilities due to limited intelligence, background, or awareness, the inability to execute decisions due to extenuating circumstances, etc.

It may be because a unilinear construct suggests necessity that this particular construct does not seem to be widely used to characterize historical change. Contemporary evolutionary theory disregards the notion of a single evolutionary process or pattern in favor of a multilinear construct composed of a number of forward paths of different styles and lengths. There is no attempt to fasten on teleological, rational or conscious change as the single motivating factor of evolution, but a recognition of a multiple number of determining factors such as laissez faire, survival of the fittest, planning and accident, invention and discovery, cultural borrowing and diffusion, etc.24 Ackerman holds that while in some artistic styles there is a certain problem posed at the inception which challenges artists over an extended period of time, it is more often the case that art tends to shift from one problem to another (Roman or 19th-century graphic art, for example). He favors a theory of "confluent, overlapping and interacting styles" in place of a cyclical evolutionary one, and notes that such a construct makes fixing "limits" much less urgent.

Since the extinction of one style is neither prerequisite for nor, necessarily, the result of the initiation of another,

old and new styles may exist side-by-side and mutually influence one another; and several new ones may coexist even in the same locale: in Paris of the early twentieth-century: Cubism, the Fauves, Futurism, etc.

A multilinear construct, then, may be more a result of a differing way of looking at reality than of a differing reality—that is, whereas theorists once sought to apply a unilinear construct to all of history, contemporary theorists seek to apply a multilinear construct to the same history. It might be suggested, however, that a particular historical construct is conceived in response to what was actually happening in the external world at a given time, and that different constructs may be needed for different historical periods. A unilinear construct applies best to ancient Egypt, for example; according to Whitrow, the ancient Egyptians believed the world was handed down complete from the hands of the Creator, regarded only the changeless as significant, and had no significant sense of past or future. As a result, there was essentially one style in ancient Egypt, and art changed very little over hundreds of years. On the other hand, because recent twentieth-century music is characterized by a multitude of different musical styles and systems, and the rate of stylistic

25 Ackerman, p. 236.
26 Whitrow, p. 56.
change is relatively rapid, a multilinear construct seems to apply best to this period. We have seen that a multilinear construct may apply equally well to many different historical periods and that Meyer's application of it to recent developments alone may be too limited; nevertheless, it does seem an appropriate construct for characterizing the present age.

Some musicians and historians deny that the unilinear construct is inappropriate for recent stylistic developments, however, and most of those willing to trace unilinear evolution into the last half of the twentieth-century point to serialism as the focus of that evolution. Treitler proposes a line of evolution from Wagner through Schoenberg and Webern to Boulez, with Ives, Cage, Shostokovich, Britten and Barber as experimenters on the sideline. The Journal of Music Theory, Perspectives of New Music and Die Reihe might be indicative to future historians, he suggests, of a "common practice." 27 Richard Crocker, in his A History of Musical Style, states that it has become evident that Schoenberg and Webern had been "right" all along. 28 Serialists have certainly said nothing to discourage this view. Webern writes of serialism as the "wholly natural outcome" of the historical

27 Treitler, p. 22.
process. Babbitt maintains that if complex experimental music is not supported, it "will cease to evolve, and in that important sense, will cease to live." Meyer considers such positions in the chapter entitled "Arguments for Experimental Music" and rejects them; because past implications are many and varied, he reasons, possible futures are plural. Yet it is worthy of note that Meyer himself asserts that "considerable evidence indicates that formalism will be the dominant aesthetic ideology in the coming stasis." It would seem that a "dominant aesthetic ideology" could reasonably become the focus of a single evolutionary line.

