

Toward a Post-Schoenbergian Grammar of Tonal and Pre-tonal Harmonic Progressions

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Contrary to a common prejudice, Rameau's theory of the *basse fondamentale* is not about chord inversion, but about chord progressions. Rameau's claim is that tonality is ruled by the leading of the fundamental bass line. From considerations of what he calls the *résonance* (the production of harmonic partials), he deduces not only that progressions by a second must be forbidden (except in special cases), but also that progressions down a fifth or a third are better than those up the same intervals.

This theory has been forcefully rejected in the late 18th and 19th centuries, especially in France where theorists argued that it does not correspond to the usage of the great masters. The rejection may be linked with a Romantic conception, still vivid today, that views tonality as immanent, precompositional: in both Viennese (Simon Sechter) and German (Hugo Riemann) theories, the tonal significance of a chord is seen to derive from its position in a preexisting, abstract system of hierarchies. Rameau, on the contrary, had considered that the function of a chord depends on its relation to the following chord; more specifically, he considered that any chord followed by another rooted a fifth below was the latter's dominant and that any chord followed by another rooted a fifth above was the latter's subdominant.

One of the first authors to have returned to a theory of chord progressions is Arnold Schoenberg¹, followed in this by Yizhak Sadai². Both authors establish three categories of progressions:

- *Strong* or *ascending* progressions (Sadai's *dynamic* progressions), a fourth up or a third down, which "can be used without restriction" (Schoenberg) and became "standard" (Sadai).
- *Descending* progressions (Sadai's *static* progressions), a fourth down or a third up, "sometimes appearing as a mere interchange (I–V–V–I, I–IV–IV–I)", but "better used in combinations of three chords which [...] result in a strong progression" (Schoenberg).
- *Superstrong* progressions (Sadai's *accented* progressions), a second up or down, which "often appear as *deceptive* [i.e. false]" and which "may be considered too strong for continuous use" (Schoenberg).

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¹ Arnold SCHOENBERG, *Structural Functions of Harmony* (New York: Norton, 1954); rev. ed., ed. Leonard Stein (New York: Norton, 1969).

² Yizhak SADAÏ, *Harmony in its Systemic and Phenomenological Aspects* (Jerusalem: Yanetz, 1980).

My aim today is to propose a rereading of these theories, attempting both to systematize them and to make them more descriptive than prescriptive. Prescriptive theories usually consider that progressions and their directions are determined by the preexisting set of tonal hierarchies (the justifications given often are metaphoric: they deal with “attractions,” with “centripetal forces,” etc.). My position is different: I list progressions in common practice tonal works, without any preconception of what they should be, in order to verify whether their usage is random--it soon appears that it is not.

Schoenberg’s (or Leonard Stein’s) commentary about superstrong progressions being “false” probably refers to the teaching of Anton Bruckner (following that of Simon Sechter) according to whom progressions of a second often are but *scheinbare Schritte*, apparent progressions, to be explained as the result of the elision of an intermediate root. This doctrine is similar to that of Rameau’s *double emploi*, which states that, in a progression such as I–IV–V–I, IV as seen from the point of view of the following V is a II without fundamental, or that, in a I–II–V–I progression, II seen from the point of view of the preceding I is a IV with added 6th:

$$I \rightarrow IV \rightarrow V \rightarrow I = I \rightarrow IV(=II) \rightarrow V \rightarrow I$$

$$I \rightarrow II \rightarrow V \rightarrow I = I \rightarrow (IV=)II \rightarrow V \rightarrow I$$

The *double emploi*, as can be seen, transforms in each case a progression a second up, indicated by the sign \rightarrow , into one a fourth up, indicated by \rightarrow .

