

島岡理論の英訳 (5)

黒住彰博

Translation: The Music Theory of Yuzuru SHIMAOKA (5)

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本稿は『総合和声』「原理篇」の第5章の英訳である。この章では、和声の運動を「主和音のゆれ」として捉え直し、単純なカデンツから長大な保続音、そして1曲の和声過程を統一した観点で総括している。また「単音のゆれ」や「和声のゆれ」によって生じるさまざまなレベルでの音楽の表情についても考察している。

なお英訳文確定に際しては「島岡理論の英訳 (1)」「同 (2)」「同 (3)」「同 (4)」と同様、原著者による校閲とカナダ人作曲家 John James Cole による校正がなされた。

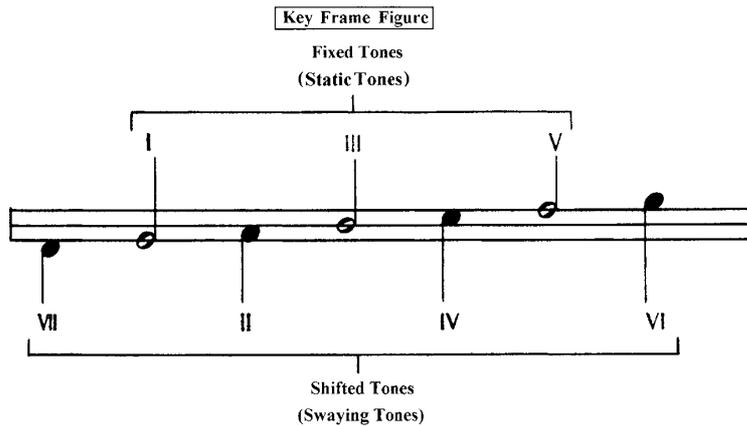
Chapter 5 The Summary of Sway

I Harmony as “Tonic Chord Sway”

(1) Harmony as “Tonic Chord Sway”

If the harmony occurs by the “swaying of a tonic chord,” we can consider all the chords except the tonic chord to be “products of the tonic chord sway,” namely, incidental chords in a broad sense.

I will explain this with the following “key frame figure.”

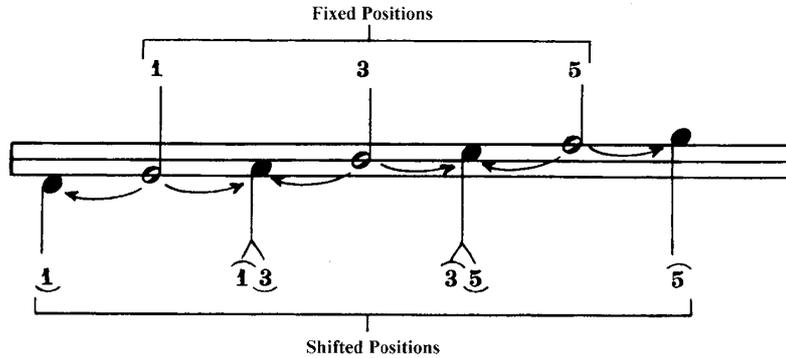


The figure above consists of 3 lines expressing tone degrees (I, III, V) of the three constituent tones on fixed positions of the tonic triad and four spaces expressing the other tone degrees (VII, II, IV, VI) (3 line staff). Because it is a relative staff, it is always the same regardless of key and mode.

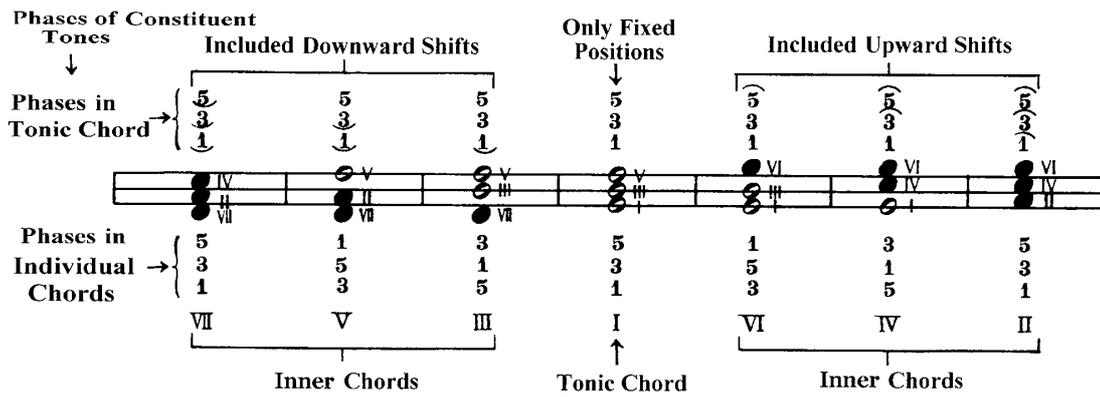
From the viewpoint of “a tonic chord sway,”

