Chapter VII

THE QUEST FOR MEANING IN MUSIC:
SYNTHETIC MODELS
BEYOND SURFACE ANIMATION
Phoenix defines education as the search for meanings. We have so far explored music as an animating device in education. The first models brought out in this study related to the capacity of music to animate, to enliven a psychologically 'inanimate' atmosphere. Children singing, dancing, clapping rhythmically creates a big change in the classroom subjected to rigid control, and deathly silence insisted upon. This change is immediately visible. But then there is a deeper level of animation. The sensory and physical awakening pointed out to an intellectual awakening through the embedded mathematics and structure in mathematics and even an invitation to awaken the deep spirit (anima) contained in music. We just peeped into these aspects while referring to Animation Levels 2 and 3 (Chapter V Section 1 (e)). But then, as in a sonata, we wandered through a wide range of related concepts and brought new models. These 'broken arcs' need to be synthesised in some form. While attempting to do so the investigator landed upon certain higher level synthesis of multiple disciplines, the probing of meaning in music, the integration of the arts and sciences in a kind of polyaesthetic education. So it was decided to use these synthetic frameworks already developed by these integrated thinkers, in synthesising the findings got so far and build a synthetic animation model – one that would waken up the sleeping soul (anima) itself.
Before landing in the Level 3 synthesis, a little more deep exploration of Level 2 animation—analysing the inter-disciplinary explorations already done and using them as resonating devices for synthesising the ideas emerging from this study itself. Musical rhythm and sonorous motion has logic, mathematics, aesthetics and semiotics. Now that modern mathematics, physics and chemistry are introduced even at the school stage, it is worth exploring these deeper levels of animation. Elementary arithmetic can be animated through simple rhythms. Animation of the deeper aspects of the curriculum would be facilitated by exploring the potentialities of music, and tapping the deeper logic, modern mathematics, semiotics and aesthetics embedded in it. The interdisciplinary analysis touching linguistics, semiotics, semiology, psychology, psychoanalysis, sociology, culture theory, philosophy in relation to music is intended for tapping these deeper animation potential of music.

A. MUSIC AND MEANING

Education is concerned with developing meanings. Much of formal education is processed through language, which is understood to process meaning in some way enabling meanings to be communicated and past thoughts to be preserved and communicated, and present thoughts processed in new ways. Can music enter in some way into the educational process in some way akin to language? Among many who have analysed this problem, that of Coker (1970), Music and Meaning is drawing upon the ideas of a wide range of thinkers—linguists, aestheticians, logicians, philosophers—is thought provoking. In this synthesis Coker’s presentation is kept as the main frame, adding wherever possible illustrations from Indian music, in order to ‘bring home’ the point.

In order to clarify the issue we may peep into the science of Semiotic, or the scientific study of a general theory of Signs. According to Morris, “semiosis is the process in which something acts as a sign for some organism.” (In Coker, p.1)

There are five elements in the semiotic field: (1) a stimulus which calls out (2) in some person or organism (3) a disposition or response in some way (3) to another object or event (5) under certain conditions.
A musical phrase or even a tone has many possible kinds of signification and significance (i.e., 'meaning'). There are three avenues of approach to get at an object's meaning - semantics, or the relations of signs to their contexts and to what they signify; syntactics, or the ordering and relation to one another of different kinds of signs; and pragmatics, which treats the relations of signs to their interpreters.

A sign in this context is 'a stimulus that directs or influences some organism's behaviour in relation to something that is momentarily but not necessarily the dominant stimulus in the situation'. In music even a single fleeting sound or silence or a quality of sound (pitch, timbre, duration, intensity) can be a sign. Signs go back to the most fundamental - the biological - order of things impelling the organism to attach meaning to certain sounds and respond. All signification and meaning involve an affective component. A musical phrase may have as its signification even abstract objects like 'yearning' or 'desire' as in Wagner's Tristan and Isolde or the emotional correlates of different ragas. Indian musicians probe these yearnings through explorations of various ragas, bhavas and talas.

A sign may be predictive, causing an interpreter to look forward to the signified, predictive (lightning\rightarrow thunder), retrodictive, causing him to look back in memory (smoke \rightarrow fire), or juxtadictive, causing him to take account of something present (a telephone ring\rightarrow someone on the line now). According to Morris a sign may be used for different purposes: informative, evaluative, incitative and systemic.

'Signs' are 'informal signs'. When regularly used as a sign by a group of people it acquires a definite conventional signification and becomes a symbol (e.g. bugle calls in the army.) Summarising the initial analysis of the basic concepts relating to signs, Coker distinguishes meaning and knowledge of two kinds: acquaintance type and discursive type. The former is intuitively grasped by feeling without mediation of thought; the sonic qualities of tone or noise, the rhythmic and temporal properties etc are included here. Discursive knowledge and meaning is second-hand, indirect, derived by means of thought.
Mead has developed the gestural theory of communication. A gesture (signals) - the attitudes, movements, sounds - of one organism may stimulate adjustive behaviour (signification) in another. Each response may become a reciprocal gesture for the other organism, creating a complex chain of interactions. Mead calls this developing series of attitudinal and postural changes a "conversation of gestures". This 'conversation' is characterised by quick, immediate, unreflective response, which is distinguished from the linguistic or rational level of behaviour. The symbolic gesture, occurring at the mental level of behaviour gives the same significance to the members of a communicating group. Vocal gestures are particularly important. Music is an object with gesticulatory meaning.

Music enters into the world of meaningful things and experiences as a stimulus, and later gains the status as an 'object'. But irrespective of the level of sophistication, the 'object' music is a stimulus. Music appears as an inanimate object of sound with properties of motion. As a complex sound stimulus, music controls experiences and elicits dispositions and responses within social situations. A sonorous object becomes a sound-producing 'organism'.

From this it follows that "a musical gesture is a complex stimulus to the response of a composer, performer, and listener as well as to further musical development: it comprises a recognisable formal unit and consists of a selection and organisation of sonic and rhythmic properties in sonorous motion..." It may be used with a distinct expressive force. It has semantic, syntactic or pragmatic dimensions. It is a doing of something rather than saying something. Gesture is active. The simplest musical gesture is a single sound - a sole pulse of emphasis. The basic forms of musical gesture are 'figures' or 'motives'. A motive, phrase, theme, section, or even a movement may be taken as a single gesture.

Sullivan (In Coker, pp. 20-25) notes that music brings us an attitude - that is passed on from the composer, embodied in the work, interpreted by the performer and intuited by the listener. The composer gives life to the musical organism. The performer nourishes and sustains the vital force in the music and plays a mediating role, integrating the activity of the composer and the listener. These constitute a
conversation of gestural attitudes. This conversation takes place at different levels-
biological/instinctual and rational/self-conscious. Hence interaction between the
listener and the art work becomes very important. Role taking is very important in
this context. It makes communication possible, exchanging the roles of the
composer and the listener, using music's gesture as medium. Hence a self-
conscious approach to the musical experience is implied in communicative
experience. Musical meaning is an emergent implicitly with regard to reciprocal
phases of social acts.

Coker offers a definition of music consistent with his semiotic gestural point of view.

As a kind of art, music is a product of human skill, the medium for which consists
of characteristics of sound and rhythm, which are selectively organised into
sonorous motion that signifies - as well as affects - organic attitudes and other
objects and values, either musical or otherwise...the work of art will be a skilled
human product. [It] will have a material medium...in which the skilled product is
embodied... By extension from the musical definition ... the work of art will be a
skilled human product. (ibid. pp.24-25)

"Aesthetic' has a 'slender' as well as a large' definition. The 'slender' aesthetic
values are a sub-class of inherent values, which can be found immediately and are,
on disclosure, unmistakable. They are of the essence of here and now. They are
known by acquaintance. Another sense of aesthetic experience involves the
observer's "contemplative attitude" - "a reflective pause, suspension of active
involvement, and a complete meditative absorption in [what] appears as
immediate". (Lewis, in Coker, pp.26-27)

In the "large" sense, "Aesthetic experience lies between the poles of pure
sensation on the one hand and abstract intellectual activity on the other." (Collingwood, in Coker, p.27) In this large sense of aesthetic, the biological
(instinctual) and the social (rational) are in flux with one another. The etymology of
'aesthetic' also suggests both 'sensing' and 'reasoning' as well as participative,
self-conscious and inferential phases in the 'large' sense of the aesthetic.
The iconic sign or icon has a property or properties in common with, and hence resembles in some ways, the object which it denotes e.g., the roll of thunder, the whispering of leaves can be produced by an orchestra. It refers to the signified object in a primitive way. It places certain properties before us, and shows things about the object; it does not explicitly assert a proposition about the object. An iconic sign may signal, or it may symbolise, or do both at once. An iconic sign may be an image or a diagram. It may also be a metaphor, where there is an extended parallelism of qualities among relations in both sign vehicle and signified objects. Music may be defined as a structure of metaphors. Iconic signs may involve 'partial identification', and are somewhat 'open'.

Iconic signs in art works often signify values or value properties. In this connection some aestheticians talk about 'self-contained' or 'embodied' meaning, derived from Kant's doctrine of "purposiveness without purpose". "Value arises within an act, within which a property of an object or situation, in relation to someone, consummantes or frustrates his interest; hence, value elicits positive or negative preferential behaviour." (cited in Coker, p.32)

While we attend to a piece of music, we perceive a series of gestures, distinctive in quality and structure, intertwined in strands and texture, leading our attention on and on from one aspect of the whole to another and yet another. The surface qualities and relations heard and the emerging character of the formal gesture are the stimuli. Some of these stimuli whet our appetites for more or for other sounds, while others tend to offer us satisfaction. Thus preference is explained.

When the iconic sign and its referents are of the same kind they are called congeners, and the iconic signification involved is congeneric meaning. If the congeneric sign and signified object appear within a single work, the reference is intrafluent; if the two occur in different works, the reference is interfluent. Congeneric meaning is closely relevant to the syntax of works which are related to what we speak about the 'structure,' relations, 'internal relevance' of music. (Coker, pp.30-37). Congeneric meaning arising from the internal relationships in art forms
is of great moment to aesthetic experience. Art objects may be said to embody Kant's "purposiveness without purpose", i.e., they may have inherent objective purpose.

Sound, Rhythm, and Sonorous Motion are important factors supporting the Signification of Music. *Sound*, as *stimulus*, is physiological sensation received by the ear. Auditory stimuli have inherent affective force, they activate emotional patterns of behaviour as well as higher cerebral sort of behaviour.

*Rhythm* generally means the temporal relations and qualities involved in a cyclic flow of energy through three successive phases of accumulation, discharge, and relaxation and recovery. Coker (p. 40, citing Dewey, 1958, Langer, 1953) analyses them in clear stages that are highly fruitful for the present study:

The periods of accumulation (*arsis phase*) are characterised by excitation giving rise to mounting tension or to strain. In turn, the most dynamic phase (*thesis phase*), discharge, arrives with that moment of greatest stress when impulsion forces an emphatic release of energy. The loosening of tension in the subsequent phase of relaxation (*stasis phase*) which eases back to a recovery of strength, may subside into a period of complete exhaustion or even depression. The rhythmic process as a whole, then, represents a movement emerging from incipient tendencies striving for fulfilment and continuing through a consummation, and so on. We would find in what we call rhythm the essence of formal value and of life as it is felt. Tensing, emphasising, relaxing, preparing again: these rhythmic characteristics are fundamental facts underlying signification generally and musical signification in particular.

Coker profusely cites excerpts from Western music to illustrate the three phases of *arsis-thesis-stasis* (tensing, emphasising, relaxing/preparing again). It is easier to understand the simplest form of the three phases from an *alapana* in Indian music where the singer develops the raga through a series of musical phrases. In each phase we can see the three phases - *arsis-thesis-stasis*.

Rhythm is a necessary element in all art works. Hanslick calls it the "main artery of the musical organism" (cited in Coker, p. 42). *Rhythm not only creates form in organisation of sound* serves as the foundation of more impressive organic analogues. It directly bears upon musical value and iconic signification.
rhythmic form is essential for congeneric musical meaning, and rhythmic signs serve as stimuli for extrageneric meaning in musical experience. Rhythm is a dominant characteristic of basic, life-giving functions of organisms. It appears in inorganic processes and in geological/organic evolution. It is a commonly shared property of both aesthetic and extrageneric objects. So it becomes the basis for iconic signification of art for life and life for art. Further it offers the fundamental ground for applying organic metaphors to art works and for naming them as "aesthetic organisms". Rhythm should not be confounded with time. Time is the rationalised form of rhythm. It pertains to "self-conscious constraints, whereas rhythm is a matter of the immediate feeling of phases of tension, stress, relaxation, and repose" (Coker, p.42).

Sonorous Motion is recognisable as differences in qualities or relations of successive sounds and silences. Contrasts and changes in the local sonic and temporal characteristics of each separate sound are involved in qualitative differentiation of sonorous motion. "The qualities of timbre, loudness, and pitch along with duration relations appear in groupings. And as the music's sounds succeed each other, the local sonic and temporal characteristics continually present new groupings."

Regional properties of music like Melody and Harmony belong to the whole complex set of sounds rather than to any particular sound or to a relatively elementary part of a complex. Coker (pp. 43-45) defines in terms of the terminology of physics as well as of music certain related complex concepts such as musical force (involving position of sonic elements and energy expended), musical tempo (velocity or the temporal rate of displacement), momentum (a dynamic vector quality arising from the interrelation of the mass of sonic qualities present, tempo of changes, duration). The direction of sonic qualities is also discussed.