This reduces to saying that IV, in the first case, is a substitute for II (with respect to the following V) and II, in the second case, a substitute for IV (with respect to the preceding I). Substitution is a recurrent feature of harmonic theories from Rameau’s *double emploi* to Riemann’s *Scheinkonsonanzen*. Riemann, however, views the harmonic functions as imbedded in an a priori tonal hierarchy and independent from the context of any particular progression. The substitution, therefore, always is of a secondary degree for a primary one (e.g., the II^d degree always is a substitute for the IVth), while Ramist conceptions consider the substitutions as reciprocal: IV can stand for II as well as II for IV. In all cases, the substitutions imply chords a third apart – a fact that must be linked, in one way or another, with the parsimony of the transformation; but the many different justifications proposed for the substitutions need not retain us here.

When Schoenberg includes progressions a fourth up and a third down in one category, a fourth down and a third up in another, it obviously is because the two progressions in each category can be considered substitutions for each other – or, in other words, because the two progressions belonging in the same category differ merely by the substitution of one chord for another. Both $V \rightarrow I$ and $V \rightarrow III$, for instance, are strong progressions because I and III can be considered substitutes for each other. But the same reasoning could be applied to superstrong progressions as well, a second up or down, which also can be considered substitutions for progressions a fourth up or down. As we saw, $IV \rightarrow V$, a “superstrong” progression, is a substitution for $II \rightarrow V$, a “strong” progression. The same could be said of $V \rightarrow VI$, a substitution for $V \rightarrow I$, etc. This allows reducing Schoenberg’s and Sadai’s categories to two, each of which includes one “principal” and two “substituted” progressions. This view actually returns to Rameau’s conception of the dominant and subdominant functions, so that the categories may be renamed as “dominant” and “subdominant”:

CATEGORY	MAIN PROGRESSION	SUBSTITUTES
Dominant	A fourth up	A third down or a second up
Subdominant	A fourth down	A third up or a second down

Let us return to the paradigmatic tonal phrase $I \rightarrow IV \rightarrow V \rightarrow I$. The first and the third progressions, $I \rightarrow IV$ and $V \rightarrow I$, are ordinary dominant progressions. The second, $IV \rightarrow V$, now appears as a substitution for a dominant progression. The characteristics of this phrase are the following:

it is formed of dominant progressions exclusively;

it includes one substituted progression.

These I take to be normal features of any good tonal progression. $I \rightarrow II \rightarrow V \rightarrow I$ differs from the previous one only in the position of the substituted progression. More extended phrases evidence the same features, usually with a larger number of ordinary dominant progressions, but always with at least one substituted progression:

$I \rightarrow IV \rightarrow V \rightarrow I$

$I \rightarrow II \rightarrow V \rightarrow I$

$I \rightarrow VI \rightarrow II \rightarrow V \rightarrow I$

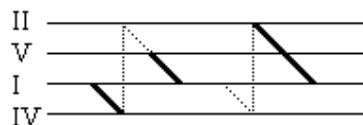
$I \rightarrow IV \rightarrow V \rightarrow VI \rightarrow II \rightarrow V \rightarrow I$

etc.

(Arrows pointing to the right indicate dominant progressions; subdominant progressions would be indicated by arrows pointing to the left).

The reason why the phrases include at least one substituted progression is that this is the necessary condition for the phrase to return to its starting point, the tonic. A continued series of unsubstituted dominant progressions, following a cycle of fifths, indeed, could only inexorably lead away from the original tonic. A well-formed tonal phrase can therefore be defined, from the point of view of harmonic progressions, as a series of dominant progressions of which at least one is substituted.

A graphic device may help illustrate this. Example 1 shows both an $I-IV-V-I$ and an $I-II-V-I$ progressions. The bass roots are arranged on horizontal lines following the cycle of fifths, and connected either by thick lines (main progressions) or by dotted lines (substituted progressions, with a vertical dotted line linking the implied root to the real one). Dominant progressions appear as lines descending from left to right. The overall Z shape of these figures, which I take to be characteristic of a well formed tonal phrase, differs only in the position of the dotted lines.



