Harmonic Standards and their Doublings

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One aspect of Harmony that is often neglected both in textbooks and in undergraduate theory courses is the topic of harmonic doublings and the related question of harmonic spacing. The careful understanding of these issues and their examination in masterworks can bring enormous insight into the compositional process not often available through standard harmonic analysis.

This overview of basic harmonic principles that are critical to a thorough understanding of tonal harmony and may not be obvious to those who learned about harmony through classes and textbooks. The ideas put forth here on harmony stem from the insights into harmonic principles taught by Nadia Boulanger and her disciples with whom I had the good luck of studying.

Nadia Boulanger stressed that the study of harmony is indeed the study of *spacing and doubling of triads in four voices*. It is remarkable that despite her rigorous demands on all aspects of musical training, when it came to harmonic study, she had her students spend long periods of time working out exercises using only root position and first inversion triads. She stressed that complex chromatic harmony could be best understood through simple triadic harmony from which it emanates. In short, if one truly understand doublings and spacings in simple triadic harmony, one can easily understand the harmonic language of all composers even those who wrote extremely chromatic harmony of the late 19th century.

The “rules” or principles of tonal harmony are few and form a core of unalterable standards. Like in language, how these rules evolved is complex and in essence not a science. Nonetheless, they are the foundations upon which all tonal composers developed their individual voice and style. I have codified below these rules into a simple and brief template. My vision for a harmony treatise, would have these few tenets given first as the basic syntax for the tonal harmonic language followed by examples from the literature which would demonstrate creative extension, elaboration and re-interpretation of these principles. It is these elaborations and extensions to the basic standards which create the unique harmonic languages of each composer.

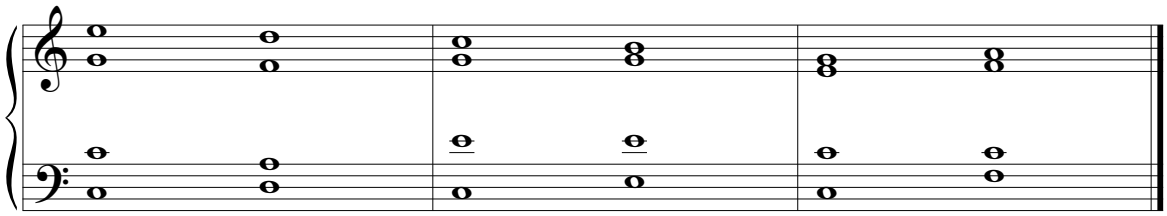
Finally, a fundamental premise in tonal harmony which may not be obvious is that there are only *two* possible places for the actual root of a triad to be: in the Bass, or in the Soprano. The doubling of this root, be it in the Alto or Tenor, is just that, *a doubling*, not the actual functioning root. Thus in tonal language, although there are three possible rotations of a triad, there are only *two* possible chord positions: root position and first inversion. The second inversion of a chord is a by-product of non-chord tones applied to these root position and first inversion chords and so by itself is not a structural or independent position of a chord in the syntax of tonal harmony.

I. A Summary of Tonal Harmonic Principles

I. A Pre-harmonic axioms:

1. Tonal harmony concerns *triads* existing in a four-voice (SATB) world. Hence the concept of doubling becomes immediately essential.
2. Which note of a triad is doubled is of critical importance to the ear when gauging the "root" or main note of the triad.
3. There are only three ways Roots can move from one chord to another:
   by second, by third and by fourth. (A fifth will be an inversion of the fourth and so on.)

EX. 1 STANDARD ROOT MOTIONS IN FOUR VOICE



BY SECOND BY THIRD BY FOURTH

4. From one chord to another, voices within the chords, should move as little as possible avoiding parallel fifths and octaves (brought forth from the contrapuntal rules of previous musical periods.)