Two aspects of sonorous motion which need to be analysed independently are: tonal shape and rhythmic shape. The tonal shape of sonorous motion may take one or both of two main forms: (a) melodic (linear succession of single tones) and
(b) harmonic (succession of sets of tones sounding at once). The tonal shape of a single harmony chord appears in terms of mass, volume, density and tension. The mass of a chord is its aggregate of sounding qualities: quantities of pitches, timbres, intensities and duration. The volume of a chord refers not to its loudness, but is the measure of the chord's bulk of the musical space occupied by the pitches. Musical density is the mass of sound within a given volume. The tension of a harmonic shape is the inherent tendency towards motion as determined by the degree of consonance or dissonance generated by the interaction of the chord tones.

Melody in tonal shaping occurs most noticeably as pitch contour, which a melodic gestalt outlines as it traverses musical space. A melodic contour can be ascending, descending, or levelling. The intensity of motion in a single direction can be described in terms of the angles of ascent or descent. The angle of a single direction movement is a function of the number of tones essential to the outlining of the pitch contour and the distance between the extreme pitches.

The tonal shape of the more complex melodic strands is given by the combination of the basic directional tendencies already noted. In counterpoint distinctive and comparatively independent melodic strands are woven together. The strands themselves give rise to harmonic implications. Combined strands explicitly outline or create chords. Hence contrapuntal texture can be analysed in terms of (1) harmonic implications of separate lines; (2) resultant chordal shapes and progressions generated. Tonal shape is also determined by contrasts in levels of intensity. Besides crescendo and decrescendo, the manner of attack and release, such as forte-piano (fp), sforzato (sfz), the 'normal' attack, the hair-pin (< >) etc. also contribute to tonal shape.

Rhythmic shape is of central importance in determining the form and shape of musical movement. Pulse is the unit of temporal measurement. It is a regularly recurrent release of energy which is often called a beat. The listener feels rather than conceptualises the pulse of sonorous motion. It is often associated with the normal stride of movement (pace = ca. 76-80 m.m.) or the normal heartbeat (beat =
ca 68-72 m.m. Tempo gets meaning in comparison with pulse. Musical accent occurs when a particular sound is brought to attention more than others in terms of pitch, intensity, timbre, duration or serial place value or contrasts in monody/polyphony/homophony or contrasts in harmonic characteristics.

Coker analyses the cycle of an act of rhythmic shaping in terms of the three phases- arsis (U), thesis(✓) and stasis(✓). He profusely illustrates their use by punctuating excerpts from Western music: The "prelude" to Tristan and Isolde presents well known rhythmic cycles. Besides the cycles in the full piece, the first three measures of the "prelude" also display a full rhythmic cycle in the conjunction of the confession of love motive and the desire motive (e.g.6-1). The first three tones (a-f♯e) of the confession of love motive in the cello crescendo in a pronounced arsis, and simultaneously with the arrival on the fourth tone (d♯), the thesis point, the double reeds and the clarinets enter, giving further harmonic, dynamic, and timbral impulse to the thesis. The impact comes just at the moment of overlap between the cellos and the winds. The thesis shades into its following stasis as the desire motive is drawn out by the diminishing tones of the oboe.... The rhythmic process as a whole [tensing, accentuating, relaxing], then, represents a movement that emerges from incipient tendencies of direction fulfilment and continues on through consummation and denouement.

The aspects of musical syntax and punctuation (including cadences and caesuras - which may be either terminating or mediating). (Coker, pp. 38-59).

Congeneric musical meanings are the resultants of a dominant iconic sign situation in which one part of a musical work is interpreted as a sign of another part of the same work. There are two species of reference within congeneric signification. Of these, interfluent reference is one flowing from a sign in one piece to a signification in another work or to a signification in another movement or act of the same larger composition. The interfluent reference is of great moment, especially in cyclic forms. Illustrations of a basic theme that flows throughout a series separate movements include Missa Pange lingua and other cyclic masses, Chorale cantatas such as Ein feste Burg of J.S. Bach, Berlioz's Symphonie Fantastique
Coker's brief analysis of Berlioz's *Symphonie Fantastique* from the point of view of interfluent reference, even touching predictive, retrodictive and juxtadictive signs is cited below:

The cyclic theme (*idée fixe*) quite apart from its palpable extragenerous? symbolisations, refer interfluently in the first movement ("Reverie Passions") to implicit variations to come in successive movements with obvious predictive significations. In succeeding movements that signification is materialised. And in the process other temporal references occur as when in the fourth movement ("March to the Scaffold") the brilliant recurrence of the cyclic theme explicitly call upon our memory of previous variants in three earlier movements. Besides such retrodictive signification, the *idée fixe* carries all three sorts of temporal reference to a sign in the last movement ("Dreams of a Witches' Sabbath"). The theme points at once back to earlier appearances in other movements, point *intrafluently* to other subordinate accompanying gestures concurrent with it, and points to a forthcoming restatement of itself in the orgy of sound in the dance section (*ibid.* p.63).

*Intrafluent reference* flows from a sign to a signification within one and the same piece. This mode of congeneric signification is very relevant in the analysis of musical meaning.

Coker illustrates the intrafluent mode from an analysis of Beethoven's *Fifth Symphony* (his example 7-1):

The basic musical gesture is the famous knock of fate motive (mm.1-2). Certain general features of the section is noteworthy. The forceful paired assertions of the basic gesture in octaves opens the work and sets its overall character, in Beethoven's words, "destiny knocking at the door" (mm.1-2,3-4). The first two statements act as complete thesis phrases whereas subsequent statements of the basic gesture are motive parts of larger arsis phrases. The larger phrases (mm. 6-10, 10-14, 14-21), beginning softly after the initial outburst amass harmonic sonorities by intersecting entries of the basic gesture gradually enlarging the volume of musical space. The imitation - close at one beat spaces - creates a reverberating effect. While the harmony is static on tonic in the third phrase (mm.6-10) and on dominant in the fourth (mm.10-14), the harmony begins tonic-dominant alternation (mm.15-18), concluding the section with its progression to a high close (mm.19-21). The entire section exhibits a high order of redundance through the constant reiteration of the basic gesture and its simple variants (*ibid.* p.63).
Some other concepts related to congeneric musical meaning include: iconicity, coherence, and the sensuous surface.

The coherence of a composition may itself be regarded as its consistence in integrating each and every gesture or element of a gesture into an organised whole in which (1) no fragment could be omitted without injuriously altering the whole and (2) no fragment stands alone without relation to at least one or more equivalent fragments. A coherent whole sticks together because the whole is implicit in the fragments and each fragment does appear with connection to others.

The elemental sonic and rhythmic properties shared in common constitute the main root of coherence. These sensuous properties - the surface qualities - recur frequently and the fragments get integrated. A basic set such as a single tone system, a mode, a scale, or a serial set of twelve pitch classes may give rise to horizontal and vertical gestures sharing in recurrent intervallic pitch relationship.

With reference to timbre, the iconic relation of surface qualities also plays a useful role. According to Coker, the surface quality of dominating string timbres unifies the basic orchestration in the Fifth Symphony with ease. The use of the motivic gesture's agogic formula (...-) (ppp P,) (Fate knocking) integrates durational value. The persistence of sonic or rhythmic properties acts as the fragment-integrating element in the sensuous surface of musical motion.

It may be of interest to consider some syntactical relations in music. It is possible to hear a whole composition without coming to know what its foremost segments are. But noticing, observing and analysing a work helps to grasp part-whole relations. It is possible to divide a whole and find cues of characteristics of contrast and diversity. (Coker pp.60-88)

Coker (pp.89-109) discusses the musical index sign elaborately, citing profusely from modern thinking in mathematics, logic and aesthetics. "An index is a sign that guides behaviour in two ways. It focuses one's attention, attracting the directing attention; and it specifies more or less the location of an object or an event in space or time". Charles Peirce has noted that an index sign directs attention by "blind
compulsion". An index has great immediacy and can mark emphatically the advent of an object for our experience, drawing or even forcing us to heed it.

Indices may, but need not necessarily, resemble their significations. Examples of indices include pointing gestures in non-verbal communication (e.g. a traffic policeman). Directional signals, book marks, clock chimes, objects like beacons and lighthouses are indices. Words used as indices can be defined in terms of the immediate naming function of 'this'.

The index function arises from the fact that all sonic and rhythmic elements in musical gesture are not of equal value. Some properties get greater prominence and acquire immediate value.

The musical indices give us the structure of the gesture, and by doing so, they give us the structural tendencies of sonorous motion. Musical index signs outline the boundaries of musical space-time in which the motion takes place. It might be said that the indices are the signposts along the pathway of a gesture's sonorous motion. They provide the performer and the listener with a coherent map of the aesthetic experience as they undergo it. They help the listener notice, to perceive and heed what is important...(p.91)

The principles of grouping of a number of indices could be of immediate value for this study. These include: Inclusion, identity, equivalence, similarity, contiguity, joint prominence, joint movement or change, joint utility or teleology, and economy. Economy is also known as the Gestalt "law of prägnanz". According to this principle, a cohesive grouping of musical indices may arise singly or jointly because of its simplicity, regularity or symmetry. The implicit pattern or configuration in the group, the "law of good continuation" and closure emerge as important principles. These apply to pitch, duration and other components.

Coker (pp.110-141) analyses logical signs in music with elaborate citations from mathematics, logic and aesthetics. Signs that serve to connect or to indicate relation to other signs are logical signs. They include: position or order in sign vehicle, diacritical marks, emphasis, inflections, pauses, logical words ('is' (not).
Logical signs that connect meaningful structures and signs have an expressive (pragmatic) function.

The disjunctive word ‘or’ is related to our experience of choosing between, or of questioning several possible courses of action. It expresses momentary indecision or hesitation, conflict among tendencies while action is restrained. A feeling of suspensive tension accompanies the hesitancy; a desire to reach a decision and a questioning attitude is also revealed. Nearly every statement might be considered as a potential disjunction by simply substituting or anticipating different predicates and conclusions to the statement. The connective pair ‘if...then’ or ‘this leading to that’ is another way of expressing the schema of an act. ‘If...then’ creates an expectation of a certain kind of experience.

Logical signs can be connected to primitive connectives in music. Music is replete with ways to signify syntactical groupings through order, emphasis and inflection, and pauses. What speech does in these aspects can be done by music too. The rhythmic and temporal articulations of musical gestures are susceptible to extreme degrees of control and shading.

The logical word ‘is’ can be used to express the attitude of belief in the reality of a state of affairs or in the existence of an object. Musical gestures do overtly what ‘is’ stands for discursively. The relations linking musical materials can be treated as equivalents of the logical constants - disjunction (union), conjunction (intersection), negation (complementation) and material implication.

Within a gesture the pitch interval is the musical unit, binding together pitches in a pair or dyad. Melodies (horizontal gestures) can be considered as sets of dyads bound together by conjunction like the links of a chain, with each member tone appearing successively. Coker (pp.116-117) illustrates such disjunction and conjunction with a phrase from Bach’s setting of the chorale melody An Wasserflussen Babylon (By the Rivers of Babylon) showing intragestural melodic connections: each tone member of the gesture is disjoined to each other successively and each disjunction conjoined to its successor and predecessor.
The intragestural harmonic connection of simultaneities is symbolised as:

\[ I \cap iv^7 \cup v^7 \cup vi \cup v_6 \cap i^7 \cup ii^7 \cap v_4 \cdot 7 \cap I \]

The musical conditional, material implications, and inference are analysed. The implicative connective is perhaps the most important logical constant. It is expressed verbally by the pair 'if - then...' (symbol: \( \supset \)). Symbolically it may be stated as \((p \supset q) = (\neg p \lor q)\). The essential feeling of relation appropriate to conditionals may be stated as "this-leading-to-that". The earlier part of an implication carries the quality of an 'if-feeling' of tension and expectancy. But a sustained or intense concentration on the 'if' expression through delay will heighten tensions and bring in doubt and hesitancy. If the earlier and the later phases of an implication are pulled together the attraction the two phases have for each other will be felt.

A key concept in this context is tendency. A tendency is a relatively constant disposition to behave purposefully, as definite direction of movement toward some apparent goal. But not every tendency, musical or organic, is consummated. Some may be fulfilled and yield positive value whereas others come to nothing and get negative value. Sets of indices determine much of the tendencies of sonorous motion. Indices give coherence to the gestures as well as to our affective responses. It is possible for an antecedent gesture to be dynamically assertive, leading to a consequent gesture which spells out details, draws up the antecedent's assertion and gradually exhaust relevant content in a movement which tapers off in intensity.

Coker illustrates the musical conditional through an analysis of simple gestures from the work and style of Beethoven - opening statement of Sonata in D Major, Op.10, No.3 (Example 9-5, mm.1-10). A very curtailed form of Coker's analysis (pp.133-134) is presented below:

The main tendencies of the antecedent (mm. 1-4) include: (1) the overall octaval rise from tonic to dominant providing a melodically tensing arsis; (2) the steady,
The analysis of *truth and congeneric meaning* is backed up by the ideas of Langer, Quine and others. In musical experience our reality is the sensory world of sound, silence and rhythm known by acquaintance. In congeneric meaning and syntax some simple or atomic gestures are presupposed as fact. But a gesture may be interpreted not only as an individual or fact, but also as a basic statement.

Basic gestures may be negated or combined to form logical constants to form other molecular or complex gestures. The logical structure of complex gestures and their syntactical relations to basic gestures determine the truth value of such molecular gestures. Coker notes:

One of the outstanding links between syntactics, pragmatics and truth is forged by the instinctual responses to logical structuring that interpretant formation involves. Logical relations may elicit affective (including conative) responses as well as relatively more restricted discursive responses.

... Grasping the congeneric truth of musical gestures requires us to use our senses and reasoning. There seems to be no uniformly guaranteed way to find such musical truth without aesthetic sensitivity, perspicacity, knowledge of a work's style, a firm acquaintance with the elemental musical properties, discernment of basic gestural facts, and ability to comprehend the functioning of the logical operators and forms in music.

There is logic in music. It takes effort and extensive knowledge of music to grasp it.