Which construct is most appropriate, then, for twentieth century composition? Either or both, depending on the perspective taken and what is considered important. While a multilinear construct may seem most applicable to the present age at the present time, it could be that the diverse stylistic lines involved could eventually be subsumed, once historians gain the perspective to relate these lines intelligibly, under a vast unilinear construct on a more remote hierarchic level. Meyer, of course, not only rejects the idea of a unilinear construct in favor of a multilinear one, but claims that the absence of unilinear

29 Webern, p. 41.
30 Babbitt, "Who Cares If You Listen?," p. 250.
change makes "stasis" probable. Apparently he feels that a multilinear situation will not give rise to progress or evolution. However, there is reason to believe that an era of plurality or diversity would more likely lead to evolution and "progress" than to stasis. It has been a valued tenet of the West that progress flourishes in an atmosphere of freedom and individualism. According to Herbert Spencer, evolution involves adaptive, complicative development through cultural descent, and a change "from the homogeneous to the heterogeneous." Historical development itself, according to Robert E. Neil, began as a result of the interaction between diverse elements in a society:

...history begins with the appearance of the first multi-niche societies, and what causes history to begin is the interaction for the first time between entirely different niches in the population. Such interaction produces change rather than just variations on the same theme. It produces futures instead of more repetitions of the present.

Meyer might argue that there is so much "originality" in contemporary composition, and so much disparity between styles, that the progress which normally characterizes a period of cultural diversity is circumvented. Yet no work can be totally "original," and concurrent styles cannot

help but be mutually influential. Ackerman points out that while the artist cannot reproduce without inventing, it is also the case that he cannot invent without reproducing:

...in order to make a meaningful innovation he must be able to concentrate his forces upon the few aspects of his work where circumstances favor fresh departures; for the rest, he relies on the support of his tradition and of his environment. An artist cannot invent himself out of his time, and, if he could, he would succeed only in making his work incomprehensible by abandoning the framework in which it might be understood.... For history to be written at all we must find in what we study factors which at once are consistent enough to be distinguishable and changeable enough to have a story.... In the study of the arts...we must find certain characteristics which are more or less stable, in the sense that they appear in other products of the same artist(s), era or locale, and flexible, in the sense that they change according to a definable pattern when observed in instances chosen from sufficiently extensive spans of time of geographical distance.33

If history depends on the discovery of stable as well as flexible factors in events or art, an end to stylistic stability would mean an end to the history of style: historians could record works, names, and dates, but if they could not establish meaningful relationships around them, history could not be intelligibly constructed. Meyer, of course, does not actually deny relationships within or even between styles in his "fluctuating stasis," but denies that

33 Ackerman, pp. 228 and 227.
these relationships will lead to evolutionary or developmental change. It seems ironic, however, that a formalist vitally concerned with functional, implicative and hierarchic relationships would deemphasize the importance of the kinds of cultural relationships which lead to evolution and development; in concentrating on the discreteness of individual styles rather than on a vast unilinear construct which could absorb them, Meyer is favoring atomism over formalism, particulars over organic wholes. And there is evidence that even the most disparate of twentieth-century styles can be synthesized. Chance music, for example, has been juxtaposed with formalistic or "functional" music, not only in compositions by Crumb and Pendereki, but in those of "mainstream" composers such as Stockhausen and Boulez. Boulez notes the identity between the seemingly opposed ideas of total serialism and aleatoricism in Penser la Musique Aujourd'hui, and Anthony Cross writes that opposition between highly organized and minimally organized sections in Boulez' music provides a means of creating contrast necessary for the perceptible articulation of form. This is not to suggest that the combination of aleatory and highly controlled elements is the music of the future, but

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that evolution is suggested by the synthesis of schools which Meyer views as fundamentally opposed.

One final point: Meyer is especially concerned with meaning that involves rigorous, conscious thought, and viewing twentieth-century art as being in a stasis would not be conducive to this sort of experience. Can understanding be achieved without a perception of the relationships involved in cumulative change? Is evaluation possible when styles are so diverse that compositions cannot be intelligibly related or contrasted? Relationships exist not only within works but between works and styles, and if twentieth-century styles may eventually be meaningfully related to earlier, later, and concurrent ones, an evolution may be discovered or constructed. The process of discovering these relationships and evolutionary changes is valuable in that it leads to meaning and understanding.
VI. MEYER, FORMALISM AND STRUCTURALISM

Leonard Meyer is often referred to as a formalist, and much of his theory conforms quite well to the formalist perspective. Yet Meyer has at times expressed interests or positions that seem to carry him, if not outside, at least to the peripheries of formalism—interests in dynamic process, systems as a source of meaning, the role of cultural contexts in perception, and a tendency to waver on the subject/object problem. This chapter will review Meyer's work, reconsider some of Meyer's contributions to and problems with formalism, and point out how some of these contributions and concerns are analogous to those of contemporary French structuralists.