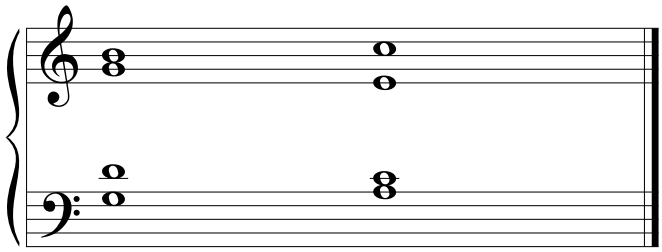
5. Despite, the above principle, normally, the soprano should be as "melodious" as possible and hence common tones between chords are usually presented in the alto or tenor.

I. B Root Position rules:

All the above holds true for Root position harmony with the addition of 2 important principles:

1. One *always* doubles the root of a Root position chord except in the case of the deceptive cadence. With the deceptive cadence, because of tonal organization within a key, the leading tone in the V chord must resolve (especially when in the soprano) to the tonic note in the vi chord. Thus, the standard root motion of a second is "violated" and one voice does not go contrary to the bass, but rather moves in parallel 10ths to it, creating a unique doubling: that of the THIRD of the chord, rather than the root of the chord.

EX. 2 DECEPTIVE CADENCE



Note the Soprano violates the standard root-motion of a second
and instead of moving in contrary motion to the bass,
it rises in parallel 10th to the Bass to resolve the Leading tone.
This is done for Tonal reasons and yields a unique doubling:
The third of the chord is doubled.

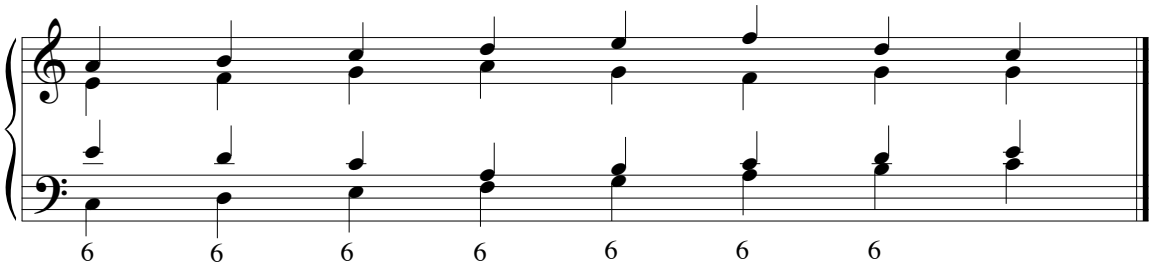
3. Except in standard sequence patterns where specific Soprano notes are mandatory, there are NO rules regarding which note of the triad should be in the soprano for Root position chords.

I. C First Inversion rules:

1. The root of a first inversion triad is ALWAYS found in the Soprano.
2. The rules for doublings in first inversion triads split into two domains:
    A. Melodic First Inversion chords
    B. Harmonic First Inversion chords

2A. Melodic first inversion chords originate from the faux-bourdon principle that three voices will proceed in parallel 6/3 position chords. While this works well in a three-voice world, a principle has to be established for the fourth voice in standard tonal harmony (which is a four-voice world). Briefly, the fourth voice will proceed in contrary motion to the other three in order to avoid parallel fifths or octaves:

EX. 3 Melodic Sixes



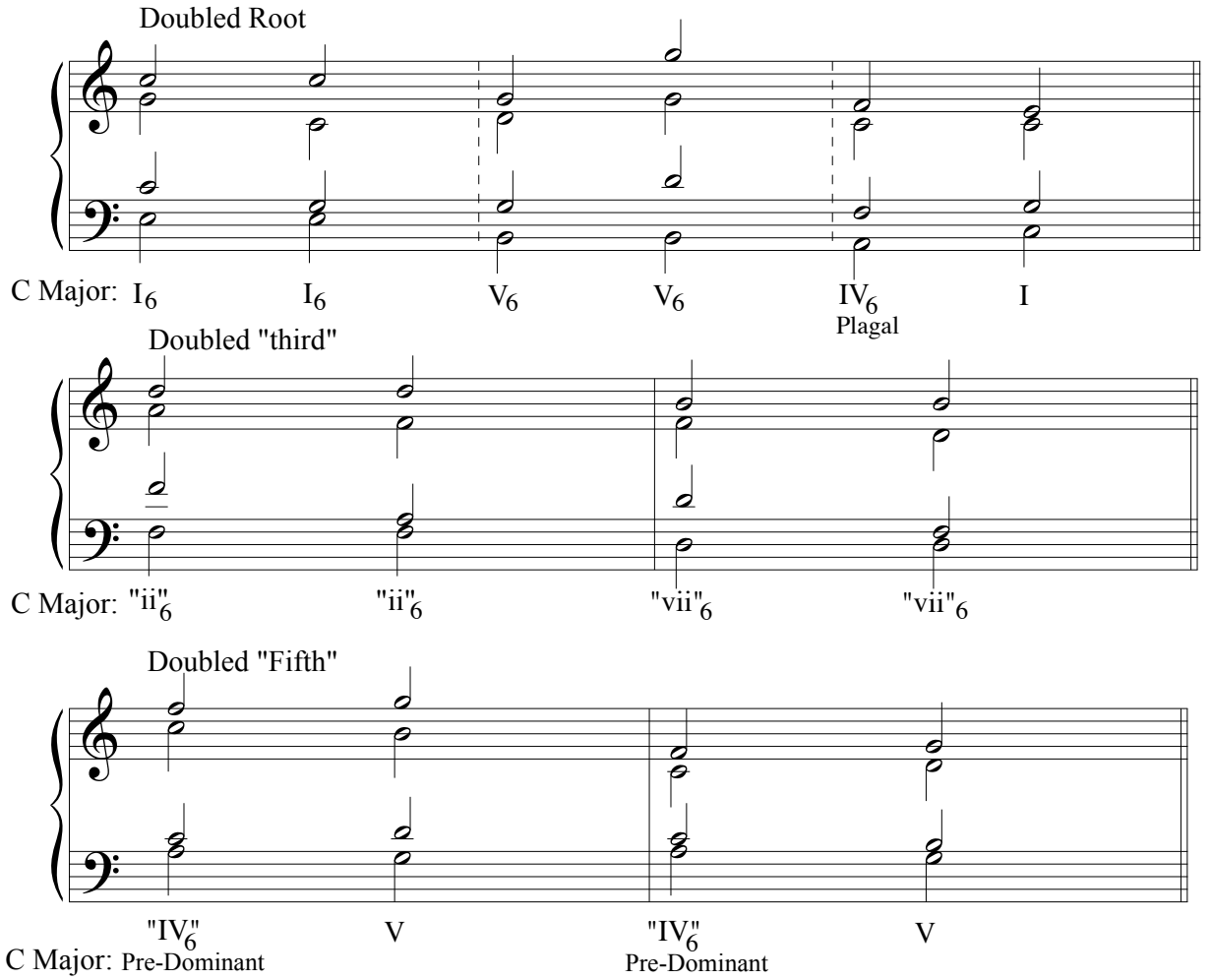
Note that in keeping with the Faux-Bourdon style, three voices move parallel from one first inversion chord to the next with one voice moving in contrary motion. Note too that, save for the penultimate chord (used here for cadential closure under the extreme situation of 7 consecutive first inversion chords), the soprano always has the root of the first inversion chord, in keeping with the standard rule that first inversion chords always have the root in the Soprano.

2B Harmonic first inversion triads (those chords that stand alone either between two root position chords or that are arrived at by leap in the Bass) will follow these basic doubling rules:

Root Doubled: I6, V6 and plagal IV6
Third Doubled: ii6, vii6
Fifth Doubled: Pre-Dominant IV6

for iii and vi, all members of the triad can potentially be doubled. This will depend on which degree in the key the composer wishes to affiliate the chord. Often, too, the doubling will change to prepare a modulation, for example, one might double the root of the iii chord to prepare a modulation to the relative minor.

EX. 4a Standard Doublings for Harmonic First Inversion Chords.