Example 1

Example 2 shows the same graphic presentation applied to a real example, Bach's choral *Gottlob es geht nunmehr zu Ende* (BWV 321, Bpf 192). One will note the two subdominant progressions (appearing as ascending thick lines) in the second system, charac-

teristically followed by compensating dominant progressions, in what Schoenberg calls “a mere interchange” or, in Sadai’s terminology, forming *a b a* patterns, V–II–V in mm. 9–10, I–V–I in mm. 15–16. This choral counts 25 progressions in all, of which 23 (92%) are dominant progressions according to my definition; 7 of these (about 30%) are substitutions. Although it may be difficult to obtain statistics for the tonal corpus as a whole, I consider these figures to be quite typical of the common tonal practice.

The first example shows a musical score with a chord diagram below it. The chord diagram consists of five lines labeled VI, II, V, I, and IV from top to bottom. The progression is: VI (line 5 up), II (line 4 up), V (line 3 up), I (line 2 up), IV (line 1 up).

The second example shows a musical score with a chord diagram below it. The chord diagram consists of five lines labeled VI, II, V, I, and IV from top to bottom. The progression is: VI (line 5 up), II (line 4 up), V (line 3 up), I (line 2 up), IV (line 1 up).

Example 2

Subdominant progressions in some cases may be more frequent, but they are normally not found in immediate succession, unless for special effect. Example 3, from Chopin’s Mazurka op. 6 no. 3 (mm. 33–39), shows one such instance, where the successive subdominant progressions contribute to a “modal” effect, together with D natural in m. 33 and the descending conjunct line (with descending D sharp) in mm. 34–35. The repetition of the motive in mm. 37–39 is tonally more affirmative, in part because it is constructed on dominant progressions.

The musical score shows measures 33 through 39. Measure 33 has a D natural in the bass. Measures 34–35 feature a descending conjunct line in the bass. Measures 37–39 repeat the motive. The chord diagram below the score shows a progression: VI (line 5 up), II (line 4 up), V (line 3 up), I (line 2 up).

Example 3

Example 4 applies similar principles to a late-16th-century composition, Lassus' chanson *Bon jour mon coeur*, evidencing drastically different results which illustrate fundamental differences in the way pre-tonal harmony functions. The horizontal lines have here been labeled with note names instead of roman numerals: it is indeed one advantage of this description that it does not necessarily presuppose the key of the piece. The most obvious difference with respect to the examples above is that the work makes use of seven different roots, while the other examples had only four or five. Dominant and subdominant progressions tend to be more equally distributed: of 72 root progressions, 46 (64%) are dominant, compared to 26 (36%) subdominant. About one third of the progressions are substitutions. The most striking, however, and probably the

The first system of Example 4 shows a musical score with a treble and bass staff. Below the score is a chord progression diagram with six lines labeled E, A, D, G, C, F, Bb from top to bottom. The diagram shows a sequence of chords connected by lines, with some chords having dotted lines indicating substitutions or specific voicings.

The second system of Example 4 shows a musical score with a treble and bass staff. Below the score is a chord progression diagram with six lines labeled E, A, D, G, C, F, Bb from top to bottom. The diagram shows a sequence of chords connected by lines, with some chords having dotted lines indicating substitutions or specific voicings.

The third system of Example 4 shows a musical score with a treble and bass staff. Below the score is a chord progression diagram with six lines labeled E, A, D, G, C, F, Bb from top to bottom. The diagram shows a sequence of chords connected by lines, with some chords having dotted lines indicating substitutions or specific voicings.

The fourth system of Example 4 shows a musical score with a treble and bass staff. Below the score is a chord progression diagram with six lines labeled E, A, D, G, C, F, Bb from top to bottom. The diagram shows a sequence of chords connected by lines, with some chords having dotted lines indicating substitutions or specific voicings.

The fifth system of Example 4 shows a musical score with a treble and bass staff. Below the score is a chord progression diagram with six lines labeled E, A, D, G, C, F, Bb from top to bottom. The diagram shows a sequence of chords connected by lines, with some chords having dotted lines indicating substitutions or specific voicings.