Extrageneric musical meaning results when a primary iconic sign situation in a musical work is interpreted as a sign of some apparently non-musical object. A
musical work or its gestures may signify a multitude of such objects external to music. Such objects may include the sea, bird-calls and the like on the one hand, and much more significantly, the affective and conative states. Some authors hold that music does not have extrageneric significance. On the other hand, numerous authorities including Aristotle, Plato, Rene Descartes, Aaron Copland, Mozart and Tschaikovsky hold that music does have extrageneric significance.

Mozart specifically states how he has signified by specific musical devices extrageneric objects like rage (made comical), a throbbing heart, whispering and sighing during the passages in his opera *The Abduction from the Seraglio*. Tschaikovsky informs Madame von Meck with zeal about his portrayal in his *Symphony IV* of such extrinsic things as fate in conflict with strivings for happiness, jealousy, lament and despair, joy, a dreamy soul, and a rustic holiday.

Copland holds that "a composer writes music to express and communicate and put down in permanent form certain thoughts, emotions and states of being."

Musical expressivity is the next significant concept under this head. According to Spencer, tone and rhythm manifest expressivity. Wagner writes: "Directly the inner man presents himself to the ear through the tone of the voice. Tone is the expression of feeling." Delius depicts music as "the cry of the soul." But the cry of the soul is *in* the music itself; the sentient attitudes that music expresses are there objectively in tone and rhythm. Sound alerts us and arouses our most primitive instinctual tendencies of behaviour (cited in Coker, pp.148-149).

The affective and reflective responses to musical attitude are evoked by each gesture and attitude of the music which serves as stimulus to our affective behaviour. The level of our responses is unreflective, immediate. Our adjustment to the tone of gesture is instinctual.

But, it is expected that the gestures of musical art works are conceived with an attitudinal conversation between music and listener or performer in mind; the composer, then would be working from and intuitive as well as intellectual point of view. The composer needs to do a lot of role-taking in order to effect musical communication. But the adjustive responses in relation to gestural attitude may
hold good for both unreflective and intellectual listening perspective. When the composer employs musical gestures and attitudes voluntarily in order to affect interpreters in the way he himself has been affected, the musical gestures become potential linguistic symbols. The composition of humorous gestures in the completion of the aesthetic act--the musical joke is exemplified in Charles Ives' fun-poking Variations on Organ.

Thus the aesthetic experience has reference to an autonomous, self-enclosed significance as well as to extrageneric objects (performer's/listener's behaviour as well as life values). Thus the comprehensive significance of musical gestures includes (1) congeneric significations and attitudes of the musical organism, and (2) extrageneric significations at least in the sense of the attitudes elicited from interpreters. Listeners then may operate from a prelinguistic and/or linguistic perspectives. Music also can operate like ordinary language, in which, as Russell points out, "the purpose of words, though philosophers seem to forget this simple fact, is to deal with matters other than words." (In Coker pp.149-152).

The foregoing discussion raises the question of the relation between congeneric (primary dimension) and extrageneric meaning (secondary dimension). Metaphor can serve a useful purpose here. Metaphor is an icon that links two distinct objects by analogy involving qualitative and structural similarities. Metaphor is not an inferior way of thinking. Language itself has its origins in metaphor. I.A. Richards observes that thinking itself is radically metaphoric.

Beardsley's concept of regional property of music is useful here. The regional property can be "summative" or "emergent" from the elemental (local) properties. Thus many regional qualities of music emerge as well equipped to signify non-musical objects. Such qualities include: irregularity, slowness, moderate movement or quick paces, calmness and gentleness, excitement, tenseness, hesitancy or firmness, disturbance, agitation and progressive leading to a goal.
Some of the metaphors are so precise and conventional and so obvious that they may be considered as 'dead' metaphors. Coker illustrates the patent mimicry gestures from

The trombone’s Bronx cheers in Henry Brant’s Signs and Alarms, the cuckoo in Beethoven’s Pastoral symphony, or the braying of Bottom with the head of an ass in Mendelssohn’s Overture, A Midsummer-Night’s Dream. In this vein, Olivier Messiaen’s Oiseaux Exotiques, which the composer describes as “…an enormous counterpoint of birdsong…” is a striking tour de force.

Vocal utterance in music is transformed and developed by selective emphasis, especially in the singing tone of voice, but it is also developed in the other dimensions of pitch and loudness, rhythm, cadence and tempo etc. The textual matter of vocal music can bring out the full linguistic capabilities of language, through the additional use of words. But this verbally linguistic potential is not the main concern in exploration of music’s extrageneric meaning.

Coker gives a close analysis of the final “Pas D’Action” from Stravinsky’s Orpheus where the stage direction, “The Bacchantes attack Orpheus, seize him and tear him to pieces” is presented in the full aesthetic version of the action by means of the metaphor. The details of the analysis are skipped, but some of Coker’s comments are illuminating:

The music just commented does not attack anyone or tear anyone to pieces. But the gestures of the music do perform acts that we correctly take as the metaphoric equivalents...

The attack is not primitive. Rather the musical gestures strike on now from strings, then from woodwinds and horns. The sections make their attack in quick thrusts and lunges at irregular intervals in alternation. And then at two measures before [137] the music does burst out in a sudden and extremely loud series of dissonant chords with a gripping syncopated rhythm. The whole orchestra unites in a moment of violent seizure. And last the main gestures are quickly broken down and fragmented...In all, then, the music signifies metaphorically four extrageneric things: (1) a prevailing emotional attitude of anger and violence; (2) gestures of attack; (3) an abrupt seizure; and (4) a tearing into pieces. (Coker, pp.160-164).
He adds that the essence of those effective and conative states of our inner life is qualitative and rhythmic. He closes the discussion with a citation from Carroll C. Pratt: "Music sounds the way emotions feel." (In Color pp.152-168) The study culminates in an analysis of the Philosophical Dimensions including the Levels of Extragrammaric Meaning and Artistic Truth, the Structure and Quality of Affective Meanings, drawing from many philosophers and aestheticians. In fact much of philosophy in music is translated into words.

**B. MUSIC, MEANING AND CULTURAL THEORY**

At this point it is interesting to find the social and cultural dimensions added in the probing of music and meaning. Shepherd and Wicke (1996) have analysed music in relation to cultural theory. They feed musicology into cultural theory and examine the social and cultural constitution of music as a particular and irreducible form of human expression and knowledge. They argue that sound in music functions in a manner distinct from sound in languages, that music is "an asemantic yet material structure whose role is to impart the principles of symbolic structuring to society, language and other forms of human expression." They identify the body as the site through which music mediates social and symbolic processes. Thus music is as fundamental as language to the formation and persistence of human societies. "Music is an activity central rather than peripheral to people and society." 'Language' and 'music' are themselves discursive constructs arising from the cultural use by people of the various signifying potentials offered up by sound as a material phenomenon.

*The Problem of Affect and Meaning in Music* is first explored through an examination of music. The Question of Context and Text in musicology is analysed in terms of two sets of disciplines polarised for the discussion. If music is a cultural process, social or cultural elements are contained within or passed through its sonic components. Disciplines like historical musicology and music theory separate considerations of biography, patronage, place and dates (or even the literary
dimension) from those of musical syntax and structure. This separation is less rigid in the disciplines of ethnomusicology and popular music. Here too anthropologically oriented scholars like Alan Merriam focus the context, and musicologically oriented scholars like Mantle Hood emphasise the text. Ethnomusicological studies like those of Blacking, Keil, Ellis and Feld treat musical sounds as cultural context.

Shepherd (1991) infers from his analysis that disciplines like sociology and communication tend to look to the lyrics of songs and their content analysis in dealing with questions of affect and meaning in popular music. Journals like *Popular Music and Society* give prominence to this approach. The tendency is most evident in some analyses of Rock, such as those of Allan Moore. There are many levels of meaning having to do with music, lyrics, images and movements as negotiated by individuals with specific social and cultural biographies. Some popular lyrics tend to reinforce a traditional gender role for women, the hard, unrelenting voice seems to betray that this is a woman 'not to be messed with'. Tagg (1979 and 1991) concludes from his analysis of meaning in the television series *Kojak* and the Abba hit, 'Fernando the Flute' that "particular melodic, harmonic, rhythmic and timbrel configurations are equated with particular moods, emotions and cultural meanings in a manner drawn from the analysis of language."

Songs such as 'Yesterday' by the Beatles seem to represent all the three levels of meaning. The lyrics can recall the sentimental ballad as a musical genre. The use of the string quartet backing can be understood to signal that this song 'aspires to the condition of art'. The acoustic guitar seems to impart a 'serious', 'folky' feel. The more formal melodic, harmonic, rhythmic and timbrel features of the sounds as music can be interpreted in ways that are not clear to underscore the feeling of loss occasioned by loss. This clever synthesis of 'classical', 'folk', and 'mainstream popular' has contributed to the Beatles' phenomenal success. Their music was described as 'fresh', and 'exciting', not 'alien' and 'offensive'. Masterfully working through black and white pop traditions, they offered a novel, synthetic focus: an altered perspective, not a foreign landscape.
The sounds of music do not refer outside themselves to the world of objects and linguistically encodable ideas. This abstract aspect of music emerges either as having 'no meaning' or as having a meaning that is quite distinct and apart from all other forms of meaning. While some of the 'meanings' of music shown above are drawn from social associations, the music theorist, Meyer argues that the meaning of musical processes lies specifically and exclusively in the musical processes themselves. Meyer (1956) argues that musical processes appeal directly to the logic and flux of mental and physiological processes. The affective responses to music 'result from a direct interaction between a series of musical stimuli and an individual who understands the style of the work being heard'. Both the individual and the music thus have a role to play in the generation of the aesthetic response. The resulting organisation is not accidental or arbitrary. The grouping appears to follow certain general laws of the mind. "The forces shaping such an experience are exclusively musical, the form of the affective experience will be similar to the form of the musical work which brought it into play'. Musical meaning is a consequence taken to originate and is located within 'psychological constants' presumed to be innate in humans (Meyer, 1973). There is consequently no need to entertain the notion that music invokes the external, 'objective' world.

Meyer provides a persuasive analysis of classical music. The best music in the classical tradition works according to the principle of 'deferred gratification'.

A piece of music creates expectation that it will proceed to fulfil, but not directly. While the most fundamental of its architectonic (harmonically, melodically and rhythmically architectural) levels will, indeed, move sequentially towards a satisfying conclusion; other, higher levels will engage in deviations that detract from the inevitable. The technique of the music keep the listener in a state of meaningful suspense: meaningful, because fulfilment is not so directly achieved as to render the music banal, and the deviations not so compelling as to render it anarchic and without a sense of direction. In this way the harmonic, melodic and, to a lesser extent, rhythmic elements of this architectonic tradition speak symbolically to the ebb and flow of the inner life.

Meyer has contributed much to the structural rather than referential principles according to which music evokes meaning. But he does not take into account the social ecology that sustains it. So his views are centred mainly on classical music.
and tends to dismiss the intrinsic properties of other music. According to Meyer's logic, a song such as the Beatles' 'Yesterday' is inherently inferior to Schubert's *Lieder* because it is understood to have less complex harmonies and thus leads to forms of gratification which are less elevated and less enriching. The same view can be extrapolated to Indian classical music versus popular music.

Susan Langer's arguments position also is allied to that of Meyer. She argues that the 'inner life' has formal properties similar to those of music - patterns of motion and rest, of tension and release, of agreement and disagreement, preparation, fulfilment, excitation, sudden change etc.' This similarity allows music to act in relation to the emotional world in the same way that language acts in relation to the propositional world of objects, events and ideas - symbolically:

If music has any significance, it is semantic, not symptomatic. Its 'meaning' is evidently not that of a stimulus to evoke emotions, not that of a signal to announce them; if it has an emotional content, it 'has' it in the same sense that language 'has' its conceptual content - symbolically. It is not usually derived from affects nor intended for them; but we may say, with certain reservations, that it is about them. Music is not the cause or cure of feelings, but their logical expression.

Some musicologists would connect the motor rhythms of Beethoven's Fifth or Seventh Symphonies in generating immanent meaning. Sociology, communication and cultural studies conceive music's sounds as a phenomenon extrinsic to social and cultural forces and the affects and meanings they generate. Neither approach seems capable of discussing a relationship, a set of processes between music's sounds and music's meanings.

Another attempt to understand the problem is from an analysis of Saussure's analysis of the semiology of language and trying to extend it to music. He argued that the behaviour of a word in a language was influenced by its context. He stressed the need to distinguish between the value of a word in language and the signification achieved by the word in relation to some aspect of external reality. This (word-language-external reality) relationship led Saussure to draw a critical distinction between the 'signifier' or amalgam of sounds recognized by the structure of the language - and by people with a competence in
the language - as being meaningful in their differences, and the ‘signified’ or mental concept traditionally associated through the structure of the language with that amalgam of sounds: ‘The linguistic sign unites, not a thing and a name, but a concept and a sound-image ... the two elements (of the linguistic sign) are intimately united, and each recalls the other.’ By the term ‘signifier’ Saussure did not mean the sounds of the word itself, but the psychological image of the sounds constituted in the experience of an individual.

The signified or mental concept is not the same thing as an object or concept as it might be imagined in the real world. “To understand how signs generate meaning (the science of semiology) is thus potentially subversive of conventional realities, knowledge systems and therefore social structures because there is nothing given or fixed in processes of signification.” However, in spite of changes and variations, languages act as a conservative force in reproducing knowledge and reality for individuals and cultures.

On the other hand, some schools assume that the meanings of music are not immanent in the materials of music. This results in a semiological model of an arbitrary connection between the signified and the signifier (sounds in language). Music is rendered as a special, but inferior case of language in French post-structuralist thinking.