The three lines represent fixed tones of a tonic chord, and

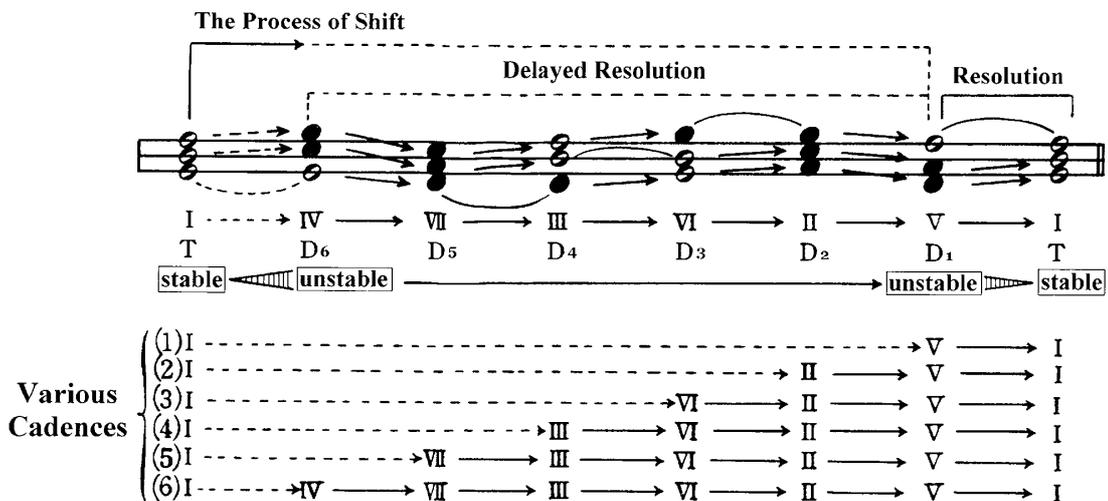
The four spaces represent shifted tones of a tonic chord (sways of fixed tones).



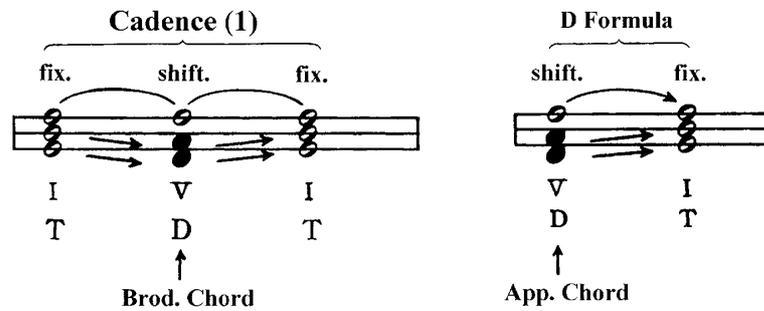
Because the tonic chord is the only genuine independent chord it consists of only fixed tones. All chords excluding the tonic chord consist of various combinations of fixed tones and shifted tones. All the unstable chords are incidental chords in a broad sense (inner chords) which occur by the swaying (sifted position) of any constituent tone of a tonic chord.



We can represent all the 6 kinds of cadences from the viewpoint of "sways of a tonic chord" in a diagram as follows.



As the diagram indicates, we can consider, for example, Cadence (1) (I → V → I) to include “the broderie chord produced by the swaying of a tonic chord” and D-formula (V → I) to include “the appoggiatura chord by the swaying of a tonic chord.”



The “constituent tone sway” mentioned above must not be considered “the sway on the level of tone movement” but rather to be “the sway of step in a field.” In this case, regardless of the movement of each voice (whether sway or leap) harmony occurs by “the sway of step in a field” which incidentally produces various inner chords ^{footnote}.

(2) Each Scale Tone from The Viewpoint of “Tonic Chord Sway”

“Tonic chord sway” also defines all melodic structure in harmony.

Among the scale tones as grasped from the viewpoint of “the tonic chord sway,”

original fixed tones (I · III · V) are called static tones,

original shifted tone (VII · II · IV · VI) are called swaying tones.

Let us now look at 3 melodies to examine characteristics of sway.

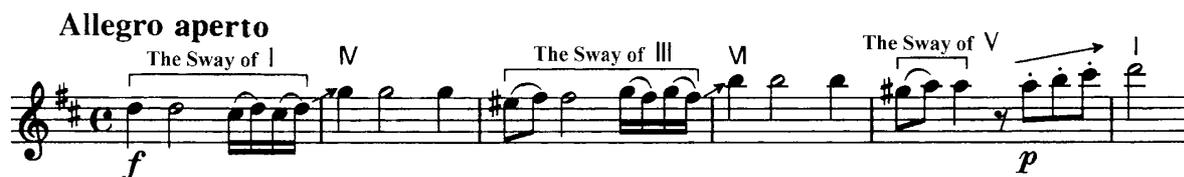
(a) Mozart: Piano Sonata K.545, 1st movement.