Indeed, Meyer is a formalist in that he believes that the most important and valuable aesthetic experience results from an intellectual assessment of the relationships of the parts of the work on all hierarchic levels, to each other and to the whole. (EMM 3) Unlike earlier musical formalists such as Hanslick and Gurney, Meyer offers an explanation of how it is that formalist activity gives rise to meaning, affect, "information," and value: these qualities arise, in large part, when an assessment of the work's parts in relation results in inhibited tendencies. According to
Meyer internal or embodied musical meaning arises from an assessment of the reference of musical elements to each other, based on the perceiver's knowledge of the relevant systems. Music is most meaningful—that is, is most likely to give rise to conscious thought, as well as to affect and "information"—when syntactic reference is ambiguous, delayed or blocked. This happens when the expectations elicited by musical references or implications are inhibited or unclear. If the perceiver is familiar with the musical system involved, ambiguity or inhibited tendencies will give rise to meaning; for a less experienced listener, such a situation will more likely give rise only to affect.

Meyer maintains that "information" is also associated with ambiguity. The more ambiguous a musical antecedent, that is, the more possible consequents implied by the antecedent, the more information will be carried by the consequent when it arrives. The most valuable music is that which provides the listener with the most information and meaning, as such music gives rise to the conscious thought which leads to self-awareness and self-realization.

In his discussion of twentieth-century music, Meyer contrasts musical traditionalism (whose adherents are concerned with a work's extra-musical associations as well as its form), transcendental particularism (whose adherents are concerned only with a work's materials to the exclusion of form and content), and analytic formalism (whose adherents
are concerned only with formal relationships). Meyer does not deny that nonsystematic, nonreferential music can be meaningful (meaning may arise from extra-musical associations, for example, although adherents of transcendental particularism would consider such associations irrelevant), but because Meyer is most interested in the embodied meanings of music, he considers analytic formalism the most important compositional trend.

It is because Meyer is more interested in syntax than in musical associations that he is considered to be a formalist. Yet as we have seen in Chapter I, there have been times when Meyer has been less than satisfied with earlier formalist perspectives, feeling inclined to make different emphases or reject certain views which he regards as static and limited. First, Meyer makes it clear in EMM that we understand music by understanding the relevant musical style; earlier formalists have not made this explicit. Meyer could have been more explicit, however, about the role of systems in the production of meaning and its impact on the subject/object problem. Meyer maintains that meaning arises out of a triadic relationship among stimulus, referent and perceiver. Stressing this relationship is far preferable to locating meaning either in an individual subject or an external object; yet it is important to note that perceivers can intelligibly link stimuli with referents because of common knowledge of conventional systems. Meyer
shows sensitivity to this point in revising his expectation theory to one of implication. Implications can be discussed objectively not because they inhere in a work of art, but because knowledge of symbols and systems (and thus of implications) is shared by members of an interpretive community.

Meyer also seems more sensitive than earlier formalists to the dynamic or developmental nature of certain art forms. In "Forgery and the Anthropology of Art," for example, Meyer comments on how cultural contexts and beliefs condition our conceptions of art, and criticizes those who regard aesthetic criteria as a special sort of criteria unrelated to other cultural beliefs and attitudes:

The most obvious instance of this view is the common contention that we judge—or should judge—works of art on the basis of their intrinsic qualities alone, though what these qualities are is by no means always clear. The work of art, accordingly, is said to have its complete meaning within itself. Cultural history, style history, and the genesis of the art work itself do not enhance true understanding. . . . It is clear, however, that in actual practice we do not judge works of art in terms of their intrinsic qualities alone. (MAI 54–55)

