A Symphony of Language*

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1. Introduction

Language is a constituent of culture, and as such it is but a pillar that supports the structure called humanities. The purpose of this paper is to illuminate and illustrate the close relationship that exists between language and the neighbor disciplines, in particular, the relations between language and literature, between language and music, and between language and religion.

i. Language and literature. Literature is an art of language, and therefore, the understanding of literature is based on the understanding of language. Put it differently, linguistics, the science of language, should be able to explain how the grammar of literature elevates an ordinary language into a literary language. Robert Frost (1874-1963) is supposed to have said that writing poetry is like playing tennis without

a net, but I disagree with this view. Literary language is not a game or sport of language in which there is no "net," or no grammar.

I'll illustrate poetic syntax with a triadic pattern (ABCABC...) and an opposite pattern (ABC:ABC) in Percy Bysshe Shelley (1792-1822), and a concentric pattern (ABCCBA) in Samuel Taylor Coleridge (1772-1834). I will cite examples from William Wordsworth (1770-1850) and Coleridge which will illustrate the poetic image that these lines generate.

ii. Language and religion. The influence of religion on language has been extensively studied by many, and I will not recapitulate these studies here. Instead, I will show how a linguistic analysis of a religious text can illuminate the background, authorship, chronology, etc. of the text, drawing examples from the Book of Daniel. I will also illustrate how a misanalysis of a poetic meter could lead to a fairly gross mistranslation of the text by citing an example from the Book of Psalms.

iii. Language and music. The most epochal event in the history of the Western music is the change of the musical style from the liturgical music of Greek and Latin in which the rhythm was created by the alternation of syllable duration (short and long) into the liberated music of German in which the rhythm was generated by the alternation of lexical stress (weak and strong). This fact alone shows the close relationship between language and music.

A parallelism between linguistic and musical structures will be illustrated with several musical pieces including Gregorian chant, the 16th century music of Giovanni Pierluigi da Palestrina (1525-1594), the early 18th century music of Johann Sebastian Bach (1685-1750), the late 18th century music of Wolfgang Amadeus Mozart (1756-1791), and the 19th century Viennese music. The importance of text-tune

(verse-melody) association will also be discussed with examples of mismatches in translated Korean hymns and the 20th century Korean lyrical songs. I will also make an attempt to show that instrumental music is often instrumentalization of language with an example from a piano concerto by Ludwig van Beethoven (1770-1827).

2. Language and literature

Since the medium of literature is language, it naturally follows that literature obeys most, if not all, rules and constraints of language. That literature has license to violate the rules of grammar and to deviate from the norms of language is well known. This freedom is of course not total; poetic deviance has principled limitations. For example, expressions such as "a grief ago" (Dylan Thomas), "drinking my griefs" (Shakespeare: *King Richard II*) are tolerable and interpretable, but certainly not "a groove ago," or "I drank my groove." Many literary critics and stylists have written volumes about the extent of allowable violations, and I will not go into details here. It will suffice here to quote a few representative and authoritative statements regarding the relation between language and literature:

> Poetics deals with problems of verbal structure, just as the analysis of painting is concerned with pictorial structure. Since linguistics is the global science of verbal structure, poetics may be regarded as an integral part of linguistics. (Jakobson 1960:350)

> A linguist deaf to the poetic function of language and a literary scholar indifferent to linguistic problems and unconversant with linguistic methods are equally flagrant anachronisms. (*ibid.* 377)

> [Literary] Criticism ought to have a sound linguistics No criticism can go beyond its linguistics and no stylistics can survive poor linguistics. (Whitehall 1956:414)
>
> [Only the reader who] has internalized the 'grammar' of literature would permit him to convert linguistic sequences into literary structures and meanings. (Cutler 1975:114)

In the remainder of this section, I will cite a few examples that illustrate the contributions that a textual analysis based on the syntax of poetics can make in proper interpretations of the literary text. The following examples of patterns in poetry are in the main drawn from Austin (1984).

The first example is a triadic pattern—a repetition of three units ABC where the units range from lexical items to hemistichs, from phrases to stanzas. In Shelley's *Queen Mab: A Philosophical Poem* (1813), one frequently encounters such triad sets of lexical items as given below:

(1) passions, prejudices, interests
    astonishes, enraptures, elevates
    lovely, wild and grand
    so bright, so fair, so wild
    all virtue, all delight, all love

A triad set of lines: In the following stanza, lines 2-4 begin with *No.* These lines also have the same structure of *No*-NP followed by *of*-PP:

(2) This commerce of sincerest virtue needs
    No meditative signs of selfishness,
    No jealous intercourse of wretched gain,
    No balancings of prudence, cold and long;

A triad set of stanzas: In the following three-stanza set, *a nobler glory* in the first line is predicated three times, namely, *survives* in the first line, *deserts* in the fourth, and *imbues* in the seventh (Italics mine):

(3) There is a nobler glory which survives
    Until our being fades, and solacing
    All human care, accompanies its change;

    Deserts not virtue in the dungeon's gloom,
    And, in the precincts of the palace, guides
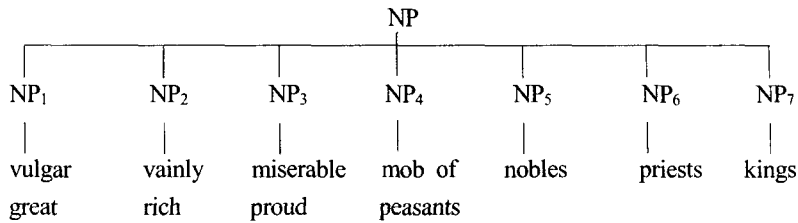   Its footsteps through that labyrinth of crime;

    Imbues his lineaments with dauntlessness,
    Even when, from power's avenging hand, he takes
    Its sweetest, last and noblest title — death.

Structurally interesting — and ambiguous — is seven agent nouns following the verb *bow*, namely, (1) *the vulgar great*, (2) *the vainly rich*, (3) *the miserable proud*, (4) *the mob of peasants*, (5) *nobles*, (6) *priests*, and (7) *kings*, in the following stanza:

(4) Before whose image bow the vulgar great,
    The vainly rich, the miserable proud,
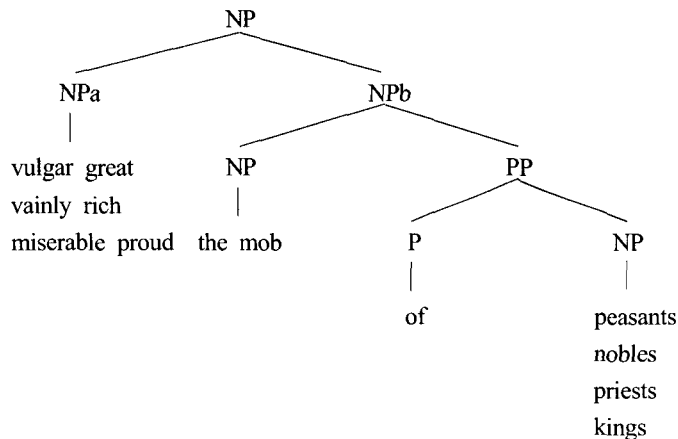   The mob of peasants, nobles, priests, and kings,