(b) Bach: Fantasia and Fuga BWV. 904, (Subject).



(c) Mozart: Flute Concerto No.2, 1st movement.

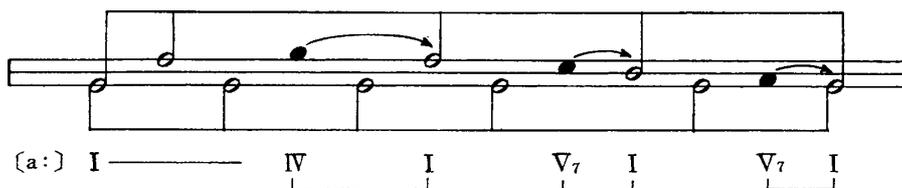


We can place the structure of each melody above on “the key frame” as follows. Here only the model line of each melody is extracted with the ornamental movements removed.

(a)



(b)



(c)



Note: Ledger lines above and below the 3 line staff also express a static tone. In addition, because the distance from both outer lines of the staff to the ledger line above and below is a 4th, it is wider than the distance (a 3rd) between two lines on the staff (cf. examples above).

Example (b) above shows that this melody consists of two lines (a multiplex melody). In this case the lower line supports the upper line from the bottom while always maintaining the tonic.

On “the level of a scale tone” static tones are always stable tones, tones which constitute a solid frame of a key. In contrast, sway tones are unstable tones and often resolve to nearest static tones (shown by arrows in the figure).

In connection with “chord sway,” static tones are often linked with stable chords (**T**) and swaying tones with unstable chords (**D**, **D₂** and **S**). In addition, motion by a 2nd: a swaying tone → a static tone often expresses a resolving motion: **D** → **T** or **S** → **T**.

(3) Each Tone Degree of Low Tone from the View Points of “Tonic Chord Sway”

“Tonic chord sway” also prescribes a functional meaning of each tone degree in low tone.

1) Static tones: I and V (<fund.> of T · D)

The **I** and **V** occupying the two poles of the three static tones express the main function **T** and **D** in <fund.>. These are the most important tone degrees as they **represent both T and D functions** in a low tone and hold very important positions within harmony. Examples include: the **I** that indicates the stability (stasis) at the beginning and the end of a musical composition using the motion: **V** → **I** and → **V** which indicates of important paragraphs: “full close formula” or “half close formula”, and sustained low tones in **I** and **V** which express stable or unstable aspects of music and so on.

2) **Static tone: III (<1 inv.> of T)**

Another static tone **III** being located in the middle of **I** and **V** expresses <1 inv.> of **T**. Because it is not a <fund.>, it is not equivalent to **I** in function and stability. The **III** is considered to be only an insufficient substitution of **I** as it is seen in low tone motion: **V** → **III** of the “imperfect close formula” (open close formula). Nevertheless, the intermediate base **III** which is positioned between the two footholds: **I** and **V** in low tone, plays an essential role in the formation of low tone motion.

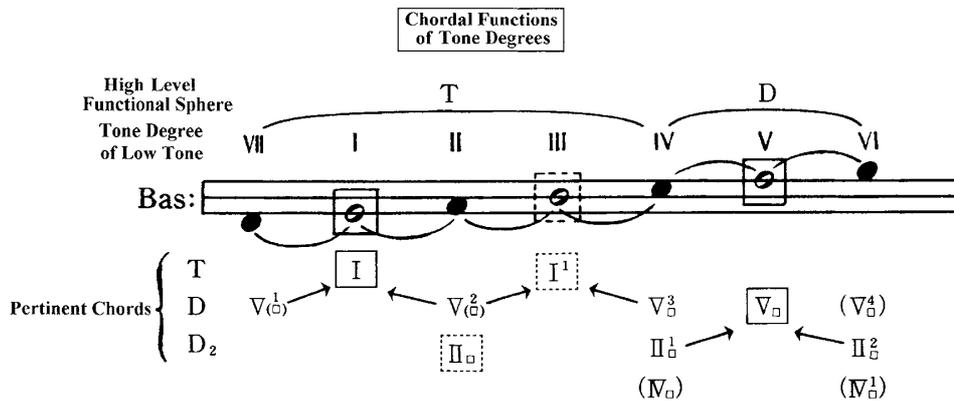
3) **Swaying Tones: VII, II and IV (<1 inv.> · <2 inv.> · <3 inv.> of D)**

Among the four swaying tones, the **VII**, **II** and **IV** express three inverted positions of **D** (<1 inv.>, <2 inv.> and <3 inv.>) respectively in connection with **T** (**I** and **III**). But in function as **D** they are far from a match for **V**. These swaying tones as sways of **I** and **III**, display strongly incidental character. The diverse aspects: **D** → **T** mentioned above are all included in **D-formulas**.