This quotation suggests that art forms change as cultures change, and is reminiscent of Stanley Fish's position that a work is nothing but a product of interpretation. Meyer would probably not agree completely with Fish's stance,

1For more on this passage, see page 16–18 above.
however; he does speak of art's "intrinsic qualities" and elsewhere refers to forms as "presentational facts" (MAI 212). Once again, Meyer might have refined his view by making clear that meanings inhere not in external works of art but in the minds of past, present and future perceivers, and then accounting for correctness and commonality of interpretation through common knowledge of systems and shared conventions and beliefs. In any case, the passage quoted above indicates an awareness of the developmental nature of our perception of works of art, an awareness lacking in earlier formalist criticism.

Another reservation Meyer has had about earlier formalist criticism concerns what he has described as the distinction between the formal and the kinetic-syntactic dimension of art. For those interested in the formal dimension, Meyer maintained,

musical understanding and enjoyment depend upon the comprehension of such factors as symmetry, balance, and perfection of proportion. Since a structural unit...must be complete, or virtually so, before its formal design can be comprehended, this view of music tends to be retrospective, contemplative, and somewhat static. (MAI 42)

Kinetic-syntactic adherents, in contrast, contend that the cardinal characteristics of a musical event are functional rather than formal. Music is a dynamic process. Understanding and enjoyment depend upon the perception of and response to attributes such as tension and repose, instability and
stability, and ambiguity and clarity. Because music is seen as a developing process, this viewpoint tends to be prospective, dramatic, and Faustian. (MAI 43)

This quotation emphasizes the dynamic, developing process involved in perceiving music, an emphasis which is at the base of Meyer's criticism of Schenker's theory. "The criticisms are directed merely against those aspects of [Schenker's] theory that tend to treat a musical composition as a thing instead of a process which gives rise to a dynamic experience." (EMM 54) Schenker does stress process as well as form, however, just as Meyer stresses form as well as process. Schenker's Ursatz or background is not the ultimate significance or essence of a musical composition, but a fundamental, unifying base or foundation. The meanings of the composition come from the process of arriving at the surface or foreground level through the transformations of the Ursatz (a Schenkerian treatment should infer the Ursatz and then construct the composition, rather than reducing the surface to the Ursatz). While the meanings of the composition result from the process, however, the composition may be contemplated as a form after the process is complete.

Meyer himself suggests this sort of thing in his discussion of determinate meaning: "In short, determinate meanings arise only after the experience of the work is a timeless memory—when all the implications of the stimulus on all hierarchic levels are realized and their interrelationships comprehended as fully as possible." (MAI 14) The point is that
Meyer need not reject the formal dimension of a work of art in favor of the kinetic-syntactic dimension: we can infer forms, but we infer them through the process of bringing systems to bear on a work so that its parts can be functionally related. Formalism has traditionally not made this relationship between form and process explicit.

It is interesting to note that some of Meyer's concerns about and contributions to formalism have been quite similar to some of concerns and contributions of contemporary French structuralists. Based on the linguistic semiology of Ferdinand de Saussure, structuralism has come to cut across many disciplines; first-generation structuralists include Claude Lévi-Strauss in anthropology, Roland Barthes in literary criticism, Jacques Lacan in psychoanalysis, Michel Foucault in philosophy, and Louis Althusser in Marxist theory. Underlying the work of all these structuralists is the belief that surface phenomena can be explained by structures or systems operating beneath the surface. Surface phenomena have meaning because they are interpreted as signs, and we understand those signs by bringing systems to them: linguistic systems to textual signs, musical systems to musical signs. We distinguish the meanings of signs by opposing and contrasting them; and by combining them into larger units (Saussure called these types of relationships "paradigmatic" and "syntagmatic" respectively.) In the application of a system to surface phenomena, Saussure felt it
important to deal as much as possible with the system as a functioning totality (synchronic analysis) rather than the system's historical development (diachronic analysis).\textsuperscript{2}