Simon Frith argues that in popular music, we can only hear music as having value, whether aesthetic or any other sort of value, when we know what to listen to and how to listen to it. Our reception of music and our expectations from it are not inherent in the music itself. This is one reason why so much musicological analysis of popular music misses the point: “Its object of study, the discursive text it constructs, is not the text to which anyone listens”. Frith seems to suggest that the meaning and value of music are not located in the materials of music themselves. It is reasonable, then, to locate them within the discourses through which people make sense or assign value to music. This leads to a sociological analysis of contradictory ways in which value is assigned to music.
Nattiez proposes a tripartite semiological scheme involving producers (involved in the creative 'poietic' dimension), a symbolic form and 'receivers'. Reception is not a passive receiving act, but a 'construction' of meaning. "The symbolic form is embodied physically and materially in the form of a trace accessible to the five senses. The 'trace' is heavily dependent upon the lived experience of the 'receiver'. It was named niveau neutre ('level' of the 'neutral') or niveau material by Molino. But Nattiez retains some notion of immanence in the trace; just any meaning cannot be passed on through or assigned to musical materials.

Traditional semiological model of how language signifies is applied to music with one difference. Sounds in music are understood to work differently from sounds in language in the sense that they do not invoke or call forth signified coterminous with the world of objects, events and linguistically encodable ideas. But as regards the non-denotative effects, sounds in music have to be understood as occasioning a ground of physiological and affective stimulation which is subsequently interpellated into the symbolic order of language. It is at this point that the sounds of music are taken to enter the social world and take on significance. Meanings in music are in this way taken to be discursively constituted, and exclusively so.

This point is pursued from the analysis of Julia Kristeva. In the understanding of processes of signification through sounds, music becomes an empty sign in the sense that its sounds can be taken to be completely polysemic, capable of all meanings because, in and of themselves; they are capable of none. In this nascent state music can stand for 'nothingness and being' held by post-structuralists characterising the subject before entry into language. Reasoning on these lines, Kristeva states her position on signification in music.

While the fundamental function of language is the communicative function, and while it transmits a meaning, music is a departure from this principle of communication. It does transmit a 'message' between a subject and as addressee, but it is hard to say that it communicates a precise meaning. It is a combinatory of differential elements, and evokes an algebraic system more than a discourse. If the addressee hears this combinatory as a sentimental, emotive, patriotic, etc. message, that is the result of a subjective interpretation given within the framework of a cultural system rather than the result of a 'meaning' implicit in the message.
Kristeva concludes that the musical code is organised by the arbitrary and cultural difference (imposed within the frameworks of a certain civilisation) between various local values.

Feld points out the difficulty of translating the simultaneously multidimensional character of the musical experience into the essentially linear medium of language. This leads people to become 'inarticulate' or 'confused' in discussing music while at the same time retaining demonstrably strong feelings about it.

The German linguist Bierwisch holds that the effects of music are powerful, yet 'imprecise': A musically encoded gesture is related in a constitutive manner to a variable but not arbitrary cognitive content of experience. There is a fundamental relationship between the meaning of musical signs and non-musical factors. Just any meaning cannot be associated with music's sounds.

The move to structuralism (Saussure, Piaget, Hawkes) adds insights into the problem. Structuralism could be observed in an arrangement of entities which embodies the fundamental ideas of wholeness (internal coherence), transformation and self-regulation. There are intrinsic laws which confer on the constitutive parts within the structure overall properties larger than those that each individually possess outside it. Thus a structure is different from an aggregate. By transformation is meant the process whereby a structure is dynamic and active rather than merely passive. Structure is self-regulating.

According to Saussure, language is a structure which is whole, transformational and self-regulating. Thus he provided an initial model of how any symbolic system or structure could act, and laid the foundations for 'the science of semiology'. He draws a crucial distinction between the diachronic dimension in language which he terms parole (speech) and the synchronic dimension called langue (language). It was langue which made language - in the diversity of the physical, physiological and psychological aspects of speech - possibly a social institution. The 'meanings' of words are in no way intrinsic to the sound of words. Sounds are recognised as
meaningful in terms of their relationship or difference, from other sounds whose meanings too are imbedded in the structure of language.

Combining the analysis of Meyer regarding significance, affect and meaning in music with the analysis of Saussure, new paths are opened beyond the closed circuits of articulative practice in music theory and music analysis.

There are different ways in which music gets related to cultural theory. American work on sociology of youth and sociology of deviance explains some ways in which music, especially jazz and other forms, are attributed some meaning (such as protest from the established order and norms). The English subcultural theory differs from this approach. On the basis of his study of expressions within working classes, Cohen argues that the latent function of subculture is to express and resolve, albeit 'magically' the contradictions which remain hidden or unresolved in the parent culture (not simply to protest). He further suggests that “subculture is ... a compromise solution, between two contradictory needs: the desire to create autonomy and difference from parents and to maintain the parental identifications which support them”.

Williams emphasises the key word ‘pattern’ to understand the significance of subcultural styles. Any useful cultural analysis begins with discovery of patterns of a characteristic kind and works with the relationships between these patterns. To explain this Williams coined the term structural homology. It refers to the way in which the structural manifestations of style mirrored and were mirrored by the structural manifestations of the behaviours and objective social conditions in which style was embedded and of which it was taken to be symptomatic.

The ethnomusicologist John Blacking correlates attitudes and the patterns of sounds with which they are expressed. Discussing the music of Venda of South Africa he says: "Musical performances are audible and visible signs of social and political groupings in Venda society." Similar conclusions about the Tiv of Nigeria have been arrived at by the ethnomusician Charles Keil. Other works have established the notion of structural homology as a protocol for elucidating the
‘relations’ between music and society. Willis argued that rock’n’ roll opened up new possibilities because it avoided being trapped by the received conventions concerning rhythm, tonality and melody.

Two problems need to be considered when the notion of the structural homology is applied to the analysis of music. One is how the ‘musical’ and ‘non-musical’ processes of the external world relate precisely to each other. The other is how musical processes and processes of subjectivity intersect with each other. Here the French language linguistic, cultural and psychoanalytic schools offer special insights. Claude Lévi-Strauss and Roland Barthes applied the principles of structuralism and semiology to entire cultural or mythical systems. According to Lévi-Stauss, who revolutionised the field of cultural anthropology, myth has in common with language the property of being a structural system, but a system that subsumes language at a lower level. Myth is the same thing as language, and also something different from it. Myth does not reveal the external world any more than language does. It encodes, structures and makes sense of material reality and thus renders it as a mapping or notational device for lived cultures.

Barthes, who developed semiology, argued that in myth, we find the tri-dimensional pattern: the signifier, the signified and the sign. While structuralism developed into a set of theories about the character and processes of cultural systems, semiology developed into a set of analytical tools to analyse the generation of meaning (signification) through any human symbolic system, including music.

Structuralism can be usefully applied to understanding of music. But Lévi-Strauss adds that “if there is meaning to be found in music (myth) it cannot reside in the isolated elements which enter into its composition, but only in the way those elements are combined.” Myth and music both share the characteristic of languages in their different ways, but transcend articulate expression. Music shares with myth the ability to be simultaneously diachronic and synchronic. “Because of the internal organisation of the musical work, the act of listening to it immobilises passing time” it catches it and unfolds it as one catches and unfolds a cloth flapping in the wind. But the integrity and specific character of music as a
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signifying system is to be respected. "Music is a myth coded in sounds instead of words." "The musical work furnishes a grid of signification, a matrix of relationships which filters and organises lived experience, it substitutes for experience and produces the pleasurable illusion that contradictions can be overcome and difficulties resolved."

Shepherd adds that music's centrally structural character is in some way related to its ability to speak to myth (or culture) in a particular way. He extends this to the interpretation various genres of popular music and cultures (Venda music, Tiv song) already cited. When this is applied to entire musical systems the musical 'langue' is set in opposition to the 'parole' of functional tonality.

The French schools have contributed in another way in Althusser's interpretation of Marx as more than simply an economic determinist. Social formation was comprised of sets of relatively autonomous social relations such as the economic, the political and the ideological. Social formation can be considered as a set of 'structures in dominance'. Althusser introduces the notion of the subject within the tradition of structuralism. For this purpose he draws on the work of the French psychoanalyst Jacques Lacan and of Marx's own statement that "men represent their real conditions of existence to themselves in an imaginary form" to fill up gaps. The individual subject's "ideas are his material actions inserted into material practices governed by material rituals which are themselves defined by the material ideological apparatus from which derive the ideas of that subject." The state's ideological apparatus hails or interprets concrete individuals as concrete subjects, 'recruits' the individuals in the service of the ideology and transforms them into subjects. The 'willing subjection' is a crucial concept. There seems to be in implication that music can play a role in this willing subjection. The carry over of music into the analysis started by Althusser is done by Pratt, who applied Gestalt psychology to an understanding of music as a symbolic form. According to Pratt,

Music presents to the ear an array of auditory patterns which, at a purely formal level, are very similar to, if not identical with, the bodily patterns which are the basis of real emotion. The two kinds of pattern are with respect to their form practically the same, but the auditory pattern makes music, whereas the organic and visceral pattern makes emotion. ... music sounds the way emotions feel.
Lévi-Strauss says: “Just as music makes the individual conscious of his physiological rootedness, mythology makes him aware of his roots in society. The former hits us in the guts: the latter, we might say, appeals to our group instinct.”

Althusser’s subjectivity was passive, empty and cipher-like. But Shepherd keeps open the possibility of a full and rich dialectic between the individual and the signifying practices such as music with which they interact. Freud put great stress on the materiality of the human body as the site for the development and investment of individual subjectivity and identity.

Freud’s work has great potential for understanding music. Though Freud himself has not developed this possibility, it would be interesting to see what some of his followers have made of it. Music seems to have an interesting characteristic of being able to make a special relationship with the unconscious; hence it has the potential of circumventing the external world of objects. To Racker, music is “a world devoid of reference to real objects...where one does not necessarily direct oneself to other objects.” He locates the origin of music in the early vocalisations of the child. He refers to “the scream born of anxiety and despair, aggression and simultaneously a cry for help and the erotic call for the object”; “in their physical aspect it is already evident that scream and song are intimately related...tone is a transformed scream.”

Shepherd and Wicke argue that music can be conceptualised as developing not only from infantile scream, but also as developing against it. Masserman observes that sound (including rhythm, timbre and volume) is the one sensory phenomenon against which the body has provided few defences. One cannot escape vibration in any way, or exclude sound even by closing the ears literally, one then feels both in one’s very bones.

These ideas are further developed in post-Laconian psychoanalysis. The origins of music are taken to be located within the body and voice of the mother rather than those of the child. Margolis is of the view that “music is related to the very early
narcissistic periods of psychological organisation, when the ego cannot as yet distinctly delineate the boundaries between self and reality." This line of thinking is consistent with the view that music is 'pre-linguistic' or 'sub-linguist'.

Some have taken the view that music organises within unconscious and pre-verbal processes in a manner akin to dreams. According to Noy, music causes 'the censor to weaken', opening the road to unconscious contents which may thus rise more easily. Thus music leads one back to a world where the barriers between self and objects are dissolved. But Noy argues that since music is experienced, not in sleep, but in the wakeful state, its final structure should differ from a dream pattern.

Tailor and Paperte have highlighted the abstract nature of music which helps to detour the ego and intellectual controls and, contacting the lower centres directly, stirs up latent conflicts and emotions which can then be expressed or re-enacted through music.

Ehrenzweig contrasts dream, which is formed while our surface functions are paralysed during sleep with art, which is created during the waking state. Whereas a dream memory is easily forgotten, the unconscious symbolism stands permanently embodied in a work of art. He applies the principles of Gestalt psychology and says that during artistic perception, the surface mind covers up the inarticulate forms by a 'good' gestalt. Art and music therefore act as a defence against the intrusion of primary processes in their 'latent' form: "the secondary elaboration process helps the surface mind to win back the lost energy charge, and the energy charge is now used in aesthetic pleasure." The 'investing' and claiming back of the energy charge is further elaborated by Noy and others. Very complicated problems like music occurring literally within 'primary processes, or primary processes giving rise to energies which are translated by sublimation or secondary processes into the surface structures of music are raised. If music acts as a stimulus to occasion experiences originating in the unconscious, the question arises whether this stimulus arises because music has already been created.
A different approach to music was taken by psychoanalysts drawing on ego psychology. They do not view art as transforming primary, sexual energy, but as resulting from a desexualised and neutral energy obtaining at the level of the ego. Noy summarises their stand about music as more than a mere indirect expression of basic energy and latent wishes. They all view music as an activity which is initiated by the ego. More intricately structured music will be preferred by persons who are inclined and able to employ their intellectual capacities.

These views bring echoes of the parallelisms of structure drawn by Meyer between processes of syntax in music and the processes of the human mind governed by 'general' laws. He also relates to the Gestalt law of completeness, which asserts that the human mind, searching for stable shapes, which wants patterns to be as complete as possible. All the theories, in one way or the other, stress a role for music in mediating between the conscious and the unconscious.

Lacan's work on Freud takes off from the emphasis placed by the French tradition on the production of meaning (Saussure) and the production of subjectivity (Althusser). Lacan argues that the material realities can be experienced only through language. According to Lacan, it was not subjects who spoke language, but language which spoke subjects. He further holds that the unconscious is the dimension in which the subject is determined. So, 'the unconscious is structured like language'. Music cannot aspire to the condition of the symbolic order, at least in so far as it remains unmediated by language.

The implications for difference in language and styles is now brought out clearly. Hebdige applies the concept of structural homology and stylisation of English subculture theorists and the concept of bricolage advanced by Lévi-Strauss in the reading of punk culture in liaison with avant-garde music: "Clothed in chaos, they produced noise in the calmly orchestrated crisis of everyday life in the late 1970s.