4) **Swaying Tones: II, IV and VI (<fund.>, <1 inv.> and <2 inv.> of D₂)**

The three swaying tones: **II**, **IV** and **VI** express the three low tone positions of **D₂** (<fund.>, <1 inv.> and <2 inv.>) respectively in connection with **D** (**V**). Representative examples are closing formulas.

We can represent the chordal functions above in a diagram as follows:



As shown above, the chords on three static tones (**I**, **I¹** and **V_♭**) are the chords without an incidental character (independent chord) (shown in a box: □ and □ in an example above).

In contrast, all the chords on four swaying tones except **II_♭** in <fund.> have a strong incidental character.

2 **Sways of Various Levels (Differentiation of Sway)**

(1) **Level of Chord**

If all chords except **I** are “the products of a tonic chord sway,” that is to say, incidental chords in a broad sense, what is the fundamental distinction between incidental chords in a narrow sense and independence chords?

Generally, chords forming each functional position of “a chord sway” (cadence) are recognized respectively as independent chords.

On the contrary, the chord figure which is incidentally formed by “a constituent tone sway” (shift) in one independent chord is called an incidental chord. An incidental chord is considered to be a non-independent chord which cannot form an independent functional position in “a chord sway.”

The distinction between the independent chord and the incidental chord looks clear by definition, but in actuality, there often occur cases in which a chord can be interpreted in two ways. This can also be understood through the two types of incidental chords: the non-functional chords and the functional.

We can consider a functional incidental chord to be an independent chord any time if we change our viewpoint.

Conversely, an independent chord viewed as a product of a sway can always be considered a [functional] incidental chord. Namely, two kinds of interpretation are always possible in such cases (example below (a) and (b)).

(a) C : I ——— |V₇¹| I ——— |V₇²| I¹ ——— |V₉²| I¹ ——— |V₉³|
 T ——— T ——— T ——— T ———

(b) C : I V₇¹ I I V₇² I¹ I¹ V₉² I¹ I¹ V₉³ I¹
 T D T T D T T D T T D T

In the analysis shown in example (a) above, a single measure contains one chord (T), while in (b) three chords (T-D-T) are included in a single measure. In other words, harmonic analyses both on high and low levels are possible for the same harmonic phenomenon.

The example above (a) shows the grasp of chord [as a single chord] on a higher level, and (b) shows the grasp of chord [as three chords] on a lower (detailed) level. In this case it is meaningless to ask which is right. Both are correct, namely, the level of analysis is different. Which level we adopt in individual cases is decided depending on the higher harmonic context and the particular purpose of analysis.

It is the harmonic phenomenon of the sustained low tone that shows most clearly the fact of “the coexistence of chords on different levels.” In the case of the sustained low tone I or V, the low tone I or V held by the bass shows “the root on the fixed position of I or V on a higher level,” and the upper chords show “many chords on a lower level” produced by sways of the upper voices (the analysis (a) in the example below).

Even if we remove parentheses which indicate a sustained low tone and restore the upper chords into the forms of compound chords as seen in (b) below, both (a) and (b) describe the same phenomenon of sustained low tone. In the case of (b) the viewpoint is changed from the higher to lower level.

(a) C : I (I IV V₉ V₇¹ IV II V₉ I II V₉ I)
 ① —————→

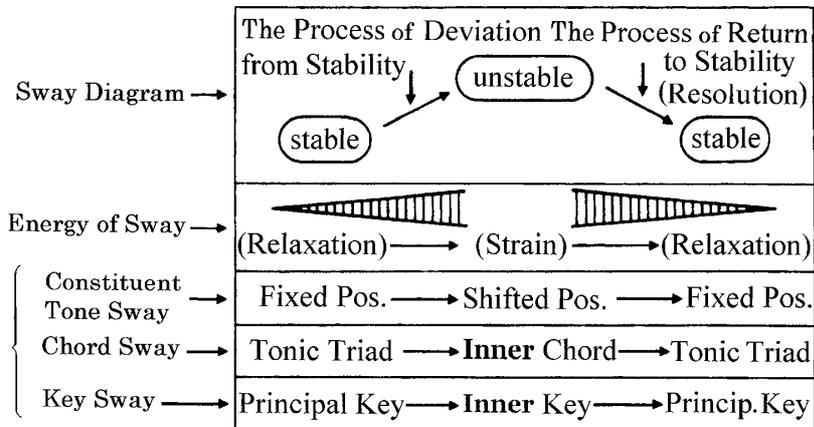
Original Chords
 (b) C : I IV² V₉ V₇¹ IV² II V₉ I II V₉ I

(2) Sways of Various Levels (Differentiation of Sway)

“A sway in harmony: stable → unstable → stable” forms the primary energetic principle in all music.