Example 4

most significant, is the disposition of the progressions, with long chains of subdominant and of dominant progressions, stretching the diatony to its limits. See in particular, at the beginning of the second system, the ascent by subdominant progressions from F to A or E, or, in the third system, the descent by dominant progressions from E to B flat. The first two measures of the piece produce a Z shape that is inverted with respect to those shown above, being formed of subdominant instead of dominant progressions. At the end of the third system, the succession of progressions is more similar to that in a tonal phrase, resulting in a strongly tonal affirmation of D at the beginning of the next system.

Example 5 proposes an alternative presentation of the progressions for the two first systems of the same piece. This presentation is more compact than the preceding one and allows notating additional information, but at the expense of a less easy reading. The fundamental bass is written on an additional staff – which in this case allows one to verify that it is almost identical with the real bass or, in other words, that most of the chords are in root position; this fact can be seen as a justification of a procedure which, otherwise, might seem anachronic. The roots of major chords have been indicated by half-notes, those of minor chords by quarter-notes. One will note the very large number of major chords, again stretching the diatony to its limits. Arrows attached to the note stems indicate the progressions: they point to the right for dominant progressions, to the left for subdominant progressions; substitutions are denoted by dotted arrows. This notation allows identifying leading note movements, which occur whenever a major chord is followed by a full (unsubstituted) progression, or by a substituted dominant progression a tone up with a change of mode from major to minor. In other cases, a sign could be added to indicate harmonic dissonances and their resolution (no such case occurs in this example).

The image displays two systems of musical notation. Each system consists of three staves: a top staff with a treble clef, a middle staff with a bass clef, and a bottom staff with a bass clef. The top and middle staves contain musical notation with chords and melodic lines. The bottom staff is a 'fundamental bass' staff, where notes are connected by arrows indicating the direction of harmonic progressions. In the first system, the progression starts with a half-note F, moves to a quarter-note A, then to a half-note E, and continues with a sequence of half-note chords: D, C, B, A, G, F, E, D. The second system follows a similar pattern, starting with a half-note D, moving to a quarter-note C, then to a half-note B, and continuing with a sequence of half-note chords: A, G, F, E, D, C, B, A. The notation includes various chord symbols and accidentals, such as sharps and flats, indicating specific harmonic choices.

Example 5

I am aware that it is not possible to draw important conclusions from only two or three examples. I leave it to the reader to examine other pieces with the principles outlined above. Let me briefly outline, as a conclusion, some of the theoretical assumptions of the above:

- Harmonic functions do not reside in chords, nor in the position of chords within an immanent tonal hierarchy. They result from a relation between chords. No chord is a dominant in itself, none is a tonic in itself; they become dominant and tonic with respect to each other when they occur in that relation.
- The same is true of “obligato” movements in the voice leading. The tendency of leading notes to go to the tonic, or of dissonances to resolve, exists only in retrospect. A note a semitone below another becomes the latter’s leading note only if, and only after it rose to it.

These conceptions are necessary to avoid circularity in the determination of the tonality, where one could not determine harmonic functions without knowing the key of the piece, nor the key of the piece without knowing which chord is its tonic. My graphic representation in Example 2 would not have been different if I had labeled the horizontal lines with note names instead of roman numerals, as in Example 4. I might even argue that it is the shapes of the progressions, in Example 2, that allow deciding the roman numerals – which is another way of saying that the progressions determine the tonality. In this view, the role of obligato melodic movements is merely to enhance the cadential effect of progressions; it is striking that these obligato movements appear in some way linked with dominant progressions.

As to the change from pre-tonal to tonal harmony, I view it as the result of a growing awareness both of the particular expressive effect of the flow of dominant progressions (subdominant progressions being perhaps resented as an interruption of the flow) and of the unifying effect of strict diatonicism, resulting both in a diminution of the number of roots and in a restriction to *leitereigene* chords, to chords belonging to the diatonic scale of the key.