At least three structures of coordinated NPs can be constructed. The first one, which I will call "a multi-NP structure" (Structure A), has a structure as in the following. It is a structure in which all seven NPs conjoin together to form an NP, much like the teeth of a comb:
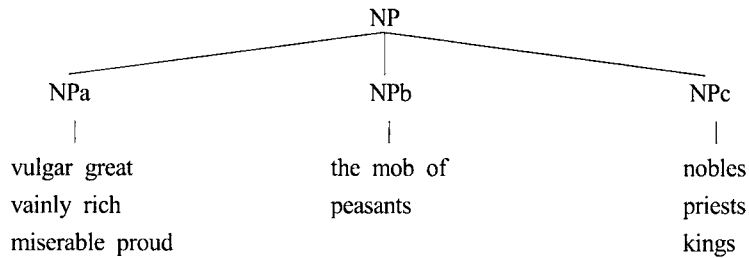
(5) Structure A

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                              NP
     ┌────────┬────────┬────────┼────────┬────────┬────────┐
    NP₁      NP₂      NP₃      NP₄      NP₅      NP₆      NP₇
     │        │        │        │        │        │        │
   vulgar   vainly  miserable  mob of  nobles   priests  kings
   great     rich    proud    peasants
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The NP structure (Structure B), which I will call "a dyad structure," consists of two NPs in which the first one (NPa) groups three $[A+A]_{NP}$ —*vulgar great, vainly rich, and miserable proud*—into one NP and the second one (NPb) is $[NP+PP]_{NP}$ where NP of PP includes four nouns —*peasant, nobles, priests, and kings*—as complements of the preposition of, i. e.:
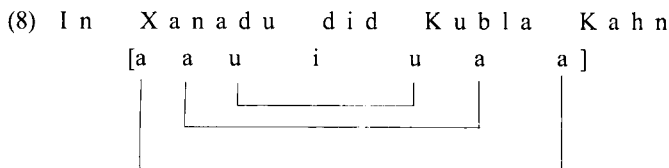
(6) Structure B

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                        NP
                   ╱         ╲
                NPa           NPb
                 │          ╱     ╲
            vulgar great  NP       PP
            vainly rich    │      ╱   ╲
          miserable proud the mob P     NP
                                  │      │
                                  of   peasants
                                       nobles
                                       priests
                                       kings
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There's yet a third structure (Structure C) which I will call "a triad structure" which consists of three NPs as shown in the following:

(7) Structure C

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                                    NP
                ┌───────────────────┼───────────────────┐
              NPa                   NPb                 NPc
               │                     │                   │
          vulgar great          the mob of            nobles
          vainly rich           peasants              priests
          miserable proud                             kings
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In the above structure, NP consists of three NPs, in which the first NP (NPa) consists of three constituents of like structure, $[A+A]_{NP}$, the second NP (NPb) is of the structure [NP+PP], and the third NP (NPc) consists of three single Ns. Note that there are three triadic structures in the above tree, NPa, NPb, and NPc. In light of the overall pattern that Shelley has employed in the entire poem, it is clear how the seven agent nouns following the verb bow should be arranged. (Structure C also carries a better semantic plausibility in that in NPb, *the mob of peasants*, only the noun *peasants* is the complement of the preposition *of*, not all four nouns following *of*. Compared to semantically natural expression *the mob of peasants*, there is something unnatural, if not anomalous, in the meanings of the *mob of nobles, the mob of priests,* and *the mob of kings,* which Structure B assumes.)
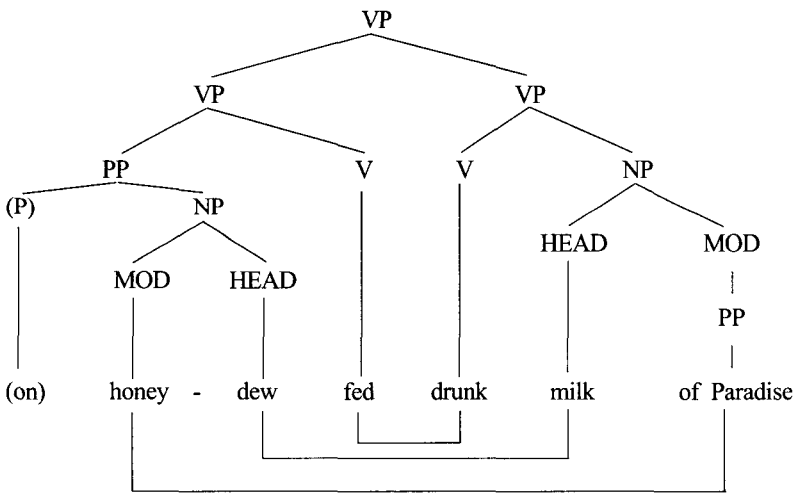
A concentric pattern (ABCCBA) is also found in poetry. A line in Coleridge's *Kubla Khan* (1816) shows a pattern ABCBA in vowels, i. e.,

(8) I n   X a n a d u   d i d   K u b l a   K a h n
         [a   a   u   i   u   a   a]
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          │   ┌─┴─┐ └──────────┘   │       │
          │   └──────────────────────┘     │
          └────────────────────────────────┘
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The following two lines, the final couplet of *Kubla Kahn*, illustrate a syntactic concentric pattern ABCCBA which consists of PP NP V V NP PP, namely,

(9a) For he on honey-dew hath fed
     And drunk the milk of Paradise

(9b)

A pattern of contrast or opposition, ABC:ABC, can be illustrated from Shelley's elegy *Adonais* (1821) which he composed in mourning for John Keats' death. One sees a systematic contrast, or counter-balance, between the opening stanza and the thirty-eighth (Italics are mine).

(10) I *weep* for Adonais — he is dead!
     Lost Echo sits amid the *voiceless* mountains,
     And will no more reply to winds or fountains,
     Or *amorous* birds perched on the young green spray,

He *will awake no more*, oh, never more!

.   .   .

Mourn not for Adonais.
He is made one with Nature: there is *heard*
His voice in all her music, from the moan
Of thunder, to the song of night's *sweet bird*
He *hath awakened*

Note that Shelley counters *weep* in the first stanza with *Mourn not* in the 38th, *voiceless* with is *heard His voice, will wake no more with hath awakened*. This relationship is interjected with a synonymous relation *amorous bird : sweet bird*. The pattern we find here then is ABCD:ABCD, where A implies 'not A.'

I cite here two examples of poetic syntax from Austin (1984) which illustrate an iconic relation between syntactic structures and visual images that are conjured up by the structures. The first example is from William Wordsworth: *The Ruined Cottage* (1797), which in part reads:

(11) all the northern downs,
   In clearer air ascending, showed far off
   Their surfaces with shadows dappled o'er
   Of deep embattled clouds.