Within harmonic sway there exist “sways” on various levels, for example, a constituent tone sway (a shifted

position), chord sway (cadence), key sway (modulation) and so on. But all of them can be expressed by the same diagram as follows.



These sways on each level are not mutually unrelated isolated sways. Both “the transition from the level of constituent tone to the level of chord” and “the transfer from the chord level to the key level” are gradual, and among them various levels exist in between.

In the example above, (a) shows “a tonic chord on fixed position with no sway.”

Example (b) shows “simple constituent tone sway in a tonic chord.”

Example (c) shows “the sustaining phenomenon in a tonic chord,” as seen through the separation of the bass (sustained low tone of I) and upper voices (upper harmony). In this case “chord sway on a lower level” is formed in upper voices.

Example (d) shows “the incidental formation in a tonic chord”, but we can also consider the incidental chord V_7^2 in between to be an independent chord. Therefore this case can be grasped as either “constituent tone sway” or “chord sway” depending on the interpretation (the level of analysis).

In example (e) because the bass leaps from the root of a chord to the root of another chord it does not show the movement of shifted positions. Therefore, it is impossible to regard the intermediate chord as an incidental formation [in a narrow sense] and it must be thought of as “chord sway.”

In this way, we can understand that between “constituent tone sway” (example (b)) and “chord sway” (example (e)) there are various intermediate sways, namely, the sustaining (example (c)) and the incidental formation (example (d)). We can consider the above as the process of the inner differentiation of a chord. “A small sway” (shifted position) occurs inside of “one tonic stable chord,” and the sway increases in power gradually and spreads

out over the other voices (a sustained low tone → incidental chords). Finally, through this motion the three independent chords are born (cadence). It could be said also that this is, as it were, “cell division of a chord.”

The above-mentioned process of the differentiation advances further, and develops into “larger sways (from I-sustained low tone to V-sustained low tone, harmonic tendency and key sway)” (in the example below from (f) to (i)). That is to say, “a large sway” comes to occur by further differentiation of each of the chords which form “a cadence.” And “this swaying part” (unstable aspect) expresses the transfer of key center (V-sustained low tone, tendency to V-key, V-key, etc.).

(f) C: I V I

(g) I V₇ I V V₇ V I V₇ I

(h) I V I I V I

(i) I V₇ I I V₇ I

or { I V₇ I V(I V₇ I) I V₇ I { I V₇ I V(I V₇ I) I V₇ I

| key → V key → | key { | key → V key → | key

This process of differentiation is repeated many times, and “the sway of the whole work” (the process of energy) is formed (the differentiation of sway and its embodiment into structure).

(3) Sway of Composition (Energetic Process)

Now I will examine how “one tonic chord” expands and develops through several phases of sways (the process of differentiation) into “the large sway of the whole work” using the following diagram.

Example (1)

Example (1) shows a musical score with four staves (0, 1, 2, 3) and three measures (A, B, C). The notation includes various chord symbols and their relationships:

- Staff 0:** Treble clef, notes are mostly whole notes.
- Staff 1:** Bass clef, notes are mostly whole notes. Chord symbols: $I(V_7^1)$ T, $I(II_7 V_7)$ T, $I(IV)$ T.
- Staff 2:** Bass clef, notes are mostly whole notes. Chord symbols: $|V_7^1|$ or D, $|II_7^3 V_7^1|$ or D_2 D, $|IV^2|$ or T S.
- Staff 3:** Bass clef, notes are mostly whole notes. Chord symbols: V_7 D, $II_7^2 V_7$ D_2 D, IV S.

Example (2)

Example (2) shows a musical score with eight staves (3, 4, 5, 6, 7, 8) and two measures (A, A'). The notation includes various chord symbols and their relationships:

- Staff 3:** Bass clef, notes are mostly whole notes.
- Staff 4:** Bass clef, notes are mostly whole notes. Chord symbols: V_7^1 , I V, V_7 , II V_7 , VI V_7^1 , II V_7 .
- Staff 5:** Bass clef, notes are mostly whole notes. Chord symbols: V_7^1 , I^2 , V_7^1 , II_7^3 V_7^1 , VI_7^3 V_7^1 , II_7^3 V_7^1 .
- Staff 6:** Bass clef, notes are mostly whole notes. Chord symbols: V_7^1 , I , V_7^1 , II^1 V_7 , $V(I$ II^1 $V_7^1)$, II^1 V_7^1 .
- Staff 7:** Bass clef, notes are mostly whole notes.
- Staff 8:** Bass clef, notes are mostly whole notes.