Drawing on the work of Saussure, structuralist Jean Piaget describes a "structure" as a series of transformations which are governed by the laws of a system and are self-regulatory.\textsuperscript{3} Regarding a structure as a series of transformations rather than a set of related parts stresses the dynamic aspect of a structure\textsuperscript{4} and allows escape from the problem of whether to emphasize the structure's parts over the whole (atomism) or the whole over the parts (formalism). According to Piaget, wholes and parts are subject to systemic laws which allow the perceiver to distinguish parts and construct the whole. Transformations are "self-regulatory" in that new elements produced by transformations are governed by the same systemic laws as the elements which


\textsuperscript{4}The symphonic form may be regarded as a structure; the "transformations" which have taken place in the symphony since the eighteenth century have been governed by the laws of the tonal system.
which gave rise to those transformations.

While structuralism shares most of formalism's important features, its applications are more comprehensive. Although structuralists are concerned with form, for example, they do not deemphasize the importance of the semantic dimension of a work, and tend not to separate form and substance, abstract and concrete. As Lévi-Strauss puts it, "Form and content are of the same nature, susceptible to the same analysis. Content draws its reality from its structure and what is called form is the 'structural formation' of the local structure forming the content." Structuralism is also more comprehensive than formalism in that it can be applied to phenomena we would not normally consider "forms"; the English language, neural systems, political institutions, the tonal system, the corpus of Beethoven symphonies, the diatonic scale, etc. A third benefit of structuralism is its emphasis on the systems which exist beneath surface phenomena and give them meaning, an area that most formalists have neglected. As we have seen, it is common knowledge of conventional systems that allows us to infer formal or structural relationships in essentially the same way, and allows artists and perceivers to communicate through art.

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Finally, structuralism better accounts for the seemingly dynamic or developmental nature of certain structures. Richard J. Blackwell makes the following assertions about the changing nature of systemic laws or rules which govern structures:

It should be noted that the type of laws included here are laws of functional development and change (i.e., transformational laws) and not static, associationist laws of mere regular spatial and/or temporal contiguity. Another way of putting this is that transformational laws govern the construction of structures. Any given structure is simultaneously already structured (in relation to its antecedent development) and in the process of further structuring itself (in response to its present environment). Transformational laws relate to the latter while static, formal laws relate to the former when considered in abstraction from antecedent developmental processes. There is a considerable and epistemologically important difference between the formalization of a structure after the fact by a theoretician and the presently occurring transformation of a structure. The presence of laws in the transformation of a structure is what makes a structure an organized system. 6

It is reasonable to think of the English language or the field of aesthetics, for example, as structures continuously restructuring themselves (metaphorically speaking), as they are presently changing and developing. A Mozart symphony is something quite different, however, in that it is

not actively developing in the same way: neither Mozart's musical concept nor, for the most part, the symbols he used to convey that concept have undergone any transformations since his death. Yet because we do not all interpret these symbols in exactly the same way, our conceptions of the work are all somewhat personal and partial (although never completely individual: conceptions of art overlap considerably), and they change as our knowledge and awareness changes. In this sense, then, the symphony is being constantly structured and restructured, and will be as long as the symphony is dealt with. It is for this reason that a formal analysis should not be regarded as final—the meanings of a composition cannot be placed in a museum and preserved.

Meyer is not a structuralist, but the parallels which can be drawn between his work and that of the structuralists are notable. He has always shown a sensitivity to the role of systems in the production of meaning, a sensitivity manifested most pointedly in the revision of his expectation theory to one of implication. He has also stressed the importance of the dynamic nature of the listening process, as well as the role of cultural beliefs and attitudes in the developmental nature of forms. It is significant that Meyer's development has been similar to that of the structuralists, for structuralism has encompassed some of the most important innovations in twentieth-century theory and thought. Meyer's work has transformed and enriched formalism, and should continue to wield a substantial impact on music aesthetics as a whole.
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