Austin notes that the underlying word order of the last two lines, the complement of *showed*, should be:

(12) <u>their surfaces</u> <u>dappled o'er</u> <u>with shadows of deep embattled clouds</u>
         NP   VP   PP

Now the poet does some reshuffling. He first fronts PP to get:

(13) <u>their surfaces</u> <u>with shadows of deep embattled clouds</u> <u>dappled o'er</u>
     NP   PP   VP

Wordsworth then extraposes the embedded PP inside PP to yield:

(14) <u>their surfaces</u> <u>with shadows</u> <u>dappled o'er</u> <u>of deep embattled clouds</u>
     NP   PP1   VP   PP2

If we take the original order with the split PP as ABCD, then the reordered phrase structure is ACBD, i. e., ABCD → ACBD. Why this gymnastic exercise? Austin argues that it is in order to create an image of "dappled" shadows of clouds with the "dappling" of phrase structures (Austin 1984:93).

The second example is from Coleridge's "This lime-tree bower, my prison," of which there are two versions. In the first that appeared in a letter to a friend of his, Robert Southey, in 1797, the poem reads in part:

(15) My friends...
     Wander delighted, and look down, perchance,
     On that same rifted dell, where many an ash
     Twists its wild limbs beside the ferny rock

But when it was published three years later in Annual Anthology (1800), it was revised to read:

(16) Friends...
     Wander in gladness, and wind down, perchance,
     To that still roaring dell

Where its slim trunk the ash from rock to rock
Flings arching like a bridge

Again the last two lines in each version draw our attention. In the first, the syntax of the sentence: *many an ash Twists its wild limbs beside the ferny rock* is straightforward. But in the second, the would-be normal word order: *the ash flings its slim trunk from rock to rock like a bridge* is 'twisted' to *its slim trunk the ash from rock to rock Flings arching like a bridge*, i. e.:

(17) the ash flings its slim trunk from rock to rock arching like a bridge   →
         A   B   C   D

     the ash from rock to rock flings its slim trunk arching like a bridge
         A   C   B   D

As in Wordsworth's *The Ruined Cottage*, we find again the reshuffled phrase order:

ABCD → ACBD. And again Austin argues persuasively that this reshuffling is deliberate on the part of the poet. In Coleridge's lime tree, the phrases are "flung" to help create the image of the flinging trunk of the ash (Austin 1984:114).

3. Language and religion

There are many aspects in the relation between language religion. One may talk about the role of language in religion or religious rituals, one can talk about the impact of religion on linguistic codes (for example, the impact of the King James' Version on the English

language[1])), or one can talk about the contribution linguistics, or linguistic analyses of religious texts, can make in elucidating the authorship, chronology, interpretation, translation, etc. of the texts. I have little expertise in these matters, and I will just illustrate two cases here: one a personal case incidentally grown out of a Bible study some years ago, and the other a case of mistranslation on account of a mistaken analysis of a poetic meter.

I came to study the Book of Daniel in Old Testament some years ago when I volunteered to be a leader in a Bible study group just because my younger son's name is Daniel. In the course of consulting several commentaries and books on Daniel, I discovered that there are a few interesting problems associated with the book, namely, its authorship, its date, the chronology of the events described in the book, etc. This is not of course the place to discuss its theology. I will only mention a few aspects that have some linguistic relevance.

The first linguistically interesting thing about Daniel is the fact that it was written in two languages, Hebrew (Chapter 1 to Chapter 2:4a, and Chapters 8-12) and Aramaic[2]) (Chapter 2:4b to Chapter 7). Three possibilities about its writer(s) suggest themselves. The first is that a single author wrote in two languages; the second is that there were two authors, one writing in Hebrew and the other writing in Aramaic, and

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1) For the most recent studies on the Bible's influence on the English language, see Bobrick 2001 and McGrath 2001.

2) Aramaic is a Northwestern Semitic language related to Hebrew. It was said to be Jesus' language, at least in the following words: *Talitha kum* "Little girl, I say to you, arise!" (Mark 5:41) and *Eloi, Eloi, Lama Sabachtani?* "My God, My God, why has Thou forsaken me?" (Mark 15:34). Also *bar-* in such names as *Barabbas, Bartholomew*, is an Aramaic word meaning 'son,' equivalent to *ben-* in Hebrew as in *Benjamin, Benhur, Ben-Gurion*, etc.

the third is that a single author wrote the entire book, but some one translated either the middle portion from Hebrew to Aramaic or the first and last parts from Aramaic to Hebrew.

"Why the text of Daniel switches suddenly from Hebrew to Aramaic and back again, no one has ever been able to explain." (Metzger & Coogan 1993:150) However, one gaining theory is that the entire book was originally written in Aramaic and that the first and last parts were later translated into Hebrew perhaps in the interest of rendering the book more accessible to the mass. This theory is supported by the fact that the Hebrew of the last five chapters in Daniel contains many Aramaisms that can be clarified by translation back into Aramaic. What we know is that during the period of the Babylonian diaspora, Aramaic was the lingua franca and the language of diplomacy, while Hebrew was the language of people.[3]

Loanwords from Greek and Persian give a telltale sign of the date of the book, for it must be assumed that these words entered Hebrew *after* Alexander the Great (356-323 BC) conquered Judea and Persia.

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3) There's an interesting account in II Kings, 18:26-28. During the siege of Jerusalem by Assyrians in 701 BC, Judean officials plead with an Assyrian offical not to speak in the language of Judah (=Hebrew) lest the people might understand his call to surrender, but speak in Aramaic:

> Then Eliakim the son of Hilkiah, and Shebnah and Joah, said to Rabshakeh, "Speak now to your servants in Aramaic, for we understand it; and do not speak in Judean, in the hearing of the people who are on the wall." (II Kings, 18:26)

All to no avail, however, for

> "Then Rabshakeh stood and cried with a loud voice in Judean, saying, "Hear the word of the great king, the king of Assyria." (II Kings, 18:28)

For example, in Daniel 3:5, there are names of musical instruments that are of Greek origin:

> (18) O peoples, nations, and men of every language, at the moment you hear the sound of the horn, flute, *lyre*, trigon, *psaltery*, *bagpipe*, and all kinds of music, you are to fall down and worship the golden image that Nebuchadnezzar the king has set up. (Daniel 3:4-5)

Of the six instruments listed here, which are also repeated in Daniel 3:10, the italicized three are loanwords from Greek whose original forms are: κιθαρα(kithara) 'lyre, zither,' Ψαλτηριν(psalterin) 'psaltery, harp,' and συμΦωνια(symphonia) 'bagpipe.'

The word Chaldeans in Daniel 2:2 ("*Then the king gave orders to call in the magicians, the conjurers, the sorcerers and the Chaldeans*") also gives a clue about the date of the book. Strictly speaking, Chaldeans here means 'people of Chaldee,' the homeland of Abraham and the starting point of his migration to Canaan (Genesis 11:28). But this interpretation doesn't make any sense in Daniel 2:2. The meaning of *Chaldeans* fitting the context of the preceding nouns in the verse (i. e., *the magicians, the conjurers, the sorcerers*) is a derived meaning of 'a caste of wise men commonly used for a class of astrologers, diviners, or magicians.' This derived meaning of *Chaldeans* came into being only a few centuries BCE. The situation is somewhat akin to such Korean phrases as *Hamhung ch'asa* 'a lost messenger,' *Haengju ch'ima* 'an apron,' *Ansong mach'um* 'very suitable, tailor-made,' etc. We know that the literal meaning of *Hamhung ch'asa* is 'an emissary to Hamhung,' but its derived meaning is 'an emissary who never returned; a

messenger who is never heard from' which originated from a historical anecdote that King T'aejo (1335-1408) of the Yi dynasty who was so upset at his sons' fights over the throne that he left the palace in 1401 for Hamhung and then killed every emissary that his son T'aejong sent to placate him. Suppose now that one encounters in an old document in which the phrase *Hamhung ch'asa* appears in the meaning of 'an unreturned messenger.' One can safely deduce that the document could not have been written earlier than the 15th century. Such is the case with "Chaldeans" in the Book of Daniel. It could not have been written before the third century BCE.