The score concludes with "etc." at the bottom right.

Each 0–3 of A, B and C in the example (1) above shows how one tonic chord differentiates and develops into various cadences (C1, C2 and C3) by sways. In a descending order from the top of the graph, the 0 shows an undifferentiated tonic chord, the 1 shows only the sway of upper voices (a sustained low tone), and the 2 shows incidental formations which are at the intermediate stages of differentiation, and in the 3 the first differentiation is completed.

Each 3–7 of A and A' in the example (2) above shows how “one cadence” ($I \rightarrow V \rightarrow I$) which occurs by the differentiation (sway) of “one tonic chord” expands through the “further differentiation of each chord” into more complicated and divergent harmony.

In examples (1) and (2) above, the process of chord differentiation (0–7) can be explained as the following way. The 0 of example (1) represents an undifferentiated tonic chord. The first differentiation is seen in 1–3 of the graph in example 1. The second differentiation is seen in the 4–6 (of example (2)) and the third differentiation occurs in the 7 (of example (2)).

The final number 8, which is the energetic process of the “Well-tempered Clavier I, No. 1, Prelude,” is regarded as the variation of A7 or A'7.

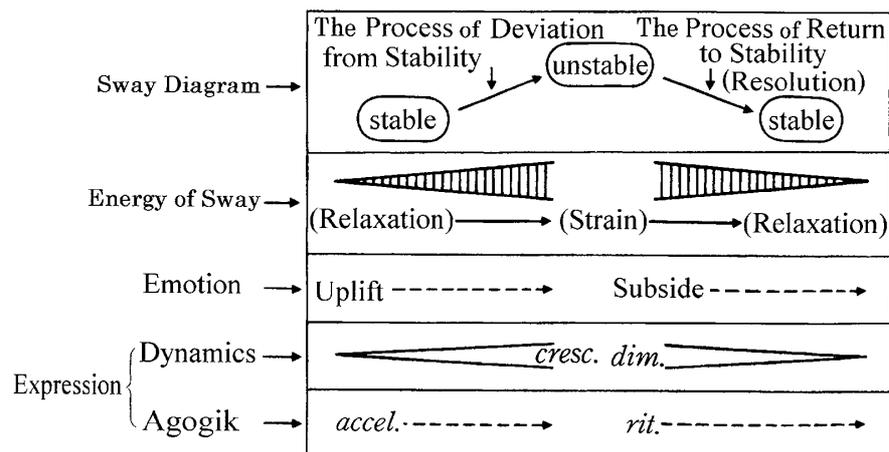
If we follow the above-mentioned process of differentiation conversely, we can successively reduce the intricate and divergent harmony of a work to a simple model.

3 Sway and Expression

(1) Sway and Expression

Psychologically, all “sways” (changes of the energetic state in harmony) cause certain emotional reactions. This fact is regarded as one aspect of the expressive principle in music. “Changes from stability to instability” convey an increase of strain and, therefore, cause the uplift of feeling. Conversely, “changes from instability to stability” convey the relaxation of strain and, therefore, lead to the subsidence of feeling.

The use of dynamics (strong and weak) and Agogik (fast and slow) as means of outward expression, is also relevant to this energetic and emotional principle. The uplift of feeling is easily linked to crescendo and accelerando, and the subsidence of feeling is often linked to diminuendo and ritardando.



But the link between the internal energy and the outward expression may not always occur according to the principle, because there are many other factors affecting dynamics and Agogik whose complicated interaction brings about a specific result. However, because the general principle of these correlations is clear, we can thereby predict to a certain extent the musical expression produced from a particular harmonic relation and its link with dynamics and Agogik.

(2) “Constituent Tone Sway” (Shift) and Expression

Because “a constituent tone sway” (a shift) is a sway in the simplest form, the link: energy-emotion-expression is the most direct.

- (a) Schumann: “Dichterliebe,” No. 13, ‘Ich hab’ im Traum geweinet.’

Leise
p
Ich hab' im Traum ge - wei - net

pp

- (b) Verdi: “Othello,” Act 4.

un ba-cio.... un bacio an co - ra ah!

con espressione

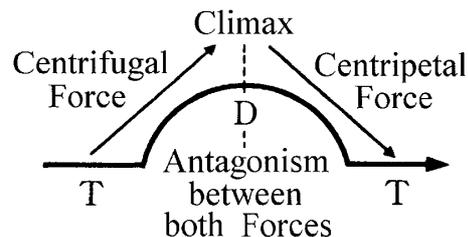
pp *p* *p*

As seen above, the instructions of dynamics by the composer himself directly reflect the energy of sways (appoggiaturas) and the emotional effect caused by them.