Post-structuralist writers, following on the footsteps of Lacan and Kristeva, see music as originating within the primacy of the mother's voice for the new-born infant. Brett notes that post-Lacanian psychoanalysts have developed the idea of
“the mother’s voice as a ‘sonorous envelope’ surrounding the new-born infant -
blanket of sound alternately regarded as the ‘first model of auditory pleasure’ or an
‘umbilical net’

Rosaldo comments that “music finds its roots and its nostalgia in [this] original
atmosphere, which might be called the sonorous womb, a murmuring house, or
music of the spheres”. He also outlines the image of the child attempting to
‘harmonise’ with the mother once its voice has been differentiated, and this
differentiation is what ultimately stimulates the ‘dream of recovery’ of a ‘lost object’.

Francis Hofstein makes clear how the connection develops

At the same time that she nurtures, the mother speaks, a speech charged with
rhythm, pitch, timbre, tempo, and intensity, an imprint; word/sounds anchored to
her body like the mouth to the breast... Thus the amazement, the incomprehension
coloured with anxiety, then the still doubting integration ... Speech from which, if
you take away the signified, you get music - which holds there the acoustical image,
before language restores to the universal [the child’s] function of subject.

In this sense the body remains pre-linguistic and sub-linguistic. Gorbman observes
also that music is subsequently a highly codified and organised discourse.
Accessing a musical discourse that is ‘highly coded and organised’ would seem to
require not only a ‘reclaiming of the body from Lacan’ but also a more general
reclaiming of the body from language.

Barthes notes that we constantly drift 'between the object and its demystification,
powerless to render its wholeness. For if we penetrate the object, we liberate it but
destroy it. He tried to resolve this tension and pain in the notion of the text. The
text is a field where neither the subject nor the object of knowledge can remain
untransformed. By music, Barthes understands 'the text as signifying'. Music is “a
field of signifying, and not a system of signs, the referent ... is the body. The body
passes into music without any relay but the signifier”. In order to understand this
realm of signifying practice, a second semiology is required, 'that of the body in a
state of music.' Music, says Barthes,
speaks, it declaims, it redoubles its voice: it speaks but says nothing: because as
soon as it is musical, speech, - or its instrumental substitute - is no longer linguistic,
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but corporeal; it only says, and nothing else: my body is put into a state of speech, quasi parlando.

Music can therefore be explored as a Medium in Sound. Sounds in music may be thought of offering up a structured and structuring ground for construction of meaning, which also remains socially negotiable. Shepherd and Wicke summarise the earlier discussion in order to understand music as a medium in sound.

Music is not an object or a thing, but a set of processes involving people. Music's social condition is intrinsically musical and not reducible to other forms of sociality. The motor rhythms of 'satisfaction' are themselves taken to constitute socially and culturally the form of sexuality in question through their very articulation. French language structuralism, semiology and psychoanalytic theory have contributed to deeper understandings of the problem. The concept of structural homology seemed to help to understand this relationship, while respecting music's specifically structural and abstract (non-denotative) qualities. But there was a failure to lay a ground of connectedness between music and other social processes and theorise the role of the individual (as socially constituted) in these processes. The idea that music signifies through processes that are inherently structural in character gathers support from the works of Saussure and Lévi-Strauss. The notion of structure influenced the notion of stylisation in British cultural studies of the 1970s and also interacted with the work of Barthes, Althusser, Lacan and Kristeva. Considerable progress has also been made on the question of how music, as a structural mode of signification, can impart its meaning to subjects. A direct material link between the sounds of music and the somatic pathways of the body has been posited in which the manner of connection circumvents the world of objects and the world of language. The positing of such a link is made possible through the work of Lacan and Freud, and through Barthes's later works. In theorising the world of sound 'outside' that of language, the work of Kristeva and Barthes goes to the limits of semiology of music. That it cannot cross that boundary is a consequence of the tyranny of language. [Lacan, Kristeva and Barthes attempted to confront the tyranny, but could not escape influence of their own work]...In the case of Kristeva and Bathes, this resulted in the production of an ideal 'Other' to the world of symbolic order of Western discourse. In understanding an ideal 'Other' in his last days, Barthes seemed to be moving towards a critique of the shared status of music, women and the foreign in his work: 'one is tired of the Same, one exalts the Other.'

In an attempt to analyse music in its own terms, Ruwet drew on Roman Jakobson's description of poetry in which 'similar sonic items are seen to be combined into a syntagmatic string rather than forming a basis for the paradigmatic selection of just one item, as in 'language'. This notion syntagmatic string is well suited to analysing repetition and variation or transformation in music. Thus 'relationships of
equivalence across segments seem to be at least as important as distinctions, marking segment boundaries.’ This approach to the semiological analysis of music also ‘helps to account for the difficulties of segmentation in music...as well as the difficulty of associating distinct contributions to meaning with minimal units’.

The problem of establishing ‘the relationship of equivalents across segments’ remains. Middleton suggests that such questions should be referred to the listeners. For the answers depend upon what is heard and how it is heard. Ruwet emphasises the notion of equivalence (between the structural and the semiological) in analysing music. This keeps alive Lévi-Strauss’s intuition of music as ‘pure structure’. It aspires to the condition of differences and similarities as articulated structurally between sonic phenomena recognised and identified by people as being of asemantic musical significance. Hence the task of understanding music as both structured and structuring as a signifying process distinct from language remains. But the structural and the semiological are bound up with one another in a reciprocal relation. Hence it is necessary to understand music’s ‘semiological moment’ to understand musical structures; it is also necessary to understand musical structures to understand what it is that is conveyed through this semiological moment.

Middleton in Studying Popular Music draws a distinction between syntactical and semantic analysis on the one hand, and between primary and secondary signification on the other. These two distinctions are related, though not identical. The syntactic in music has to do with the manner in which individual notes relate to one another melodically, harmonically and rhythmically. The semantic has to do with connotative impressions, e.g., the qualities of ‘oceaness’ as experienced in listening to Debussy’s La Mer. Middleton notes that much popular music analysis, commentary and criticism is marked by a ‘rush to interpretation’, centring usually on the area of connotation: the feelings, associations, evocations and ideas aroused in listeners by songs. This is in contrast to conventional music theory and music analysis, where the focus has been on ‘primary signification’ and syntactical analysis to the exclusion of social, cultural and other meanings.
In order to help in the analysis, Tagg, drawing on the work of Seeger, has coined the term *museme* on the analogy of *phoneme* used by linguists. Museme depends on 'musical phonemes' or basic elements (*not units*) of musical expression. Tagg then creates the hypothesis of (affectual) meaning in associative verbal form. In analysing the ABBA hit 'Fernando the Flute', the melody played on the heroic French horns consists of musemes expressing 'calls to attention and action upwards and onwards, virile and energetic, strong, swaying, confident motion which propels... virile heroic action.' The accompaniment consists of musemes expressing "the atmosphere of a large American city, its subculture and aspects of unrest, unquiet, threat, danger and jerky, jabbing unpredictability." Tagg's analysis is seen how music can substitute [in Lévi-Strauss's words] "for experience and [produce] then pleasurable illusion that contradictions can be overcome" Tagg also brings out that ABBA music brings 'there' and 'here' in one song, and also people's sensitivity to the individual and global aspects of the problem. But Shepherd and Wicke have called attention to the fact that Tagg's analysis is influenced strongly by verbal and visual denotation.

*Bierwisch explores the possibility of the existence of a homology or form of inherent organisation between the sounds of music and forms of individual awareness.* He argues that music engages in a quite specific mode of articulation based on the concept of analogous encoding. He draws a distinction between the logical form as the meaning of linguistic signs and the gesticulatory form as the meaning of musical signs. Logical form is propositional. Gesticulatory form relates to the entirety of emotional, affective and motivational states and processes. A basic gesture might be overlapped by modifying gestures or might be superseded temporally. The 'tightness' in the relations between music and individual awareness argued by Bierwisch is seen by some thinkers as analogous to Piaget's views about metaphor preceding sign, in which case music would be more fundamental to development, prefiguring language.

*The German musicologist Knepler identifies two levels of codification in music. One is very old; it can be called 'tuning elements' (Einstimmungselemente) of the acoustic behaviour of animals - the sonic phenomena through which animals are*
tune' with their environment, with each other and with their affective states. The other is analogous and related to, but not identical with the development of language. One is 'biogenic'; empathetic, homologous, and immediately evocatory in function; the other is 'logocentric', concerned with 'logical expression' (Langer).

Langer has argued that while the subject matter of music is the same as that of self-expression and its symbols borrowed sometimes from the realm of expressive symptoms, the borrowed suggestive elements are formalised, and the subject-matter 'distanced' in the artistic perspective. The biogenic elements in music are thus called forth, subsumed, embedded, implicated and articulated in the homologous and symbolic relations taken to obtain between music as sounds and states of awareness as elements of signification.

Volek notes that the semiotics of music has of necessity to deal essentially with the structural iconicity, encompassing as it does the concept of the dynamic combination and of the practical functioning of signs. Musical structures are therefore to be understood as "basic signs in the semiological world of music" in terms of how they are processed syntagmatically and of their paradigmatic realm of potentialities.

The technology of articulation considered here does not imply an immanence of meaning in the sounds of music or a fixed, one-to-one relationship between sounds and meanings. Bierwisch illustrates this saying "a sound pattern which is supposed to show excitement has to be excited", whereas the sentence 'He is excited' can be stated without excitement. Here we have moved from the realms of homology, Bierwisch's analogy and Knepler's biogenic-logogenic to Volek's iconicity.

Shepherd and Wicke point out that the situation with reference to music is more difficult than in the case of language. If, in processes of signification through music, there exists a technology or instrumentality of articulation, then the distinction between the medium and elements of signification as levels of analysis, becomes much less easy to establish. The material binding that occurs in processes of signification through music means that, once realised as a sound-
image, the sounds of the medium in music approach the condition of their elements of signification....Assigning music an 'objective' status to match that customarily assigned to language can only as a consequence be achieved by reducing music to the condition of its sounds. Once meaning in music is taken to be located in processes obtaining _between_ the sounds of music and people rather than in the sounds of music themselves, elements of music can no more easily be disengaged from people's somatic states. Such analysis [involving people] is also more difficult to decontextualise from social and cultural considerations than is the analysis of linguistic experience.

An important distinction which becomes relevant in this context is that between auditory time and space and musical time and space. Zuckerkandl has thoroughly analysed time and space as revealed through the experience of music. It is important in this connection to distinguish between sounds identified as discrete - the 'external' structural or syntactical character of the use of sounds in music and the 'internal' structural character of sounds in music. (In common language the distinction can be referred to as that between syntax and texture, or more precisely between syntax and timbre). Secondly, while all syntax is structural in character, not all structure is syntactical in character (because the character of the sounds themselves flows from specific formal 'internal' structures).

In studying _The auditory environment, music and language_, the first major concept to be analysed in depth is _sound_. _Sound_ has properties which distinguish it quite clearly from the sense of vision. Sound brings the world into people from all directions, simultaneously and dynamically. While it is frequently possible to locate the source of a sound, it lifts off the surface of its material source to occupy and give life to the space not only between the source and the listener, but also around the listener. Sound may have a discrete material source; therefore, it is experienced as a phenomenon that encompasses and touches the listener in a cocoon-like fashion. Since people typically hear not one, but several sounds at once, they are encompassed and touched by a world of simultaneously structured objects and events. Sound is evanescent, going out of existence at the very moment that it comes into existence; so people are encompassed and touched by
a world that is constantly in process and dynamic, a world that only exists while it is being articulated through sound. In contrast, vision is selective. It encourages projection into the world, occupation and control of the source of the experience. Sound encourages a sense of the world as received, as being revelatory rather than incarnate. Sound is the only major medium of communication which can vibrate perceptibly within the body. Sound, shaped and resonating with the properties of the internal and external configurations, textures and movements of the objects of the external world, can thus be felt in addition to being heard. Sound is ideally suited to revealing and connecting the internal and external worlds. (Shepherd and Wicke pp. 126-128).

Language is also a means of communication in sound. But it is based on a reference to an object-world that is mediated and defined in an ultimately visual fashion. So it does not have to invoke the sonic characteristics of the world. The clear separation between sound and meaning enables language to disengage itself from the world on which it operates. But music is concerned with sound as sound.

In contradiction to language which refers outside its sonic medium to a constructed reality that is essentially non-aural in perception, and management, music seems to refer inside its sonic medium to another kind of constructed reality. This constructed reality is not, however, simply and exclusively intra-sonic and intra-musical ...it is constituted in relation to the structures of the human world and the states of being that flow from them and sustain them. (Ibid., pp. 128-129)

Auditory Time-Space in the Service of Music as a Structure is analysed by Zuckerkandl. He examines 'classical' music from a phenomenological and experiential (as opposed to a musical-analytical) perspectives. Zuckerkandl says that nothing in the physical event corresponds to the tone as a musical event, but, if the tone as a physical event changes, there will be a corresponding change in the tone as a musical event. He invokes field theory to explain the phenomenon. In a piece in 2/2 time, we count 'one, two' and then 'one', and not 'three'. The entire process is an 'away from-back to', not a flux, but a cycle, a constantly repeated cycle. (cited in ibid., p. 130)
The Quest for Meaning in Music: Synthetic Models

But functional tonal music presents a different picture. It is not a 'single-level' music. Nor is it the music of a society with a cyclic sense of time. It is an architectonic music displaying several 'levels' which interact to produce specific experiences. The notes constantly point outside themselves in the desire to 'move on' and achieve fruition. Functional tonal music seem to have a wave rather than a cyclic structure because this structure allows for both a sense of recurrence and of continuous forward motion. Zuckerkandl observes:

The present of musical meter...contains within it a past that is not remembered and a future that is not foreknown - and not as something to be supplied by thought but as a thing directly given in experience itself...What becomes of the point (or the saddle) 'now' between the two abysses of 'no more' and 'not yet', in the face of a present in which 'now', 'not yet' and 'no more' are given together in the most intimate interpenetration and with equal immediacy? ... The past is not extinguished, but not because a memory stores it; it is not extinguished because time itself stores it, or, better put, the being of time is a storing of itself; the future is not an impenetrable wall, but not because a foreknowledge or forefeeling anticipates time; it is not impenetrable because time always anticipates itself... the present of musical experience is not the dividing point that eternally separates past and future; it is the stage upon which, for every ear, the drama of the being of time is played - that ceaseless storing of itself and anticipation itself which is never repeated, which is every instant new. (in ibid. pp.133-134).