I now want to cite an example of a mistranslation in the Bible which a careful linguistic analysis was able to amend. In the following is Psalm 20:9, the last verse, first in Romanized Hebrew with English glosses (capitals indicate accented syllables), next the English translation in the King James Version (1611), then the translation in New International Version (1973).

(19) YahWEH (Adonai)   hoSHIah   haMElekh
      Jehovah (My lord)   save   the king

      YaaNEnu   beYOM   -   koR'Enu
      he'll-answer-us   in-the-day-of   our-calling

      Save, Lord! Let the King
      Hear us when we call.   *The King James Version*, 1611)

      O Lord, save the king!
      Answer us when we call. *New International Version*, 1973)

The major difference between the two English versions is that "the

king" is the subject of the following verb "hear" in *KJV*, while it is the object of the preceding verb "save" in *NIV*. The mistranslation in *KJV* was due to a misanalysis of the psalm's metrical structure. Earlier verses of Psalm 20 consist of diatonic phrases (two accented words in a hemistich or a line), and the 17th century translators assumed, erroneously, that this metrical structure extended up to the end, so that verse 9 was also thought to consist of three pairs of diatones, when in fact it consisted of 2 sets of tritones. That is, the verse should have been analyzed metrically as 3+3, rather than 2+2+2. Hebrew psalmists often changed the meter toward the end, either to break the monotony or to introduce a "twist," one of the well-known poetic devices.

What I have shown above is that proper linguistic analyses can make a significant contribution in dating religious texts, determining their authorship, amending possible mistranslations, etc. Obviously, there is more to it than these in the discussion of the relation between language and religion. Aside from the things mentioned at the beginning of this section, one can talk about the relation between language and religion in terms of "mono-lingual" religion — one language serving one religion, e.g., Islam, vs. multi-lingual religion — one religion being served by (or worshipped in) many languages, e.g., Christianity, vs. one language functioning as the vehicle for many religions, e.g., the role of Hindi in India (cf. Pandharipande 1992, 1996). In the latter case, the language of religion can function as a force in language convergence (Pandharipande 1999). But these are beyond the scope of this paper, and I will refrain from delving into them.

4. Language and music

The basis of comparison between language and music is there a *priori*. Both use sound as the medium of expression. And if sound is acoustically defined in terms of the parameters of frequency (pitch), amplitude (intensity), duration (length), and rhythm(beat), so is music. Therefore, they command more than a cursory glance at each other. Music is but a refined poetry; a song is a sung poem; an opera, a sung drama. To be sure, music uses prosodic (=suprasegmental) features in a more rigidly codified manner, but whether the similarities are merely accidental and anecdotal, or due to some deeper underlying shared area of human cognition is a question to which only a systematic and critical comparison between the two aural mediums can provide some answers.

One can compare language and music in at least three aspects. The first is the expressive power of music as language; the second is the internal organization of music paralleling linguistic structures, and the third is the relation between words and melodies, the text-tune association. I will briefly touch upon the first two before examining the third in some more detail.

Program music, or descriptive music, is an example of the first. Music describes a scenery or an event often as vividly as language can. Nicknames such as "Moonlight" Sonata, "Pastoral" Symphony, "Trout" Quintet, etc. are but indications of descriptions which are often validated by the composer's notes (e.g., Beethoven's *Sketchbook*). It is a painting with sounds. One could hear in Beethoven's Pastoral symphony (Symphony No.6, Op.68), for example, songs of birds, shepherds' whistles, people's dancing, an approaching storm, thunder,

and the sunlight streaming down through the clouds. Beethoven himself gave it a subtitle: "*Erinnerung an das Landleben*" (Recollections of life in the country)[4], and the printed score carries the following headings to its five movements: 1. "Pleasant, cheerful feelings on approaching the countryside," 2. "Scene by the brook," 3. "Jolly gathering of villagers," 4. "Thunderstorm," and 5. "Shepherd's song. Grateful thanks to God after the storm." In Franz Schubert's (1797-1828) piano quintet ("The Trout," Op.114), one can easily visualize frolicking trout and rippling waves. In Felix Mendelssohn's (1809-1847) *Lieder ohne Worte* (Songs Without Words), it is not difficult to associate the melodies with such given subtitles as "Venetian Boat-Song" (Op.19, No.6), "Spinning-Song" (Op.67, No.4), "The Sighing Wind" (Op.102, No.4), "The Brook" (Op.30, No.5), "Hunting-Song" (Op.19, No.3), etc. Indeed, words are not necessary in "deciphering" the contents in this descriptive music.

One can also easily picture a conversation between two people in Mendelssohn's *Duet* (Op.38, No.6), and in Carl Maria von Weber's (1786-1826) *Invitation to the Dance* (Op.56), especially in the moderato section at the beginning and at the end. One music scholar, Arnold Schering, intent on establishing interpretive models, even set up literary parallels for most of Beethoven's piano sonatas, supposedly derived from comments about their meanings and programs made by the composer himself. Thus, according to Rothstein (1995:124), Schering believed that Op.27, No.2 was based on Shakespeare's *King*

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4) To be fair, Beethoven stated that the symphony is more the expression of feeling than painting. Beethoven wanted to express the relationship between man and nature in terms of man's experience of fear and awareness of human vulnerability, e.g., a dance interrupted by a thunderstorm without warning.

Lear, Op.53 on Homer's *Odyssey*, Op.57 on *Macbeth*, Op.111 on the life of King Henry VIII (for which Eric Blom has sarcastically remarked that the theme with four variations is not enough for six wives of the monarch), etc. Rothstein (1995:222) even goes so far as to say that the central works of the Western music "may be understood as tales which, in their highly metaphorical fashion, outline our society's origins, detail its passion, and trace the adventures of its heroes" (Italics mine).

More interesting is the second movement of Beethoven's Piano Concerto No.4 in G major (Op.58). The short movement consists of only seventy-two bars in which there are repeated exchanges (I counted 13 x 2) between the orchestra and the piano. The orchestra consists of strings only, playing harsh recitatives in unison in octave progression. The piano replies with almost human utterance, soft and pleading. The strings are short, stark, chiding, menacing, retorting, implacable, and impatient. They cut into the piano's soft and yearning phrases, until finally at the end, after a long free passage by the piano, the strings forsake the unison for a more gracious four-part harmony.

Franz Liszt (1811-1886) once described the movement as Orpheus (strings) taming a wild beast (piano), and this is what is often given in record jackets (for example, in my record album, Columbia MS 6262, with Glenn Gould as pianist and Leonard Bernstein conducting New York Philharmonic, no date). But I like Russian pianist Sviatoslav Richter's interpretation better. He regards the second movement of Beethoven's fourth piano concerto as a dialogue between Hades (the strings) who condemns and a lost human soul (piano) who pleads and who is finally liberated after repeated pleas. According to Robert Boas, it comes as near to articulated speech as instrumental music can.