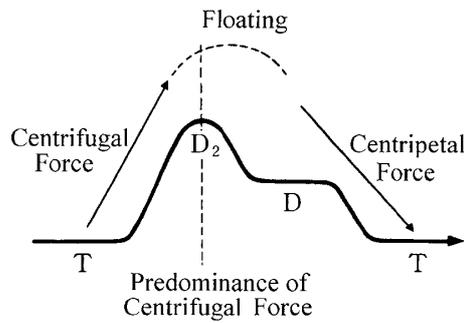
(3) “Chord Sway” and Expression

In the case of “chord sway” (cadence) different emotional effects occur according to the functional difference between unstable positions, which give each chord a characteristic expression. So, now I would like to consider what variances of expression are produced by different patterns of sway in four commonly used functions.

1) The sway by main functions (T, D) is a simple sway going and back forth between 2 poles: T and D. To compare it to throwing a ball, the time and distance of ascent and descent are equal. The centrifugal force to go from the surface of the earth to the sky and centripetal force to return from the sky to the surface of the earth are equal in mutual oppsition. In brief, it is the sway between 2 positions simply repeating going \leftarrow coming (strain \leftarrow \rightarrow relaxation).



2) In contrast, the sway with the subsidiary function: D_2 is, as it were, the sway comprising 3 positions, in which the distance and the time of descent and ascent are unbalanced. That is, the centrifugal force exceeds the centripetal force. As a result, a sort of floating state of zero gravity is produced while the sway, after having reached the peak (D_2) by the strong centrifugal force moves to D position at which the centripetal force acts again, causing a descent to the tonic. It can be understood that the sense of floating, openness, uplift and so on, peculiar to the D_2 -chord derive from this floating state.



Generally it is recognized by experience that D_2 -chords (II , IV and V) often have strong energetic and emotional effects (expressive chords) ^{footnote 1}. This can also be verified to some extent by dynamics indications given by the composer himself ^{footnote 2}.

(a) Beethoven: Bagatelle, Op. 119, No.1.

Eb: I (I) II₇ V₇ I I¹ (I) IV II¹ I² V₇ I
 T D₂ D T D₂ D T

(b) Schumann: "Dichterliebe," No. 14, 'Allnachtlich im Traume.'

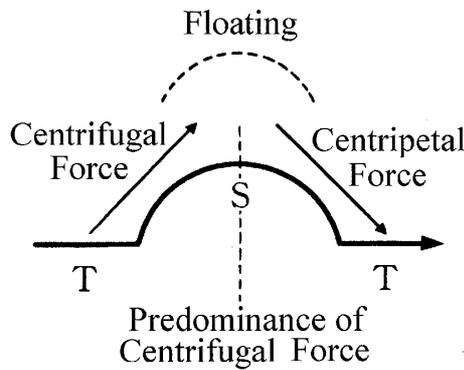
B: V₇ IV V₇ I² V₇ I I¹ I¹ V₇ I
 T D₂ D T D T D₂ D T

(c) Wagner: "Tristan and Isolde," Prelude.

Langsam und schmachtend

a : I ———— \check{V}_7^2 V_7 ———— c : \check{V}_7^2 V_7
 T D_2 D D_2 D

3) Another subsidiary function: **S** is the same as **D** in that it produces the sway between 2 positions. However, because **S** itself is an ascending function which occupies the climax of a sway, it can be thought to be originally in a floating state. From this fact we can understand why **S**, though it causes a sway between two positions, contrasts with **D** and rather produces an analogous expression to that of D_2 .



(4) "Key sway" (Modulation) and Expression

The energetic and emotional effect of "key sway" (modulation) basically agrees with that of "chord sway" on corresponding tone degrees.

That is to say, **T** (**I** – **I**-key) shows stability, **D** (**V** – **V**-key) strain and kinetic character, D_2 and **S** (**II** – **II**-key, **IV** – **IV**-key) uplift and expressive character.

On the other hand, the functions of the **III**-key, **IV**-key and **VII**-key are grasped in their parallel relationship to the other keys. Here, the effect of the opposite mode to that of the principal key should be taken in consideration (**II**-key also has the same effect).

C : (c) :

Key	I	II	III	IV	V	VI	VII
Harmony	I	II	III	IV	V	VI	VII
Function	T	D_2	(T)	$\overline{D_2 S}$	D	(T)	(D)
Energy	stable	uplift		uplift	kinetic		
Emotion		Expressive Key		Expressive Key			

In addition, the link between “key sway” and dynamics is not so direct as in the case of “a constituent tone sway” and “chord sway,” because the time span of “key sway” is larger than the latter two sways. Hence, the energetic effect of short modulations in time (borrowed chords and temporary modulations) can be reflected in dynamics very easily. However in the case of “key sway” of a higher level this effect of “key sway” becomes even more indirect.