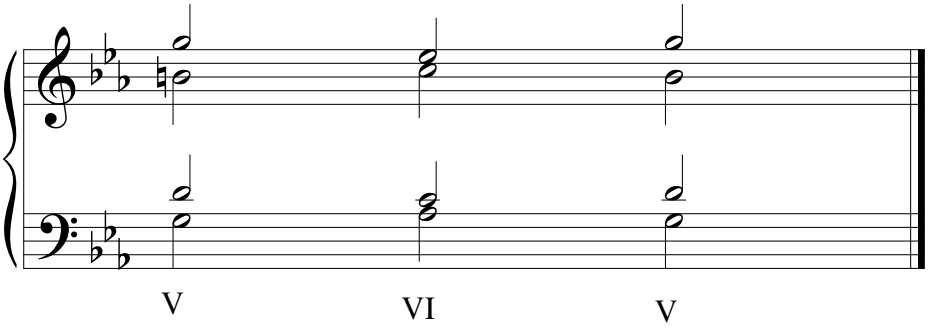
Note, I use " " to indicate that although in traditional Roman Numeral analysis, we designate the chord based on the triad rotated to a closed position, this rotation does not take into account the Doubling which might suggest another Roman Numeral. For example, a "ii6" is by doubling in fact a IV.

The Pre-Dominant IV6 deserve special attention as its origins are interesting and its implications far reaching. It is also important for our analysis of the Dichterliebe cycle.

The origins of the pre-dominant IV6 can be traced to a passing tone between the V and the Deceptive vi :

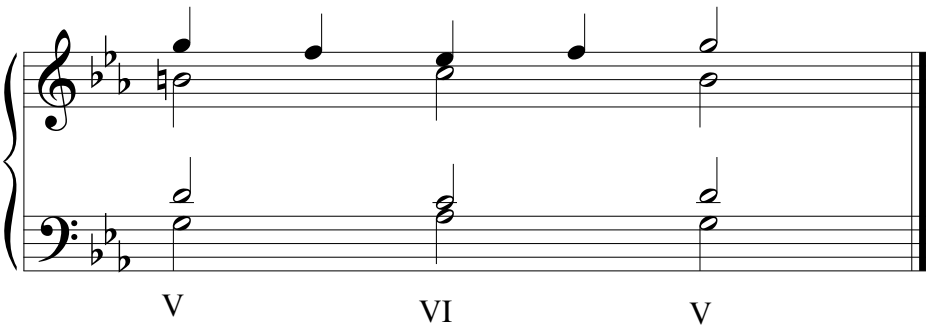
(see Ex 4b on next page)

EX. 4b The Traditional Deceptive or “Phrygian” Cadence:



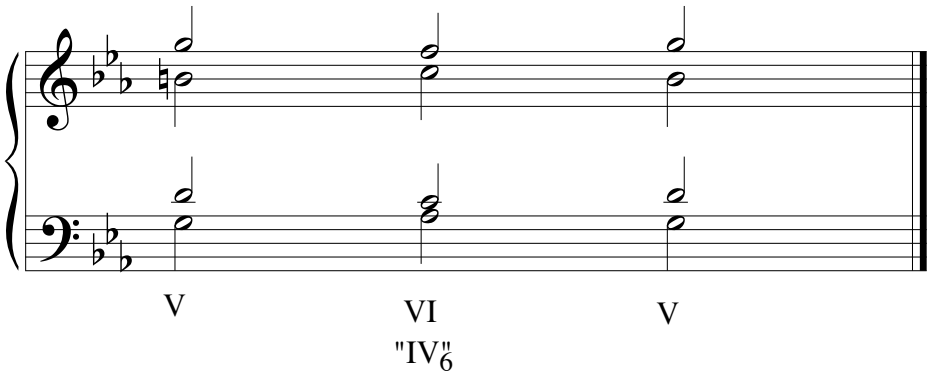
Seen here in minor, the “phrygian” cadence (which exists in music as early as the late middle ages) gets elaborated with a passing tone in the soprano. Note Bass, Tenor and Alto all proceed by step. Only the Soprano proceeds in standard root motion by third. The passing tone serves to “smooth out the soprano”.