The internal organization of music as a parallel of the structure of language was explored in detail in Jackendoff (1990), Jackendoff and Lerdahl (1980), and Lerdahl and Jackendoff (1982). What they have shown is that the common features in language and music do not merely lie in the same medium or in some surface similarities but in deeper and more general cognitive function of man that the two share, and that, just as one can talk about a grammar of language, so can one talk about a grammar of music, which is a set of rules prescribing how a "native" listener processes music, i.e., an account of musical "intuitions."

For example, with no particular musical training, a listener "knows" whether or not a sequence of sounds is a song, a chant or a mere babbling, whether a song was sung well or poorly, whether or not a song has ended, what the beat of the music is, e. g., whether it has a binary marching rhythm or a ternary waltzing rhythm, whether something is a variation of a theme, etc. Such musical intuitions are demonstrated dramatically when listeners judge the reversed playback of a tape-recorded music as simply "non-musical." Jackendoff (1994: 167) speaks of a "musical grammar": our ability to make sense of new pieces of music in a familiar style, just like our linguistic ability to comprehend languages we are familiar with. What accounts for this? In the following discussion and examples, I'll largely follow several works by Jackendoff and Lerdahl (1977-1991; see References).

One internal organization revealed in both language and music is the feature of grouping and reduction. In language, a sentence is not just a linear concatenation of words but is a hierarchically organized structure in which words group into constituents or phrases. For example, the sentence *The President rejected the offer of reconciliation* has the following phrase structure:

(20)
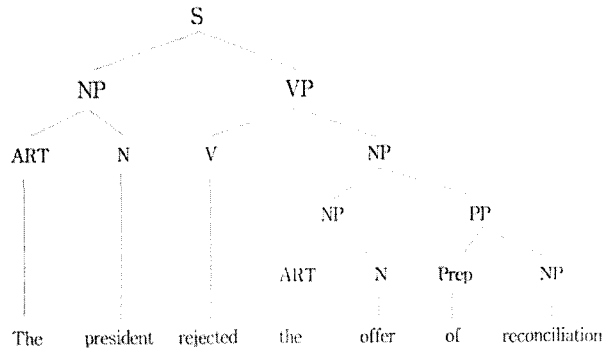
This hierarchical tree shows that *The President, the offer, the offer of reconciliation*, etc. are constituents, but that *President rejected, rejected the, offer of,* etc. are not. Grouping is not limited to phrases and sentences. A word has its own hierarchy both in its morphological structure and in its phonological (prosodic or metrical) structure. For example, the following is a metrical structure of the word *reconciliation*:

(21)
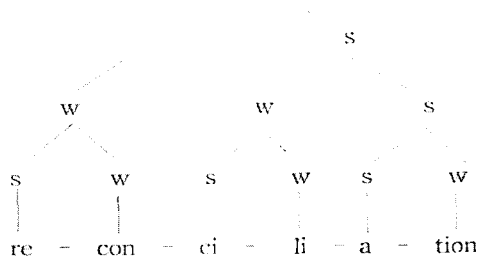
Lerdahl and Jackendoff (1982:37, 39) has shown that in music also, notes form a hierarchical group. For example, a proper grouping of the initial passage of Mozart's G minor symphony (K. 550) is said to be as follows:

(22)

But not any other alternative groupings such as:

(23)

Jackendoff and Lerdahl (1980) also noted a strong resemblance, despite some discrepancies, between the metrical grouping of syllables and that of musical notes, in the sense that just as syllables and feet are labeled either s (stronger) or w (weaker) according to the relative metrical strengths, so may the musical notes in terms of relative structural importance of the pitch events (the so-called time-span reduction). For example, if the following grouping

(24)
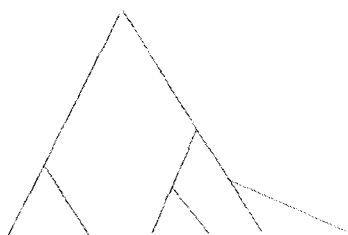
re ‐ con ‐ ci ‐ li ‐ a ‐ tion

is an equivalent notation of the metrical tree of the word *reconciliation*, then the time-span reduction of the first four measures of Mozart's piano sonata (K. 331) can be represented as in the following:

(25)

What is given above the musical text is a tree diagram showing the time-span reduction of the passage in a notation equivalent to the hierarchical grouping of syllables in the word *reconciliation*, and below the passage is a musical equivalent of the tree. Each successive level

downward in the musical illustration results from the deletion of the relatively less important pitch event of the next higher level. One can hum or whistle the lower level and still "hear" the melody at the higher level, showing that each successive level downward is a reduction or simplification of the upper melody. The pitch event at the last level then is the most reduced event, akin to the root node in a linguistic tree such as in (20) or (21).

Another shared organizational feature in language and music is transformations or variations. A generative grammar has a syntactic device called transformations which generate surface variations of one and the same deep structure sentence, as the following example illustrates:

(26) The fact that Bush rejected the proposal surprised the Taliban.
The fact that the proposal was rejected by Bush surprised the Taliban.
The Taliban was surprised by the fact that Bush rejected the proposal.
The Taliban was surprised by the fact that the proposal was rejected by Bush.
It was the Taliban who was surprised by the fact that Bush rejected the proposal.
It was the Taliban who was surprised by the fact that the proposal was rejected by Bush.
What surprised the Taliban was the fact that Bush rejected the proposal.
What surprised the Taliban was the fact that the proposal was rejected by Bush.

Sentences above are all stylistic surface variations of the same sentence. A similar device is also found in music in the form of theme and variations. Of numerous examples that can be shown, I cite Beethoven's Symphony No.3 in E flat major ("Eroica," Op.55). It is

not an exaggeration to say that, except the transitional passages, the entire symphony consists of two major chords, *do-mi-sol*, and *re-fa-sol.* Different themes of four movements, including the funeral march in the second movement and the horn trio in the third, are nothing but transpositions and augmentations or changes in dynamics of the basic theme of the first movement that can be hummed or whistled easily: *do---mi | do---sol | do-mi-sol | sol------| re---fa | re---sol | re-fa-sol | sol------|.* The following extraction of the theme melodies is taken from Cooke (1964:227):

(27)
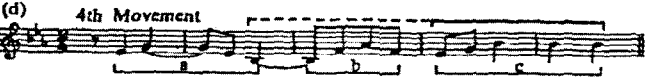
Bernstein (1976) gives a beautiful example of more subtle variations —changes in octaves, augmentation, transposition of notes, repetitions of measures, changes in tempo or dynamics, digression, then return to the theme via transition, etc.—all in the initial measures of Beethoven's Symphony No.6 ("Pastoral"). The reader should consult the book while listening to the relevant passages in the accompanying disk or the reader's own album or CD.

A rather extreme example of a musical transformation is reversal or

retrogression ("crab canon"), such as the following example from J. S. Bach's *Musical Offering* (cited from Erickson 1955:154):

(28)

Note that the lower staff progresses in exactly the reverse order of the upper staff. Admittedly, such examples are rare, as they are in language, but are said to be also found in the works of more modern composers such as Pasul Hindemith (1895-1963) and Arnold Schoenberg (1874-1951).