(5) Expression of Each Scale Tone judging from “Tonic Chord Sway”

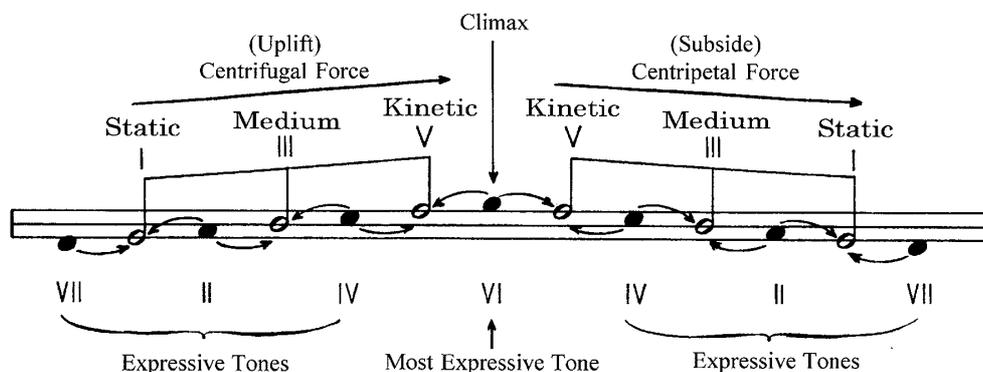
Each scale tone, in the same manner as a chord, has its peculiar character and expression in tonality.

Generally speaking, the higher the location of the tone in the key frame figure is, the stronger the kinetic and expressive character becomes through the action of centrifugal force.

However, in this case, we must consider static tones and swaying tones separately.

Although static tones are stable tones as a whole, they may be observed from the bottom (tonic) upward as static, medium and kinetic in character.

Swaying tones are unstable expressive tones as a whole, but further and the higher they move, the more expressive they become. Therefore, the most expressive tone in a scale tone is **VI** note.



Note: The high-and-low relationship mentioned here is the high-and-low relationship of position in a key frame.

Therefore, it must be distinguished from the high-and-low relationship of movement in pitch space. I already described the original effect of uplift (ascending) and subsidence (descending) produced by the energy of tone movement.

I will now show some examples of the expressive effect of **VI**-tone.

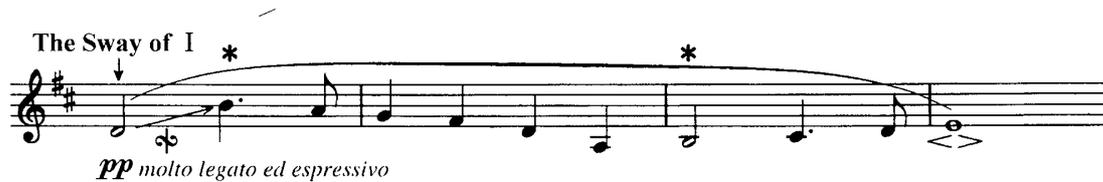
(a) Chopin: Waltz, posthum.



(b) Pergolesi: "Nina."



(c) Wagner: "Lienzi," Overture.



Footnote on page 487 (original text)

The concept of a field originally used in physics (electric field, magnetic field, a gravitational field, etc.) is also very useful for us to explain the structure of pitch space. For example, when iron powder is placed in a magnetic field, it forms a line in the same direction of the magnetic force therefore making visible the structure of a magnetic field. In a similar manner, the moving substance within a chordal field also forms the locus of the movement (or shape) of the melody making the line of force of a field, namely, the step structure of a chord clearly visible.

Footnotes on page 498 (original text)

Footnote 1: In this connection, I would like to examine the peculiar taste for D_2 -chord in the music of the Romantic school. For example, in "Dichterliebe" of Schumann, no less than three pieces start with D_2 -chord (No. 1 with IV^1 , No. 5 with II_7 , No. 12 with $\circ \check{V}_9^2$). The famous "Tristan chord" is D_2 -chord (\check{V}_7^2) and furthermore a longer shifted position (appoggiatura) is included in this chord (example (c)). This Tristan chord, namely, shows a remarkable energetic effect by linking a strain on the level of chord with a strain on the level of constituent tones. It may be said that this technique displays a certain characteristic of the Romantic school, that is, the insatiate desire to express (regarding this chord, cf. also footnote on p. 476).

Footnote 2: It would be fruitful to verify "the relation between the internal energy of sways and the composer's intention of what to express," particularly in the musical material of songs and operas. At the same time, it would also be useful to study "the relation between the composer's intention and the performer's interpretations of the composer's work" in stage performance and recording.