This thinking gets orchestrated with the view of Lévi-Strauss who distinguished myth from language and offered parallels of myth and music. While music deployed in time 'is irreversible and therefore irredeemably diachronic', music nonetheless 'transmutes the segment devoted to listening to it into a synchronic totality'. Music therefore displays the third time referent evident in myth which is simultaneously diachronic and synchronic. Hence the structural principles of the functioning of music are quite different from those of language. Music is 'myth coded in sounds instead of words'.

This principle of 'the virtual in the actual' explains the role of repetition, variants, varied repetition and transformation in music. Melodies, themes, motifs and melodic/harmonic/rhythmic gestures either repeat unchanged in a piece, or repeat with variations; but it is not varied to the point where it is not recognisably a variant of the original. Such sameness and difference explain the way in which
equivalence rather than 'difference' is fundamental to the way in which music functions as a structure. (ibid., pp.134-135).

Music functions as a structure, distinct from language. Language structures the world through relations of difference based on opposition or repulsion. Music, on the other hand, structures the world through relations of difference based on attraction.

Each phase or charging is distinct and different from every other phase or charging, but only by virtue of the collectivity of all other chargings that constitute a musical event as they are gathered up and their complex relatedness from the unique perspective of each musical moment released in the actual charging of the passing present...the sounds of music move to supplant that [commonsense spatio-temporal] framework in creating their own... music is capable of evoking, in a concrete and direct, yet mediated and symbolic fashion, the structures of the world and the states of being that flow from them and sustain them... In symbolically creating and structuring the world, music 'pulls it in' rather than keeping it at a distance. Whereas language deploys the world, music encompasses it. Like myth, music 'provides its own context'. (in ibid. pp.137-139)

Music's Semiological Moment is developed from the foregoing discussion. The syntactical time and space in music is very different from the mechanical or visual understanding of time and space of the classical understanding of material universe. "It is similar conceptually to the intrinsically relational or relative time and space of gravitational force fields, time and space that are continually in motion as the immaterial substance of such force". (Capek, 1961, in ibid. p. 153)

Timbres in functional tonal music have tended to become standardised as 'pure' and are conceived as 'neutral' or 'transparent' in their articulatory role. Sounds at the timbral level may work in two ways, homologically, but in relation to other sounds or to non-sonic phenomena. The reference to actual sounds in the external world can be illustrated by the use of drum to signal the mental concept of 'militariness'. Sound can also accomplish a symbolic evocation as in the case of the 'cuckoo calls' in Beethoven's Sixth Symphony or the 'sounds of the sea' in Debussy's La Mer. When musical sounds seem to denote phenomena in the external world, they refer only to the characteristic sounds of the phenomena, and
not the phenomena themselves. If they are to be thought of 'denotatively', they are only mimetically and homologically so. They can also symbolically evoke various internal states.

From the foregoing discussion, three levels of significations of musical timbre can be discerned: (1) They may have a structural relationship with their 'associated' state of awareness, e.g. drum sounds evoking awareness of 'militariness' (asemantic primary structural signification); (2) There may well be a structural relationship between the internal characteristics of drum sounds and the logics and structures of 'militariness', between cuckoo calls and 'pastoralness' and between sounds of the sea and 'oceanness' (secondary connotative signification - semantic); (3) There can also be a tertiary, 'denotative' semantic signification. There could exist a structural relationship between the internal logics and structures of these second-order states of awareness as 'conventionally' and 'customarily' evoked through music and the logics and structures of the inner life (first-order states of awareness) to which in turn they speak.

Since the sounds of music start by acting in a mimetic and so homologous fashion in relation to other sounds (e.g., sounds of the sea) nothing can prevent their acting at the same time in an iconic fashion in evoking more directly the logic of structures of the inner life (the first order states of awareness) to be evoked by second-order states of awareness (secondary signification) such as 'oceanness'. There is in other words, a circuit of homology (Shepherd and Wicke) (vide Figure 1) rather than a line signifying connections involving sounds in music: sounds in the external world: states of awareness.
TIMBRES IN MUSICAL CAN

① EVOKE OTHER SOUNDS
② EVOKE INTERNAL AFFECTIVE STATES

TERTIARY, 'DENOTATIVE' SIGNIFICATION (SEMANTIC)

SECONDARY, CONNOTATIVE SIGNIFICATION (SEMANTIC)

PRIMARY, STRUCTURAL SIGNIFICATION (ASEMANTIC)

CONCRETE ELEMENTS OF EXTERNAL REALITY

SOUNDS OF DRUM SOUNDS OF SEA
THIRD-ORDER STATES OF AWARENESS
WORDS IMAGES MOVEMENT SOUNDS

MILITARINESS OCEANNESS
SECOND-ORDER STATES OF AWARENESS
GENDER IDENTITIES

LOGICS, STRUCTURES AND TEXTURES OF INNER LIFE
FIRST-ORDER STATES OF AWARENESS

HOMOLOGOUS
HOMOLOGOUS
HOMOLOGOUS
HOMOLOGOUS
HOMOLOGOUS

Fig - 1: CIRCUIT OF HOMOLOGY
Another model presented by Shepherd and Wicke is The Circle of Homology (Vide Figure 2).

![Diagram of the Circle of Homology]

**FIGURE 2: CIRCLE OF HOMOLOGY (From Shepherd and Wicke p.159)**

Zuckerkandl has coined the term 'sonic saddle' to denote the concept of the continually unfolding present through the tactile dimensions of sound, the matter of sound as presented to us. Meaning in music is articulated through the continually unfolding saddle of the medium.

The saddle of the medium occurs [in the form of] the auditory time-space of the external world, but it is possible to conceive of the sonic saddle only as an experiential phenomenon made possible by the medium. As sound-image, the saddle occupies a position in processes of the articulation of meaning through music similar to that of the signifier in processes of the articulation of meaning through language. (In *ibid.* pp.159-160)

The sonic saddle is versatile, containing several levels of articulation. It is multidimensional and multifaceted, in the mechanics of its syntactical operation, as
well as in the ‘overlay’ of its timbral dimensions and the capacity of its internal
structures to change in a continuous manner to give rise to ‘inflections’ of pitch and
timbre. There can also be discontinuity among adjacent phases, change and
reconfiguration, giving rise to a sense of internal movement to match, complement,
inflect and even ‘contradict’ the motion or phrasing established syntactically.

The real difference between music and language is not merely the difference
between ‘difference’ and ‘equivalence’ or between ‘opposition’ and ‘similarity’ of
elements of signification. It lies within a different order of differences. If there were
no differences between segments as opposed to differences within segments,
then there would be no music. Since each musical moment carries with it not only
the motion uniquely imparted through its particular location is a syntactical segment
but also the motion imparted through the segment’s segmental, subsegmental and
suprasegmental relations to other segments, each musical moment within a
musical structure becomes unique. (In ibid. pp.162-163)

The sonic saddle of the internal and external worlds, can simultaneously evoke a
world that is immediately and intensely affective, and also, albeit less intensively,
the everyday world into which people are capable of projecting themselves through
language and vision. In the external world cognition precedes affect. In the
internal world, affect precedes cognition. There are complex interplays between
these two aspects. Within Western civilisation at least, timbre appeals to the ‘heart’
while syntax appeals to the ‘head’. The processes of music in the functional tonal
tradition reveal this complexity and versatility of articulation. Timbre can evoke
concrete elements pertaining to the external world; at the same time syntax can
only speak directly in its presence as pure structure to the logics and structures of
inner life. Hence it is thought that in music the content plane is probably
ambiguous and amorphous. Volek notes that if there is to be a semiotics of music,
it must be a ‘second semiology’

Music positions individuals inescapably and powerfully with a material binding and
instrumentality. But ‘positioning’ is different from speaking. First, sounds which
some people recognise as musical may not appear musical to others. Secondly, in
today's world one can choose what one wants to listen to. In other words, one may choose not to be positioned be certain musics which one might find dissonant and fracturing to an uncomfortable extent. This distancing of individuals from certain types of music may be culturally or biographically conditioned. Thirdly a person's response at one moment to a set of sounds may not be the same at another. (In *ibid.* pp. 174-177)

The relation between music and the body presents interesting insights. Music as an auditory phenomenon offers up a material ground in and through which individual subjects can invest and map their own meanings. The voice, according to Middleton, is “the profoundest mark of the human”. An unsounding human body "is a rupture in the sensuousness of existence". After instruments were devised as extension of the human voice, a dialectic ensued. In Afro-American music the voice seems to be treated as an instrument (Louis Armstrong singing 'like a trumpet' and Billie Holiday 'like a sax').

The concept of 'a second semiology, that of the body in a state of music' (Middleton) brings us back to the concept of the auditory ground of music as a structured and structuring medium speaking directly to the world of gestures and gesticulatory forms. The appeal of language is initially cerebral and cognitive at the point of its articulation of significance. Such (conventional) *hegenomic* forms of language eschew any tactile awareness or any direct awareness of the material world. Sound in the sense of touch 'at a distance' (Murray Schafer) is effectively eradicated. In its hegemonic forms and manifestations, language does not wish to bring the body into play directly. There is a strain of thought in post-structuralism that says that experience has meaning only when retrospectively located within the symbolic order, i.e., retrospectively rationalised through language. According to Baily, "music can be viewed as a product of body movement transduced into sound". Middleton thinks that this implies moving closer to a semiotic approach. If music leads us away from the world of signs and closer to the world of actions, it may be leading us away from the world of meaning and towards a world of processes - but it cannot be to a *world* of processes alone. (In *ibid.* pp.178-182)
The power of language to map and denote discrete phenomena in the external world, to facilitate the conceptual and cerebral dimensions of people's life to shape important aspects of the social worlds that people mutually create is the point of departure for this analysis.

A similar claim can be made for music. It has a special capacity to evoke and symbolise the emotional and somatically experienced dimensions of people's lives and through that influence external social relations and even shape important aspects of the social world, with a directness and concreteness that language cannot easily reproduce.

Langer holds that music invokes in an inherently and unavoidably symbolic manner. While being deployed in the commonsense spatio-temporal framework of the everyday world, the sounds of music move to supplant that framework in creating their own. The sounds of music and their framework become synonymous in a manner of consequence to the world in which we live. Music is thus distinguished from the social communication of animals. The symbolic capacity of music always remains. But the social character of music cannot be reduced to the condition of other social processes. Music manifests no less a degree of autonomy than other social institutions.

The role of Music and Language in the Constitution of Society can now be discussed. Society survives because people can reproduce themselves materially. This is possible through human relationships. Language plays an important role in the realising and maintaining of a symbolic order. But there is no evidence that language, in and of itself, can supply the principle of structuring necessary for the symbolic maintenance of the structure of human worlds.

In conclusion, music can be thought of as sounds 'in conversation' with sounds. Because of the nature of language and music and of the various components which enter into these consciously and unconsciously, we require a third 'semiology which transcends the first and second semiology.
Shepherd and Wicke conclude their analysis with a vision: "Towards a sociology of sound". The first sub-theme discussed there is The Signifying Potential of Sound. Sound has three potentials to serve as a ground and pathway for the generation of meaning and signification in human societies: (1) Sounds can imitate and refer to other sounds. The cuckoo calls in Beethoven's Sixth Symphony are not precise copies of cuckoo calls, but their relationship to actual cuckoo calls is sufficiently homologous to effect a successful evocation; (2) Sound can act as a homologous and iconic means of signification in relation to phenomena which themselves are not comprised of sound; (3) Sound can act as a material mapping or notational device in a way which completely elides its inherent sonic qualities.

'Music' and 'Language' serve as Discursive Formations. 'Music' and 'Language' are intimately bound up with one another. They can use the identical or different potentials to 'lend symbiotically to one another' those elements fundamental to their constitutive characteristics of human societies. Human worlds and societies are created through one universe of sound which, however, manifest different characteristics and signifying potentials. Systems of signs do not have to be purely linguistic or purely musical. 'Music' itself is a discursively constituted category. But the term 'music' is 'highly polysemic'. Music does not have to be 'purely homologous', 'purely iconic' any more than language has to be purely arbitrary.

'Power' in music as well as in language needs to be examined. The basis of power lies in the capacity to 'position' rather than speak subjects. Music as discursively constituted has precisely this ability to 'position'. Language has great power, resting on two attributes. Language is embedded in states of awareness and consequently in the external world of force and actions. Its embeddedness is more generally in the fluid and dynamic contexts of human action. This is a power which is 'underwritten in music' through 'music's capacity to structure language'. The power of language flows from processes which are extrinsic to the processes through which it generates meaning.

The last point discussed by Shepherd and Wicke is an attempt to relate 'language' with the conscious and 'music' with the 'unconscious'. Some theorists attempt to
assign music an inferior and peripheral status, which is not warranted. Music is assigned to a world that is 'pre-linguistic', 'pre-symbolic', 'pre-rational' and 'pre-logical' - to the world of each in the earliest stage of development.