Let us now look at the text-tune (word-melody) association as the last component of the language-music relationship.

The origin of the word "music" tells much about the close relation between language and music. In ancient Greece, the word μυϭικη (*musike*) represented a verse line in a singular formation in which music and poetry was one. Only much later, music and poetry were separated into two tangibly distinct components. This practice of combining language and music was adopted in the early Christian liturgy, so that "the liturgical text forms the portal through which music enters into the cultural history of the Western Christian world" (Georgiades 1982:7). Gregorian chants and the Mass are unbroken

continuation of this process of musical settings of the oral text well into the seventeenth century, until Heinrich Schütz (1585-1672), when the setting of language to music formed the main task of the historical tradition of music. Only with Bach, in the first half of the eighteenth century, did the focus change and the instrumental music became independent of the word.

In such setting, the rhythm was not based on the organization of musical time (e.g., measures, accents) but was determined by the characteristics of the language. Since ancient Greek was a quantitative language, the rhythm was created by the alternation of duration. Individual syllables could be neither extended nor shortened, but kept their intrinsic linguistic duration. One can see in the following example that the intrinsic length of the syllable is matched with the duration of the notes:

(29)

'Ἄριστον μὲν ὕδωρ, ὁ δε χρυσος αἰθομενον πυρ

(Pindar: *Olympian Ode*, I, 1)[5]

This tradition was continued into early Christian liturgy in Latin. The liturgical text demanded a musically fixed performance so that in the liturgical chant, the mode of recitation preserved the characteristic of the spoken.

For example, the following line creates a dactylic meter (long-short-

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5) Romanization of this line from Pindar (522-438, BC) is [ariston men hudor, ho de chrusos aithomenon pur] which means 'water however is best, but gold is a flaming fire.'

short, or strong-weak-weak) on the basis of lexical length, as indicated with macrons and breves:

(30) *Cunctipotens genitor Deus omnicreator Kyrie eleison*
    ("Omnipotent God, Frather, Creator of all things, have mercy upon us")

In musical breaks and suspensions, the melody also closely matches the spoken form so that a musical break occurs where a syntactic break occurs and non-final phrases end on a suspended note. Only the final syllable of the concluding phrase brings the tension into relief by falling to a note of resolution. That is, the musical recitation closely parallels a normal speaking tone.

In the following example of *Agnus Dei* (Lamb of God),

(31)

the text: *Agnus Dei, qui tollis peccata munti, miserere nobis* ('Lamb of God, who takest away the sins of the world, have mercy upon us') is repeated three times before ending the plea with *dona nobis pacem* 'grant us peace' substituting the last *miserere nobis*.

Note that the last syllable of non-final phrases end in note A; only

the final phrase ends in note G. Schematically,

(32)

Agnus Dei —— *qui tollis peccata mundi* —— —— *miserere nobis*
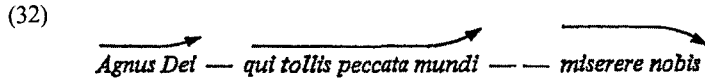
Another similar example is the traditional chant used to recite the Hebrew scriptures in synagogues. In the following is a notated version of the first sentence of Genesis:

(33)

BE-RE-SH-E ET   BA-RA   E-LO-HIM   ET-HA-SHE MA-A-YIM VE-ET   HA-A-RETZ

The commas above the score mark word or phrase breaks: *Bereshe et* 'in the beginning,' *bara* 'created,' *elohim* 'gods,' *ethashe maayim* 'the skies,' *veet* 'and,' *haaretz* 'the earth.' Note that the longest break appears at the end of a phrase ('in the beginning gods created') and at the end of the sentence ('the skies and the earth'). This system of chant is set up so that each word is linked with a set of notes. The notes are linked into phrases and often grouped in repeated patterns associated with the phrasing of the Hebrew sentences. These phrases are literally a heightened form of speech, serving as punctuation for the text. Musically, punctuation of the greatest importance is the falling line that marks the end of a sentence.

In Palestrina (1525-1594), there began a process of mutual influence between language and music such that language became more musical

and music took on aspects of language. Palestrina's music became to embody the language; music became the mirror of language. Even as music began to exist independently of the liturgical text, music penetrated the language, and language was captured in music as syntactic progression, as syntactic structure.

The following example is from *Credo* in Palestrina's *Pope Marcellus Mass*. The Latin phrase is: *descendit de coelis* ('descended from Heaven'):

(34)

Two things are to be noted here. The first is that the accented syllable of the verb and the noun are made the focal points such that the phrase is given the rhythm d o d d o d for *de-scen-dit de coe-lis*, that is, the accented syllables are given the longest duration. The second fact is that, in all eight repetitions of the phrase in this six-part chorus, the voices *descend* in stepwise motion, realizing a certain

aspect of the conceptual content of the phrase. This mode of dealing with the conceptual content of the language is characteristic of the music of Palestrina.

The passage following the above phrase in the same *Credo: Et incarnatus est de Spiritu Sancto ex Maria Virgine Et homo factus est* ('And was incarnate by the Holy Spirit of the Virgin Mary, And was made man'), has the following rhythmic pattern:

(35)

Again one notes that linguistic and musical rhythms parallel. Georgiades (1982:42-43) notes that the two phrase-initial rhyming passages, *Et incarnatus est* and *Et homo factus est*, while having identical pattern in the first three notes (*Et in-car-*, and *Et ho-mo*), significantly have different rhythms in the last three syllables (*-na-tus est* and *fa-ctus est*), as in the following:

(36)

The reason is that the phrase *Et incarnatus est* does not by itself constitute a sentence but is followed by a complement phrase *de Spiritu Sancto ex Maria Virgine*, whereas *et homo factus est* constitutes a concluding statement. Translated into contemporary terms in prosodic phonology, the former does not constitute a "phonological phrase" (or

a "breath group"), while the latter does.

One can see thus that the music obeys the gesture of language and its structure, even its meanings in some instances. But one phonological characteristic of Latin, the main language of liturgy and mass, has created a conflict and eventually a confrontation between language and music, and it has to do with Latin's stress alternation. Note that in the following example of a paradigm, the stress is transposed onto as many as three different syllables:

(37) *adoráre*   'to adore'
     adó ro   'I adore'
     adorátio   'adoration'
     adoratiónis 'of adoration'

This stress shift has nothing to do with the meaning shift; it is entirely controlled by the syllabic structure of the words. In contrast, the stress is fixed in German throughout the paradigm, for example:

(38) *veréhren*   'to adore'
     ich veréhre   'I adore'
     veréhrte   'adored'
     wir veréhren   'we adore'
     wir veréhren   'we adored'
     die Veréhrung   'the adoration'
     der Veréhrung   'of adoration'

In addition to this, German has another stress characteristic which is that German nouns in general have stress on the initial syllable, e.g., *Vater* 'father,' *Wasser* 'water,' *Himmel* 'heaven,' *Leben* 'life,' etc., while prefixed verbs and verbs with clitic pronouns pull the stress to

the root verb, e.g., *verjüngt* 'makes young,' *bewúgen* 'to move,' *du blíckst* 'you looked,' etc. Geogiades (1982:52) argues that the transfer of these two basic forms to music led to the primary motives of modern rhythmic organization in music, namely, downbeat (from stressed-unstressed) and upbeat (from unstressed-stressed). "These two rhythmic elements receive a new position of honor Through them the musical fabric is newly formed; it takes on new significance" (*ibid.*).