EX. 5



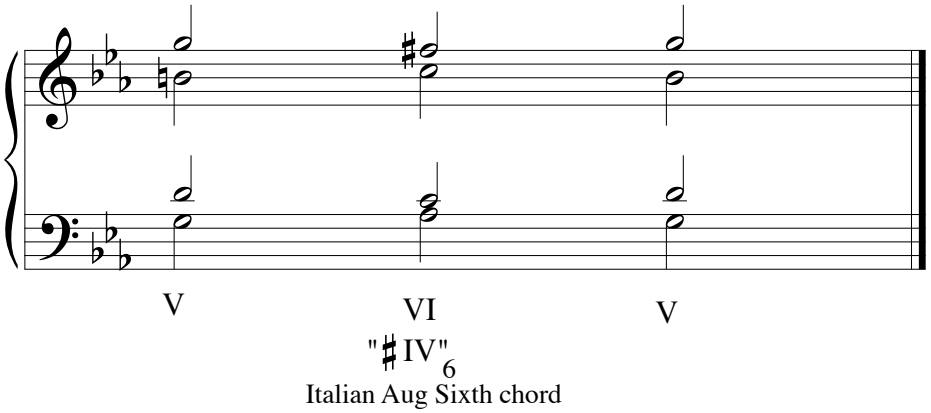
The passing tone F, over time gets “verticalized” into the pre-dominant iv6 which we find so often in music from the Baroque through the Romantic period:

EX. 6



Of special importance, is that as chromaticism increases over time, the passing tone F gets chromaticized to yield the Italian Augmented Sixth chord:

Ex. 7

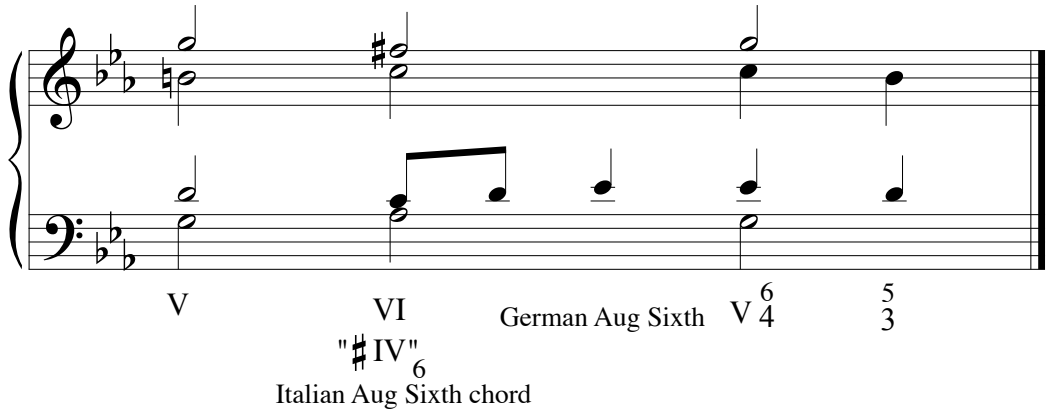


Italian Aug Sixth chord

This explains the doubling of the C (originally from the deceptive VI doubling)

The German Augmented Sixth is then nothing more than the “Italian” augmented Sixth with an anticipation of the minor third of the I chord in the Cadential 6/4.

EX. 8

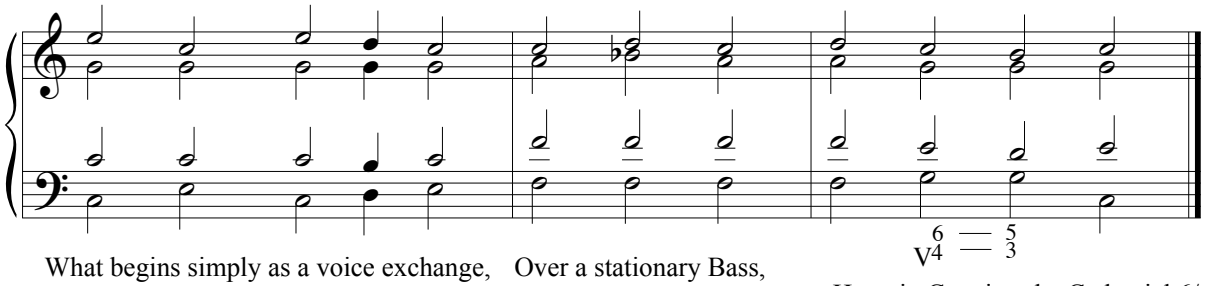


I.D Second Inversion Triads:

Strictly speaking, second inversion triads do not exist independently in the tonal syntax. They are always by-products of non-chord tones and the root of the chord is never doubled in all but exceptional uses of second inversion triads:

Generally, second inversion triads fall into three categories: Passing, Ornamental, and Cadential. In all cases, the root of the so-called second inversion triad is not doubled.

EX. 9



What begins simply as a voice exchange, gets elaborated into a passing 6/4

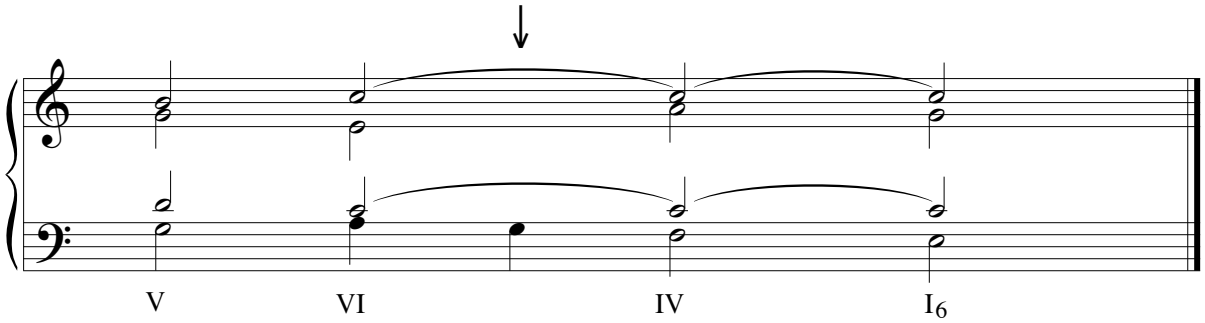
Over a stationary Bass, upper neighbors create and ornamental 6/4

Here, in C major, the Cadential 6/4 is a by-product of two passing tones over the dominant with its correctly doubled root

exceptional use of the second inversion chord where the “root” seems doubled:

EX. 9a.

This, as one can easily see, is a by-product of a deceptive doubling and a passing tone used in conjunction with a double pedal:



In this unusual example, a "6/4" position of C major triad comes about as a result of a passing tone between a deceptive VI and a IV chord in a double pedal configuration.

Finally, with regard to triads, an important fundamental premise in tonal harmony results from the above rules: there are only *two* possible places for the actual root of a triad to be: in the Bass, or in the Soprano. The doubling of this root, be it in the Alto or Tenor, is just that, *a doubling*, not the actual functioning root. Thus in tonal language, there are only *two* possible chord positions: root position and first inversion. The second inversion of a chord as discussed above is a by-product of non-chord tones applied to these root position and first inversion chords and so by itself is not a structural or independent position of a chord in the syntax of tonal harmony.

I.E Seventh chords and beyond:

The rules of harmony do not change when examining seventh chords. In fact, to do insightful harmonic analysis, one should reduce every chord to its original triadic formulation by replacing the Seventh by the root of the chord.
Normally, a Seventh in a chord (whether the chord be a major, minor, dominant, half diminished etc..) can be considered a non-chord tone, and is usually “prepared” as a suspension from the previous chord (if the note exists in the previous chord) and resolves by step down as in a traditional suspension process. Of course, a seventh can be leapt to and thus can be considered an appoggiatura or passed through, in which case it is a passing tone. In all cases, however, they do not inherently change the standards of harmony put forth above.
Finally, the same can be said of so-called Ninth, Eleventh and Thirteenth chords. All these “extra notes” are merely various types of non-chord tones applied to triads and should be “eliminated” when analyzing the underlying harmonic structure of a piece.

The above principles are complete and sufficient to write in or analyze tonal music.