There are of course good reasons to believe that language, through its mode of signification, may latch into the world of the conscious, and music, through its modes of evocation, may attach itself to the unconscious. But such tendencies are contingent upon the exigencies of everyday life, and also on the politics of perception. But Shepherd and Wicke argue that "'consciousness' can be articulated 'linguistically' or 'musically'. Awareness does not have to be capable of verbal explication in order to be assigned the states of 'consciousness'"

C. POLYAISTHESIS AS A MODEL PROVIDING A SYNTHETIC FRAME

The analysis of Music, Meaning and Cultural Theory summarised above gives a highly abstract, paradigmatic model which can subsume several aspects of animation through music. They may further help to give a rationale and meaning to the fragmentary models presented earlier. Another approach, much easier to understand, comes from an institution called Mozartium in Vienna named after the great Austrian musician. It is easier to follow because it is an approach from below. It takes its point of departure from the present state of fragmented approach to the arts and sciences and tries to develop a model for unifying them.

Roscher et al have nurtured the theme of Polyaisthesis: multiperceptual consciousness and the idea of integrating arts and sciences in education. It is an attempt to revive the Aristotelean tradition of "aisthesis" (perception) and "poiesis" (creation) by a modern integration of "experience and representation" in order to prevent a disintegration of "life and experience". Polyaesthetic Education stresses the importance of revitalising the discussion between artists, scientists and teachers in order to reveal and rediscover ideals and understand or prevent and overcome the disuniting and separating aspects of the different ways of approaching works of art. The isolated gap between teaching and learning at
universities, academies and in schools is one of their major concerns. The
interdependence of action and contemplation is of vital polyaesthetic significance.

The wide range of integrated and open developments of complex improvisory
artistic productions in all arts has attracted the interest of the group. In music, the
"religious" music theatre performances (tragedy, comedy, miracle play), in the
maqamac, dastgah and raga improvisations in Arabian, Persian and Indian cultures.
The flexible processes of ensemble improvisation (folklore, jazz, rock, avantgarde)
have always existed as well as "performance art" and "conceptional art". Paetzold
and Heinz (1984), refer to this as the search for the 'lost' aesthetics (Auf der Suche
nach der verlorenen Ästhetik). Parameters like form, colour, light, sound, time,
space as sensations are analysed and new ways of creativity encouraged, in which
the historical and geographical aspects of the arts are deepened by means of
reflection and intuition. Thus their subject mater seems to be "aufgehoben" in the
triple sense of the German word: suspended, preserved and raised up to a higher
level (pp.11-12)

For polyaesthesis "aisthesis" as the element of sensation and perception and the
idea of an integrating sensorum commune have to be complemented by the
aristotelean doctrine of "poiesis" (the abringing forth of artistic creation), 'katharsis"
(the purification and communicative impact of art) and "mimesis" (the reproducing
and at the same time actualizing artistic production). These have to be connected
on the one hand with "praxis" (and its ethical implications for production, creation
and action) and on the other hand with "theoria" (and its epistemologic references
to reception, reflection and contemplation)

Roscher presents a synoptic model of related approaches to polyaesthesia with
Aristotle in the outward circle, Popper in the inner circle, Paetzold in the
intermediate circle and Roscher in the lower intermediate circle. Konrad Lorenz
points out that the more highly developed culture appears to be, the deeper the gulf
between human ambitions and ideals and cultural claims gets. Lorenz warns
against the mutilation of our existence, of an anxious or narrow-minded reduction
or cut our being to a perspective of the measurable, sizeable and weighable,
against a simplifying explanation of human existence by singling out some isolated parts or levels of its perceivable aspects. He criticises the unsensual scientific theory and unreflected artistic practice. “We suppress our musical unease with respect to temperate tuning, correcting nature by means of culture, in connection with our rather unreflected and naïve unease towards an Oriental culture, whose music does not encroach on nature”.

Schiller narrows down the understanding of aesthetics to “aesthetic behaviour” as a form of cultivating one’s playing instinct whose aim is to establish harmony between a “Formtrieb” (creative instinct) and “Stofftrieb” (material instinct). Thus Aesthetic Education resulted ... from the dilemma of secularisation, starting from the French Revolution, and the progressive constraints of stressing anthropological implications. The secularised ideal of perfection is conceived as the beauty of art, and art in its turn is regarded as a training for human freedom. There has been a further reduction of existence, of reality and the topicality of education in recent times.

- a mono-aesthetic form of perception, limited to isolated channels and disciplines
- a commonplace way of aesthetic perception, naturalistic with respect to moral values
- an ahistoric form of aesthetic perception, directed towards the mere “material” of aesthetic objects
- an aesthetic perception based on ethnic standards and European prejudices
- a class-specific aesthetic perception, oriented on class interests

In order to correct this tendency, polyaesthetic education tries to achieve an integration of various forms of perception:

- from the multi-medial aspect of a complex training of the senses, of an understanding of sense and meaning and the arts by producing, creating and inventing.
- from the multidisciplinary aspect of a polyaesthetic, synaesthetic and multifunctional perception of polyaesthetic reception, reflection and contemplation
- from the aspect of integrating by selecting, rejecting and varying the experience of life and art, being confronted with the stylistic omnipotence and the simultaneousness of past and contemporary cultural manifestations.
- from the intercultural aspect of acquiring an insight into and being able to compare human expression by an artistic presentation of one’s own self...
- from the social-communicative aspect of overcoming class barriers and class distinctions (ibid. p. 18)
Hanan Bruen, combines the circle metaphor used in three ways in the title: "Circle, Rondo and Mandala" and analyses the processes of research for the planning of an integrated curriculum in aesthetic education. He reports the result of an experiment on the preference for the form of the circle, the ape and the small child. The Indian concept of mandala offers the model for a polyaesthetic curriculum based on the form of circle. Illustrations of the circle in nature and in human expression of art are drawn from Reims Cathedral gate, Roman mosaic, Jewish art: Hanukka lamp. The circle in other media like poetry, movement (rondeau), architecture l’etoille, Paris (ibid pp.62-70)

In the present study, an analysis of T. S. Eliot’s *The Wasteland* on the sonata model was subject to evaluation by thirty postgraduates in English. It was refreshing to note that a similar analysis was done by the polyaesthetician Lech Kolago, of a novel by Thomas Mann. The study is presented under the “The sonata “Tonio Kroeger”. The novel is described as attempt to “amalgamate text and music”. A close analysis is made of the novel from the sonata structure perspective (ibid. pp.72—83)

Schwarcz summarises some doubts and questions raised about Polyaesthetic education and action:

1. It means the emergence of several art media at one and the same time which are often connected by free improvisations - which could set free inner restraints, but is too rarely capable of building up a constructive system.

2. It dismisses too easily the specific nature, possibilities and limits present in each art form

3. It waters down essential differences in the tasks of the arts.

4. Do our efforts not overtax the child, hold back the maturing of its creativity in one specific sphere and restrain the sensations which are offered by one specific art form?

In reply Schwarcz cites T.S. Eliot, who once said that every time a new work of art was created, something was happening to all the other existing works of art which preceded them; a change of the prevalent code of values had taken place. He
cites the example of the poem by Stefan George, “The Book of the Suspended Gardens”. Arnold Schonberg set it to music in 1908. In 1982, the American photographer, Susan Harris, illustrated it with a series of photos. The most valid arguments in favour of the polyaesthetic movement, its methods and pedagogical significance, are to be found in the meaning and the interpretation of modern times which it conveys of the shifting accents of the contemporary era. Art has always been poly-medial - in one way or another.

Polyaesthetics takes upon itself the important task of pursuing holistic paths of education. Its main tasks are: (1) how to create a meaningful relationship between the manifold idioms, realms of symbols and structures in art. (2) how to train educators to fulfill the expectations and be up to meeting the challenge. (ibid. pp.24-27)

**D. PARALLEL VISIONS IN SPACE, TIME AND LIGHT**

One of the most stimulating parallel studies offering a frame for final synthesis comes from Shlain (1991), a surgeon who studied, art and music, physics and other sciences as a hobby and has presented he most daring interdisciplinary insights. Much of the book is devoted to the graphic arts, but the small segment on music is illuminating enough to warrant drawing from it for a synthesis. One trend running throughout the book is that many modern painters, and some musicians and poets have anticipated the intuitions in modern science such as the theory of relativity. He starts with a head citation from Stravinsky: Music’s exclusive function is to structure the flow of time and keep order in it, and another from Nietzsche: Without music, life would be a mistake.

Visual art is an exploration of space; music is the art of the permutation of time ... while art and physics are solely human expressions, music is a common medium for many living forms. Song is the language of birds and whales. Lions, tigers and other animal are soothed by tranquil melodies.
In tracing the history of music, he comes to harmony. In treating chords—multiple notes struck at the same time—he shows that it deepened the richness of music, and like perspective in art showed it to be three-dimensional. Music could now be considered as a three-dimensional geometry that was structured by the flow of time.

What Shlain says about modern music is extremely significant.

In the early years of the twentieth century, music was caught up in the same turmoil that enveloped art and physics. These changes were so profound that the Western world never again be the same. [In Vienna (1899) Arnold Schoenberg’s string sextet Transfigured Night produced strange harmonies which outraged conservative program committees. [282]

Atonality was a dramatic departure from previous forms of music because it destroyed the central unitary principle of a home key. In an atonal composition there is no key. Each note has the same relative importance as all the others. As a result, dissonance becomes harmony. A Viennese critic called Schoenberg “a man either directly devoid of sense or one who takes his listeners for fools... Schoenberg’s opus is not only filled with wrong notes...but it is a fifty-minute-long wrong note.” ... Einstein pulled the stool out from under the stationary observer in science at the same time Schoenberg finally dethroned the two-century reign of King Key. Since Picasso and Braque soon replaced the singular viewpoint in art with the multifaceted vantage of an insect’s eye, relativity found concurrent expression in physical theory, the visual arts, and music. Like relativity and cubism, atonality did not emerge from nowhere. It was the conclusion of a progression that had begun with Beethoven who experimented by wandering away from a home key in his later works. Later in the nineteenth century, Richard Wagner began to modulate from one key to another, disconnecting his motifs much as Cezanne was doing in his still life compositions. In the 1880s, fascinated by Eastern music, Claude Debussy began to compose music that departed from the unifying influence of central tonality. His musical “Impressionism” in Prelude a l’aures-midi d’un faune (1894) ran parallel with the impulse of painters of the same era.

Igor Stavinsky (1913) juxtaposed rhythmic dissonances with sudden changes so startling that they unsettled his listeners. [riot during first performance]. Stravinsky had dared to challenge the idea of absolute metronomic time (ibid.pp.282-283)

The parallel vision in Space, Time and Vision presented above by Shlain has great futurological significance for us who have just entered the new millennium. Polaisthesis gives the inspiration to take the broken pieces of arts and science and unify them as well the living self. The explorations of meaning and cultural theory
in the context of music, though presenting difficult reading, will be a resource for the deepest animation in Levels 2 and 3 as indicated earlier.

We have just presented four deep frames on music education developed by other schools which provide a "Synthetic Saddle" for mounting the constructions and findings of the present study. The first two frames on Music, Meaning and Cultural Theory are highly abstract, but with a high probability of subsuming the ideas emanating from this study, and impart 'meaning' to it. In doing so new meanings for education itself may emerge. The analysis of the Vienna Group on Polyaiesthesis, starts from the fragmented 'lower level animation' and integrates. Shlain's demonstration of how modern music, literature and art have anticipated modern theories of physics, promises a high place for art and music education in the future.

The Coda Follows...

Shelley sees music as that element which lingers in the heart long after the verbal stimuli cease to be:

'Music when soft voices die,
Vibrates in the memory.'
CODA

This thesis is not only about Musical Models for Animating School Education, but uses to some extent musical models of investigation and musical models of presentation. The first section in the first chapter was entitled with overture (the opening of a major musical piece). It will be appropriate to end this with the coda, (Coda=Tail). Some composers like Mozart are specializing, in adopting the major themes and brings it into a closure. Some composers even give futuristic hints in the closure. The study started with the felt dissatisfaction that music which was central to culture and education in early times and which has been seen in early cultures as the harmony of heaven and the earth. As audible sound (abata) manifesting the inaudible (anabata) or Om as reflecting the very power, energy and the consciousness of the word of God – has come to be given a very low place in the educational system. In fact, it is treated as the Cinderella in the school curriculum. The relegation of music to a low place in the formal system is a global phenomenon. Sparks of illumination have come from some progressive innovators like Kodaly, Orff, Suzuki, Kabalevsky, Waldroff and so on. Indian Educational Research on Music Education, has been very sparse. But three studies conducted in Kerala University have already called attention to some of these progressive tendencies. Yet the system has not been responsive to these trends. Music is not only neglected in the system but what little of remains seem being is orchestrated and conducted on the lines of power politics rather than on musical lines. Hence arose the motivation to develop Musical Models for Animating School Education in a form in which it will be able to enter school education in some form – from above, from middle and from below – whichever is responsive to music in the Shakespearian sense.
Though the main objective of the study is to develop and test musical models of animating school education, it had to undertake an analysis of music and its correlates from modern interdisciplinary perspectives with a view to tapping educational potentialities. A synthetic model comparable to Medeleef’s periodic table or a constructive model like the atomic structure models of Bohr and others may not be intelligible in a new field like music education unless the elemental models are also spelt out at least minimally.

The explorative phase in terms of analysis of the various concepts of education is skipped on considerations of space. But the exploration of music brought out its several components. Such as song, dance, march, melody, texture, timbre, plainsong, harmony, visual space, melodics, the scales and ragas in different systems, forms (of which Sonata was analysed in depth), fugue, Indian forms such as kirtanas, gitas, swarajatis, various dance forms varnams, kritis (analysed in depth), several other decorative forms such as yati, raga malika, rhythm, tala and tempo and the architeconics of the South Indian melodies were analysed in depth.