A comparison of *Credo in num Deum* ('I believe in one God') in a Latin setting with Heinrich Schütz's rendition in German (from his *Zwölf Geistliche Gesänge* 'Twelve Spiritual Songs'): *ich glaube an einen einigen Gott*, given below, illustrates the (mis)match between the words and the melodies.

(39)

Ich glaube an einen einigen Gott.

Indeed, quite apart from the theological argument of religious reformation, it was also the result of the gradual introduction of German to the liturgical tradition of the Mass that led to the eventual abandonment of the Mass and to the Reformation.[6] From now on,

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6) The following anecdote is quoted from Georgiades (1982:57). On one Easter Sunday, Martin Luther became very angry at hearing the Introit sung in German to the Latin notes, and exclaimed:

music articulated as if it were speaking German. It had in common with the German language the dynamic quality and unity. As a result of this breakthrough of the German language in music, "the center of the human-musical sphere of activity shifted from the liturgical Mass setting of the Latin to free composition in the spirit of the German language. From Palestrina the spark leaps across to Germany because this new musical attitude finds its innermost justification in the German linguistic attitude. Only through the alliance with the German language did these beginnings lead to a renewal of music, and to the emergence of the instrumental-musical way of thinking which characterizes Bach and the Viennese classical composers" (Georgiades 1982:66).

To recapitulate, from Gregorian chant to the music of Schütz, the musical realization of language was the main intention of composition. A particular aspect of the language was singled out, determined musically, and placed in the foreground. With Bach, however, this situation changes: the main concern of music is not the language but rather meaning behind the language as perceived by the composer. Even so, music cannot transcend language, for music is the representation of man, and instrumental music is nothing but the instrumentalization of language. Bach "experienced the musical

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"I thought that their ridiculous chant would make me sick. If we want to sing German, then let's sing good German songs To translate the Latin text and retain the Latin tone or notes doesn't make [a German Mass] sound polished Both the text and notes, the accent, melody, and manner of rendering must grow out of the true mother tongue and its inflection, otherwise all of it becomes an imitation, in the manner of the apes."

Luther was a reformer of Western music as well as a religious reformer.

language of the instrumental sphere so intensely and so possessed by the desire to 'speak' forcibly through music that he was able to imprint the characteristics of linguistic forcefulness upon his material" (Georgiades 1982:79).

I now turn from the Western music to the Korean music, or to put it more accurately, contemporary Korean imitations of the Western music. First, however, a brief glance at the syntactic structures of Korean as contrasted with those of English is in order.

As is well known, Korean is a verb-final SOV language, while English is an object-noun-final SVO language. From this basic difference derive other corollaries such as:

(40) English   Korean
    Article + Noun   No Article
    Preposition + Noun   Noun + Postposition
    Aux Verb + Main Verb   Main Verb + Aux Verb
    Conjunctive + Noun   Noun + Conjunctive

What the above shows is that while the structure of English is metrically weak-strong, that of Korean is strong-weak, the reverse of English. It's no accident then that many English tunes begin with an upbeat (weak note) to reflect this linguistic structure, i.e., ♪ |. For the same token, one should expect to find Korean tunes to begin with a downbeat (strong note), i.e., | ♫ |. What one often finds, however, is a trochaic Korean text assigned to an iambic tune. Examine the following hymn.

(41)

The Korean text is given below in Yale Romanization with English glosses underneath:

(42) *chaanyang; seeng-pu,   seeng-ca, seeng-nyeng, samwi ilchey sin-kkey yeengsey*
     praise   holy-father, holy-son, holy-ghost, trinity in-one god-to eternity

     mukwung haki-kkaci yeengkwang-ul toolli-sey,   yeengkwang-ul tooli-sey
     without   end   until glory-ACC   return-let's glory-ACC   return-let's

The syllables *chaan-* 'praise,' s*eeng-* 'holy,' *yeeng-* 'eternal,' and *yeeng-* 'glory' are all intrinsically long (indicated here with geminate vowels) and the immediately following syllables *-yang, -pu, -ca-, -nyeng, -sey,* and *-kwang* are intrinsically short, that is, the syllables in the former set are metrically strong and those in the latter set are metrically weak. Yet the text-tune matching is exactly the opposite, i. e., long syllables are matched with downbeats, and short syllables are

matched with upbeats. Note that expectedly in the English text, the upbeat notes are *to, and, the, a- (of adore), be, it*, etc., and that all downbeats are matched with stressed syllables, i.e., *Fa-* (*of Father*), *Son, Ho-* (of Holy), *God, -dore* (of *adore*), *glo-* of (*glory*), etc. Whether the composer composed the tune after the verse was given, or whether the verse was written in after the hymn was composed, there's a good text-tune match in the case of English. Ignorance of different linguistic structures between English and Korean has led to a quite unnatural and unmetrical transposition of the words.

This kind of examples abound throughout the Korean hymnal. For another example, in the hymn: *O thou the Lamb of God (Methodist Hymnal* #281), the first line in English is metrically divided as follows:

(43) O | Thou, the | Lamb of | God, Spot|less and | most ho|ly,

where the upbeats are assigned to *O, the, of, Spot-, and*, and *ho-* (there seems to be iambic reversal in *Spotless* and *holy*). Again, the Korean translation is completely unmetrical, i.e.,

(44) *aa|mu   huum|to   eep|ko,   kee|luk   kee|luk   ha|sin*
     any   blemish   without, holy   holy   is-Hon

One can see that long syllables fall on upbeats, while short syllables fall on upbeats. Metricality in contemporary Korean lyric songs is not much better. The following is a part of popular "Magnolia" composed by the famed Tongjin Kim on a verse by Cho Youngsik.

(45)

magnolia is a harbinger of spring, a herald
of a new age, and the soul of the nation'

Note that particles *-nun* 'TOPIC,' *-uy* 'GEN' fall on downbeats on high sustained notes. I don't know the relative chronology of the verse and the melody. If the verse existed before the melody, then shame to the composer. He was a music school graduate, was the dean of music at Kyunghee University, and is a member of the National Academy of Arts. He should have known better. Hymn translators, libretto translations, song writers, etc., should be aware that vocal music can be reproduced properly only when it is performed as if it were speech.

5. Concluding words

We have seen some common features as well as differences in

language, literature, and music. On surface, language appears to be less codified than either literature or music. But prosaic language also exhibits features that are typically thought to be the trademarks of verses or songs. For example, language is just as grouped into constituent units as musical passages and poetic lines. Language is also rhythmically organized as are music and poetry.

One finds in prose and in music as well the equivalents of tension and resolution in literature. The normal progression of a story follows the same path of initiation, development, twist (transformation), and resolution as in Chinese Regulated Verse, and every joke has its twist and punch line (=resolution). Such phrases as "in short," " to sum up," "in other words," "in summary," "to conclude," etc., signal the end of development/twist and the beginning of resolution. And Langer (1942: 260-261) observed a parallelism between poetry and music:

(46) The tension which music achieves through dissonance, and the
     reorientation in each new resolution to harmony, find their equivalents in
     the suspensions and periodic decisions of propositional sense in poetry.

What explains these common features? What is responsible for the same organizational devices in the three seemingly different modes of human communication? An answer may be found in the fact that all are under the same laws of mind that govern the way man perceives and organizes nature. Such notion was advanced in the 1920's and 1930's by *Gestalt* psychologists (see Wertheimer 1938, for example) who argued that the man's world is ordered in terms of some basic conceptual categories of space, time, and movement. More recently, Liberman (1975:313) also observed:

(47) There is some reason (evolutionary parsimony, if nothing else) to suppose that the cases of language, music, and dance demonstrate, in a more intuitively accessible way, a system which in fact is the organizing principle of all temporally ordered behavior.

Indeed, it can be said that alliteration, rhyme, meter, stanza, etc., are nothing but tools of organization.[7] A Korean song titled "Your mind" (lyric by Kim Ji-Phyong and text by Kim Hak-Song) which was popular some years ago exemplifies a hierarchy that the mind imposes:

(48) On the sand in the beach, with a finger
    I draw a picture, that of your face.
    Nose and lips, then eyes and ears.
    A mole on the chin,
    And even a smile around the mouth.
    But one thing I cannot draw
    Is your mind that I still don't know.[8]

Note the order in which the facial features are drawn: nose, mouth, eyes, ears, a mole on the chin, and a smile. Arbitrary and unordered it may seem, it would be very strange, in fact highly unlikely, if the order was reversed, i. e., a smile first, then a mole, ears and eyes . Just this sort of order and hierarchy is also nicely illustrated in Sommers' "Mind that draws" (1986). When people are shown a picture that looks like a man with stretched arms, they will invariably draw the head first; but when people are told that the same picture is a cocktail glass with a cherry in it, the head-turned cherry would now be

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7) Whether this organization was purely for the purpose of "parsimony," mnemonics, or something else is debatable.
8) The verse in original Korean is given below.

the last to be drawn!

Returning to the central question, what explains the similarities and parallelism among language, literature, and music? It is probably not because the building blocks (phonemes, notes, strokes) share the same origin or the same properties, nor is it likely that the mode of constructing larger units is the same.[9] It is quite possible that there are biological and neurological underpinnings.[10] So for example, there is probably a non-accidental relation between the fact that such emotions as joy and excitement are expressed with fast-moving and ascending notes in music (e. g., Handel's Hallelujah chorus in *Messiah*, Beethoven's rendition of Schiller's *An den Freude* in his Symphony No.9), while sorrow and somber mood are expressed with slow-moving and descending notes (e. g., the theme in Tchaikovski's Symphony No.6, "Pathetique"; an alto recitative "He was despised and rejected" in *Messiah*; the *miserere nobis* portion of any requiem) and their linguistic equivalents in such everyday metaphors as:

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9) Jackendoff and Lerdahl (1980:4) declares that investigations into similarities between syntactic and musical structures a la Bernstein (1976) "have not proven to be fruitful."

10) Jackendoff (1994:170) wonders, however:

> It's easy to see what evolutionary advantage is conferred by having language, but it's hard to imagein how music does any good for our survival as a species. I consider this as a real puzzle: Why should there be such a thing as music among our abilities?

It may be a case of what Darwin called "conversions of function," evolutionary sidesteps, or what Calvin and Bickerton (2000:3) nicknamed "curb cuts": Curb cuts in sidewalks on street corners were originally made for considerations of wheel chairs, but subsequent uses involve carts, bicycles, baby carriages, skateboards, wheeled suitcases, etc.

(49) his spirit *soared*   vs.   his heart *sank*

his mood was *upbeats* vs.   he's in an emotional *downswing*

she is in *cloud* nine   vs.   she's at the bottom of an *abyss*

In sum, the existence of parallelism in language, literature, and music (and possibly some other arts, e.g., dance, visual arts) may be said to be due to the fact that they all share the same cognitive abilities of man, in particular, the capacity to organize and impose structure on their respective inputs, thereby reducing complex and continuous events to more manageable and discrete events. In view of this, linguistics should not be confined to digging deeper into deep structures (as was done in generative semantics). In so far as language is a cognitive behavior reflecting the essence of man, cross-modal investigations into man's general cognitive functions should further illuminate the true deep structure of language and the deep structure of man.

(50) Chomsky (1975:20) once pondered:

It would be interesting to discover whether there is some cognitive domain D other than language for which LT(H,L)[11] is identical to or similar to LT(H, D)[12]. To date, no persuasive suggestion has been made,

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11) LT(H,L) = Learning Theory for Humans in the domain of Language
LT(H,D) = Learning Theory for Humans in some cognitive Domain (other than L)
12) Nearly twenty years later, Jackendoff (1994:169) in support of Chomsky's speculation states:

just as our ability to learn language requires innate resources that form the basis of learning, our unconscious ability to construct musical grammars requires some underlying innate resources that go beyond just an ability to

but conceivably there is such a domain.

Conceivably, literature and music are two such domains. In this view, language is not resplendently isolated among human mental capacities, for its basic characteristics are mirrored in our abilities to understand literature and music.

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'soak up' sequences of sounds.

Calvin and Bickerton (2000:177) also assumes that there's an evolutionary link between language and other "higher intellectual functions":

> Other higher intellectual functions (music, planning for tomorrow, logic, playing games with rules) may, more generally, benefit from the neural systems that are so essential for syntax.

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Abstract

This paper aims to illustrate and illuminate the relationship between language and its neighbor disciplines, in particular between language and literature, language and religion, and language and music.

1. Language and literature. Literature is an art of language. Therefore, linguistics, the science of language, should be able to explain how the grammar of literature elevates and ordinary language into a literary language. I illustrate poetic syntax with examples from Shelley, Coleridge, and Wordsworth.

2. Language and religion. I show how a linguistic analysis of a religious text can illuminate the background, authorship, chronology, etc., of a religious text with an example from the Book of Daniel. I also illustrate how a misanalysis of

a poetic meter led to a mistranslation with an example from the Book of Psalms.

3. Language and music. First I trace an epochal event in the history of the Western music, i.e., the change of the musical style from the liturgical music of Latin in which the rhythm was created by the alternation of syllable duration into the liberated music of German in which the rhythm was generated by the alternation of lexical stress. I then illustrate a parallelism between linguistic and musical structures with several musical pieces including Gregorian chant, the 16th century music of Palestrina, the 17th century music of Schutz, the 18th century music of Mozart, and the 19th century Viennese music.

Finally, the importance of text-tune (verse-melody) association is discussed with examples of mismatches in translated Korean hymns and contemporary Korean lyrical songs.

In the concluding part, I speculate on some factors that are responsible for the same organizational devices in three different modes of human communication. An answer may be that all are under the same laws of mind that govern the way man perceives and organizes nature, i.e., the same cognitive abilities of man, in particular, the capacity to organize and impose structure on their respective inputs.