Preliminary survey and documentary analysis showed that music either as a subject or as an animating mode in the school programme has a very low place in the schools in Kerala. During the past three or four years there has been a massive attempt at animating primary education ‘from above’ with some success in practice features. But the ‘animation’ is by and large at the expense of the basics of education, which are to be
animated. While 'band wagon models' of promotion are most visible, the 'invisible pedagogy' which music can promote best remains unrecognized.

The dialectic between activity and structural progression worked out seven decades ago by Dewey. Dalcoze's Eurythmics developed exactly a hundred years ago, and more recent music education models (Orff and Kodaly rhythms) were applied in this study to develop Brunerian enactive-iconic episodes (drumming and clapping followed by visual secant patterns). These enabled children to 'construct' symbolic mathematics joyfully and meaningfully. The immediately effective episodes were with meters of triple and quadruple time used as pre-multiplication and pre-division exercises. The broken secants illustrating tappit- tappina- dakkunna tentinu takkida (dactylic foot – Bhaganam) in mutassi song (class 1) carried up to class 4 was very effective in presenting fractions.

In class 1 itself, the use of rhythm-secant was found useful for unit counting and addition-subtraction up to 9. But for working with the actual sums in 2 digits (in our ten-base) introduced abruptly in the book, the quadruple and triple time verse was of no help. Madhusoodanan model of rendering ghanta gati (pentaplet time) was easy and effective, but the book does not cover this meter. So a drumming (indindam) song which tends itself directly to 3+3+2+2 meter was used, with gifted children from classes 8 and 5 as bridges (to translate the formal tisra adatala to child rhythm). This has powerful diagnostic remedial value for children blocked in arithmetic, and was enjoyed by all.
Mapilla pattu (Muslim folk song) mathematics was also attempted with success.

At the upper primary and high school levels even the recent external animation is not visible. Here models developed from music, helped normal as well as handicapped/block learners to achieve much more with pleasure. Sudden improvement was often noticed in remedial education.

The first set of models were constructed from rhythms and related aspects. Rhythm is pre-mordial and natural. The pedagogic rhythms of romance, precision and generalisation were also recalled. Bruners enactive - iconic - symbolic was anticipated by the musician Dalcoze (1900). In reforming the conservatories incidentally producing Eurythmics, a scheme of rhythm and music pervading all education. This needs to be revised.

Songs and music producing joy have to be accepted as a value by itself.

Rhythmic activities can trigger peak experiences (Maslow) and when they do so, children achieve several times what they do now. The work of Kodaly, Orff, and Manuel adaptations were recalled. Several novel ideas on animation through movement came for the analysis of Gladys Fleming.
The main breakthrough point in this study is the invitation to the inner animation when
the composition of top musicians have an element of joy which can be experienced even
at the surface. But they have also built in deep mathematics and others intellectual
components, which will be revealed on analysis. This has powerful implication for
revolutionizing the curriculum. This may be called ANIMATION LEVELS I & II. Prof
Reuven Kahane reacting to Animation level II indicated his deep appreciation and
suggested Animation level III - awakening and helping to realize the deepest self.

The model of classification and progression of rhythms (from Ellison) such as basic,
melodic and phrase, formal, informal and creative; individual and group was analysed in
lines with musical and educational components and triangulated.

Models can also be suggested by the entry in the ‘tala’ on beat and off beats – before
and after. The classroom very often attunes to ‘on beat’ rhythm. Conscious and
calculated ‘off beat’ rhythm in classroom will help the falling out children to come back.
The Indian music has doubled and quadrupled the tempo (Laya). The Western music
permits gradual increase (accelerando) and decrease (ritardando) of time. This suggests
the teacher slowly down the pare when difficult concepts and presented and gradually
increasing the speed.

The school seems to maintain the drill rhythm or the examination rhythm. It seems to
have totally lost the educational rhythm. The sympathetic teacher must be prepared to
join the ‘arhythm’ of the disadvantaged child and bring him back to the normal rhythm.
Both Western and Indian musicians have agreed that the tempo kept by the metronome is not the musical tempo which has been created in the singer. Administrative attempts to correct the school rhythm is only setting the metronomial rhythm. The school should be helped to guide their own educational rhythm.

Taking the analogy from 'Paradise Lost' one may think of the educational system as being in the position of “rhythm lost”. The sensitive teacher is expected to identify with the lost ones and to redeem them to true rhythm.

Another set of analogic models were developed from other components of music setting sruti, stringing the instruments are comparable to classroom rapport – stringing the violin high makes it easy to follow the singer. But high tension can produce majestic effects. High tension can also create mental tensions in the class. Shifting from one subject to another all the spoke of a bell is very abrupt. Ragamalika singers usually add a small bridge to cover the transition. It is explained whether this can be done in the subject.

A number of models and episodes were developed out of the theories of Musical rhythm – poetic meter – mathematics convergence. Manuel adaptations to use verse rhythms in learning simple arithmetics are tried out successfully through enactive rhythmic recitation and claps. Bruners enactive – iconic – symbolic sequence and Maslow’s peak experience triggered through rhythms were the major constructs. For introducing enactive mathematics in patterns for ten base set, khanta gati meter in stars (grouped in
fives) were patterned. The enchanting mathematics in-built in Mapilla pattu are analysed through stars and stripes model. The social issues related to the gulf crisis are depicted in a fascinating agitato rhythm. The students from various classes are chosen for try-outs. Here, computer animation takes a virtual lead. Transition to higher levels (the mathematics, music, Malayalam, prosody) first developed by Manuel and Sreedevi was successfully adapted with high school students.

Creativity through movement, rhythm and other dimensions of music (Gladys Fleming) are logically validated with the outset of try-out in a creative school. Creativity process requires immersion, which expands the horizons of the child’s world. Musical Eureka – Received Creativity model is compared to the Guided Discovery model and the principal of Active Reception Learning. A new dimension of creativity is evolved through Tartini’s Terza Suono – the third sound heard from the violin. The model pursues the teacher for a dialectic presentation in two voices in order to hear or develop the third (creative) idea on the part of the pupil.

As regard the animation of subjects was explored. Episodes animating English (Singlish) were attempted with singable poems in high school text. This experience helped the pupils to improve pronunciation, and intonation confidence, immediate memory span, positive affect, long term memory and achievement. Pupils with widely differing levels of achievement in English were able to sing and work ‘in unison’. Hindi poems from the text sung or chanted rhythmically, helped to attain many of the behavioural outcomes.
Malayalam, small minorities of teachers do use music effectively, both the sung form and the intoning/declaiming form according to context. The theory of music and speech/language/poetry would add some innovative inputs in Malayalam Music Mathematics convergence. Sreedevi-Manuel adaptations were experimentally tried out.

Some episodes were developed in music-physics convergence, taking off from the physics of sound – with pupils handling the guitar and improvised instruments, and observing more sensitive instruments. Inductive, discovery and creative models came naturally in the context, resulting in better understanding, full involvement, and cognitive-affective-psychomotor integration. Two advance organizers/gestalt patterns were tried out successfully with a small number of gifted pupils, showing that hundreds of learning hours can be saved by learning deep theory with such organizers. Certain principles in mechanics and sound were tried out in a number of schools with guitar, improvised flute, improvised percussions along with observation and analysis of many instruments. Children enjoyed the work and made some discoveries about the wave analogies. Many similar analogies were made with Chemistry and other areas. The analogies and application with social studies were validated by try-out with school pupils and consensus with B.Ed. students and teachers. Themes related to group dynamics are included in applied Social Studies.

Tala as Speech (Chandola) proposed very deep ideas. The way in which the South India percussions are played like speaking (cho) is significant. The ideal that, “all singing
aspires to the condition of speech is a worthy ideal for the school to master the condition of refined speech”.

Some of the deepest conceptualizations in the music poetry interface have been discussed from the ideas of English musicians and English literary critics. The music-poetry interface was triggered with Kunjun Nambiar’s differentiation between music being instantly sweet and were as poetry is meditative. The relation between two sisters - once they were intimate, how they separated, how the best effects should come together - was analysed. Several experts in Literature and Music studied this model and expressed full agreement with it.

The Western as well as Indian Musical forms were analysed for lesson planning and lesson presentation. The Sonata as a lesson-planning model was illustrated taking Elliot’s *The Wasteland* as the text. Certain other Western Musical forms such as polyphony (simultaneous singing of multiple melodies which blend), canon (round song), counter-point (point-to-point matching when the original melody is taken up by another part and the original part sings a counter-melody) and fugue (a kind of music in which the theme flies from part to part, creating tension and resolving but maintaining mathematical balance) are used for lesson presentation. The South Indian musical forms like kirtanam with pallavi, anupallavi, charanam and decorations, ragam, talam, pallavi and the North Indian Khyal and Dhrupad can also suggest ideas for lesson-planning.
Dialectic of the folk and elite is treated as a catalyst in the multi-cultural and multi-lingual set up. Many people think that folk are inferior but some of the greatest musician of the West and the East drew ideas from folk artistes. Tyagaraja's entraromahanubhavulu is not only a case of a super composer being inspired by folk drumming artistes but also shows his respect for such people. Travelling folk musicians of the east and west really unified the nation and brought about cultural understanding and religious amity.

The songs for national integration and international understanding have great educational significance. Great leaders had initiated the singing of national songs in schools. It is pointed out that the original spirit in singing such songs is lost. Most schools have now dropped singing national songs in multiple languages. Even in the central schools it is observed that the pupils do not understand the meaning of songs from languages other than mother tongue or Hindi. Yet the benefits of songs for international understanding is visible. More than hundred songs in six foreign languages were collected and ten songs were taught to pupils in some schools. The pupils were able to pick up songs and their context in other foreign languages as well as enjoyed it.

The inspirations which have impelled great musicians have educational implications.

The schools of music (violin) such as Tour, Spohr, Kizer, etc. helped to understand mastery learning and optimal input. Violinist Sasikumar's innovations in lines with Carnatic music have pedagogic sense. Some organ schools like Smallwoods, Right, etc.
also exert educational doctrines through their pedantic shifts from simple to complex.

Some of the Singing School presentations (USA) provide a variety of songs and bridge them from natural calls, rhythmic imitation, etc. and lead upto appreciation of the highest level of music.

The general music education which a person has received is not the result of school education but of home tuition or incidental learning form peer groups, out-of-school groups, mass media, etc. Even among those who do sing or listen regularly to Indian and Western music, most seem to do so as a routine without appreciating the finer points. A small input of critical appreciation revealed sudden 'opening the ear' experience.

On the whole the atmosphere in the school is joyless through some activation has been done at the primary level. It is at the immediate surface level. Deeper levels of animation (alochanamrutha) and meditative learning are essential for holistic development. In this study a series of new constructs (in animating school education) not so far popularised has been brought out. The study has also brought out the possibility of extracting deeper models when the surface animation has already been initiated.

Many of the constructs had tied out in the actual settings. The district primary education programme has introduced a lot of singing and activity in the lower primary education. The animation is on the external side and the inner animation characterising modern
music education is yet to begin. The dialectic of the “Child and the Subject” is yet to be explored. Then the children will enjoy more and achieve more. When that style comes and realised music, which now treated as Cinderella, will be recognised as the Princess.

This study has been undertaken in a style, which does not separate the researcher from the teacher. It is action research in the sense that the practitioner can activate and evaluate the system simultaneously. At the same time it brings out very deep theory which has been either neglected or dictated verbally. So there is plenty of scope for extending this study in any of these dimensions. Once the basic ideas and conceptualizations are clear, empirically oriented studies with control and parallel groups may be conducted. A study on the polyphonic substance or the simultaneous existence of different melodies with regard to Malayalam, Hindi and other Indian language poems may be conducted. Many futurological studies highlighting convergence on diverse themes are better avenues of experimentation as well as exploration. The in-built mathematics in film songs and folk songs may be traced out. Browning has depicted the fugue as a kind of flight. An empirical investigation leading to the paradigmatic transitions crossing different subjects may be a virtual field in musical research. The study may be extended for analysing the extra sensory appeal of the blinds towards music. The study may be conducted further for the development of animating models for culturally disadvantaged students. The Carnatic music offers a series of revenues in applying or animating musical themes for educational purposes. The educational implications of Ragamalika may be explored. Phenomenological studies may be conducted for building unique models for deaf children with special needs and specific
abilities. The educational implications of school assemblies especially the school songs may be investigated. The scope for musical interaction is very high. Hence a cluster of interactional models may be developed in lines with lesson-planning, interaction among various part-takers of education and several other musical inputs for pedagogic improvement. The present study may be extended in depth to any of the basic structures in Western and Indian music.

The study is concerned in breadth rather than in depth. It covers a wide span. It explores unknown phenomenological fields in ways which sometimes say – But if it touches the philosophical domains it had to do so with an applied stance, because it is started with a felt difficulty. The philosophy that is touched in this study is not will not be an escape from reality. But one will touch the earth and work in real conditions and for this reason while much of studies will be considered about constructing the models. An attempt will be made whenever possible to test whether it will work. This testing may take a logical phase – testing for constructs and consistency. Because of the realistic dimensions, some empirical testing also was inevitable. But in view of the multi-dimensionality and magnitude of the undertaking large scale survey task and control parallel design were undertaken from documentary analysis, from informal surveys with improvised tools, and try outs evidence was gathered whether the musical model will work.
What the study might seem to lack in terms of quantitative volume and precision is more than compensated by the extensive exploration of the conceptual field and the penetrative use of qualitative methodology for which a wide variety of books were available culminating in Silverman (2000).

"But here is the finger of God, a flash of the will that can.
Existent behind all laws, that made them and, lo, they are!
And I know not if, save in this, such gift be allowed to man.
That out of three sounds he frame: not a fourth sound, but a star.
Consider it well: each tone of our scale in itself is naught.
It is everywhere in the world — loud, soft, and all is said:
Give it to me to use! I mix it with two in my thought:
And, there! Ye have heard and seen: consider and bow the head!"

Abt Vogler